

**Dr. C.M. Singh : Life,
Scientific Contributions
and Memoirs
(with Illustrations)**

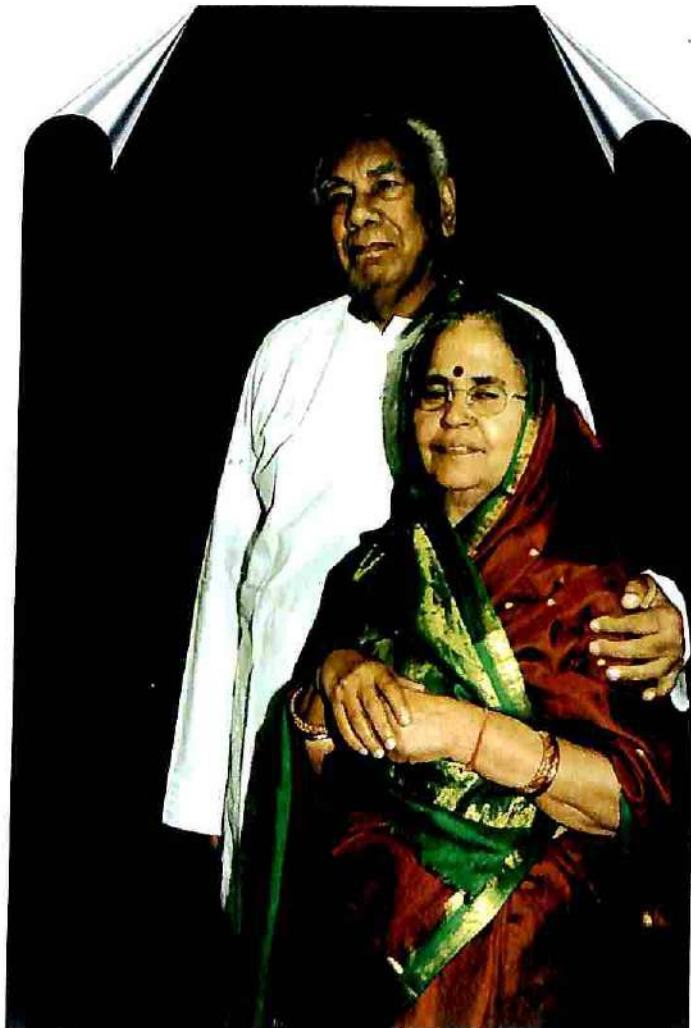


(30.11.1922 - 27.07.2005)

Edited by: **Dr. R. Somvanshi**

DR. C.M. ENDOWMENT TRUST, BAREILLY (UP)

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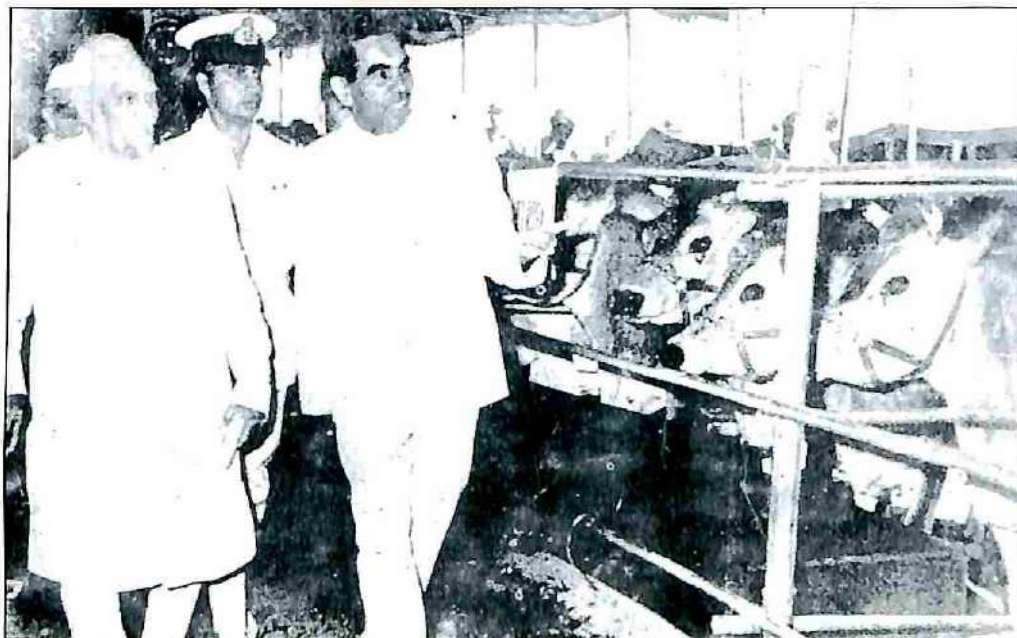
(Mrs. Chandra Jyoti Singh & Dr. C.M. Singh)

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DR. C.M. ENDOWMENT TRUST

A-336, Rajendra Nagar, BAREILLY-234 122 (UP)

2006



Dr. C.M. Singh with President of India HE Mr.V.V. Giri at livestock exhibition



.... with Mr. Fakhruddin Ali Ahmed, Union Minister of Agriculture
and Dr. M.S. Swaminathan, DG, ICAR



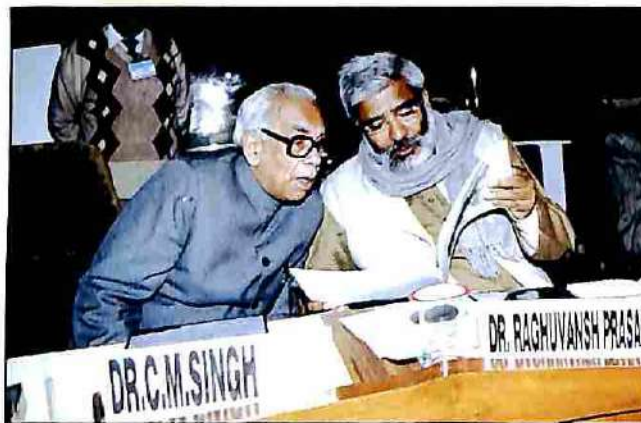
Dr. C.M. Singh explaining lamb irradiated lung worm vaccine nuclear technology to Mrs. Indira Gandhi, Prime Minister of India



Dr. C.M. Singh discussing scientific matters with Dr. M.S. Swaminathan DG, ICAR at IVRI, Mukteswar



Conferred with D.Sc. (Honoris Causa) in Special Convocation of Deemed University IVRI



... conversation with Mr. Raghuvansh Prasad Singh Union State Minister of Agriculture, Govt. of India



Dr. M.P. Yadav and Satyendra Singh presenting publications of Trust to Vice President of India, Mr. Bhairo Singh Shekhawat

DR. CHINTA MANI SINGH :
LIFE,
SCIENTIFIC CONTRIBUTIONS
AND MEMOIRS
(with illustrations)

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Price : Rs. 1100/-

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Foreword

I am extremely happy that a comprehensive publication on the life and work of the late Dr. Chinta Mani Singh has been prepared by the Dr. C. M. Singh Endowment Trust. Dr. Singh was born in a farming family and hence had the interests of farmers as the overriding priority in all his work. He was not only an outstanding scholar but also a great teacher and innovative researcher. After his early career at the Veterinary College, Mathura, he became the Director of the Indian Veterinary Research Institute (IVRI) at a young age of 44. IVRI is one of the world's most famous institutes in the field of Veterinary and Animal Sciences and Dr. Singh took it to greater heights of scientific excellence and social relevance.

I had the privilege of working closely with Dr. C.M. Singh during the period 1972-79 when I was Director General of the Indian Council of Agriculture Research (ICAR). From my very first meeting with him I was impressed not only with his vision but his capability to convert vision into action and accomplishment. His contributions to animal sciences research and livestock development in our country have been truly monumental. He gave special attention to poultry and small ruminants and helped to establish a National Poultry Institute at Izatnagar.

After retirement from service in 1982, Dr. C.M. Singh helped to establish the Veterinary Council of India and the National Academy of Veterinary Sciences. He gave enormous prestige to Veterinary Graduates and to the livestock profession. His crusading spirit is largely responsible for the striking progress we have seen in every area of veterinary and animal sciences. The present book "Dr. C.M. Singh: Life, Scientific Contributions and Memoirs" provides a glimpse of the genius of this extraordinary and great son of India. Dr. C.M. Singh was a true *Karma Yogi* who devoted all his time and talent for the upliftment of both the veterinary profession and livestock farmers.

I am grateful to Dr. M.P. Yadav, Former Director, IVRI and Currently Vice Chancellor, Sardar Vallabhai Patel University of Agriculture and Technology, Meerut, Dr. R. Somvanshi and Dr. N.S. Parihar for their labour of love in preparing this book. I hope this book will be widely read particularly by young scholars so that they can draw inspiration from Dr. C.M. Singh's illustrious career.

2nd November, 2006
Chennai

M.S. Swaminathan

Acknowledgements

Soon after Dr. CM Singh passed away on 27th July, 2005 in UK, Trust took a important decision in one of its meeting that it will publish a book entitled "**Dr. C.M. Singh : Life, Scientific Contributions & Memoirs**" in his memory. It was proposed that book will be released on his first death anniversary or *punyatithi*. The time bound herculeau task was made bit easy by active cooperation and help of Dr. MP Yadav, Director, IVRI & Chairman Publication Committee and liberal help by Dr. N.S. Parihar, student of late Dr. CM Singh & Former Head, Division of Pathology, IVRI, Izatnagar. First of all Dr. Yadav made efforts to raise funds for the purpose. He also wrote numerous letters and arranged to send reminders to approximately 100 distinguished veterinarians, colleagues and students of late Dr. Singh for getting memoirs on him. With constant correspondence we received desired information (and few pictures) from all over the country.

Dr. Parihar accepted responsibility for translating and typing my Hindi book entitled "*Dr. Chinta Mani Singh : Jiwan Katha Tatha Unki Pashu Chikitsia Vigyan Ko Den*". Besides his poor health and recent cardiac by pass, he not only completed this job timely but also quickly translated certain memoirs received in Hindi. On costant meetings he made suggestions to improve this book.

This book would not have been possible without blessings and cooperation of Mrs. C.M. Singh & Mrs. Sashi Singh. They solved problem of illustration of book by providing almost fifty per cent photographs incorporated in this publication.

I am also grateful to Director, IVRI, Izatnagar, UP for permitting to use a number of historical photographs related with institute in this book.

We are grateful to all eminent countributors who send us their memoirs for this historical publication. I am thankful to a number of senior colleagues for sending photographs. To name a few are : Drs. K.L. Sahni, B.B. Mallick, N.K. Bhattacharya, M.L. Mehrotra, S.K. Ranjhan, R.R. Shukla, N.S. Parihar, J.N. Divivedi, B.S. Malik, Usha Mandokhot, K.P. Mallick etc.

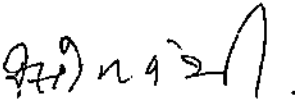
While editing books, I observed that it is not only book on life, scientific achievements and memoirs on late Dr. CM Singh but this is actually fifty years (1950-2000) history of veterinary science and livestock development in India. I am of firm opinion that this will be a priced possession of each library of veterinary science in India. I took full liberty to edit book including memoirs and deleted undesired, unrelated or controversial parts which may lead to a dispute amongst professional colleagues. I although took my best care to make this book errorless but if there are any mistakes I regret for same. We expected to receive memoirs from some other important dignateries but failed to get same due to their busy schedule or our time bound publication.

Besides afore mentioned persons, skillful secretarial assistance of Mrs. Bhawna Sharma and support of Dr. G.R. Singh, former Head, Division of Surgery, IVRI and now Dean, College of Veterinary Science, Imphal (Manipur) and Mr. Kundan Singh I/C Communication Centre, IVRI is gratefully acknowledged. I have appreciation for Dr. T.V. Anilkumar of Trivandrum, Kerala for his critical suggestions.

Finally, I am grateful to Dr. Sandeep Jain our printer who took lot of pains in giving final shape to book and setting photogallery section. Last but not the least, I am also thankful to my wife Mrs. Manju Somvanshi for constant interest and support in this publication.

I am also thankful to Trust for giving me this responsibility, full liberty and confidence in completion of this most important assignment of my life.

Oct. 2nd, 2006
Vijayadashmi


(Dr. R. Somvanshi)

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Section - I

DR. CHINTA MANI SINGH :
LIFE
&
SCIENTIFIC CONTRIBUTIONS

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DR. N.S. PARIHAR

● CHAPTER 1

CHINTA MANI – TODDLER OF BELAON

Kirakat, a hamlet of more than 60 villages in the Jaunpur district of eastern Uttar Pradesh, is home to the descendants of the *Haldighati*-famed Sisodia-king Maharana Pratap of Chittorgarh, who had left Rajasthan during the Mughal period. Here they were called as *Durgvanshi* Rajputs. One of the villages, Belaon was gifted to Thakur Vanshidhar Singh in marriage with Kumari Yashodhara. The couple was blessed with a son around *Ramnavami* festival (birth anniversary of Lord Rama according to Hindu mythology), who was named Chinta Mani in the big family of six siblings. When the child grew a little and was a few years old, he started, on his own, to accompany his elder brothers to the village school and also started sitting in the class. At that time Chinta Mani was well below the prescribed age of 5 years for admission into the class. When the fact that Chinta Mani's action did not conform to the existing regulations was brought to the notice of his father, Shri Vansidhar Singh got the objections removed by antedating the birth-date of Chinta Mani to 30th November 1922. This was not an uncommon practice in those days of British India when backwardness, illiteracy and poverty were rampant and deliveries of children used to be performed generally in homes. At that time kerosene-lit lanterns were considered a luxury and the earthen lamps and pots filled with oils were the usual sources of light during dark. At the time of admission, little Chinta Mani hardly understood the meaning of his name. His teacher told him that it meant taking care of others and ridding them of their worries – something the Almighty does. Chinta Mani took the meaning very seriously. He was good at studies and successfully cleared his Middle School examination without ever having been reprimanded by his teachers.

Acting the part of *Abhimanyu*:

During his Middle School education, Chinat Mani took part in other school activities also and played the role of Mahabharata-famed, *Abhimanyu* in a drama. The attire for this role comprising of the trousers (sherwani) and head-gear (safa) were awarded to him by the Raja Saheb of Singramau. Encircled by seven great warriors, the young severely wounded, *Abhimanyu* – remembering his parents (Arjuna and Subhadra) - had recited the following lines:

*"O father! O maternal uncle! wherever you are, my obeisances to you,
Forget not Abhimanyu's sacrifice, the way it has been brought about."*

Chinta Mani was a little different in behaviour and conduct from his brothers. He would stick to his commitments to his parents and others. Playing cards was considered a taboo for children in those times. Despite such notion, once his brothers (including him) were having a card-game as pastime. His father got the wind of the same and wanted to catch them red-handed. Sensing the arrival of his father, his brothers bolted away, but Chinta Mani realizing his mistake did not escape. When reprimanded by his father he begged to be pardoned and promised to never play cards again. He kept his promise lifelong.

The family elders ordained it at that time that children of this particular family should be excelling the children from other families. Instead of playing pranks, committing mischiefs, wandering aimlessly and wasting time, they should either tend to the animals/gardens/domestic obligations or spend time in studies. Chinta Mani followed these instructions faithfully.

He was the first adolescent boy to leave the village for higher studies than Middle School and was the subject of much displeasure and jealousy of the village rich (*pattidars*). Undeterred, however, Chinta Mani remained steadfast in his resolve and secured admission in the famous Udai Pratap College at Benaras (now Varanasi).

Student of Udai Pratap College:

The education and environment at Udai Pratap College greatly influenced the academic, social and administrative responsibilities borne by Chinta Mani later in his life. Only *Rajputs* or *Kshatriyas* were eligible for admission at this College meant for instilling discipline and inculcating administrative capabilities in the wards. The College used to be headed either by an Englishman or a *Kshatriya* as Principal. Sports, horse-riding and moral education played an important role in the curriculum and every student was instructed to keep and follow principles of *Bhagwadgita* for life. The College dress comprised of *khaki* pant, white shirt and turban. At special occasions, all the students had to take part in physical exercises and parades. The College was known for being strict in disciplinary matters and many of the alumni had achieved high and distinguished positions in the police and other administrative services both at state and national levels. Chinta Mani was also not an exception.

During 1942, the Quit India movement was at its zenith and despite strict discipline under the English Principal, a few students still supported the freedom movement and even joined in the movement-related activities. Chinta Mani was one of them. Once under the guidance of student leader Harangi Singh, it was decided to disrupt the electric supply by snapping the electric wires. The leader Harangi Singh alighted on the electric pole and was striking the china clay holders with the hammer, when a police cavalcade under an English Officer approached them to take them in custody. But the students fled away and the entire group was led to the safety of the hostel through the village fields and paths, which Chinta Mani had already surveyed. Yet the students were afraid of reprisal and Harangi Singh went underground. Nobody suspected Chinta Mani. But his worried father took him to the village till the storm was over. It was a very defining moment in Chinta Mani's life. He was a fearless freedom fighter, real nationalist to the core and an ardent admirer of Netaji Subhash Chandra Bose.

Turning point: choosing career:

In villages, land disputes are not uncommon and were also the order of the day in those times. The lawyers were, therefore, in good demand to look after such matters. With this background in mind, Chinta Mani was expected by his father to adopt that profession by going for the law studies. Respecting his wishes young Chintamani started moulding himself in that direction and made contacts with one of senior lawyers. That lawyer was a happy-go-lucky fellow, enjoying life, eating and drinking besides attending the Court. Once Chinta Mani was with him when he happened to be demanding (extracting) his fees from a client in a very rude and unbecoming manner. The client – a farmer had sold his buffalo to meet the expenses of the litigation, besides a portion of his land and was promising to pay the balance by selling farm-produce like rice straw. But the lawyer was not satisfied and insulted the client by throwing the silver coins given by him on his face. Witnessing such an inhuman way of making money by the lawyer, revulsion for the lawyers' profession arose in Chintamani's mind, much against the parental wishes. The difference in perception led Chinta Mani to seek the counsel from Professor Lal Bahadur Singh, a family friend, who advised him to pursue the veterinary profession. At that time the U.P. Government used to select 20 promising students for studying the veterinary medicine in other States at Lahore, Calcutta, Madras or Patna because till then U.P. State did not have any Veterinary College. The State Govern-

ment also used to help such students by granting them scholarships. This helped Chinta Mani to choose his career.

Admission at Bihar Veterinary College, Patna:

Chinta Mani was selected for the studies and got admission at Bihar Veterinary College, Patna (1943-47). Every year he used to score the highest marks claiming the first place and the Gold Medal in studies. During his visits to the home village during the vacations, these medals used to be viewed with admiration by his village folk and relatives.

Distinction in Anatomy:

At Veterinary College, Patna the subject of anatomy was considered to be tough and it was considered quite difficult for the students to score good marks and almost impossible to obtain distinction. Chinta Mani vowed that he would do better in the subject. He took help from one of his friends in the Medical College there, obtained and studied notes on human anatomy and took keen interest in both theory and practical classes. Sensing his interest in the subject, the tutors were appreciative and encouraged him to be more and more interactive. At times he would explain matters much more easily to his colleagues than the tutors themselves. During the final examination for the subject of anatomy, the internal examiner apprised the External Examiner about this brilliant student whom he preferred to test first. He was already impressed with his performance in the theory paper containing answers embellished with figures and line drawings. He put several questions for which he got satisfactory answers. He became especially pleased on learning that Chinta Mani had consulted books on human anatomy. He ultimately awarded him distinction in the subject. Chintamani's joy knew no bounds when he learnt about the outcome of his efforts.

It is common knowledge that the foundation of a good pathologist lies in his depth of knowledge of anatomy. May be this was the secret of Chinta Mani later becoming a renowned pathologist!

Treating and tending the sick in the village:

Even when he was a student, Chinta Mani had developed contacts with some medicos and had obtained certain books on medicine and learnt about treatment from them. Whenever, therefore, on vacation to his village, he used to undertake treatment

and care of the sick in the village. Two instances remained ingrained in his memory. Both the sick persons were seriously suffering from complex ailments but had the conviction that if Chinta Mani would treat them, they would recover and get well.

One of them was a middle aged respectable lady called *Mishrain*. She had met with some accident and developed a large wound in her foot and was in constant pain so severe that she would not permit anyone to touch the foot. She, however, requested Chinta Mani for treatment. Chinta Mani acceded to her request and thoroughly cleaned the wound first, before he applied an antiseptic dressing. *Mishrain* got great relief with the treatment and had a good sleep as well. With time, the wound healed and Chinta Mani was showered with blessings, which Chinta Mani considered very effective for his career.

Another patient was a *mallah* or boatman. He was suffering from dysentery since a long time and had become very weak and emaciated. His family members had forsaken any hopes of his survival. He was left on the bank of the river flowing nearby the village on a bamboo cot. The posterior portion of the cot was cut off to let the urine and faecal matter drop down on the sand, which used to be cleaned – rather washed away with water. The family members of the boatman and he himself had requested again and again that Chinta Mani might see him. But Chinta Mani's family members did not want him to get involved. Chinta Mani's compassionate mind led him to visit the ailing boatman and observe him carefully. Back home, Chinta Mani laid his hands on a manuscript of *Ayurvedic* medicine in which a chronic disease simulating that of the boatman was described and the treatment indicated. The medicine was prepared and given along with plenty of butter water. It was not difficult for the boatman to have butter water because his family also owned a number of cows and buffaloes. After prescribing the treatment for a fortnight, and though skeptical of success, Chinta Mani returned to Patna. After about six months Chinta Mani visited the village again. He was then visited by a sturdy person who saluted him very respectfully. Chinta Mani failed to recognize him. He was utterly surprised and happy when informed that he was the same hopeless chronic dysentery suffering bed-ridden boatman, whom Chinta Mani had prescribed treatment before leaving for Patna. The boatman and his family felt highly gratified and wished to gift a few cows and buffaloes; but both Chinta Mani and his family did not accept the same. The treatment was advised not for any returns but for service to the society and humanity. This conduct of Chinta Mani highly impressed the villagers. Thereafter the boatman always visited

Chinta Mani to pay obeisance whenever he visited the village. Chinta Mani pondered over the reasons for the recovery of the boatman and concluded that extreme dehydration and protein deficiency, which the boatman was suffering from, were gradually made up with regular uptake of plentiful butter water.

Netaji's influence:

As narrated earlier, Chinta Mani was a great admirer of Netaji Subhash Chandra Bose. He had arranged a rally with a band in his support and the same was highly appreciated by residents of Patna. Chinta Mani graduated from the Bihar Veterinary College, Patna earning the degree of "Graduate of Bihar Veterinary College" (G.B.V.C.). He had also won the Gold Medal for topping in the College.

Chandra Jyoti:

Thakur Rupa Singh was a resident of *Dagarha* village under *Mehnajpur* (now *Tilkhara*) Post Office of Azamgarh district. He was literate and was employed as a clerk at Jalpaigudi in Bengal State. He was also knowledgeable in *Bengali*. His wife was a sharp intelligent lady. Though deprived of formal education, she had elementary knowledge of tables, weights and measures. In those days decimal system had not come into effect and there had to be made complex calculations using *rupia, anna, paisa and pai* coins and *maund, sher, chhatak, tola, masha, ratti*-like units of weights and measures. The village women used to depend on her for correct accounting when purchasing articles particularly ornaments. The couple had two daughters – Chandra Jyoti (born on 07-05-1928) and Bansrani. The girls had no particular interest in studies and spent their childhood in fun and frolic.

One day it happened that Chandra Jyoti was playing in the fields. At that time a group of children of the village going to school with their bags and slates, passed by. Seeing them, it struck to Chandra Jyoti that education was a good thing and that she should also take to studies. Running back to home she told her mother her desire to study. The mother had also been imploring her for the same and was happy for this decision. Chandra Jyoti was directly admitted to the second class because the teacher found her elementary knowledge better than those of first standard-passed students. This happened so because of Chandra Jyoti's habit of reading books of higher classes, which she would collect from her village and schoolmates. Chandra Jyoti passed fifth class standing first in the whole *Mehnajpur* circle and also scoring distinction in mathematics.

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Chandra Jyoti wanted to continue her studies. But the Middle School located in another village, *Kurhara*, was only a boys' school and her family did not permit her to study there. She became very much disgruntled with her female status and she protested a lot. In order to persuade her family, she would eat little and grew weaker and weaker till after about a month, her family arranged her to continue studies with private tuition. A trained teacher was employed for her. But the lack of school atmosphere and dearth of books were the major impediments. Many of the books were borrowed from different persons and some books were procured from Allahabad by post. Her brother accompanied her to Allahabad for Middle School examination. Incidentally that was her first bus journey in life. At Allahabad, they stayed with a relative who was working as a clerk. They had taken with them their own wheat-flour and while the brother cooked for her, she studied for the examination. She cleared the examination in second class. She would have cleared the High School examination if she were successful in English subject.

But by then a calamity fell on the family and she lost her father. The priorities changed. Her mother and family members decided to get her married. And her marriage was fixed with Belaon village resident, Thakur Vansidhar Singh's second son, Chinta Mani. Chandra Jyoti's family was not in a position to meet the dowry demands of the bridegroom's family. But in view of the extant financial status of Chandra Jyoti's family, a compromise was struck. At the time of his marriage, Chinta Mani was in his final year at Veterinary College, Patna. The marriage ceremony was performed in the traditional way according to customs prevalent then – thus bringing Chandra Jyoti's *doli* to Belaon.

A few months after marriage, Chandra Jyoti shifted to Phulpur, Allahabad with her veterinarian husband Chinta Mani, now Dr. C.M. Singh. Chandra Jyoti then joined H.T.C. classes at Government Normal Women's College, Allahabad and started residing in the hostel. She also wanted to appear for High School examination but could not do so because rules would not permit her to sit for two Board examinations in the same year. The Head Mistress of the Government Normal Women's College, Miss Vimla Tewari happened to develop liking for Chandra Jyoti and later became quite intimate with her and admired her immensely.



● CHAPTER 2

FIRST JOB AND STUDIES IN THE UNITED STATES OF AMERICA

Veterinary Surgeon of Phulpur :

Dr. C.M. Singh joined the U.P. State Department Animal Husbandry as Veterinary Assistant Surgeon at Phulpur, Allahabad. Later he worked as Circle Veterinary Inspector. At that time there occurred an outbreak of mortality in buffaloes causing many deaths in Gorakhpur and Deoria districts in north-eastern area of the State. The matter being serious enough figured in the Legislative Assembly and the Hon'ble Minister, Shri Sherwani had to intervene personally. The Department entrusted the work of disease investigation and diagnosis to Dr. C.M. Singh, who came to the conclusion that the mortality claiming many lives was due trypanosomiasis, although according to the Red Book of the U.P. Government occurrence of trypanosomiasis in buffaloes was ruled out. During his visit to the affected villages, it was found that the villagers were disenchanted and annoyed because of heavy losses suffered by them and they did not desirably cooperate with the team of visiting veterinary doctors. The visiting team even faced hardships in the matter of lodging and boarding in the affected villages. Dr. C. M. Singh, however, had examined one buffalo and finding it suffering from trypanosomiasis, treated it accordingly. The animal soon recovered and was on its feet. The news of recovery of the animal spread fast and wide and then many more animals were saved. The credit for this good work was given to Dr. C.M. Singh, whose background as ex-student of Udai Pratap College also came into focus. An influential Thakur Saheb of the locality, therefore, invited Dr. C.M. Singh for meals. There Dr. C.M. Singh apprised him with the problems his team was facing. The result was that the lady of the house made arrangements for the meals of the team at the place of their stay daily. Thirteen districts of the State were found to be affected with the disease and were so notified.

The officers of the Animal Husbandry Department particularly the Director, Dr. R.L. Kaura and the Deputy Director, Dr. Sardar Bahadur Udham Singh were very happy and highly impressed with the performance of Dr. C.M. Singh, whom they found to be very sincere and hard working. One day for the treatment of the animals, he had to pedal on cycle for more than 70 kilometers. In those days,

rinderpest used to take heavy toll of animals and was the main scourge for cattle and buffaloes. But the veterinarians were helpless in tackling the same. It was the time when the production of rinderpest goat tissue vaccine (GTV) was being scaled up at the Indian Veterinary Research Institute at Mukteshwar and the vaccine was in short supply. This was a matter of disappointment for veterinarians in the field, including Dr. C.M. Singh, who was thereafter transferred to the Headquarters of Department of Animal Husbandry at Lucknow.

Joining Veterinary College, Mathura:

Dr. C.M. Singh was appointed as Demonstrator / Research Assistant at Veterinary College, Mathura a few weeks after his transfer to the headquarters at Lucknow. He was posted in the Department of Physiology and Biochemistry under the headship of renowned teacher and researcher, Professor A. Roy, under whose supervision and guidance he worked from 1947 to 1952. During his service at the College, he made up his mind for prosecuting higher studies in America. For the purpose he obtained permission of the State Government and also secured sanction for the financial grant. This information, as a matter of news item, was published in the local magazine "Leader" of Allahabad. When one of his former teachers, Head Master Shri Ram Lochan Singh read this news (about Dr. C.M. Singh), he was excited and, covering a distance of more than 6 kilometers on foot, conveyed the tidings to his parents. His father, ignorant of the exact date of his son's departure to board the ship, proceeded to Mathura immediately to be well before 15th August, 1952 to see him off.

Meanwhile the State Government had informed telegraphically Dr. C.M. Singh to postpone his departure for America for a year in view of the financial crunch. This development made his departure unsure. But his father was determined to send him to America even by selling his lands. He, therefore, delayed his return journey to home till the matter was settled. Dr. C.M. Singh sought advice from his well-wishers especially Dr. R.B. Singh, Professor of Animal Genetics and Breeding there. Professor Singh advised Dr. C.M. Singh not to miss the opportunity and completion of pending pre-departure formalities, advise the Thomas Cook Shipping Company to book the seat in anticipation. It was contemplated that necessary arrangements would be possible timely: if not presently, certainly before the next date of departure of the ship.

Meanwhile Mrs. Chandra Jyoti Singh received a communication from her former B.T.C. College Principal, Miss Vimla Tewari about her programme to visit

Vrindavan, where she would stay in an inn. Before meeting her, Mrs. Singh with Dr. C.M. Singh went to pay obeisance to *Gaurang Mahaprabhu* temple and they had an audience with *Guru Maharaj ji*, who was the religious preceptor of Mrs. Singh. Though, at that time, *Guru Maharaj ji* was performing *puja* (worship of the Almighty), he could gauge Dr. C.M. Singh's little interest in religiosity. But his (*Guru Maharaj ji's*) aura and discourse influenced Dr. C.M. Singh immensely. Although he had gone there merely for a day, he felt reformed and prolonged his stay for the whole week to drink the nectar of *Guru Maharaj's* blessings and discourses. Thereafter he became deeply religious and visited Vrindavan regularly. At Vrindavan, Dr. C.M. Singh had to stay in the inn at nights because according to the rules of the temple, ladies could not stay in the temple premises after 10 pm at night.

Departure for America:

Once Mrs. Chandra Jyoti Singh had a dream that her husband was going to America. Hence the thought that Dr. C.M. Singh will definitely make it to America made home in her mind. This came true and Dr. C.M. Singh had to proceed to Bombay at short notice. He had to catch the train and since his father had gone for a long walk, he could not meet him. During those times sea-travel was far cheaper than air-travel. But the sea route used to take substantially longer time. It took ten days from Bombay to reach Naples and another fifteen days to reach America. The date of boarding the ship for Dr. C.M. Singh happened to be 15th August i.e. Independence Day of the country and hence all the Government offices were closed on that day. Dr. C.M. Singh had all other necessary documents but not the confirmed ticket and visa. Fortunately the officials of the Thomas Cook Shipping Company were cooperative as well as helpful and arranged his meeting with the American ambassador who was paying visit there at the ship. The ambassador heard Dr. C.M. Singh's predicament and allowed him to travel to America, although not at his own risk. Dr. Singh deposited the necessary cash with the authorised official of the Shipping Company for the arrangements. Then he was allowed to board the ship. The ship set on sail soon after. Later he was informed that his travel documents were in order and his ticket and visa, etc. issued to him. He was very much heartened and overwhelmed with the developments. Well begun is half done! Dr. C.M. Singh was on course!

Master's and doctoral studies:

Dr. C.M. Singh did M.S. in Pathology and Bacteriology from Michigan State University, USA during 1952-54.

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During his Ph.D. studies, Dr. C.M. Singh took majority of courses in the major discipline of Veterinary Pathology and a few supporting courses in the disciplines of Microbiology and Public Health and Animal Sciences. He appeared for his final examination for the Doctorate degree on 22nd May 1956 in Giltenor Hall, Department of Veterinary Pathology, School of Advanced Graduate Studies, Michigan State University of Agriculture and Applied Sciences, Michigan. The title of his research thesis was, "**Pathology and bacteriology of abortion and perinatal death of young in rabbits, sheep and goats induced by *Listeria monocytogenes***".

The research work for the Ph.D. degree was conducted under the supervision and guidance of Dr. C.C. Morrill. He was a great source of inspiration, able leader and pathfinder, besides being a renowned Pathologist. He skillfully helped in completing the write up of the thesis. Dr. M.L. Gray, Assistant Professor in the Department took extraordinary interest in the research work on the microbiological aspects including preparation of the manuscript and figures, etc. For Dr. Singh, the sage advice and encouragement from the former Head of the Department of Veterinary Pathology and the world renowned Veterinary Pathologist, Dr. R.A. Runnells was a great source of inspiration. Late Dr. Frank Thorpe, Jr. had primed Dr. Singh into research mode by example of his own untiring interest and diligence in the research activities of the Department and helped him in early stages in the specific area of his research studies. Dr. Thorpe had not availed any leave after joining the Department for more than a decade. On persistent insistence of colleagues, when he proceeded on leave for spending time with his family, he met with an accident during an outing - never to return back. Dr. C.M. Singh was also benefited by the liberal advice and suggestions from Dr. D.H. Mackward, Department of Veterinary Pathology, Dr. R.H. Nelson, Head, Animal Sciences and Dr. W.N. Mach, Department of the Veterinary Microbiology and Public Health. Dr. Hess Ruhland, Department of Plant Pathology of the University helped him with the translation of German manuscripts and the Librarian, Mary Callyvoda in collection of references and scanning the literature. He also received generous and selfless help from the staff members of the Veterinary College and also of other Colleges under the University in various ways during his education, training and research. The Michigan State University had offered him assistantship during the period of his study. The Chas Pfizer Co. Inc., Terri Hotte, Indiana had funded a part of his research. Mrs. and Mr. E.D. Harrison and other friends had taken care of him like a family member of the East Lansing community.



Pathology and Bacteriology of Abortion and Perinatal Death of Young in Rabbits, Sheep and Goats Induced by *Listeria monocytogenes*

Chinta Mani Singh

Abstract

Studies on the pathology and bacteriology of abortion and perinatal death (still-birth and early death) of young in rabbits, sheep and goats induced by *Listeria monocytogenes* were undertaken to help explain the role of the bacterium in this syndrome.

Pregnant, non-pregnant and male rabbits and goats, and pregnant sheep were exposed either by conjunctival instillation of suspensions of the bacterium or by adding them to the drinking water. Conjunctival exposure of pregnant rabbits resulted not only in a marked conjunctivitis but also in abortion when the doe was exposed early in gestation; when the exposure was late in gestation, the young were either stillborn or died within a few days due to listeric septicaemia. Conjunctival exposure of non-pregnant rabbits resulted in a marked conjunctivitis and low grade or otherwise an inapparent infection. Conjunctival exposure of goats resulted in a very mild eye reaction but caused death of a pregnant goat due to listeric encephalitis and induced encephalitic lesions in a castrated male goat.

These findings establish the fact that the infection resulting from conjunctival instillation of *L. monocytogenes* does not remain localized in the conjunctiva.

Oral exposure of pregnant rabbits, sheep and goats resulted in abortion if the dams were exposed early in gestation; if the exposures were late in gestation, the young were either stillborn or died within a few days due to listeric septicaemia. Non-pregnant animals exposed in the same manner suffered a low-grade inapparent infection. *L. monocytogenes* was readily isolated from aborted foetuses, young born at term, placenta and from the dams which died due to septicaemia.

The results suggest the uterus as the principal target of infection in pregnant animals. If the entire conceptus was expelled, the defense mechanism of the dam could successfully combat the relatively few remaining bacteria as in the non-pregnant. However, retention of infected conceptus (1) caused localized suppura-

tion, (2) constituted a source of infection, which resulted in subsequent abortions if the dam was rebred in six days, or (3) caused death from septicemia. No evidence of immunity could be demonstrated in rabbits (at least within 2 – 6 months) following survival from any form of exposure under the conditions of these experiments. The various clinical syndromes of listeric infections apparently vary with species, route of exposure and state and stage of pregnancy.

The most prominent pathological findings in aborted fetuses and the young which died perinatally were induced necrotic foci in the liver and less frequently in the heart, lungs, kidneys, stomach and gall bladder, with necrotic debris in the hepatic bile ducts, fibrinous exudate on the surface of the liver and intestine and moderate hydroperitoneum. The bacterium could be demonstrated in tissue sections of most of these organs. Examination of dams, which died or were sacrificed, revealed necrotic endometritis with variable amount of caseous to purulent exudate. Numerous necrotic foci and thrombi were noticed in the myometrium. The bacterium could be demonstrated in tissue sections of the uterus including the cotyledons.

Post-doctoral assignment:

Dr. C.M. Singh played a significant role in the development of Infectious Canine Hepatitis vaccine as a Post-Doctoral Research Fellow at the Cornell University, Ithaca, USA, which he joined after completing his doctorate degree in 1956. He was instrumental in adapting the virus to tissue culture. For this purpose, he used to devote much more time than his other co-workers in the laboratory would and hence required more than average quota of consumables and glasswares in ready-to-use condition. After a few days of the constraint, the Professor was apprised of the problem. From the very next day, the extra arrangements were in place to his surprise and satisfaction. Having finished his Post-Doctoral assignment, he returned to India to join back his post at the Veterinary College, Mathura.

Home coming:

On his return, he was enthusiastically received at the Mathura Junction Railway Station by scores of students (including Dr. R.R. Shukla), Research Assistants/Demonstrators, friends and especially by Dr. R.B. Singh, Professor of Animal Genetics and Breeding. They were happy to welcome him back. The post of Professor of Pathology and Bacteriology had been advertised already and Dr. C.M. Singh amply deserved the position.



● CHAPTER 3

APPOINTMENT AS PROFESSOR : RESEARCH AND TEACHING ACCOMPLISHMENTS

Dr. C.M. Singh took over as Professor of Veterinary Pathology and Bacteriology at Veterinary College, Mathura in 1957 and continued on the same post and place till 1964. This period proved to be very productive and turning point in his life. Studies and researches carried out during this period were very much yielding and brought him name and fame in the country and abroad. The post-graduate scholars in the country coveted to seek his tutelage. Four scholars, two each in Veterinary Pathology and Veterinary Bacteriology completed their Doctoral degrees under his supervision and guidance. He was also the supervisor and guide for 13 students for M.V.Sc. degree in Veterinary Pathology and for another 21 students for M.V.Sc. degree in Veterinary Bacteriology.

Discoveries on Mycoplasma:

While studying histopathological alterations in the lungs of poultry, aetiological involvement of pleuro-pneumonia-like organisms (PPLO; now *Mycoplasma*) was suspected. In order to confirm the suspicion, denatured serum samples (serum incubated at 60°C for 30 minutes) from those birds were sent to laboratories in USA and found positive, to his great satisfaction. He instructed his one of student, Dr. R.C. Pathak to attempt isolation of *Mycoplasma* organisms and succeeded for the first time in the country to achieve this feat. Contemporarily, the renowned poultry disease expert in the country, Capt. S.B.V. Rao, Head, Division of Pathology at the Indian Veterinary Research Institute, Izatnagar could not achieve the desired isolation. During the same year, the All India Disease Investigation Officer's Conference was held at Pune. Dr. C.M. Singh sought permission of the State Govt. to attend the same but did not get any response. He decided to attend the same at his own expense. The Conference was presided over by the then Animal Husbandry Commissioner and ex-Director, Indian Veterinary Research Institute, Izatnagar, Dr. Laxmi Sahai. While presenting his findings on the isolation of *Mycoplasma*, the findings at the Indian Veterinary Research Institute also came under reference. Capt. Rao took umbrage on this matter. He has been in poultry disease research and development for his entire career and felt offended. But Dr. Sahai gave a

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patient hearing to both of them and sagely advised Capt. Rao to analyse the matter incisively. Dr. Singh elucidated that he had used different protocol for isolation of *Mycoplasma*, he learnt in America and used a specific antibiotic which suppressed and inhibited the growth of other *Mycoplasma*. He gave detailed description of *Mycoplasma* colonies and other characteristics. His explanation greatly impressed the audience about the authenticity of the isolations and pleased Capt. Rao immensely and he wished that he had the information earlier.

When Dr. Sahai, the President of the Conference and the Animal Husbandry Commissioner, Govt. of India learnt that Dr. C.M. Singh had attended the Conference at his own expense, he was very much pleased with him. He wrote to the Govt. of U.P. appreciating the commendable work of Dr. C.M. Singh. This episode made Dr. C.M. Singh well known in the scientific community and enhanced his reputation.

Later working on similar lines, Dr. Singh was instrumental in discovering diseases like Infectious Bronchitis, Infectious Laryngotracheitis, *Salmonella* infections, etc.

Research articles referred to in Smith, HC and Jones, TC (1982) Veterinary Pathology. Lea & Febiger, Philadelphia, USA

At page 470: Chauhan, H.V.S. and Singh, C.M. (1971) Studies on the pathology of pulmonary adenomatosis complex of sheep and goats: viral pneumonitis (atypical pneumonia). Indian Journal of Animal Sciences, 41, 272-276.

At page 664: Rajya, B.S. and Singh, C.M. (1961) Studies on the pathology of Johnes Disease in sheep. III. Pathology: Changes in sheep with naturally occurring infections. American Journal of Veterinary Research, 22, 189-203.

Landmark microbiological isolations:

- Isolation of PPLO (pleuropneumonia-like organisms) from poultry (Adlakha and Singh, 1962).
- Isolation of *Candida* sp. strains from crops of poultry (Pathak and Singh, 1962).
- Isolation of *Salmonella vrindavan*, new *Salmonella* serotype in the world from pigs (Bhakholia and Singh 1963).

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- Isolation of *Salmonella brajbhumi*, new *Salmonella* serotype in the world (Sharma and Singh, 1963).
- Isolation of *Salmonella gokul*, new *Salmonella* serotype in the world from pigs (Dutta and Singh, 1964).
- Isolation of *Salmonella govardhan*, new *Salmonella* serotype in the world from sewerage (Sharma and Singh, 1967).
- Isolation of Infectious Bronchitis virus from poultry in India (Verma, Singh and Singh, 1968).
- Isolation of *Trichophyton simi* from poultry (Singh and Singh, 1968).
- Isolation of new *Candida* sp. strains from poultry (Singh and Singh, 1971).
- Isolation of *Candida paracruzei* from goats (Singh and Singh, 1972).

Ph.D. Thesis in Bacteriology approved by the University of Agra, Agra under the supervision and guidance of Dr. C.M. Singh:

1. Pathak, R.C. (1967) Studies on the so-called *Brucella* agglutination reactions in bovines and the use of a soluble antigen from *Brucella abortus*.
2. Sharma, V.K. (1967) Studies on new serotypes of *Salmonella*.

Ph.D. Thesis approved by the University of Agra, Agra in Veterinary Pathology under the supervision and guidance of Dr. C.M. Singh:

1. Rajya, B.S. (1963) Pathology of pneumonia and associated respiratory diseases in sheep and goats.
2. Dwivedi, J.N. (1968) Studies on the pathology of female reproductive organs in buffaloes.
3. Singh, Balwant (1969) Studies on the pathology of bovine lymphosarcoma / leukaemia in Indian buffaloes.
4. Chauhan, H.V.S. (1969) Studies on the pathology of pulmonary adenomatosis complex of sheep and goats.
5. Parihar, N.S. (1970) Studies on the pathology of avian respiratory diseases.
6. Sharma, U.K. (1977) Pathology of reproductive organs and related endocrine glands in pullets.

M.V.Sc. Thesis in Veterinary Pathology approved by the University of Agra, Agra under the supervision and guidance of Dr. C.M. Singh:

1. Rajya, B.S. (1958) Pathology of Johnes disease in sheep.
2. Kulshrestha, D.C. (1960) Studies on the pathology of bovine neoplasms with special reference to horn cancer.
3. Richharia, V.S. (1960) Pathology of bovine kidney.
4. Awadhiya, R.P. (1960) Studies on the pathology of avian leucosis complex.
5. Dwivedi, J.N. (1961) Studies on the pathology of pneumonia and associated pulmonary diseases in cattle and buffaloes.
6. Mohanty, G.C. (1961) Studies on the pathology of urinary system of bovines with special reference to urolithiasis.
7. Khare, G.P. (1961) Studies on the pathology of respiratory system of poultry with special reference to chronic respiratory diseases.
8. Singh, K.P. (1962) Studies on the pathology of bovine cardiovascular system.
9. Singh, Balwant (1962) Pathology of chronic respiratory diseases of poultry.
10. Sharma, D.N. (1964) Studies on the pathology of female genital tract of poultry with special reference to egg peritonitis.
11. Nath, Rameshwar (1967) Pathology of uro-genital system of poultry.
12. Sadana, J.R. (1968) A study on the pathology of baby pig mortality with special reference to its incidence in Punjab and Haryana.
13. Mahajan, S.K. (1968) Studies on the pathology of urinary system of bovine with special reference to urolithiasis.

M.V.Sc. Thesis in Bacteriology approved by the University of Agra, Agra under the supervision and guidance of Dr. C.M.Singh:

1. Pathak, R.C. (1959) Studies on certain microorganisms and *Candida* in Indian conditions.
2. Singh, G. (1959) Bacteriological studies of bovine semen as collected for artificial insemination.
3. Malik, B.S. (1959) Studies on *Streptococci* with particular reference to strains of bovine udder.

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4. Kasatia, S.S. (1960) Studies on *Escherichia coli* with special reference to poultry.
5. Sharma, V.K. (1960) Studies on the *Salmonellae* with special reference to poultry.
6. Adlakha, S.C. (1960) Studies on the microflora of respiratory tract of poultry with special reference to pleuro-pneumonia-like organisms.
7. Baxi, S.N. (1961) Bacteriological studies on milk from cows and buffaloes with special reference to various serotypes belonging to group 'B' and 'C' *Streptococci*.
8. Sharma, S.P. (1961) Studies on the occurrence of *Salmonella* in domestic animals and poultry.
9. Makholia, B.D. (1962) Studies on the occurrence of *Salmonella* serotypes in pigs in relation to public health.
10. Singh, S.B. (1962) Studies on the pleuro-pneumonia-like organisms and other filterable agents associated with respiratory diseases of poultry.
11. Tewari, R.P. (1962) Studies on some mycotic infections of domestic animals and poultry.
12. Dutta, S. (1963) Studies on the occurrence of *Salmonella* from various sources.
13. Dwivedi, K.P. (1963) Studies on the occurrence of *Leptospiral* infections in domestic animals and rodents.
14. Gupta, R.N. (1963) Studies on the phage typing of *Escherichia coli* strains from domestic animals and poultry.
15. Singh, G.R. (1963) Studies on the occurrence of viruses in respiratory tract of poultry.
16. Singh, M.P. (1963) Studies on the occurrence of mycotic infections in domestic animals and poultry.
17. Kulkarni, M.N. (1963) Studies on the serology and phage typing of *Escherichia coli* from poultry.
18. Panda, P.C. (1964) Studies on the Infectious Laryngotracheitis virus of poultry with special reference to tissue culture system.
19. Patil, R.G. (1964) Studies on the *Salmonella* in poultry with special reference to serological testing for Pullorum disease.

20. Verma, K.C. (1964) Studies on the Infectious Bronchitis of poultry.
21. Mandokhot, Usha (1965) Studies on the laryngotracheitis virus of poultry with special reference to serology.

Initiation of Ph.D. programme at Agra University:

In addition to his capacity as Professor of Pathology and Bacteriology the University of Agra also appointed Dr. C.M. Singh, as the Dean of the Veterinary Faculty. He envisioned for starting the Doctoral programmes in various disciplines of Veterinary Faculty. During this early stage of veterinary education programmes in various colleges in the country, there used to be the disciplines of Veterinary Pathology, Veterinary Bacteriology and Veterinary Parasitology generally grouped together under one combined department and the degrees were also not generally awarded in different disciplines separately. Therefore, there was a group of Professors holding the view that the Doctoral programme in the Agra University may award the Ph.D. (Veterinary Pathology, Bacteriology and Parasitology) degree irrespective of the research problem undertaken by the scholar in the stream of any one of the previously mentioned three separate disciplines.

Due to such background, the proposal to initiate Doctoral programmes in different disciplines especially Veterinary Pathology, Veterinary Bacteriology and Veterinary Parasitology could not be unanimously placed in the Academic Council. But when the Vice-Chancellor and Registrar along with other Faculty members of arts and science disciplines of the University heard the rationale and the reasoning permitting Dr. C.M. Singh to put forth, they were satisfied and agreed to the proposal appreciating his foresight.

Dr. Singh had put forward his arguments on the analogy of the discipline of Biology which has Zoology and Botany as its inseparable facets and had distinctly separate M.Sc. and Ph.D. programmes in the University with separate degrees awarded by the University.

Refined scheme for evaluation at under-graduate level:

The system for evaluation of the under-graduate course students was also modified during this time. This system lasted for decades and was found to be quite effective and maintained high standards of studies till the present switch over to the Semester system. The system consisted of holding of First and Second Quarterly

and Annual examinations after intervals of 3 months and 6 months, and at the end of the year. The weightage of marks allocated was 12.5, 12.5 and 75 percentages, respectively. The annual examinations were conducted on the basis of the theory papers set by the external examiners. Also the practical examinations used to be conducted by them.

Views of his old under-graduate students:

Professor C.M. Singh was an excellent teacher and researcher: Dr. M.P. Bansal

Straight-forward and pertinent, well-known immunologist ex Head, Immunology Section, IVRI and recipient of ICAR Best Teacher Award, Dr. M.P. Bansal had been a undergraduate student of Dr. C.M. Singh and had also worked under his leadership in the U.S.P.L. 480 Scheme Research Project on Lymphosarcoma / Leukemia in Indian buffaloes and cattle. During discussions with him, he revealed certain aspects of Dr.C.M.Singh's working which would encourage the students to learn and conduct research.

Although Dr. C.M. Singh would not take under-graduate classes on a regular basis but he did take a few classes every week. During these classes he would revise almost the entire matter taught by the lecturers / Assistant Professors and others and would clarify all the doubts and queries, besides indicating certain interesting developments related to the topics. According to him, this practice entailed very hard work, devotion and deep insight into the subjects on the part of Dr.C.M.Singh. He would always keep the students aware of the latest literature and fundamentals. When interacting with the students, he would explain the matters in such a way that the students would remain eager to learn more and more, ignoring the limits of time and personal essentialities.

Dr. C.M. Singh used to give enough scope to the students to make their own efforts to learn and come up. He would suggest the topic of the research problem to the student and allow him sufficient time before enquiring from him. During this interregnum the student was supposed to study the literature and collect references. At times it would appear as if he had forgotten the matter. But he would not. He wished that his students should always remain immersed in their research problems in an informed atmosphere conforming to the international standards and for this he would unstintingly help them. He used to be in contact with recognized and well-

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known international laboratories and would obtain standardized antigens, serological agents and isolates, etc. He would always get his isolates confirmed from reputed laboratories in the country and abroad. Because of all these desirable approaches, the research findings from his group could find place in international journals of repute-like *Nature*, *International Journal of Systemic Bacteriology*, *Journal of Comparative Pathology*, *Bulletin of Bacteriological Nomenclature and Taxonomy*, *Poultry Science*, etc. The publications brought name and fame to him and to his students.

Elaborating on the research work conducted during those times at Veterinary College, Mathura and the Indian Veterinary Research Institute, Izatnagar Dr. Bansal opined that while emphasis was laid more on fundamental and basic studies at Mathura, the approach at the national Institute was towards applied aspects. Dr. C.M. Singh was the Project Leader of the United States P.L. 480 Scheme on Lymphosarcoma / Leukemia in Indian buffaloes and Dr. M.P. Bansal worked as Virologist in the Project with the aim to prove the viral aetiology of the malady through various tests. In this connection, he perfected the art of separating lymphocytes from whole blood and culturing them. Then attempts were made to transmit the disease in the susceptible hosts. Dr. C.M. Singh used to take keen interest in the progress of the research work, advising and instructing suitably despite lack of time due to his heavily busy engagements in the administrative and developmental activities of the Institute. All the components of the Project functioned smoothly without any constraints of facilities and essential contacts with certain laboratories abroad. Many times certain chemicals were procured through his personal efforts. It was noteworthy that all the schedules for submission of reports were adhered to punctually. Later transmission studies in cattle were also carried out and a monoclonal also prepared against it. A glycoprotein antigen was prepared and reverse transcriptase identified. The evidence of viral aetiology of buffalo leukemina was also sought through electron microscopic studies. It was concluded through these studies that alike leukemias in bovines and felines, the buffalo lymphosarcoma / leukemia was also of a separate viral origin.

Prof. C.M. Singh was great teacher & disciplinarian : Dr. M.P. Yadav

Dr. M.P. Yadav, Ex.Director, NERC, Hisar and IVRI, Izatnagar recalled his days as a student of II B.V.Sc. & A.H. class at Veterinary College, Mathura when Dr. C.M. Singh was Professor and Head of the Department of Pathology and Bacteriology. An incident had remained ingrained in his memory. Once when the

lecturer had not turned up for the class, all the students were not sitting in the class room – some were standing outside and gossiping and making noise. Although the classroom was about 200 meters at a distance from Dr. Singh's chamber; he took notice and quietly reached the class from the back door. Seeing him all the students resumed their seats. Without referring to the conduct of the students or the lecturer, he enquired from the students the topic of the last lecture and learning that inflammation was being taught to them, he explained them the subject lucidly. He elucidated the topic of suppuration giving example of the cut received during shaving the beards. The processes of acute, subacute and chronic suppurations were detailed. Also the misconception that pus formation was generally a chronic process was erased. The students were highly impressed with his knowledge and handling of the class, though he had neither reprimanded them nor issued an sermons. The news of this incident reached the staff members as well as the student community and such instances were not repeated any more. No lecturer would miss his classes and the students were encouraged to interact with the instructors more and more.

Prof. C.M. Singh created unique research atmosphere: Dr. K.C. Verma

Dr. K.C. Verma, former Head, Division of Avian Diseases, Indian Veterinary Research Institute, Izatnagar, who had been a post-graduate student of Dr. C.M. Singh at the Veterinary College, Mathura during 1963 - 64, remembered the unique research atmosphere prevailing in the Department of Pathology and Bacteriology. The students were very much devoted and would work in the laboratories from morning to late nights. Undertaking several research projects brought in sufficient and additional funds which led to supplementation and improvement of he laboratory facilities and procurement of the latest equipments. Since the staff strength in the Department was limited, Dr. C.M. Singh used to involve his students in the procurement of chemicals, glassware and other stores for research purposes and the students used to feel part and parcel of the Department.

Dr. C.M. Singh did not have any hitch in performing work with his own hands in the laboratory. Dr. Verma remembered an instance when one incubator became defective and Dr. Singh tried to move the equipment on his own to repair the same. While doing so, the incubator could not be balanced and fell on him. However, on hearing the noise, the students nearby came to his help and rescued him.



● CHAPTER 4

DEAN AT VETRINARY COLLEGE, HISSAR

The administrative decision to bifurcate the existing combined Department of Pathology and Bacteriology into two separate departments i.e. Department of Pathology and Department of Bacteriology was undertaken without consulting Dr. C. M. Singh and did not have his concurrence. When separated, the charge of Department of Pathology was handed over to Dr. Singh and the Department of Bacteriology functioned under a separate Head. This arrangement, however, disturbed and disconnected the joint cohesive working of the disciplines of Bacteriology and Pathology – to the very much disliking of Dr. Singh. This arrangement did not suit him temperamentally and made him to seek avenues elsewhere. At the very time, there occurred the vacancy for the post of Dean, Veterinary College, Hissar under the aegis of the undivided Punjab Agricultural University. Dr. C.M. Singh contacted Vice-Chancellor, Dr. Thapar of the Punjab Agricultural University and sought an interview with him. The Vice-Chancellor was highly impressed with Dr. C.M. Singh and his presentation and agreed to have Dr. Singh on his terms and conditions, like enhanced salary and extra facilities. During the interview he extracted the word from Dr. C.M. Singh that he would definitely join, which Dr. Singh agreed. Dr. Singh, however, did not exploit agreed to join on normal conditions.

Much against his will, Dr. C.M. Singh had to leave Mathura due to the altered scenario brought about by the bifurcation of the combined Department of Pathology and Bacteriology into two. He had earlier resolved to spend his lifetime at Mathura teaching and guiding students and conducting research. At Mathura, the bungalow of the Principal of the College, Dr. C.V.G. Chaudhary was situated adjacent to Dr. C.M. Singh's bungalow and hence the two families were in good neighbourly relations. On coming to know from Mrs. Singh about the intended shifting of Dr. C.M. Singh to Hissar, Mrs. Chaudhary asked her husband, Principal Chaudhary to retain Dr. C.M. Singh by arranging a better position for him. Dr. Chaudhary replied that Dr. C.M. Singh was already a man of destiny, rich in good luck and his moving on was for his greater good. Hence, it would not be advisable to retain him and his words proved prophetic.

Hard Decision maker:

Dr. C.M. Singh never used to hesitate in taking decisions - however hard.

When he decided to forego the long service of 18 years with the Govt. of U.P. to join the post at Hissar, his wife was not the least surprised. At that time Dr. C.M. Singh was on a very senior position in the Department of Animal Husbandry, Govt. of U.P. as a Professor at the Veterinary College in the scale of Rs. 1000 – 1500. When he sent in his resignation, the matter was not taken lightly. The Secretary, Govt. of U.P. sent for him to make him withdraw the same. Even the Minister of Agriculture in the Govt. of U.P. Chaudhary Charan Singh implored him to stay at Mathura. Dr. C.M. Singh, however, informed him that he had already made commitments with the Vice Chancellor, Punjab Agriculture University. He was averse to breaking any promises already made as ordained in the old scriptures. Once a decision was taken, he would not look back. The Vice Chancellor, Punjab Agricultural University was pleased and offered him the post on a permanent basis.

Certain Memorable Anecdotes:

Dr. C.M. Singh had joined the Dean's post in undivided Punjab in 1964 at Veterinary College, Hissar. He had to be extremely busy with administrative duties in the then developing University. Despite this, he undertook to supervise 3 scholars for doctoral degree and another 3 scholars for Master's degree in the discipline of Veterinary Pathology, besides looking after the duties of the Head of the Department of Pathology. He continued there at Hissar for about 2 years till July 1966.

He used to lead a simple life and despite occupying the highly prestigious position of the Dean, he used to use bicycle for transport whereas at the same campus, other Deans, Directors, Professors and even lower rung officials used cars or scooters for movement. This, however, used to be a sensitive matter for students of the Veterinary College who used to have the better standards of behaviour and conduct than other category students at the same Campus. Once they had indirectly pointed out their desire for their Dean to move in car by enacting a skit during the Annual Day Celebrations. There were so many models of cars available, which, however, could not match the Dean's bicycle! The cultural fests at the Veterinary College used to be grand affairs and the Veterinary College students used to dress up nicely for the occasion - very smartly in good clothes, ties, suits, shoes, etc. Such an attitude of the students had impressed the Vice Chancellor immensely. At such occasions also, Dr. C.M. Singh used to remain simple both in attire and conduct.



● CHAPTER 5

DIRECTOR, INDIAN VETERINARY RESEARCH INSTITUTE, IZATNAGAR

When Dr. C.M. Singh took over the post of the Director of the Indian Veterinary Research Institute, Izatnagar, the Institute was functioning under the administrative control of the Union Ministry of Agriculture, Govt. of India. He had taken over from the acting Director, Dr. M.R. Dhanda. The Institute at that time had two campuses at Mukteshwar and Izatnagar and comprised of six Divisions. Soon after, the control of the Institute was shifted under the Indian Council of Agricultural Research with famous Dr. B.P. Pal, as its Director-General. Dr. B.P. Pal undertook tour of the Institute then, took stock of the things and assured Dr. C.M. Singh all help and facilities for the improvement and development of the Institute. During his 16 years of tenure, Dr. Singh tried honestly and hard, leaving no stone unturned to develop the same. To achieve his objectives, he sacrificed not only his personal comforts but also the family interests. On 30th November, 1982 at the time of his superannuation, the Institute had developed and expanded tremendously into four campuses at Mukteshwar, Izatnagar, Bangalore and Bhopal and regional centres at Srinagar, Palampur, Calcutta, Makhdoom and Port Blair, and had also attained the status of National Importance. The Poultry Research Division had become Central Avian Research Institute and the centre at Makhdoom had developed into an independent Central Institute for Research on Goats. The laboratories at Port Blair had graduated into the Central Agricultural Research Institute.

In the August 1966 issue, the Indian Veterinary Journal mentioned in its editorial the uphill and enormous tasks facing the Institute for its upkeep and progress. Numerous scientists of varied disciplines not exactly belonging to mainstream veterinary disciplines staffed the Institute. To manage such an assortment of scientists and run the Institute on proper lines, extraordinary tact and capabilities were necessary to mould them in the proper direction and thwart their selfish motives and regressive designs. To succeed in his task, the Director needed unstinted whole-hearted support of the scientific community and other employees. It was expected of the Director to not only possess excellent administrative acumen but also to be simultaneously engaged in his own research. Besides being well-versed in scientific

management, the qualities of being a first rate scientist were expected to be encapsulated in him. The aim of the first scientist of the Institute was expected to be 'science before self' – not as a simple slogan but as the directive principle of all activities of the Institute. The editor hoped that with Dr. C.M. Singh at the helm of affairs and a source of inspiration, each and every employee of the Institute would be able to engage himself with full dedication.

Mother Campus – Mukteswar:

Besides many other reasons, Dr. C.M. Singh had sentimental attachment with the mother campus, Mukteswar of the Institute. The research projects in virology and establishment of hitherto unimagined Pashmina Goat Farm received his personal attention. Over and above everything, his special philosophical binding with *Maharaj ji* there had cemented his liking for the campus. Because of these factors he would never miss an opportunity to be at Mukteswar all through his service in the Institute and afterwards. He tried his level best to conserve, consolidate and expand this campus giving it special treatment which it richly needed – being situated in the far away very cold hilly terrain and quite far away from the amenities of normal city life. He was always receptive and sympathetic to the problems of the staff there. An employee from Mukteswar could see him at the headquarters without an appointment. In this respect he treated all the categories of staff alike – be he Station-in-Charge, Head of Division, Principal Scientist or any other. Perhaps with a view to keep the ambience of the place and traditions set up during British period in place, he preferred to keep the staff permanently there. Though he would pleasantly transfer any scientist or other employee to Mukteswar, he would not do so easily if the transfer is sought from Mukteswar. He would ignore the recommendations and pressures in this matter to the best of his ability. During the fag end of his term, however, he had mellowed somewhat in this respect. He became more receptive and attentive to the problems and needs of the staff and their dependents and certain transfers were made to facilitate the employees in the matters of health and educational requirements.

During the tenure of Dr. C.M. Singh, excellent research work was carried out on rinderpest, foot and mouth disease, sheep pox and goat pox particularly on the facets of development of effective vaccines and methods for their investigation and diagnosis. The well-equipped laboratories with modern facilities attracted both native and foreign scholars and researchers to the campus. Further the campus

hosted a number of national and international symposia, conferences, summer institute, training courses, etc. on educational and scientific topics. The setting up of the hitherto unimagined Pashmina Goat Farm was the culmination of his foresight, strong conviction and untiring efforts. He used to state with pride that Pashmina was the finest and best wool fibre in the world and all the credit for acclimatizing stray population available in the Tibetan region to the Mukteswar campus was attributed to the efforts and labour of the scientists. Besides above, large scale studies were also conducted on the health and production profiles of these animals. The conservation of the rare genetic material and exhibition became possible because of his vision. Dr. C.M. Singh could garner full cooperation and whole-hearted support in his mission of stalwart scientists-like Drs. P.R. Nilakantan, N.S. Datt, G.L. Sharma, B.U. Rao, S. Kumar, B.B. Mallick, M.C. Pandey, B.S. Negi, R.P. Bansal, M.P. Yadav, G.L. Koul, G.S.C. Ranga Rao and all others in fulfilling his dream for strengthening and upkeep of the campus. Besides other developments, one of the glaring accomplishments during Dr. C.M. Singh's tenure was the sanction and creation of the *Kendriya Vidyalaya* by the Govt. of India exclusively for the Mukteswar campus. He had extended all the facilities for achieving this objective and thus solved the great humanitarian problem of the education for the wards of the Institute employees and neighbouring public.

Headquarters (Main Campus) at Izatnagar:

On the recommendations of Lt.Col. J.R.D. Holmes, the Imperial Bacteriologist, the Govt. of India had procured 700 acres of land at Izatnagar adjacent to Bareilly town particularly to have access to the rail-head for establishing a sub-centre of the then main campus at Mukteswar. The buildings for Biological Products Institute (now Division), Animal Nutrition Research (now Division), Poultry Research Section and administrative purpose (now housing Division of Parasitology) were constructed and the laboratories started functioning after thirties. The foundation stone laying ceremony and inauguration of Animal Nutrition and the Poultry Research (now housing Division of Biochemistry) buildings were performed by Lord Linlithgo, the then Viceroy of India. The other prominent buildings were constructed much later i.e. after sixties. Animal Genetics Division, P.G. College of Animal Sciences and Administrative block were followed by Library (now housing Extension Education Division), Medical Dispensary, Dairy, Agricultural Farm Section and Laboratory Animal Section. There was one Post-Graduate Hostel and Guest House.

The Agricultural Farm Section grew fodder for the animals of the Institute and the area was fenced with barbed wire without an boundary wall. For residential purposes there were ten Officer Class Bungalows and a 'Babu' line for housing the clerical staff. The Director's residence was built on one side of the administrative block and notably a spacious portion of it was marked for housing the Director's Laboratory. The Izatnagar locality happened to be situated on the outskirts of Bareilly city and was quite undeveloped without suitable approach roads, market and other essential amenities. The development as observed presently took place after seventies with the U.P. Housing Development Council starting its schemes in Bareilly. Meter Gauge Railway Workshop, Izatnagar Railway Station, Izatnagar Post Office, Railway Hospital, Central Jail and Juvenile Jail were the adjacent landmarks. Later Air Force Station on the north of the campus was set up. The area never used to be safe for the passers by. The measure of development of the Institute can be gauged with the recounting of the various Divisions / Sections that existed before 1968 and after:

Divisions / Sections before 1968:

1. Division of Pathology & Bacteriology (Division of Pathology at Izatnagar and Bacteriology and Virology at Mukteswar)
2. Division of Biological Products
3. Division of Animal Nutrition
4. Division of Parasitology
5. Division of Animal Genetics and Breeding
6. Division of Poultry Science

Divisions / Sections after 1968:

- 1969: Division of Extension Education
- 1969: Division of Standardization
- 1970: Division of Physiology & Pharmacology
- 1971: Division of Epidemiology
- 1971: Division of Biochemistry and Food Sciences
- 1974: Division of Physiology and Climatology
- 1975: Division of Pharmacology and Toxicology

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- 1975: Division of Bacteriology and Mycology
- 1975: Division of Avian Diseases
- 1975: Division of Experimental Medicine and Surgery
- 1975: Division of Livestock Products Technology
- 1975: Division of Animal Reproduction
- 1975: Division of Livestock Economics and Statistics
- 1977: Laboratory Animal Research Section
- 1982: Immunology Section

Specialised Livestock Production Research Units:

- 1968: Livestock Production Research (Cattle and Buffaloes)
- 1970: All India Coordinated Research Project on Cattle
- 1970: All India Coordinated Research Project on Pigs
- 1979: Livestock Production Research (Cattle, Goats and Laboratory Animals)

Foreign Assignments of Dr. C.M. Singh as Director, IVRI, Izatnagar:

- 10th to 24th November 1968: Participated in the Conference of Commonwealth Scientific Committee at Karachi, Pakistan. On way back via Kathmandu, he visited Institutes and Laboratories at Peshawar, Rawalpindi, Lahore and Dhaka.
- May 1971: As a Govt. of India representative attended 39th O.I.E. Conference at Paris, France.
- September 1971: As Govt. of India representative attended the 5th International Symposium on Comparative Leukemia Research at Padua, Italy.
- 18th April to 14th May 1974: Visited Zanzibar and Tanzania as a member of a delegation of specialist scientists deputed by Ministry of Agriculture, Govt. of India.
- 2nd to 21st May 1979: Attended the Conference of Epidemiologists and Economists and Australian Veterinary Association.

Foundation Stone Laying ceremony by President of India HE Dr. V.V. Giri:

The Silver Jubilee year of Independence in 1972 bears a special significance in the history of the Institute. With planning and foresight, the efforts of Dr. C.M. Singh bore fruit under the active support, constructive cooperation and directions of Dr. M.S. Swaminathan, Director-General, Indian Council of Agricultural Research, New Delhi. The President of India, Dr. V.V. Giri was pleased to lay the foundation stone of Modular Laboratory Building at Indian Veterinary Research Institute, Izatnagar campus on 17-3-1972 in front of a huge crowd of citizens of Bareilly. To add lustre to the function and grace the occasion were also present Hon'ble Union Minister of Agriculture, Shri Fakhruddin Ali Ahmed, Hon'ble Union State Minister of Agriculture, Professor Sher Singh, Hon'ble Union State Home Minister, Shri Krishna Chandra Pant, Hon'ble Governor of Uttar Pradesh, Dr. B. Gopala Reddy, Hon'ble Health Minister of Uttar Pradesh, Shri Dharam Dutt Vaid, Director General, ICAR, Dr. M.S. Swaminathan, Deputy Director General (Animal Sciences), Dr. B.K. Soni, senior civil and military officers at Bareilly, important public figures; press and general public. On this historical occasion, an exhibition was also arranged which highlighted the important activities of the Institute especially cross - breeding in animals.

Bangalore Campus:

The foresight, planning, vision and his untiring efforts led to the establishment of a new campus of the Institute at Bangalore under the control of a new Joint Director for research mainly on Foot and Mouth Disease vaccine production. DANIDA, the international aid agency of the Govt. of Denmark offered to help the Govt. of India to generate facilities for the large-scale production of the vaccine through fermentation technology. The Karnataka State Govt. allotted an area of about 7 acres of land at Hebbal; a suburb of Bangalore and another 112 acres of land at Yehlanka situated about 15 kilometres away from Bangalore for the construction of the campus. The laboratories at Hebbal were constructed to maintain the standards of P-3 safety for the workers. All these developments took place with the active involvement and efforts of then well-known virologist, Dr. P.R. Nilakantan and his group of dedicated scientists. Dr. C.M. Singh always remained keen and involved in the development and extension of the campus and closely watched and stimulated the scientific activities there.

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The Foot and Mouth Disease polyvalent vaccine was for the first time prepared in the country in the year 1979 making use of the complex fermentation technology. More than 3 million doses were prepared through the growth of the virus in the BHK-21 cell suspension culture incorporating O, A, C and Asia-1 strains. The vaccine was rendered cheap and economical through sustained research efforts by substituting biologicals, chemicals and media for growth and maintenance. The volume of the dose was also reduced through concentration technology. Dr. Singh always remained in touch with the progress and activities of the campus arranging necessary inputs as and when occasions demanded.

Palampur Centre:

The Regional Research Centre at Palampur in the north-east Himachal Pradesh was set up in 1959 with a view to take care of the animal husbandry related problems particularly the nutritional aspects. When Dr. C.M. Singh took over, it was a small facility. But the entire fillip was extended for its growth and development to make it the Regional Research Centre. In this mission Dr. C.M. Singh received immense help and whole-hearted cooperation from Dr. S.S. Negi and Dr. R.N. Pal. Under the inspiring leadership of Dr. Negi a few young and upcoming biochemists and nutritionists, notably Drs. B. Singh, O.P. Sharma, R.K. Dawra, late Jagdish Vaid, T.K. Bhatt etc., were able to leave the imprints of their research accomplishments and impressed one and all. For the people raising the livestock, the scientists evaluated the important fodder trees growing in the region in respect of their nutritional value and quality as the animal fodder. Also the toxicity potential of various plants, ferns and fungi were studied. Tannin-toxicity due to Oak leaves, chronic bracken fern toxicity, hepatotoxicity and photosensitization due to *Lantana camara* plants were originally investigated and elucidated. The hepatotoxins from *Lantana*, lantadene c and lantadene d were characterised and ptaguiloside from bracken fern were quantitated.

Calcutta Centre:

Dr. C.M. Singh was instrumental for the initiation of studies on Veterinary Public Health for the first time in the country. He was able to enlist the cooperation of the All India Institute of Hygiene and Public Health and the University of Calcutta for admitting the veterinary students for the post-graduate course there for the degree of Master of Veterinary Public Health. For this purpose he deputed Dr. P.N. Khanna and laid the foundation of the courses in veterinary public health first

at Calcutta, and later at Izatnagar. The programme was organized with the assistance from the World Health Organization with both All India Institute of Hygiene and Public Health and Indian Veterinary Research Institute cooperating with each other. The introduction of this course also led to sharing of knowledge on zoonotic diseases by the medical fraternity from veterinarians; and the scholars pursuing M.D.(P.S.M.), A.D., Ph.D., M.C.W., D.H.E. and D.I.H. happened to be the beneficiaries.

Srinagar Centre:

On the recommendations of the National Agricultural Commission the Regional Research Centre was established at Srinagar to counter the dreaded lungworm disease of sheep caused by rampant respiratory infestation with the parasite, *Dictyocaulus filaria*. The disease was a scourge in sheep causing high mortality and the vaccine developed at the Indian Veterinary Research Institute proved highly successful. The lungworm vaccine became a *sine qua non* for young lambs at the age of about 6 weeks and for a number of years about 5 million lambs were vaccinated. Dr. T.N. Dhar and his colleagues played the pivotal role in establishing the Centre. The larvae of the parasite, *Dictyocaulus filaria* were attenuated using cobalt-irradiation and 2 doses spread over 3 to 4 weeks' interval were administered. This procedure provided protection against natural virulent infestation and proved a shining example of peaceful use of nuclear energy.

Dr. C.M. Singh was a staunch supporter and advocate of the independent approach of the country in the matter of nuclear policy. He was happy and proud with the nuclear explosion carried out at Pokharan. He considered it as a proof of intellectual maturity of the nation. He believed firmly in the peaceful uses of nuclear energy and was instrumental in harvesting the same at the Institute. He encouraged scientists to use nuclear techniques for their research studies particularly in the fields of health and nutrition. The result was that the cobalt-irradiated sheep lungworm vaccine saved the sheep husbandry in the state of Jammu and Kashmir from extinction through well-coordinated programmes undertaken by the Srinagar Centre of the Institute with the State Sheep Husbandry Department benefiting the sheep-raisers immensely by ensuring them economic viability.

Use of the vaccine not only saved the lives of sheep, but also enabled them to produce more in terms of meat and wool. The sheep-raisers soon came to know of

the benefits of the vaccine and would themselves approach for the same. At one occasion to press for their demand, they created a traffic jam on the main road.

To bring in the Project and to obtain the necessary equipments for cobalt-irradiation, numerous hurdles had to be overcome. But the persistence efforts of Dr. C.M. Singh bore results. He developed rapport with scientists at the Bhabha Atomic Research Centre and Atomic Energy Commission, some of whom were connected with the nuclear explosion also. Dr. C.M. Singh had become quite close to some of them. He was also appreciative of the fact that the former Prime Minister of the country, Mrs. Indira Gandhi had praised the work carried out at Srinagar Centre. He talked highly of the efforts put in by Dr. Dhar and Dr. R.L. Sharma in the implementation of the Project.

Central Institute for Research on Goats, Makhdoom, Mathura:

Dr. C.M. Singh envisioned for setting up a research station for sheep and goats and for this purpose an area of land near Farah, Post Office Makhdoom, approximately 25 kilometers away from Mathura on Mathura-Agra Road seemed appropriate. He then managed to acquire this land from the U.P. State Govt. for the Institute. He christened this centre, assuming that it may develop later into an independent central institute, as Central Institute for Research on Goats in 1976 when the same took shape. Truly after 3 years, under the VI Five Year Plan, the Indian Council of Agricultural Research bestowed it the status sought for, separate and independent from the Indian Veterinary Research Institute. Dr. C.M. Singh had to work hard in the initial stages of the Project and he was ably supported in his objectives and planning by Dr. K.L. Sahni, Officer on Special Duty and his group of scientists who had to face the harsh climatic conditions and utter lack of facilities in the inhospitable terrain. The scientists had to stay in tents before the laboratories and animal sheds came up. Whenever the subject would come up, Dr. C.M. Singh would always mention the hardships and appreciate the mettle of scientists time and again.

Central Avian Research Institute, Izatnagar:

The Poultry Science Division of the Institute made great strides during Dr. C.M. Singh's tenure. Many new laboratories were constructed and capacity of the farm enhanced tremendously particularly after Dr. B. Panda took over the reins of the Division and by 1979 the Division had grown sufficiently to deserve the status of a separate independent institute. On November 1979 the Poultry Science Divi-

sion was converted into the Central Avian Research Institute, Izatnagar with Dr. B. Panda as its founder- Director.

During early phase of the development of Division Poultry Science, special attention was paid to develop the infrastructure by Dr. C.M. Singh and high yielding varieties of poultry. The research efforts bore fruit and a commercially viable high yielding strain of White Leghorn birds ILI-80 producing 260 to 270 eggs per annum was evolved and released. It amounted to roughly a dozen eggs against 1.90 kg of mash. This was followed by the development of broiler strain B-77, which grew faster and gained an average weight of 1.8 kg by the time it became 8 weeks old.

Also for the first time in the country, in 1974 under the ICAR and UNDP cooperative education programme, the Institute imported hatchable (embryonated eggs) of Japanese quail (*Coturnix coturnix japonica*) from Science Education Division, California University, Davis, USA. The eggs were received again in 1976 from this source. Further such hatchable eggs from two other strains of quails were also imported from Hohenholm University, Stuttgart, West Germany. The quails were successfully bred and proliferated profusely. Their small marble ball-like eggs weighing around 5 g were a craze at that time. These eggs were also pickled and were in great demand, which grew with time. The quails were also made available for the farmers to breed and thus for the first time in the country quail farming took root. At the Institute the studies on quails were further encouraged under the Centre for Advanced Studies, wherein various facets of quail production are being tackled.

Favourite Research Topic - Lymphosarcoma in buffaloes :

Dr. C.M. Singh considered his researches on lymphosarcoma / leukemia in Indian buffaloes particularly the pulmonary involvement as the best finding. The American Animal Cancer Research Laboratories also confirmed the findings. His student, Dr. Balwant Singh for his doctoral research, studied this problem. He prepared a section of a large lymphosarcomatous lesion of the lung and showed the same to Dr. C.M. Singh. Seeing such a large lesion, Dr. Singh concluded that the infiltration should be grossly detectable. And he was right! Then more specimens were looked for and the relevant slides were sent and confirmation received. Dr. Balwant Singh rose to become Professor of Pathology at Veterinary College, Ludhiana and later it's Dean. These findings, purported to be for the first time in buffaloes, were

presented in the Fifth International Conference on Comparative Leukemia research held at Padua in Italy in 1973. Since similar lesions had already been reported from humans, these findings bore comparative pathological importance.

Later the detailed gross and microscopic occurrence of the lesions in lungs, other internal organs and lymph nodes were presented along with elucidation of its other features (Singh, 1975; Singh *et al.*, 1979, 1980, 1981). C-type viral particles were demonstrated in the lymphocytes from the affected buffaloes. With the help of studies carried out in cooperation with National Veterinary School, Alfort, France, Central Veterinary Institute, Rotterdam and Free University of Brussels, Belgium using immunoblotting, radioimmune assay, enzyme-linked immunosorbent assay, radioimmune precipitation and other tests, the replicating filterable agent of the buffalo lymphosarcoma was demonstrated. It was revealed that the incriminating viral agent possessed a little different structure from the other known leukemogenic viral agents. It was stipulated that a complete picture would emerge only after complete characterisation of the viral agent and its role in DNA replication, carcinogenesis, etc. According to Singh *et al.* (1981), it would not be a matter of surprise if the buffalo lymphosarcoma agent turned out to be different from the leukemia agents responsible for bovine, feline and swine entities.

In his erudite and impressive lecture, Dr. Singh narrated the challenges posed by the lentiviruses. The lentiviruses have spread throughout the world crossing the boundaries of lands and continents and the barriers of human and animal host range. But a ray of hope appeared in the persistent human endeavor to delve deep into the pathogenesis and occurrence of these deadly agents and evolve suitable preventive and control measures by application of modern methods of scientific research. The process would never end, as also the human spirit. Some important published references are as follows:

- Singh, C.M., Singh, B. and Parihar, N.S. (1973) Pulmonary involvement of lymphosarcoma in Indian buffaloes. Fifth International Symposium on Leukemia Research, Padua, Italy. *Bibl. Haemat.* 39, 220-227. S. Karger/A.G. Basel, Switzerland.
- Singh, C.M. (1975) Final Technical Report of P.L. 480 Scheme on Bovine Lymphosarcoma / Leukemia particularly in Indian Buffaloes. P.L. 480 Grant No. F.G. In-338 Project No. A 7 - A D P - 24.

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- Singh, B., Singh, K.P., Parihar, N.S., Bansal, M.P. and Singh, C.M. (1979) Clinico-pathological studies on lymphosarcoma in Indian buffaloes (*Bubalus bubalis*). *Zbl. Vet. Med. A.* 26, 460-461.
- Singh, C.M. (1980) Lymphosarcomatous involvement of reproductive and endocrine organs in Indian buffaloes. *Zbl. Vet. Med. A.* 27, 597-606.
- Singh, C.M., Bansal, M.P. and Singh, K.P. (1981) Studies on the association of a filterable agent with buffalo lymphosarcoma. *Advances in Comparative Leukemia Research*. David S. Yohanna and James R. Blakenseley (Editors). Elsevier North Holland Inc. 1982.
- Singh, C.M. (1985) Diagnosis and control of caprine arthritis encephalitis (CAE) in the imported Saanen goats in Thailand. *FAO Consultancy Report*. FAO / ARPA, Thailand.
- Singh, C.M. (1988) Retroviruses as biological threat to man and animals. Pp. 1-44. 75th Indian Science Congress, Pune. Indian Science Congress Association, 14, Biresch Guha Street, Calcutta - 17.

The P.L. 480 Scheme reports of the Project were widely circulated and it was later proved that the buffalo lymphosarcoma could be of viral origin.

Responsibilities of Scientific Societies :

Dr. C.M. Singh had been associated with the following scientific organizations in varied capacities-like Patron, President, Fellow, Life or ordinary member, etc.:

President :

- Indian Poultry Science Association
- Indian Poultry Club
- Indian Chapter of the World Poultry Science Association
- Indian Association of Veterinary Microbiologists, Immunologists and Specialists in Infectious Diseases
- Indian Association of Animal Production
- Indian College of Allergy and Applied Sciences
- Veterinary Council of India
- National Academy of Veterinary Sciences

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Fellow :

- Indian Public Health Association
- Indian College of Allergy and Applied Sciences
- National Academy of Veterinary Sciences

Member :

National

- Indian Science Congress Association
- Indian Veterinary Association
- Indian Association of Veterinary Pathologists
- Indian Dairy Science Association
- National Science Academy
- Association of Microbiologists of India
- Society of Application Nuclear Techniques in Agriculture
- Indian Veterinary Society
- Association of Food Scientists and Technologists

International

- Sigma XI
- Phi-Zeta
- Michigan Chapter of the Society of American Microbiologists
- Society of American Veterinary Epidemiologists
- International Association on Comparative Leukemia Research and other related diseases.
- Expert Committee on Public Health of the World Health Organization
- Expert Committee on Zoonoses of the World Health Organization
- Advisory Committee on Second International Symposium on Veterinary Epidemiology and Economics
- Society of Veterinary Epidemiologists and Economists
- International Organising Committee of the World Conference on Food Borne Diseases and Intoxications
- Advisor for Section A: Bacterial, Rickettsial and Mycotic Diseases.

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Vol. 2. Handbook series on Zoonoses. James H. Steele, Editor-in-Chief, C.R.C. Press Inc., Florida, America

- Evaluation Team of Indo-Danish Foot and Mouth Disease Vaccine Project
- Joint Committee for Technical Report Series 573 for Veterinary Public Health of Food and Agriculture Organization / World Health Organization
- Phillip R. White Memorial Lecture Society

Historical contributions of Dr. C.M. Singh:

In the commemorative volume brought about on the occasion of the Centenary Celebrations of the Institute during 1989-1990, the contributions of Dr. C.M. Singh have been mentioned. "Dr. C.M. Singh had joined the Institute in 1966 as the youngest Director and in the ensuing period of 16 years advanced the scope of veterinary sciences by diversifying in its various branches and disciplines and creating facilities for advanced studies and research. He transformed the Institute into a unique place where under the same administration the multidisciplinary pillars of animal sciences – livestock health, production and technology prospered.

Under his dynamic leadership the Institute recorded tremendous progress and development particularly during the fourth and fifth Five Year Plans. Besides 15 new Divisions and Sections that came up a new during his time at Izatnagar, new centres of the Institute came up at Bangalore, Palampur, Calcutta, Srinagar and Bhopal and led to substantial enhancement and refinement in the facilities for conducting studies in all areas of basic, fundamental and applied researches in different disciplines of animal science. In view of the standards of research and accomplishments in livestock production the Indian Council of Agricultural Research declared the Institute as the 'National Institute'. In 1982 when Dr. C.M. Singh superannuated, and soon after the Institute was also accorded the Deemed-to-be-University status by the University Grants Commission. It was shining evidence of his dynamism, foresight and planning which took education and research at the Institute to such an elevated level".



● CHAPTER 6

SUBJECT OF SPECIAL INTEREST : VETERINARY PUBLIC HEALTH

From the very beginning Dr. C.M. Singh was interested in research in both the aetiological (mostly microbiological) and pathological facets of animal and poultry diseases and their relationship with public health. The inter-relationship between various microbial pathogens like bacteria, mycoplasma, viruses, fungi and other pathogens with animal and poultry hosts were generally the topics of research investigations carried out under his supervision. Besides his fundamental interest in the disciplines of pathology and bacteriology, he had particular enchantment with the matters of public health importance. He had developed this interest from his student days and taken related courses during his doctoral studies at the Michigan State University, USA. He had presented his doctoral thesis on a zoonotic agent, *Listeria monocytogenes*. Because of his inclination and impressed with his public health related research, the Lister Institute in U.K. had offered him the fellowship of the Institute. Such an honour is generally extended to medical professionals and only exceptionally to members of non-medical stream.

When Dr. C.M. Singh was at Mathura, some of the research studies carried out there had led to the isolations of certain strains of *Salmonella*, many new to the world, which significantly bore great public health importance. These strains were named after the localities of their sites of recovery like *S. vrindavan*, *S. gokul*, *S.mathura*, *S.brijbhumi*. These organisms were isolated from human and animal carriers and sewage water.

Dr. C.M. Singh had also conducted research on *Escherichia coli* bacteria and phage typing. Due to his line of studies he came to interact and developed close contact and respect for medical microbiologists-like Lt. Col. (Dr.) Kalra of the All India Institute of Medical Sciences, New Delhi and Major Dr. Ganguly of the Armed Forces Medical College, Pune. These research scientists used to exchange samples and information on problems related with public health.

Dr. C.M. Singh laid the foundation of the National Salmonella Centre (Veterinary) in 1976 in the Division of Bacteriology and Mycology in the Institute

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by upgrading the Salmonella Laboratory. Besides acting as a repository of various *Salmonella* serotypes, the Centre regularly undertook serotyping of the isolates as well as serological testing of the animals and poultry. It resulted in the discovery of several zoonotic *Salmonella* serotypes. The Centre was mainly run by Dr. B.R. Gupta and his associates and their immense contribution and dedication were exemplary.

As already stated, it was because of Dr. C.M. Singh's initiation and efforts that the unit of veterinary public health was established at the All India Institute of Hygiene and Public Health, Calcutta under the leadership of Dr. P.N. Khanna for both education and research. A two-year postgraduate degree programme, Master of Veterinary Public Health, under the aegis of Calcutta University was jointly sponsored with the assistance of World Health Organization by the Indian Veterinary Research Institute and the All India Institute of Hygiene and Public Health. During his tenure it was common for the veterinary scientists to extend training assistance in zoonotic aspects to M.D. (P.S.M.), A.D., Ph.D., M.C.W. and D.I.H. programmes. Further many medicos were also accorded instructions in zoonoses.

His efforts also had succeeded in bringing into existence the Division of Veterinary Public Health at the Institute during the Fourth Five Year Plan. The Division was initially to have the following five sections:

- Comparative pathology and medicine
- Zoonoses (viral, microbial, rickettsial, fungal)
- Food-borne infections and toxicities
- Public health services
- Scientific coordination and administration

The Division engaged in research, teaching and service activities was recognized by World Health Organization and Food and Agriculture Organization as the nodal centre for research and education in veterinary public health. It was also recognized and registered as the resource centre for INFOTERA under the United Nations Environmental Programme.

In this Division, special emphasis was laid on studies on brucellosis. For the diagnosis of *Brucella* infection, both *in vivo* and *in vitro* tests were refined and suitable antibiograms used. The incidence of the infection was studied countrywide.

Dr. V.K. Yadav happened to be the leading research scientist in brucellosis. The Division also tackled other zoonoses and problems like- hydatidosis, food poisoning due to *Pseudomonas aeruginosa*, pyrexia of unknown origin, atherosclerosis, etc. Dr. N.P. Bhalla and Dr. M.C. Prasad carried out the extensive studies on comparative pathology of arterial diseases.

Stint with World Health Organization and Food & Agriculture Organization :

Dr. C.M. Singh was attached with both these organizations in the disciplines of food hygiene, veterinary public health and veterinary medicine. He served as the Chairman of the sessions on food-borne diseases and toxicities in the FAO / WHO workshops held at Berlin for three consecutive years and had delivered oration lectures on food hygiene. Dr. C.M. Singh took the assignment of WHO consultant to Govt. of Bhutan for its national rabies control programme from 22nd March to 30th April, 1985. He had already served for over a decade on the WHO expert panel on zoonoses.

The following programmes on veterinary public health were organized during Dr. C.M. Singh's tenure at the Institute:

- Indian Veterinary Research Institute, Mukteswar organized WHO Regional seminar on public health in April 1970.
- WHO Regional Centre, New Delhi and the Indian Veterinary Research Institute, Mukteswar jointly organized the regional and inter-regional workshop on the subject of public health services and their organization in October 1974.
- National Institute of Communicable Diseases, New Delhi and the Indian Veterinary Research Institute organized jointly Second National Symposium on zoonoses and their control in India in June 1977.
- First and second quarterly short-term courses on principles and practice of veterinary public health held during April to July in 1977 and 1979.
- From 5th February to 3rd March, 1979, workshop organized at Indian Veterinary Research Institute, Izatnagar in collaboration with the FAO / WHO Centre for Research and Training in Food Hygiene, Institute of Veterinary Medicine, Federal Health Office, Berlin (West), Germany on advanced microbio-

logical methods in food hygiene for the veterinarians and public health officials of the South-East Asian countries.

- First short-term course on food hygiene from April to July 1980.

Some leading publications of Dr. C.M. Singh on Veterinary Public Health (excluding research articles):

Singh, C.M. (1974) Dr. A. Srinivasan Memorial Lecture at Madras Veterinary College, Madras. pp. 1-51. University of Madras, Tamil Nadu.

Singh, C.M. (1979) Problems of food borne infections and intoxications and their working proposition in South-East Asia. Paper presented at the WHO Inter-country Workshop from 5th February to 3rd March on Advanced Microbiological Methods in Food Hygiene organized at Indian Veterinary Research Institute, Izatnagar in collaboration with the FAO / WHO Centre for Research and Training in Food Hygiene, Institute of Veterinary Medicine, Federal Health Office, Berlin (West), Germany.

Singh, C.M. (1981) Problems of food borne infections and intoxications in India - status paper. pp. 1-34. Indian Veterinary Research Institute, Izatnagar, U.P.

Singh, C.M. and Cowlikoveski, A. (1985) Danger lurks in our food. World Health Organization. July 5-7.



● CHAPTER 7

DR. C.M. SINGH – A GREAT PERSONALITY

Strict vegetarian:

Dr. C.M. Singh had been a pure vegetarian since his childhood. During his doctoral studies, therefore, he had to face hardships in matters of selection of food items, and for pretty long periods he had to subsist on fruits, milk and vegetables alone. Many a times at meal times particularly in foreign soil, he preferred to take only salad and similar items. Like him, his wife also happened to be vegetarian. Although vegetarian, Dr. C.M. Singh always encouraged production of livestock and poultry and their products including milk, meat, eggs, etc. He also stimulated innovations for the preservation, processing and marketability of these items. But he would like such preference for meat or non-meat diet to be completely voluntary and would not press anyone including his children and colleagues to adopt his ways including vegetarianism. Except himself, his wife and his one son, all others in his family, therefore, took non-vegetarian food also whenever they liked.

During the writing of this book, the author had the good fortune to stay and interact with him and family members many times and usually to share the moments over the dining table. He used to have simple diet but he was always careful that it was of nutritious value. He often took corn flakes in milk, tea, bananas and other fruits in breakfast in the mornings and fruit juice, processed paddy items, gram, groundnut and fruit items like apple, oranges, *keenu*, banana, etc. in the evenings. He affectionately offered these items to everyone sitting with him. His meals used to be simple affairs with *chapatis*, rice, pulses and vegetables. He was fond of taking green vegetables and salad. Many a times simple mixed preparations of rice and pulses (*khichri* and *tehri*) along with vegetables and curd used to be the usual items on the dinner table. Mrs. Singh happened to be a very good cook and regularly cooked food herself. Being a very affectionate hostess, the guests would not easily forget her cooking in matters of taste and sanguine feelings.

Excellent communicator:

Dr. C.M. Singh was an excellent orator, an avid and voracious reader and very knowledgeable. He would speak on scientific topics for hours and engage in discussions and discourses with scientists and intelligentsia explaining his view-

points and ideas winning the admiration of one and all. He would easily engage the audience for about an hour whenever asked to speak in the inauguration or concluding functions in the academic or other meetings. His talks would encompass various related facets of the main topic – present status, scope, avenues, methods for amelioration, etc. He would include instances from his own experiences in life. But at times he would be too lengthy. He usually would not follow the written scripts and time limits.

Demeanour:

Dr. C.M. Singh was a man of simplicity and did not believe in unusual ostentatiousness. He had rural background and was an epitome of the principle – "simple living and high thinking". His insight into and understanding of the principles of The *Bhagwad Gita* always beckoned him to simplicity. His office fully exemplified this trait. During his tenure as Director at the Institute, the furniture in his own office, other offices and laboratories used to be of average good quality bereft of costly and expensive furnishings, floorings, carpets, etc. It is noteworthy that he continued to use the same old chair as the seat of the Director, which had been used by Dr. F.C.Minnett, who was Director before independence.

He also used to be simple in his attire. His clothes would always be clean though limited in number. This matter had become an item of a skit in the cultural programme at Veterinary College, Hissar when the students had tokenly presented with a gunny bag suit. Dr. Singh remained unnerved and took the matter sportingly. He quoted the famous scientist, Albert Einstein who had stated that it would be a day of great misfortune when people would attach greater importance to the bark of the fruit than to its flesh. His daughter, Mrs. Shashi Singh, who had also informed that the family members generally were not extraordinarily particular about clothes and in show and fashion, had narrated this incident.

When at home, Dr. C.M. Singh used to wear light clothes: a thin long cloth to cover the lower half called *dhoti* and a thin garment called *kurta* to cover the upper portion. His drawing room had oriental type furniture – resting chairs with *khadi*-covered pads. These were similar to those at his parental house in the village in Jaunpur. The chairs were very comfortable and both Dr. Singh and Mrs. Singh would spend hours sitting on them chatting with each other. Dr. Singh would put on formal clothes – safari, suit, etc. only when entertaining guests or going out.

A discerning eye:

Dr. C.M. Singh had an innate capability to appreciate the overall qualities and goodness of any person and would deal with him appropriately. This endeared him to one and all. Discerning the talent, quality, capacity and behavior of the person, he would form an opinion about him / her and this opinion he would not change till very strong evidence comes to light against it. But at times that was too late.

Dr. C.M. Singh always encouraged intelligent and sincere scholars and scientists and would try to help them occupy positions of responsibility. In this matter he was above board and did not favour or disfavour any candidate with respect to extraneous considerations of caste, creed, region, religion, language, etc. During his tenure at the Institute for long 16 years, he appointed capable and intelligent persons on the posts of Head of Divisions, Professors, Scientists and others. Dr. S.K. Ranjhan, Head, Division of Animal Nutrition, Dr. B. Panda, Head, Division of Poultry Science, Dr. B.S. Rajya, Head, Division of Pathology, Dr. P.N. Bhat, Head, Division of Animal Genetics and Breeding, Dr. N.K. Bhattacharya, Head, Division of Physiology and Climatology, Dr. S. Kumar, Head, Division of Virology, Dr. H.V.S. Chauhan, Head, Division of Avian Diseases and others came from varied places and backgrounds on the strength of their overall capabilities and practically all of them played important roles in shaping the destiny of the profession. Under the guidance and supervision of these leading scientists, the veterinary science recorded unparalleled gains not only in research studies and technological developments but also in generation of human resources. He also helped capable and promising scientists to gain jobs in different colleges and institutes in his capacity as Chairman / Member of Selection Boards / Panels / Committees. But he would not favour unsuitable candidates. Because of these traits, all people could not like Dr. C.M. Singh uniformly. Many people who happened to be apparently close to him would not be happy with him on this account. Even at times his students and scientists closely associated with him reacted adversely in such cases. But this did not deter him from following the path of righteousness.

Fondness for books:

Dr. C.M. Singh was fond of reading books from his childhood. He would study books on allopathy, homeopathy and *ayurveda* for treating people of his own village. During his student days he would visit *kabadi* shops for having old books to

look for old manuscripts and books on useful and interesting subjects and used to procure them. His propensity for studying books never diminished. He would receive many books as present or gift due to his position as Director of the Institute. In addition he would himself purchase numerous books. His children also did not lag behind in this trait. Mr. K.L.Sah, who managed his accounts, used to complain about over expenditure on this account destabilizing the monthly budget. Dr.C.M. Singh used to be extremely busy and engrossed in his work as the Director of the Institute and his Personal Assistant, Mr. Sah looked after his accounts and arranged for the daily needs and requirements of his home.

According to Mrs. Singh whenever her daughter visited any scientist's or professor's home to have interaction with their children, she would look for good books and, if not there, would come back and express her disappointment and consternation by saying that what sort of scientist or professor he was that he did not have his own collection of books! The children of the Institute, friends to Dr. Singh's children, would borrow books from his children for reading.

When Dr. Singh superannuated, it was found that amongst his personal luggage, books formed the major part, which were then translocated and kept in his house at Mathura with the intention to donate them to the some veterinary college or institution. Many of his books, he had already donated to the Veterinary Council of India. At his Vasant Enclave house at New Delhi, there were number of bookshelves - all fully stocked up with books and magazines. Books on science, religion, literature, general knowledge and other varied subjects - both in English and Hindi comprised his collection. Series on Life Sciences, National Geographic, Readers' Digest, and others were among his collections. There were many literary texts also. And these were all besides his vast collection of books related with veterinary science and animal husbandry.

Human resource development:

Dr. C.M. Singh was a great humanist and had welfare of all sections of the employees of the Institute at heart. When he had taken over, all the manual assistance for the Institute work was organized through the casual labourers. Casual worker for whatever length of period one was employed for, did not confer the worker with any security or rights with regard to one's future and the person could be hired and fired at will. Dr. C.M. Singh intended to give the casual workers a secure

future and, therefore, persuaded the Indian Council of Agricultural Research to make the services of casual workers a permanent feature in the organizational set up of the Council. Hence within a few years of his joining, he was able to ensure permanent jobs for more than 700 casual labourers. This happening reformed their futures and in order to express their thankfulness and heart-felt gratitude, they decided to honour him. Hence at a function each person garlanded him separately and individually and also ensured that Dr. C.M. Singh did not get tired by removing garlands from his person themselves at regular intervals. This occasion always remained fresh in the memories of both Mrs. and Dr. Singh, who always believed that the good wishes and genuine blessings for being able to do a good turn for the casual workers and their dependents reciprocatively led to the welfare of their own family members.

Banyan trees:

Before 1975 the road leading from the main gate of the Institute to the administrative block was very steep alike the hump of a camel so much so that the administrative building was not visible easily from the gate. It used to be very hard, tiring and laborious for pedestrians, cyclists, rickshaw-pullers and others to reach the top of the hump. Usually the visitors to the Institute were left at the gate to negotiate the ascent themselves. The rickshaw pullers preferred to catch the passengers at the main gate only and also preferred to leave them at the main gate, rather than taking them from their destination or leaving them at their place in the Institute campus. This unusual topographical feature did not go well with Dr. C.M. Singh and he discussed this matter with the Estate Manager of the Institute, Mr. Suraj Bhan Singh, who happened to be one of the most devoted, selfless hard working officers. First the problem was placed before the Central Public Works Department authorities, who estimated involvement of large sum of money, which was rather not possible to arrange. Hence it was decided to carry out the job at the level of the Institute itself by the Farm Manager. The job was herculean and required translocation of thick layers of soil from higher areas to low lying lands on the other side of the road in alignment with the administrative building. For this purpose bulldozers were pressed into service and care was exercised according to Dr. C.M. Singh's wishes to ensure minimum damage to the existing structures, trees, plants, etc. Thousands of tonnes of soil was moved to level the hump and this resulted in the present huge lawn in front of the administrative building and the sports stadium having steps for the spectators. So

much quantity of soil had to be dug up and removed from higher areas on the other side (to the administrative building side) that two huge banyan trees were exposed to their deep roots, which became visible and did not present a palatable sight besides posing danger to their survival. These structures are still very presentable and being usefully put to use very frequently. Such scenario was unimaginable in the context of those times and existing topographical structures then. During those days, the various sports and cultural activities were usually arranged in the ground surrounded by Animal Nutrition, Animal Genetics, Parasitology and Poultry Science division buildings. The author happened to be a post-graduate student then and had witnessed this transformation. Dr. C.M. Singh would also recount the matter and in this context would recall one of the suggestions that he often received by name or otherwise. At that time he received an anonymous letter containing a poem entitled "We Two Banyan Trees". The poem conveyed that due to displacement of the soil, their roots i.e. roots of the two banyan trees, had been exposed and they felt as if they are shamefacedly standing naked. The poet appealed him to save them from this embarrassment. Stern but sensitive administrator, Dr. C.M. Singh immediately advised the Farm Manager to look into the matter. The message was well received and the Farm Manager did not delay in covering the roots with soil and giving shape to the structures. Platforms were built around each of the banyan trees covering their exposed roots and making them very presentable. Dr. C.M. Singh then again received another anonymous letter containing another poem thanking him for so to say clothing them (i.e. banyan trees) and saving them from embarrassment. Dr. C.M. Singh narrated this incident and thanked the anonymous poet who drew his attention to the problem. He also expressed profuse thanks and gratitude for the Farm Manager, Mr. Suraj Bhan Singh for the completion of the stupendous and uphill task.

Post-superannuation - Satisfying job :

At the time of superannuation, Dr. C.M. Singh faced the dilemma of spending time without useful engagements. But his predicament was soon over. He received a communication from the Union Public Service Commission, New Delhi whereby he was appointed as member of selection committee for the Indian Administrative Services for a period of three years. Dr. C.M. Singh was greatly satisfied with this assignment and conserved the experience gained when interviewing numerous brilliant and talented youngsters for the highest administrative job. Dr. C.M. Singh carried out this assignment quite reliably without coming into the knowl-

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edge of anybody in the neighbourhood and also of acquainted people close to him. He also acted as the chairman of the selection committee for selection of the medical officers of Central Government Health Services.

His father's wish:

Dr. C.M. Singh's father had desired that he should adopt the legal profession and become a pleader so that he would look after the land disputes of the family and get them settled amicably and early. He was not happy with his adopting the veterinary profession. When Dr. C.M. Singh rose to as high a position in the veterinary profession as the head of the National institute, his daughter, Dr. (Mrs.) Shyama Singh enquired of his grandfather whether he was now happy with his son and her father occupying such an exalted position? But the simple old man due to his rural background had other views and remarked that he would have preferred his son to be a judge rather than the head of the National institute. According to him with judgship the matters would have been different. He was then explained the high status and prestige the present post carried compared to that of a judge. The vast numbers of different class of employees, officers and scientists to be supervised by him and the impact his decisions would make in shaping the future of veterinary science and animal husbandry at the national and international levels and other points hardly convinced the old man after lot of explaining.

Sports lover:

Dr. C.M. Singh was a great sports lover and would always encourage the games and sports activities in the Institute. The construction of large playground and stadium adjacent to the administrative building is the embodiment of his interest. As early as in 1967 he donated a trophy on his own to be won in the cricket match organized between the teams of students and staff members of Institute annually at the time of annual day celebrations. Dr. C.M. Singh fondly remembered his captaining the first staff team and winning the match against the student team. The organizing committee had at that time persuaded successfully Mrs. Singh to come to the ground and award trophy to the winning team's captain, who happened to be Dr. C.M. Singh, her own husband. On the days of the match, Dr. C.M. Singh also used to entertain the members of both the teams for lunch. The lunches were usually hosted at his residence. Dr. Singh fondly remembered that the staff team usually was the winner. Dr. T.N. Jaiswal, Sports Secretary is having a number of such memoirs and photographic evidence of those days.

Flag episode:

At gate No. 2 of the Institute, a few leader type aspiring employees were trying to instigate other *mazdoors* and employees to form an union against the administration and the Director. But due to fair dealings of the Director, they would not be successful, and when he would be in the campus, people did not like to participate in such meetings. Therefore, such meetings would be held when Dr. C.M. Singh would be away from the campus to take advantage of his absence. Once Dr. C.M. Singh returned from tour and came to know about such meeting taking place. He reached the spot at gate No. 2 along with the Security Officer. He got the meeting disbursed and confiscated the flag. He also ordered the gate to be permanently closed. His forthright and bold action unnerved the leaders and broke the back of their movement. The leaders had taken the matter to the Council and adopted political approaches to the highest level of the Hon'ble Union Minister of Agriculture. The desperate leaders had made a false case of dishonoring the national flag by the Director. Dr. C.M. Singh was summoned to Delhi to explain the matter. He faced the Hon'ble Minister, to whom he was already familiar, and presented him his side of the story and also showed the so-called national flag confiscated by him from the complainants, which was different (from the national flag). The Minister found his action appropriate and reprimanded them. Thus the flag episode ended with the gate No. 2 remaining closed since then.

Fellow feeling:

According to a couplet of *Goswami Tulsidas* in *Shri Ramcharitmanas*, people visualized the form of the Almighty, Lord *Rama*, as they perceived it in their hearts. So was the case with Mr. Mohammad Rashid, popularly known as 'Rashid', who was the staff car driver with Dr. C.M. Singh. He observed and interpreted his qualities and accomplishments in different light. He had had the privilege to take him in the for official duties car for maximum number of years to various places in the country. He would attend to his major and minor needs during the tour, as he would attend to some religious soul. He did not remain oblivious to the changes taking place in the Institute. According to him, Dr. C.M. Singh planned three major works for the Institute, which he successfully could accomplish. First was to replace the wire fence limiting the boundary of the Institute with a reinforced brick wall, which needed huge financial input. Dr. C.M. Singh managed the funds in such a manner that the boundary could be constructed. Unlike the present times, arranging even meager funds for any enterprise in those days was not easy. Lots of formalities and hurdles had to be

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crossed before finances would be available. This was true for all areas of the Institute activity and development strategies. When the Institute did not have the boundary wall, it was an easy hunting ground for thieves and unsocial elements and also pasture for animals from nearby villages. They would damage and take away the Institute property. The erection of the *pucca* boundary wall put a stop to these mitigating and undesirable matters to a great extent.

The second undertaking by Dr. Singh benefited the lowest category of employees the most and transformed and stabilized their lives. The casual laborers were made regular employees of the Institute and the strength of the ICAR employees went up. This step ensured that the casual employees with uncertain future would have regular benefits of service: casual, earned and medical leaves, medical benefits, provident fund and pensionary benefits, and other ancillary advantages.

The last visionary undertaking was the creation of housing and other facilities for laboratory space, for housing farm and laboratory animals and poultry, and for housing of different categories of employees within the Institute campus and for creation of education, sports and other welfare activities. This led to planning, designing and construction of numerous large laboratories, animal sheds, human dwellings, student hostels, guesthouses, etc. Thus there was unprecedented and fast development having taken place at that time in the history of the Institute.

Mr. Rashid considered the foundation laying ceremony of the Modular Laboratory Building in 1972 by President of India, His Excellence Dr. V.V. Giri as the greatest event during Dr. C.M. Singh's time.

He remembered that when Dr. C.M. Singh took over, there was only one staff car and a single tractor procured during Dr. P.G. Pande's directorship and thereafter there was no major addition. It was only after Dr. Singh's taking over, that more tractors were added enabling the farm to increase fodder output. Earlier, for transportation there was one horse-drawn carriage, which was later phased out. With the help of tractors the leveling of agricultural fields was taken up with vigor and new tube wells were installed to meet the requirements of water for irrigation, animal and poultry farms, employees and residents of the campus. This led to increased fodder production. The feed technology unit took shape during this period to have compounded feed for the farm and laboratory animals.

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Mr. Rashid also reminisced that Dr. Singh was very punctual in his habit and would always be ready to proceed for tour at the time he would fix with him to start. He would not make him to wait at any time and would also not get angry but would always smilingly appreciate any good turn. He would take round of the Institute to inspect the farms, buildings, laboratories etc. on foot to take stock of the things first hand. He was quite bold and would not give in to political pressure. According to Mr. Rashid, Mukteswar's welfare was always received top priority in his mind. He had been in service from 1960 to 1994 and had served under several directors, heads of divisions, scientists and officers and handled 8 staff cars. But only during Dr. C.M. Singh's tenure, he did not feel his subordinate and serving status and performed his job with dignity and free mind. Dr. Singh had genuine fellow feeling for his junior and subordinate staff. Whenever Dr. Singh paid a visit to the Institute post-retirement, Mr. Rashid would always be there to pay his respects to him. (Based on an interview given to the author on 12th July 1997).

Dr. C.M. Singh was resurrector of the Institute - Mr. G.R. Kataria:

Mr. Ganga Ram Kataria (now late) worked as personal assistant to Dr. C.M. Singh for a number of years at the Institute and remained closely associated with him. Later, he was Confidential Assistant, Security Officer, Assistant Administrative Officer and Administrative Officer before his retirement from service. After superannuation in 1981, Mr. Kataria moved to his house in Indira Nagar, nearby the Institute. With age he had become hard of hearing and had developed sight problems. However, the author was able to interview him on the forenoon of 5th June 1997 with the help of his son, Dr. Jag Mohan Kataria, Scientist, Division of Avian Diseases at the Institute (now Head, Division of Avian Diseases and Biological Products), who also happened to be author friend. The author gave Mr. Kataria a list of written questions, which Mr. Kataria read with the help of a hand lens and replied with pleasure and interest. Mr. Kataria told that Dr. C.M. Singh expected people to do such works, which would benefit the nation. Each employee at the end of the day should feel satisfied that he had repaid by his work the salary he had earned for the day. Dr. Singh used to pose questions on similar lines to the scientists and others. What could they do for the nation? He would throw assumptive questions like if it would be possible to evolve a strain of poultry laying one egg every day?

Mr. Kataria narrated that Dr. B.P. Pal, the Director-General of the Council, during his visit to the Institute when Dr. C.M. Singh took over, did not find the

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Institute in good shape. The agricultural fields in the Institute were uneven, barren, dry and devoid of greenery. There was dire need of laboratories and other buildings befitting the Institute. He advised Dr. C.M. Singh to develop the Institute by submitting development strategies, projects and other proposals under the Five Year Plan. Dr. Singh took his instructions literally and set about the task on war footing and the result was for everyone to see. The Institute had been totally reformed and thus resurrected.

According to Mr. Kataria, because of his untiring efforts, Dr. C.M. Singh was able to establish the Institute on the international map by entering into collaborative research projects with agencies-like Food and Agriculture Organization, World Health Organization, Swedish International Development Agency (SIDA), Danish International Development Agency (DANIDA), U.S. P.L. 480 Scheme, Commonwealth Organization and others. To develop these interactive projects, he himself, many Heads of Divisions and scientists traveled to foreign countries on deputation or consultancy assignments or for studying in abroad or to attend training courses, conferences, seminars, symposia, etc. There was also regular inflow of scientists, experts, trainees, students, etc. from both developing and developed countries. The same was also true for dignitaries, vice-chancellors, politicians, experts, professors, journalists, media people, and many others whose visits to the Institute were a regular affair, not to mention the end-users viz., farmers and livestock and poultry owners. The Institute was the most coveted one for students and trainees desiring post-graduate qualifications or to avail other training facilities.

According to Mr. Kataria, simplicity, honesty and humane approach were the hallmark of Dr. C.M. Singh's character. He narrated many instances related with these qualities. At one time Dr. C.M. Singh was traveling with him to Lucknow in staff car on official visit. When they neared Sitapur, the staff car met with an accident with a bullock cart. Besides minor injuries to both of them, Mr. Kataria suffered a fracture in his hand. Dr. C.M. Singh immediately came to his help and held him closely, comforting at the same time. The first aid was arranged immediately. He telephoned for the replacement vehicle from Bareilly, and left the option to receive further treatment from Lucknow or Bareilly on Mr. Kataria. During convalescence of Mr. Kataria, Dr. C.M. Singh visited him regularly at his residence and kept enquiring about the progress from other staff members as well.

Mr. Kataria remembered that when invited, like all others, Dr. C.M. Singh would attend social, religious and other functions attired in simple traditional clothes and would not expect any special treatment for eating and sitting. Mrs. Kataria, who was overhearing all the conversation, interrupted and praised Mrs. Singh profusely telling that she was very humble, intelligent and extraordinarily gentle lady. She used to conduct herself as per the tradition and would cover her head when moving out. She had to look after the kitchen garden herself since Dr. Singh did not find any time to attend to domestic obligations due to his remaining extremely busy with official work for the welfare of the Institute.

The fair dealings of Dr. C.M. Singh were noteworthy. He was honest to the core. According to Mr. Kataria, he freely allowed vast area of his residence for growing fodder for the Institute animals. He would also make additional payments to government/institute for extra mileage traveled by staff car for private purpose. Mr. Kataria wondered if ever he would come across any person having the same qualities of head and heart-like Dr. C.M. Singh. Because of his sincere dealings and habit of not utilizing or taking advantage of the official machinery, he had to live frugally within his legitimate means. He would often borrow from his provident account to meet the expenses. He did not hesitate to ask his staff to keep provision of sufficient money for tour expenses and would get the same adjusted on return if needed through Mr. K.L. Sah, who used to manage his personal accounts. Mr. Kataria stated that people respected honesty at that time and Dr. C.M. Singh was an epitome of the same. There could have been no better example of honesty personified than Dr. C.M. Singh.

Mr. Kataria had many instances to reminisce. During 1972 when security of the Institute had to be tightened, being the Security Officer Mr. Kataria had to take rounds of the campus and would often find that Dr. C.M. Singh had already been there. Dr. Singh used to take decisions after careful and thorough consideration. And once he had arrived at a decision, he would not budge from the same under pressure. He took decisions to demote or dismiss corrupt, undisciplined and incapable employees of different categories including scientists. Such of his strict actions always did not go well with certain employees and when he was nearing term, a group of scientists - Heads of Divisions and employees had gone against him to the press and the national print media but without any effect. The author concluded after hearing Mr. Kataria at length that Dr. C.M. Singh worked unattachedly, as said in a Kabir's

couplet, "*Jatan se odhi, jas ki tas dhar deeni chadaria*". Dr. C.M. Singh left the Institute at superannuation with the same unblemished image, which he possessed - that of a clean, honest and upright person - at the time of joining the Institute in 1966. He left the imprint of his sincere efforts on the Institute and the veterinary profession and that is why he deserved and received all the respect and honour.

Dr. C.M. Singh : An inspiring personality - Dr. Balwant Singh:

It was a matter of good luck or coincidence or quirk of fate when decades back, Dr. Balwant Singh sought admission at U.P. Veterinary College, Mathura for post-graduate studies for M.V.Sc. degree of the Agra University. He got admission in the discipline of Veterinary Pathology and thus was privileged to study and carry out his research work under the supervision and guidance of Dr. C.M. Singh. During his Ph.D. studies, he again had the good fortune to have Dr. C.M. Singh as guide because by then he had moved over from Mathura to Veterinary College, Hissar as Dean and at that time there was no one eligible to guide the scholars in the discipline of Veterinary Pathology. Dr. Balwant Singh is a very learned, simple, sober, lean, tall, grey-bearded Sikh gentleman. He was Professor of Pathology at Veterinary College, Ludhiana and later Dean there. He superannuated in 1999. He would often be appointed as external examiner and also as a member of several Institute committees. During one of his visits to the Institute in the Division of Pathology on 19th February 1999, he became available and pleasantly spared himself to talk about Dr. C.M. Singh, his guide and mentor. He had perceived two main qualities in Dr. C.M. Singh. He (Dr. C.M. Singh) was an honest, devoted and dedicated soul to his job. He had also an uncanny ability to guide his students and inspire them to bring the best out of them.

According to him, Dr. Singh's exceptional honesty and dedication had taken the veterinary profession to greater heights. Be it as Director, Indian Veterinary Research Institute or President, Veterinary Council of India, he would remain so devoted and engrossed and busy with his work that other non-professional matters including his family affairs took the back seat in his life. He would give preference to his official assignments much more than caring about his children and family welfare. The other attribute of Dr. C.M. Singh was his being very constructive in his approach. He would always inspire any person and convince him of his capability for the job and the person, in turn, would try to prove equal to the task and invariably he would be successful. Dr. Singh would then profusely appreciate him very

happily. According to Dr. Balwant Singh this was the best and the most coveted trait a teacher should have.

According to Dr. Balwant Singh, Dr. C.M. Singh happened to be an excellent researcher and good educationist. He played a major role in bringing about qualitative excellence in standardization of veterinary education at various levels in the veterinary colleges and research institutions in the country. Through the Veterinary Council of India, he also was able to regulate veterinary practice in the country and bring the same under legal orbit.

About his doctoral studies on lymphosarcoma / leukemia in Indian buffaloes, Dr. Balwant Singh informed that his findings of infiltrative lesions in different internal organs and lymph nodes finally settled the neoplastic nature of the malady. For this he had to devote long hours studying each organ and lymph node in details. And for Dr. C.M. Singh, this piece of research work was his best.

Firm determination:

Dr. C.M. Singh was a man of firm determination. He would take decisions after thorough consideration and would not alter them. He was not a man of fickle mind. Before coming to any conclusion, he would look into all its implications including the legal aspects. Then he would stick to the same, even if he would have to face the adversities. The Veterinary Council of India, of which he was the President, had the mandate to conduct the Entrance Test for Indian Council of Agricultural Research's quota of 15% of seats for admission to graduate course, B.V.Sc. & A.H. in each of the veterinary colleges in the country, and it had conducted the same. But later differences cropped up between the ICAR and VCI on this issue and the ICAR wanted to take away this activity from the VCI. But this step of the Council did not seem proper to Dr. C.M. Singh. Hence VCI did not accede to the wishes of the ICAR. Then ICAR, being the governing body of the agricultural universities, took away this activity from the VCI and also approached the High Court to get its claim substantiated. It also got the decision in its favour. But the VCI and particularly Dr. C.M. Singh did not get convinced and took the matter to the Supreme Court for adjudication, and had the judgment of the High Court reversed. At that time the advocates pleading the case were also thinking that the case of the VCI was weak but Dr. C.M. Singh was so sure of the outcome that he wanted the decision of the court as early as possible. In January 2000, the Supreme

Court gave the verdict in favour of the Veterinary Council of India and this was because of his correct conviction and firm determination to stand for the right course of actions. For the year 2000, though the ICAR had already done the job. Dr. C.M. Singh always exhorted people not to be defeatist. True to his conviction he would advise people to fight for the just causes believing that success would definitely follow.

Grateful personality:

Dr. C.M. Singh graciously acknowledged the various officials and people who helped him at critical junctures in his career. In this connection he always mentioned Deputy Director, Sardar Bahadur Udham Singh, Director, Dr. H.B. Shahi and Director, Dr. R.L. Kaura. Dr. Kaura had brought him to the headquarters of Department of Animal Husbandry, Lucknow from the field posting and when Dr. Singh expressed him his desire and resolve to proceed to America for higher studies, he assured him that he would not come in his way but at that time he would not transfer him to Veterinary College, Mathura from the headquarters. Later his transfer got materialised. At Mathura, advice and guidance of Dr. R.B. Singh of the Department of Animal Genetics & Breeding were available and highly effective in shaping his career. This made his studies in America possible. In America he had the sage guidance of Dr. R.A. Runnells, the distinguished pathologist and his dedicated team, whom he always referred with utmost regards. Having returned from America after his doctorate, he was Professor of Pathology and Bacteriology for a number of years and later also Dean of the veterinary faculty. For these assignments he would always acknowledge Dr. R.L. Stevenson for his very constructive cooperation.

Dr. C.M. Singh Award:

As a token of expression of the vast contributions of Dr. C.M. Singh for the veterinary sciences, the Indian Association of Veterinary Pathologists, in the year 1982, instituted an annual award named after him to be given to the author(s) of the best research article published in the Indian Journal of Veterinary Pathology every year. Since the institution of the award more than 50 scientists have been honoured. On the lines of this award for research articles in the Indian Journal of Veterinary Pathology, the Association of Microbiologists, Immunologists and Specialists in Infectious Diseases of India also instituted a similar award for the author/s of the best article in their official journal.



● CHAPTER 8

NOTABLE POST-SUPERANNUATION SCIENTIFIC CONTRIBUTIONS

Oration during the Platinum Jubilee of the Indian Science Congress Association:

The Indian Science Congress Association in its Platinum Jubilee year in 1988 invited Dr. C.M. Singh to deliver a lecture on "Retroviruses as biological threat in man and animals", which was a subject dear to Dr. Singh. He began his lecture with the words that whereas the retroviral infections in man had been recognized only from 1976, the studies on animal retroviruses dated much earlier. In his 46 page printed lecture, he spoke on retroviruses - characteristics, equine infectious anaemia, equine viral arteritis, visna, caprine arthritis encephalitis viral infection and acquired human immunodeficiency syndrome. He also highlighted the problems posed by lentiviral infections.

In the lecture he dealt with the researches carried out on some of the retroviral diseases. Rajya and Singh (1964) first recorded the natural cases of maedi in the country as early as in 1964 and Chauhan and Singh (1970) elaborated the pathological alterations of the malady. The affected sheep with maedi had revealed elevated erythrocyte sedimentation rate. The infection in both sheep and goats happened to be lentiviral infection causing lesions in different organs.

Caprine arthritis encephalitis viral infection was then recently discovered disease caused by retrovirus expressed in the form of encephalitis in young kids and infectious arthritis in adult goats. The occurrence of this infection in the developing countries particularly the Asian and Pacific Ocean states was not recognized till Dr. Singh diagnosed the same in the imported Anglo-Nubian goats in Philippines and Thailand.

Veterinary Council of India:

The Govt. of India, through its Department of Agriculture & Cooperation notification No. S.O. 2051 announced the formation of Veterinary Council of India making it responsible for maintaining the minimum standards of veterinary education throughout the country, and for the regulation of veterinary practice and all

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matters ancillary thereto. According to the Veterinary Council of India regulations, 1984, 27 members were nominated to the Council. Dr. C.M. Singh was elected as its President and Dr. R.P.S. Tyagi was elected as the Vice-President. Professor V. Ramkumar was appointed as the Secretary of the Council. The Veterinary Council under the leadership of Dr. C.M. Singh was responsible for the following main achievements:

1. Units of Veterinary Council of India were established in the States and the Union Territories of the country.
2. Compulsory registration of all the veterinary practitioners in the country.
3. Development and standardization of the curricula for Graduate degree programme for the Veterinary Colleges in the country.
4. Fixation of the guiding principles and ensuring their strict adherence for sustenance of the viability and functioning of the Units.
5. Setting standards for Graduate programme and its evaluation (examination) system to ensure uniformity of excellence.

In January 2000 the Veterinary Council of India was again constituted and this time Dr. C.M. Singh was again elected its President. The post of Vice-President, won by Dr G.S. Chahal, Director, Department of Animal Husbandry, Punjab. In the editorial of its March issue The Indian Veterinary Journal had then mentioned about the changes and perspectives of the Council.

"Doyen of the veterinary profession, Dr. C.M. Singh needed no introduction. He served in many positions with distinction and had created history in many facets including longest innings. He has been carrying the torch of Veterinary Council of India with zeal and dedication and it was hoped that he would continue to discharge his onerous duties in his own splendid manner.

It expounded that it was a happy augury that the Veterinary Council of India had won its case against the Indian Council of Agricultural Research for fulfilling its genuine and natural obligation for conducting the Entrance Test for admission to the All India quota of 15% seats for B.V.Sc. & A.H. courses at the different Veterinary Colleges in the country. The credit for this restoring of its inherently genuine role to the Veterinary Council of India was attributed solely to strong conviction and dedicated application exhibited by Dr. C.M. Singh."

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In the short period of its existence the Veterinary Council of India had formulated the following five regulations after completing all the legal and other necessary formalities and got them approved by the Govt. of India under Section 66 of the Veterinary Council of India Act, 1984. These were published in the Gazette Extraordinary of India.

- Veterinary Council of India -(Inspectors and Visitors) Regulations. 1991. Gazette Extraordinary of India No. 412 dated 12th November 1991. Notified in Part-II Section (3) Subsection (i).
- Veterinary Council of India -(General) Regulations. 1991. Gazette Extraordinary of India No. 425 dated 18th November 1991. Notified in Part-II Section (3) Subsection (i).
- Veterinary Council of India -(Registration) Regulations. 1991. Gazette Extraordinary of India No. dated 24th February 1991. Notified in Part-II Section (3) Subsection (i).
- Veterinary Council of India -(Fees and allowances) Regulations. 1992. Gazette Extraordinary of India No. 153 dated 1st April 1993. Notified in Part-II Section (3) Subsection (i).
- Veterinary Council of India -(Standards of professional conduct, ethics and jurisprudence) Regulations. 1992. Gazette Extraordinary of India No. 154 dated 1st April 1993. Notified in Part-II Section (3) Subsection (i).

National Academy of Veterinary Sciences:

On the pattern of National Academy of Agricultural Sciences, the National Academy of Veterinary Sciences was constituted and registered under the Societies Registration Act 1860. The National Academy of Veterinary Sciences receives financial aid from the Govt. of India. It recognizes the eminent veterinarians (and personnel from other fields rendering yeoman's service for the cause of animal industry) as members and fellows of the Academy based on their merits and contributions to the profession. These fellows and members are confirmed when they apply duly sponsored by colleagues and other fellows / members and selected by the committee appointed by the Academy for the purpose. The Academy is to help the Veterinary Council of India in standardisation of education and other ventures relating to the veterinary profession. Dr. C.M. Singh was the Founder President

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and fellow of the Academy. For the first time on 18th December 1996, the Academy registered and honoured 100 veterinarians of eminence by awarding them fellowships of the Academy. Then again in January 2000 and April 2002, many meritorious veterinarians were awarded the fellowships and memberships covering the years 1997, 1998 and later.

Continuing Veterinary Education:

Dr. C.M. Singh was of firm belief that without continuing veterinary educational programmes, it was impossible to achieve desired success in the advancement of animal sciences. Addressing the Fourth Annual Conference of the Indian Association for Advancement of Veterinary Sciences at Pune on 22nd January 1997, Dr. C.M. Singh informed that there were more than 38,000 qualified veterinary professionals in the country and almost equal numbers of para- veterinarians. Before the Agricultural Universities came to be established in various States, there were adequate arrangements existing for the training and refresher courses for the veterinary graduates. But afterwards emphasis diverted from these facets and hardly a few States paid attention to the continuing veterinary education programmes. Dr. C.M. Singh visualized that the Veterinary Council of India would run the programmes for continuing veterinary education, and that it would do the same on the pattern adopted by the Medical Council of India for the medical personnel. The Veterinary Council of India was already on with the job to frame short, medium and long term training and refresher programmes for the different branches and disciplines. It was anticipated that these courses would be organized at and by the Veterinary Institutes and Colleges, the Indian Council of Agricultural Research organizations and Non-Governmental Organizations possessing adequate facilities, capabilities and trained faculties.

The veterinary institutions and other agencies recognized by the Veterinary Council of India may undertake short term specialized training courses of 8 to 12 weeks duration on the following topics / subjects:

1. Computation of rations
2. Feed technology
3. Nutritional analysis
4. Artificial insemination

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5. Embryo transfer technology
6. Diagnostic biochemistry
7. Computerized data analysis
8. Wildlife diseases
9. Chemical restraint of wildlife
10. Disease surveillance
11. Management of slaughter houses
12. Slaughter houses and livestock products technology
13. Meat processing technology
14. Poultry processing technology
15. Meat hygiene
16. Milk hygiene
17. Veterinary diagnostic technology
18. Diagnostic parasitology
19. Poultry pathology
20. Estimation of poisons, insecticides and pesticides
21. Rabies control
22. Brucellosis control
23. Communication technology
24. Practical immunology in disease investigation
25. Anesthesiology
26. Ruminant surgery
27. Small animal surgery
28. Diagnostic radiology
29. Ruminant medicine
30. Practical gynaecology
31. Practical reproductive technology

32. Pet animal practice
33. Livestock economics
34. Veterinary services management
35. Project planning and deployment of human resources
36. Veterinary dermatology
37. Tuberculosis control
38. Commercial hatchery production and management
39. Commercial broiler production and management
40. Commercial duck production and management
41. Commercial quail production and management
42. Commercial turkey production and management
43. Economical pig production and management
44. Economical dairying and management
45. Veterinary ethics and animal welfare
46. Emergency measures for animal disease control

Short term training courses:

1. Ruminant medicine
2. Fluid and electrolyte therapy in diarrhoeal diseases
3. Treatment and control of mastitis
4. Endoscopy in animal diseases
5. Electrocardiography
6. Ocular medicine and surgery
7. Tissue culture diagnosis
8. Small animal anesthesia
9. Large animal anesthesia
10. Management of fractures in large animals
11. Management of fractures in small animals
12. Catheterization in large ruminants
13. Laparoscopic endoscopy in small ruminants

14. Laparoscopic endoscopy in large ruminants
15. Repeat breeding in farm animals
16. Dialysis in small animals
17. Dialysis in large animals
18. Cosmetic surgery
19. Endometritis and endometriosis in farm animals
20. Post-mortem techniques and collection of specimens
21. Diagnostic kits for the diagnosis of microbial and viral diseases
22. Diagnostic kits for diagnosis of protozoan and viral diseases
23. Modern treatment of skin ailments
24. Rules and regulations for handling biologicals and biological agents
25. Animal welfare in practice and performance of veterinary services
26. Scale diseases and toxicities in fish
27. Veterinary bioinformatics and communication



● CHAPTER 9

NOTABLE ORATIONS AND CONVOCATION ADDRESSES

Many veterinary institutions, colleges, societies, associations, workshops, etc. had from time to time invited Dr. C.M. Singh to address in various capacities – most often as the chief guest. He was generally invited in his capacity as the Director of the premier national veterinary institute, and more particularly in his own capacity as the leading learned scientist in the country to deliver lectures, address meetings, inaugurate seminars, workshops, conferences, etc. and grace valedictory functions. He had also to quite often address the meetings of national scientific organizations and at times deliver convocation addresses. On these occasions his philosophy of veterinary science education and research and principles and practice of veterinary profession would find expression. A few highlights are mentioned herein.

Convocation address at Punjab Agricultural University, Ludhiana :

Dr. C.M. Singh was invited to deliver his address at the Convocation of Punjab Agricultural University, Ludhiana held on 28th April 1993. Addressing the Vice-Chancellor, Dr. K.S. Gill, members of the Board of Management, Dean of the Veterinary Faculty, Dr. Balwant Singh, members of different Faculties of the University, the students and the distinguished gathering, he described the occasion as home coming for him. He reminded that he had been a member of the Punjab Agricultural University as former Dean of Veterinary College, Hissar in undivided Punjab. He remembered highly-regarded Vice-Chancellor, Shri P.N. Thapar under whom he had acquired the skill and experience to run the academic institutions and coordinate and conduct the academic programmes. This highly useful experience has stood him in good stead and had offered him the opportunity to serve the premier institution of veterinary research, the Indian Veterinary Research Institute, Izatnagar as its head for 16 long years with distinction and pride. He congratulated the successful graduates and extended to them his good wishes and then placed before them the challenges the veterinary profession would possibly encounter at the turn of the 20th century. He said, "The modern world conceives education as a balanced amalgam of knowledge, skill and attitude. It has well defined objectives

based on the need and structure of the society where the learner is to use his education. Thus when we turn to the world scenario we may find certain variations in the system." He drew the attention of the audience to the international scenario and the problems posed in the context of the emergence and occurrence within and outside the national boundaries of certain infectious diseases. The problems of retroviral infections in man and animals, biotechnological applications, and research avenues in livestock production and health conservation programmes, adoption of open nuclear breeding system with multiple ovulation embryo transfer technique and implications of cloning on animal health and production were highlighted. He dealt at length with the ancient veterinary practices in the Indian context, National Academy of Veterinary Sciences, the challenges facing the Punjab veterinarians and their contributions, non-practicing allowance, lady veterinarians and extension strategies in animal husbandry. He concluded his address by acknowledging with thanks to the Vice-Chancellor for having given him an opportunity to address the convocation, and also congratulating the scholars receiving degrees and winning prizes and honours. He wished them a fruitful professional career.

Reference: Singh, C.M. (1993) Convocation address delivered at the Convocation of College of Veterinary Sciences, Punjab Agricultural University, Ludhiana. April 28, 1993. Pp. 1-28.

Keynote address at the Workshop organised by BAIF Development Research Foundation, Pune:

Dr. C.M. Singh was requested to deliver the keynote address in the Workshop on "Recent advances in the livestock production technologies" organized by the BAIF Development Research Foundation, Pune in 1983. He spoke on the new perspectives for the improvement of cattle and buffalo herds. Addressing Shri Manibhai, special invitees and guests, state officials, scientists and participants of the Workshop, he extensively elucidated the topic and impressed one and all.

Dr. Singh mentioned the role of health conservation strategies in animal production programmes, preventive measures and treatment of sick animals, macro and micro management of animal and poultry farms, livestock products and public health implications. He emphasized the role and responsibility of the scientists in the conservation of animal and plant diversity and in controlling environmental pollution. The following aspects were highlighted in his address:

1. Existing and emerging diseases of animals in the context of their national and international spread.
2. Emergence of retroviruses as challenges to both man and animals.
3. Role of biotechnology in veterinary sciences.
4. Open nuclear breeding strategies and multiple ovulation embryo transfer techniques.
5. Medico legal and regulatory facets of embryo transfer technology

In this keynote address Dr Singh delivered the emphatic statement that in the field of biotechnology ONBS, ETT and MOET had brought a break through in animal production. He acknowledged that with the turn of the Century the veterinary profession faces Herculean tasks. He wished and expected that the Workshop of the nature would sow the seeds for a meticulous planning that would ferry people comfortably into the 21st Century and bring brighter colour to the profession and fruits of its benefits to the people.

Reference: Singh, C.M. (1983) Newer perspectives in cattle and buffalo herd improvements. Workshop on Recent Advances in the Livestock Production Technologies. BAIF Development Research Foundation, Kamdhenu Senapati Bapat Marg, Pune.

Dr. B. C. Dasgupta Memorial Oration:

In the 29th meeting of the Indian Public Health Association held at Nagercoil, Kanyakumari district in Tamil Nadu on 8th February 1985, Dr. C.M.Singh delivered the Dr. B. C. Dasgupta memorial oration on the topic ' "Food-borne Diseases in India" '.

Beginning his oration, Dr. Singh enlightened about the growing importance of food borne diseases and intoxications, which pose serious problems to human health and welfare. The food-borne problems were mainly caused by contamination with microbial agents. In order to prevent risks to human health procedures for measuring bacterial contaminations and permissible levels and standards with respect to bacterial counts, etc. should be strictly adhered to for eliminating risks to human health. But this was considered not at all an easy practical proposition. It was essential that suitable monitoring mechanisms to ensure clean healthy and wholesome

food and food items for safeguarding public health be put in place, particularly in the developing countries. In our country such programmes ensuring evaluation of quality and safety of food, particularly the preserved, value-added and processed food items, because of food-borne infections had become necessary so that such infections / intoxications would be prevented from taking place. The country had moved in this direction only recently and the evaluation of foodstuffs in respect of their quality and safety was in the preliminary stage. It was incumbent on the authorities concerned that the feed compounding and processing industries maintained the minimum standards of quality and safety with respect to microbiological contaminations. Such measures in place would not only avoid risk to the Indian consumers but would attract foreign countries to import and use Indian food and food products. Dr. Singh referred to the following diseases in his address:

Microbial infections:

Salmonella, Brucella, Mycobacterium tuberculosis, Coxiella burnetti, Streptococcus, Salmonella typhi, Salmonella paratyphi, Aeromonas, Shigella, Eschirechia coli.

Microbes responsible for food toxicity:

1. Toxic infections-*Salmonella, Vibrio parahaemolyticus, Clostridium perfringens type C.*
2. Specific microbial intoxications-*Clostridium botulinum, Clostridium perfringens type A, Staphylococcus.*
3. Non specific microbial intoxications-*Bacillus cereus, Pseudomonas aeruginosa, Proteus sp., Plasymonas, Aeromonas.*
4. Mycotic intoxications
5. Viral infections-Hepatitis A,
6. Parasitic infestations

He referred to the occurrence of campylobacteriosis in eighties, which spread to the country from Bangladesh, Indonesia and Sri Lanka. It was mainly responsible for causing cases of gastroenteritis - more in children than in adults. The infectious agent was commonly found in the affected pups and older dogs. It was abundantly present in the marketable poultry. *Campylobacter jejuni* type 2 was a common

isolate from poultry excreta. Similar was the case with floors and walls in slaughter houses. However, fortunately the samples emanating from large meat processing plants were found free. He dealt at length with preventive and control measures for these infections.

Reference: Singh, C.M. (1985) Food borne diseases in India. Dr. B.C.Dasgupta Memorial Oration delivered at Twenty-ninth Congress of Indian Public Health Association on February 8, 1985 at Nagercoil, Kanyakumari, Tamil Nadu.

Significance of Veterinary Biotechnology :

It had been increasingly observed and understood that many of the current accomplishments and developments in microbiology emanated from the practical application and study of biotechnology. Biotechnology has been instrumental in bringing forth many discoveries and findings in the realm of animal science research. Naturally the responsibility to test these biologicals (pharmaceuticals or vaccines) by preliminary and later large scale studies rested with the veterinarians for their application and their parenteral or preferably oral use in animals and also as a prelude to their safe use in humans.

In the field of biotechnology, ONBS, ETT and MOET brought revolutionary changes in livestock production. There were other fields also benefiting from biotechnology-like disease investigation and diagnosis by use of hybridoma technique, monoclonals and DNA probes, protection against infectious diseases through subunit and recombinant vaccines, nutrition through use of probiotics and manipulation of rumenal flora, pharmacology through tissue culture grown insulin and development of target-oriented pharmaceuticals and genetics through RFLP etc. He exhorted the audience to go through the following articles published in the Review of Office Internationale des Epizootics (OIE 1990, volume 9 (No. 3) :

- Utilization and control of biotechnological procedures in veterinary science.
- Regulatory aspects of biotechnology in United States and Canada.
- Regulatory aspects of biotechnology in Europe with particular reference to veterinary science regulation in Asia and Oceania.
- Diagnosis of viral and bacterial diseases.

- Diagnosis of parasitic diseases.
- Biotechnology and veterinary science – production of veterinary vaccines.
- Propagation of improved breeds - The role of artificial insemination and embryo transfer.
- Reproductive technology in animal production.
- The potential of transgenic animals for improved agricultural productivity.

In all the above fields, the veterinarians are in dire need of education and training in order to acquire professional competence and excellence in various facets of biotechnology applicable to animal health and production. The subject matter, techniques, discoveries and innovations in various disciplines pooled together and their judicious application would possibly provide solutions to the special and emerging problems facing the mankind.

It is of utmost importance that for the special problems in animal health and production, there are expert panels comprising specialists in the disciplines of physiology, medicine, biochemistry, genetics, breeding, reproduction, health, disease investigation and diagnosis, public health, epidemiology, etc., which would determine broad based practical approaches for the resolution of the problems. Single-handed and narrow-minded approaches in such matters have never been rewarding or fruitful.

Adoption of sound laboratory practices and execution of adequately planned experiments have been found to be the keys of success in research. It is implicit that the laboratory and other experimental animals being used in the studies should have normal health and adequate feeding, housing and management. The results of researches undertaken in biotechnological and other fields would then be meaningful and authentic providing avenues for achieving the desired goals. But such efforts need good infrastructure, modern laboratories furnished with standard chemicals, glass wares and latest equipments, standard laboratory practices and harmonious working atmosphere. The results of the studies then obtained would be authentic and repeatable and there is unlimited scope for achieving the goals. If done otherwise, the results could be disastrous involving huge economic losses and waste of costly infrastructure and manpower. It is also possible that new problems are created relegating to the background the benefits aimed to have accrued.

Certain emerging and exotic animal diseases - national and international scenario:

The last four decades witnessed the occurrence of many exotic diseases and the emerging importance of some existing ones in the Indian livestock and poultry. These have been largely studied and methods of diagnosis found out. Many of the exotic diseases have taken root in the country while a few could be eliminated altogether. Malignant catarrhal fever, infectious bovine rhino-tracheitis, parainfluenza-3 infection, bovine leukemia, infectious bronchitis, infectious laryngotracheitis, avian encephomyelitis, Marek's disease, egg drop syndrome, infectious bursal disease, avian mycoplasmosis, African horse sickness, equine influenza, equine infectious anaemia, equine viral arteritis, equine rhino-pneumonitis, swine fever, coital exanthema are some of these exotic infections that have been known to occur in our country. Although many of these diseases have been contained to a great extent, African horse sickness could be completely eradicated.

Some of the exotic diseases pose a serious threat to the livestock and poultry in the country and also in other developing countries. The studies and researches on these infections can only safely be conducted in highly specialized high security laboratories meeting P-3 to P-5 standards of safety and disposal of infectious material.

The important lurking exotic infections for the country include African swine fever, vesicular stomatitis, Aujeszky's disease, porcine parvoviral infection, foot and mouth disease caused by South African strains SAT1, SAT2 and SAT3, bovine viral diarrhoea-mucosal disease, lumpy skin disease, louping ill, bovine spongiform encephalopathy, Jembrana disease, certain blue tongue viral strains, pestis des petits ruminants, Rift valley fever, caprine infectious arthritis encephalitis, contagious equine metritis, fowl plague, duck viral hepatitis, avian reticulo-endotheliosis, haemorrhagic fever in rabbits, etc. Many of these infections have already made their appearance in the neighboring and other adjacent countries and any of them may enter the country at any time.

The African swine fever infection in Italy was stamped out in 1967 at a cost of around 5 million dollars by slaughter and disposal of around 100 thousand strong pig population. In Cuba the same result was achieved by sacrificing 400 thousand pigs, and Dominican Republic in South America had to sacrifice around one million pig population. Brazil incurred an expenditure of around 300 million dollars in

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a span of 2 months to achieve freedom from African swine fever in 1978. Malta completely eliminated its pig population to eradicate the infection. In Haiti, 384 thousand pigs were slaughtered and the farmers had to be paid around 10 million dollars in compensation. In Lusaka, the capital of Zambia, in 1993 the veterinary officers in a swift operation shot dead and disposed of by burial or cremation thousands of pigs within 15 km radius of the metropolis.

In 1960, in Indonesia there was emergence of a new disease entity, Jembrana disease, which took the toll of about 60 thousand cattle and buffaloes. There is also the occurrence of Ebrasky disease in this country as well as Thailand.

Many countries of the world had to ban the import of livestock and livestock products like- meat, wool, semen, hides, etc. from Australia resulting into huge economic loss to the animal industry because of the 1 to 7% serological incidence of blue tongue in the animals, particularly sheep population. The same country with limited poultry population spent around 10 million dollars to eradicate fowl plague.

Bovine spongiform encephalopathy, in the same league of prion induced viral infections as scrapie in sheep and kuru and Creutzfeldt-Jacob syndrome in human beings, has become a major problem in Great Britain. During 1987 - 1989 about 2, 000 cattle were diagnosed with the affection and it became a big bone of contention and economic set back for import of bovine meat by the otherwise free America and the European union nations. The infection was detected in cattle fed ration containing processed offals from sheep, which had evidence of scrapie infection. But the strain isolated from bovine spongiform encephalopathy affected cattle was different from the known 20 strains of scrapie virus, and it infected mice in a shorter incubation period than the scrapie viral strains. Further the bovine strain could be transmitted to sheep and goats.

In America the bovine immunodeficiency virus was found to cause progressive weakness in cattle. Virological studies revealed that the causative virus was related genetically to the human immunodeficiency syndrome (AIDS) virus. The infected cattle with bovine immunodeficiency virus revealed proliferative leucocytosis but without producing any diagnostic clinical expression or pathognomonic lesion.

There had been large-scale mortality of millions of rabbits in American, European and Asian countries due to occurrence of viral haemorrhagic fever. Italy

alone lost more than 32 million rabbits. The infection entered through the frozen infected rabbit meat imported from China in Mexico city and then spread to whole America from there.

Our country was free from African horse sickness till 1960 when it occurred for the first time. During the course of four years from 1960 to 1963, it took a toll of more than 33,000 horses and donkeys causing great economic distress to the owners. The disease was confirmed from abroad and then for its prevention the vaccine was prepared indigenously. First it was controlled and then finally eradicated. The sixth decade of the 19th century also saw the emergence of hog cholera or swine fever in the country and since then it has been responsible for causing episodes of mortality in pig population from time to time. The country also suffers a loss of around one billion dollars annually due to foot and mouth disease alone due to mortality, morbidity and loss of productive and draught capacities. A, O, C and Asia-1 strains of foot and mouth disease virus are known to exist in our country. But there is always imminent danger of South African strains – SAT1, SAT2 and SAT3 entering. The A-24 strain of foot and mouth disease virus has yet not found a foot hold in our country but has been known to affect cattle in Phillipines and middle-east countries since 1989. It would be an economic disaster, if the viral strain enters the country because the infection with this strain may affect more than 30 per cent of susceptible population. Jembrana disease from Indonesia and Ebrasky disease occurring in Indomesia and Thailand remain a similar threat to the country.

Pestis des petits ruminants has already gained a foot hold in Ivory Coast, east and central Africa, central Sudan, Ethiopia and Arabian peninsula. The disease is suspected to be already occurring in southern states in the country. (Presently it is a rampant infection in the entire country).

Bovine viral diarrhoea – mucosal disease complex has almost worldwide distribution. Besides affecting bovine population, the infection is also known to occur in sheep, goats and other wild ruminants and swine population causing varied lesions. This disease has, however, so far not proven to occur in the country.

Human resource developmental strategies for veterinary profession in 21st century:

To the Agricultural University graduates' congregation at Pune on 16th Oc-

tober 1994, Dr. C.M. Singh delivered a very thought -provoking address on the up and coming problem of human resource development in veterinary profession suiting the needs of the 21st century. The whole world was ready to usher in the 21st century, the preparations for which were initiated as early as in the seventies. By eighties most of the developed world had made substantial progress and completed the preliminary formalities. Such long term planning could not be a matter of days. It is a very huge task needing meticulous diligence to evaluate the stock of world resources at hand, to estimate energy requirements in the years to come, to determine areas of possible breakthroughs along with the back up infrastructure needed, to ascertain the problem areas and to prioritize them, to find out the avenues for upgrading and application of resources, and to finalize macro and micro plans and the monitoring mechanisms for course correction whenever needed. The unending process, as it had been, was highlighted and explained by Dr. Singh on the following main areas of developmental activities.

1. **Sociological, scientific and professional facets of development in the veterinary field:** He drew the attention to the demanding roles and the manifold increases in the responsibilities entrusted to the veterinary profession based on ten factors. He elaborated on the impact of relevant points in areas of biotechnology, ONBS, MOET, ETT and exotic and emerging diseases of livestock and poultry.
2. **The roles of veterinary sciences and animal husbandry departments, non governmental and private organizations in the development strategies:** In this context the overall strategies for livestock and poultry breeding and production, health monitoring, treatment, care and prevention of diseases, animal husbandry at both macro and micro levels of management, strengthening the laboratories and other infrastructures, livestock and their produce – preservation, processing and value addition, recycling of animal organic waste, looking after the public health facets of zoonotic diseases, etc. were detailed and discussed. The importance and responsibility of the veterinarians in preservation and propagation of animal and plant biodiversity and conservation of ecology were highlighted in the context of human and animal welfare. He also cautioned against the adverse impact of emerging and exotic diseases and other incriminating practices on the gainful livestock production and national economy. The new perspectives in this connection by the Veterinary Council of India

were elaborated in respect of its aims and objectives of regulation of field practice by the veterinary professionals, standardization of veterinary education and training, etc.

- 3. Regulation of veterinary education for fulfilling the objectives, needs and development of the veterinary profession:** Dr. Singh referred to the Veterinary Council of India regulation 1993 prescribing the minimum standards necessary for the B.V.Sc. & A.H. graduates (Gazette Extraordinary of India, Special Part II, Section 3, Subsection (1), which came into effect in 1994-95 so that the graduates coming out in 1999-2000 batch and onwards from the Indian Universities would have recognized veterinary degrees and have sufficient capabilities to face the challenges of the 21st century which would confront the veterinary profession. He enlisted the 12 main regulatory points.
- 4. Strategic improvement plan for veterinary science education and practice of veterinary profession meeting the demands of dynamic commercial activities and social upliftment of the people:** Dr. Singh enlightened the audience on the need of advanced knowledge and expertise commensurate with the large scale commercial production of livestock and poultry and their products with built in infrastructural facilities, and also commensurate with laying the foundation of advanced centres for education and research for adequate human resource development. In order to achieve these objectives stress was laid on instituting continuing veterinary education programmes like post graduate diploma courses, short term training programmes on specialized topics, refresher education or training courses in different disciplines, and periodical scientific meetings (seminars, workshops, conferences, etc.). These training and refresher programmes would be besides the regular degree courses offered by the Universities, Colleges and Institutes. The Universities and Research Institutes should also create scope for post-doctoral research and super specialty courses. Dr. Singh spelt out a working plan for the upgradation and enhancement of veterinary and animal husbandry services in the State of Maharashtra, which enjoyed the distinction of adopting the concept of veterinary polyclinics. It was expected that the concept would be concretized at least at each district level and later extended to each of the veterinary hospitals. Each of the veterinary polyclinics should be staffed by well-trained experts / specialists in different disciplines of animal health, production and extension whose services would be

available all the time round the year. There have to be around 7 animal health specialists and an equal number of specialists in the area of livestock production. In this context he mentioned the important facets of animal and poultry industry, biological products, macro and micro management of animal and poultry farms in differing soil and climatic conditions, tackling famine, flood and drought situations and matters of animal welfare and conservation of domestic and wildlife commensurate with healthy ecology.

5. **Professional doctoral courses and post-graduate super speciality programmes:** Presently the veterinary colleges and institutions in the country offer no such course in the ambit of the land grant system but only offer courses leading to B.V.Sc. & A.H., M.V.Sc. and Ph.D. degrees. But there are no recognized hands-on training courses-like the one at Guelph University, Canada offering practice-oriented professional D.V.Sc. degree programme of 3 years' duration. The underlying objective for such courses is to equip the veterinarians with hands on training to make them capable performing veterinary practitioners. There is need not only for framing such courses but also for planning and designing residency, tutorial, super-specialty and other programmes for the professional aspirants by the Veterinary Council of India, on the lines of Indian Medical Council.



● CHAPTER 10

HONOURS, ACCOLADES AND APPRECIATIONS

The epoch making achievements of Dr. C.M. Singh and his accomplishments for the cause of veterinary profession have not gone unrecognized and for his excellent contributions he had been showered with numerous honours, awards, accolades and other credits. He was awarded D.Sc. degrees *honoris causa* by both Agricultural and Veterinary Universities – a rare honour not accorded to any single veterinarian in the country. The National Academy of Veterinary Sciences honoured him with fellowship and the scientific associations related with veterinary profession felt obliged if he would accept any position of distinction in the organization.

Award of Doctor of Science (*Honoris Causa*) to Dr. C.M. Singh by Chandra Shekhar Azad University of Agriculture and Technology, Kanpur:

SCROLL OF HONOUR

Mr. Chancellor,

I have great pleasure in presenting to you, Sir, Dr. Chinta Mani Singh, Director of the Indian Veterinary Research Institute and an acknowledged authority in the field of Animal Sciences and Veterinary Education. Dr. Singh has to his credit more than a hundred papers of original research in the subjects of Pathology, Bacteriology and Virology which have been published in the journals of National and International repute. He has nearly forty notable findings in the above and allied fields, which have been recorded for the first time in India and acclaimed the world over. He has been associated in reporting new species of half dozen bacteria which are known as *Salmonella goverdhan*, *S. mathura*, *S. vrindavan*, *S. gokul* and *S. brijbhumi* for the first time in the world. The important pathogenic microbe of man, animals and plants known today as *Mycoplasma* was also reported for the first time in India under his guidance.

Healthy livestock is essential to agricultural economy for country-like India where complete mechanization of agriculture is neither feasible nor in keeping with its ancient heritage. Dr. Singh's contribution in reporting detailed studies of such deadly diseases have been the milestones in the field of animal health. Only re-

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searchers-like the one to which Dr. Singh is devoted can help us in the development of country's animal production.

Dr. Singh has widely traveled abroad and has participated in several International Seminars and Symposia. He has also served as an expert member of the Indian delegation to Tanzania. In recognition of his scientific contributions and standing, he was elected as President of six Indian Scientific Societies. He has been invited several times by the FAO as Consultant and as Discussion Leader in International Scientific Meetings and advisor for Project Evaluation Expert Committee of the WHO.

Dr. Singh's contribution in the reorganization and development of the Indian Veterinary Research Institute has been commendable. As the Director of this National Institute for the last 16 years he has the distinction of raising it to the standard of any international institute of the world by establishing many new divisions and two independent National Institutes of Research, one at Farah (Mathura) for Goats and the other at Izatnagar for poultry.

Dr. Singh, while at Punjab Agricultural University, was responsible for the development and organization of graduate and post-graduate veterinary education and research in the initial stages of combined Agriculture Universities of Punjab and Haryana. Dr. Singh has been closely associated with our Mathura Campus for a long time and has greatly contributed to the reorganization and development of post-graduate veterinary education. It was due to his efforts that post-graduate teaching and research at the University level was organized for the first time in Veterinary Sciences in the country at Mathura. By placing his name in the roster of the graduates, this University pays a tribute to his attainment in Veterinary Sciences and in helping the development of our Mathura Campus.

Mr. Chancellor, I pray that you may be pleased to confer upon Dr. Chinta Mani Singh the degree of Doctor of Science (*Honoris Causa*).

Kanpur
May 2, 1982

B.R. Agarwal
Vice-Chancellor

Award of Doctor of Science (*Honoris Causa*) to Dr. C.M. Singh by IVRI, Izatnagar (UP):

SCROLL OF HONOUR

A colossus on the veterinary scene in India, Dr. C.M.Singh born in agricultural family in 1922, graduated from Bihar Veterinary College. Dr. Singh obtained his M.S. and Ph.D. from Michigan State University and had a post-doctoral stint at Cornell University.

Starting from grass roots, Dr. Singh rose to dizzy heights in veterinary research, teaching and research management with single-minded devotion. During his illustrious career, several onerous responsibilities-like Professor and Dean in Agricultural Universities fell on his shoulders and he produced noted veterinarians and valued scientific results. The watershed year was perhaps 1966 when at 44, Dr. Singh became the youngest Director of the Indian Veterinary Research Institute, and during the next decade and half, he had diversified the scope, reach and depth in veterinary research and education by creating several new specialties involving multi-disciplinary approach, and in 1982, when he laid down the office on superannuation, IVRI, declared a Deemed University soon after, stood a glowing testimony to his great vision and dynamism in enlarging the frontiers of veterinary research and education in the country. His contributions in reporting new Salmonella serotypes, Mycoplasma in poultry and Bovine Lymphosarcoma in Indian buffaloes stand out for special mention.

Awards, honours, etc., came his way as a matter of course during his glorious career, including Doctor of Science (*Honoris Causa*) from CSA University of Agriculture and Technology, Kanpur.

In recognition of his outstanding contributions in veterinary research and education, Indian Veterinary Research Institute deems it a great honour to confer on Dr. C.M.Singh the degree of Doctor of Science (*Honoris causa*) on the ninth day December 1990.

Govind Ballabh Pant Agriculture and Technology University, Pantnagar:

CITATION

For conferment of the degree of Doctor of Science (*Honoris Causa*) to

DR. C.M.SINGH

21 June 1997

Hon'ble Chancellor Sir,

I present to you Dr. C.M. Singh for investing on him the honorary degree of Doctor of Science for his special contributions to fulfill the aims and objectives of the University. Dr. C.M. Singh has made huge contributions utilizing his vast experience and expertise by giving new perspectives to the fields of education, research and extension in the areas of animal health and production.

Dr. Singh was born on 30th November 1922 in Jaunpur district of Uttar Pradesh. He graduated from Bihar Veterinary College, Patna with honours. He obtained his Master's and Doctoral degrees from the Michigan State University, Michigan. After a brief stint as post-doctoral fellow at Cornell University, he returned to his native land and served as Professor of Pathology and Bacteriology and Head of the Department at the U.P. College of Veterinary Sciences and Animal Husbandry at Mathura. Later he also acted as Dean of the Veterinary Faculty with the affiliating Agra University. From 1964 to 1966, he worked as Dean of the Veterinary College, Hissar under the Punjab Agricultural University. In 1966 he assumed the charge of the Director of the Indian Veterinary Research Institute, Izatnagar under the Indian Council of Agricultural Research, New Delhi. There he was instrumental in the unprecedented multifarious development of research, teaching and extension activities and infrastructural facilities. His efforts led to elevation of the Institute to the status of the Deemed to be University. After his superannuation in 1982, the Govt. of India appointed him to be the Chairman of the Task Force of the National Rinderpest Eradication Programme. Almost simultaneously he was designated consultant with FAO for eradication of rinderpest in South-East Asia. He also acted as advisor for investigation of caprine arthritis encephalitis in Thailand. He had also the distinction of being a member of the WHO Advisory Committee on Zoonoses.

During his tenure at Veterinary College, Mathura Dr. Singh was responsible for conducting research leading to isolation and characterization of many bacterial,

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viral and other pathogenic agents. The occurrence of infectious bronchitis, infectious laryngo-tracheitis, avian mycoplasmosis and pulmonary adenomatosis and maedi in sheep and goats were recorded for the first time in the country. Many new serotypes of *Salmonella* namely *Salmonella mathura*, *S. vrindavan*, *S. gokul*, *S. brijbhumi* and *S. goverdhan* were discovered for the first time in the world.

Dr. Singh authored or co-authored more than 100 research articles in the national and international journals of repute. About 40 of his research findings were reported for the first time in the Indian context, and a few were true in the context of the world as well. The occurrence of lymphosarcoma in Indian buffaloes was authenticated for the first time in the country and studies on its viral aetiology carried out. He was able to isolate *Mycoplasma* from poultry for the first time in the country in 1959. During his more than two and half decade old career, he supervised the post-graduate scholars in Pathology, Bacteriology and Virology disciplines leading to award of M.V.Sc. and Ph.D. degrees.

Dr. Singh has the honour of being the President of many scientific societies in the country and also member of more than 20 national and international scientific associations / societies / committees. He was selected Fellow of many national and international societies. He served as advisor to FAO, WHO, UNDP, IAEA and some other workshops and seminars sponsored by the Govt. of India. He has participated in many national and international seminars and conferences and worked as consultant/advisor for many national and international projects. He visited Zanzibar and Tanzania as a member of ITEC delegation. He has lent his services in various capacities to more than a dozen countries including France, United Kingdom, United States of America, Russia and Australia.

In recognition of his contributions for the development and progress in the livestock health, production and technology programmes at both national and international levels, the Chandra Shekahr Azad University of Agriculture & Technology, Kanpur and Indian Veterinary Research Institute Deemed to be University, Bareilly have also honoured Dr. C.M. Singh with the honorary degrees of Doctor of Science. Presently Dr. C.M. Singh is President of Veterinary Council of India and also of the National Academy of Veterinary Science. He is also a member of the Scientific Advisory Panel of the Scientific and Technical Review Agency. It will not be an overstatement if it is said that under Dr. C.M. Singh's

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leadership, the country witnessed revolutionary changes in the field of education. The University feels proud in honouring him.

I, therefore, pray that the Hon'ble Chancellor may kindly honour him by conferring on him the honorary degree of Doctor of Science.

West Bengal University of Animal and Fishery Sciences, Calcutta

First Convocation 1999

Conferment of Degree

DOCTOR OF SCIENCE (*HONORIS CAUSA*)

Dr. Chinta Mani Singh, President, Veterinary Council of India, Ex-Director, Indian Veterinary Research Institute, Consultant with FAO and WHO, is an academician and pioneering investigator in buffalo lymphosarcoma, poultry mycoplasma and many other emerging diseases of animals, winning laurels and contributing immensely for broadening the frontiers of veterinary research and education in the country. Out of his more than 100 research publications, 40 were recorded for the first time in India. He had the privilege of being the member on the Advisory Board of WHO for zoonotic diseases in the global scenario. He attended and chaired innumerable national and international seminars and conferences contributing his might towards the development of Veterinary Science and technology. He is widely traveled and has served in more than a dozen countries. For his national and international contributions towards Veterinary Public Health and Livestock Development, he has been conferred with the degrees of Doctor of Science (*Honoris Causa*) by several universities. As President, Veterinary Council of India, his contribution towards the improvement of standard of Veterinary education and sustainable growth of the Profession is of high order. West Bengal University of Animal & Fishery Sciences deems it a great honour to confer on Dr. C.M.Singh, the degree of Doctor of Science (*Honoris Causa*) on the 25th day of February 1999.

Society of Immunology and Immunopathology :

LIFE TIME ACHIEVEMENT AWARD

To Prof. C.M. Singh on the occasion of his 75th Birth Year

A colossus on the veterinary scene in India, Dr. C.M. Singh born in an agricultural family in 1922, graduated from Bihar Veterinary College. Dr. Singh obtained his M.S. and Ph.D. from Michigan State University and has a post-doctoral stint at Cornell University, USA.

Starting from grass roots, Dr. Singh rose to dizzy heights in veterinary research, teaching and research management with single-minded dedication. During his illustrious career, several onerous responsibilities like Professor and Dean in Agricultural Universities fell on his shoulders and he produced noted veterinarians and valued scientific results. The watershed year was perhaps 1966, when at 44, Dr. Singh became the youngest Director of the Indian Veterinary Research Institute, and during the next decade and half, he had diversified the scope, reach and depth in veterinary research and education by creating several new specialties involving multidisciplinary approach, and in 1982, when he laid down the office on superannuation, IVRI was declared a Deemed University soon after. He stood a glowing testimony to his great vision and dynamism in enlarging the frontiers of veterinary research and science in the country. His contributions in reporting new Salmonella serotypes, Mycoplasma in poultry and Bovine Lymphosarcoma in Indian buffaloes stand out for special mention. Even after 16 years of retirement he is actively involved in academics as President of Veterinary Council of India as well as National Academy of Veterinary Sciences.

Awards, honours etc., came his way as a matter of course during his glorious career, including Doctor of Science (*Honoris Causa*) from CSA University of Agriculture and Technology, Kanpur, Deemed University IVRI, Izatnagar and G.B. Pant University of Agriculture and Technology, Pantnagar.

In recognition of his outstanding contributions in veterinary research, education and policy decisions, Society of Immunology & Immunopathology deems it a great honour to confer on Dr. C.M. Singh the "Life Time Achievement Award" on the 3rd day of November 1998.

Prof. Ramesh Kumar
President

Dr. R.S.Chauhan
Secretary-General

National Conference and First Meeting of the Society of Indian Biochemists and Biotechnologists on the occasion of the Silver Jubilee celebrations of the Division of Biochemistry, IVRI, Izatnagar

CITATION PRESENTED TO DR.C.M. SINGH

Dr. C.M. Singh was born in Belaon village of Jaunpur district in eastern Uttar Pradesh on 30th November 1922. He was a cultured bright student and graduated from Bihar Veterinary College, Patna earning G.B.V.C. degree and Gold Medal for his excellent performance. He worked for a brief period in the State Animal Husbandry Department including at Veterinary College, Mathura first as Veterinary Assistant Surgeon in the field and later as Research Assistant in the Department of Physiology and Biochemistry in the College. Then he proceeded to USA and obtained M.S. and Ph.D. degrees from Michigan State University, and had a brief stint as post-doctoral fellow at Cornell University before returning to India. He joined back at Veterinary College, Mathura in 1957 and worked as Professor of Pathology and Bacteriology till 1964 and also as Dean of the Veterinary Faculty with the affiliating Agra University from 1961 to 1964. In 1964, he shifted to Veterinary College, Hissar under the Punjab Agricultural University as Dean of the College. After about 2 years in 1966, he was selected to the post of Director, Indian Veterinary Research Institute, Izatnagar on which he worked from 1966 till his superannuation in 1982. With his unique devotion and commitment to the pursuit of research and education he supervised and provided guidance to 34 M.V.Sc. and 8 Ph.D. students. His dynamic capabilities - vision, foresight, conviction, dedication and diligence altered the face of the Institute in respect of research, teaching and physical fronts. There was tremendous growth of the Institute from 6 to 22 Divisions and from campuses at Izatnagar and Mukteshwar to research centres at Bangalore, Calcutta, Bhopal, Palampur, Srinagar, Andman and Nicobar Islands and Makhdoom. The disciplines of biochemistry, biotechnology, veterinary public health, epidemiology, surgery, medicine, livestock economics, statistics and standardization, etc were added anew.

The problems of respiratory diseases in poultry, sheep, goats and other livestock, calf mortality, development of vaccines against infectious diseases particularly against foot and mouth disease, livestock breeding, production and technology were all suitably taken up and solved at national and international levels. There

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was close cooperation with international agencies-like WHO and FAO creating a cadre of highly motivated and dedicated scientists.

Dr. Singh continued to labour even after his superannuation for the cause and upliftment of the profession. He continued and accepted the various responsibilities entrusted to him by the national and international organizations-like Indian Council of Agricultural Research, Ministry of Agriculture, Union Public Service Commission, Food and Agriculture Organization, World Health Organization, etc. His constructive influence on projects in biotechnology, veterinary public health, livestock production and technology and wildlife conservation, etc. had been quite obvious. He elevated the profession to its proper status by his role in establishment of the Veterinary Council of India and later the National Academy of Veterinary Sciences. He was Chairman of the task force for the National Rinderpest Eradication Scheme, distinguished advisor with FAO for South-East Asia and Pacific Region, Thailand and Bhutan, and member of the Advisory Panel of Scientific and Technical Review Agency, Paris.

The Society takes pride in honouring the doyen of veterinary profession, architect of the all round development and growth of the profession, towering personality Dr. C.M. Singh on the occasion of the Golden Jubilee year of our Independence and Silver Jubilee year of the Division of Biochemistry.

Dr. Om Singh Tomer
Patron

Dr. Lal Nishakar Singh
President

Dr. Ashok Kumar
Organizing Secretary

Dr. Murari Lal Saraswat
Script & Presentation

● CHAPTER 11

PUBLICATIONS

RESEARCH ARTICLES

Bacteriology:

1. Adlakha, S.C. and Singh, C.M. (1962) Incidence of pleuro-pneumonia like organisms in poultry. *Indian J. Microbiol.* 2: 165 - 168.
2. Adlakha, S.C. and Singh, C.M. (1962) Microflora of the respiratory tract of poultry associated with pleuro-pneumonia like organisms. *Indian Vet. J.* 43: 480 - 483.
3. Baxi, S.N. and Singh, C.M. (1964) Serotypes of *Streptococcus agalactiae* isolated from bovine milk. *Indian J. Comparative Path. & Thera.* 4: 141 - 143.
4. Baxi, S.N. and Singh, C.M. (1964) Antigenic relationship between mastitis streptococci belonging to Group C. I. Studies by agglutination, precipitation, precipitation-absorption and precipitation in agar gel. *J. Comp. Path. & Thera.* 74: 398 - 408.
5. Baxi, S.N. and Singh, C.M. (1964) Antigenic relationship between mastitis streptococci belonging to Group C. II. Pathogenicity and reciprocal mouse protection power. *J. Comp. Path. & Thera.* 74: 409 - 414.
6. Datta, S.K. and Singh, C.M. (1964) *Salmonella gokul* - a new serotype from pigs. *Internat. Bull. Bact. Nomen. & Taxon.* 14: 161 - 163.
7. Datta, S.K., Sharma, V.K. and Singh, C.M. (1964) Further studies on *Salmonella* from human carriers. *Indian J. Med. Res.* 52: 549 - 552.
8. Datta, S.K., Sharma, V.K. and Singh, C.M. (1964) Public health significance of *Salmonella* in sewage. *Indian J. Publ. Hlth.* 8: 147 - 150.
9. Datta, S.K. and Singh, C.M. (1965) *Salmonella* serotypes from domestic animals, birds and bone meal. *Indian J. Vet. Sci. & Anim. Hus.* 35: 121 - 125.
10. Gupta, R.N. and Singh, C.M. (1969 a) Studies on *Escherichia coli* from cases of colisepticaemia of poultry in India. *Indian J. Anim. Sci.* 39: 231 - 241.
11. Gupta, R.N. and Singh, C.M. (1969 b) Studies on *E. coli* from egg peritonitis in poultry in India. *Indian J. Anim. Hlth.* 8: 110.
12. Gupta, R.N. and Singh, C.M. (1972) *E. coli* in pigs from some parts of India. *Indian J. Anim. Sci.* 42: 115.
13. Iyer, P.K.R., Pathak, R.C. and Singh, C.M. (1959) Observations on round heart disease in fowl. *Indian Vet. J.* 36: 2 - 5.
14. Kulkarni, S.N., Gupta, R.N. and Singh, C.M. (1970 a) *E. coli* types isolated from egg peritonitis and salpingitis in poultry and experimental studies on them. *Indian J. Poult. Sci.* 5: 1 - 11.

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15. Kulkarni, S.N., Gupta, R.N. and Singh, C.M. (1970 b) Studies on *E. coli* strains isolated from chronic respiratory disease of poultry in India. *Indian Vet. J.* **47**: 95 - 105.
16. Kasatia, S.S. and Singh, C.M. (1961) Typing of *E. coli* strains of human origin by bacteriophage. *Indian J. Microbiol.* **1**: 105 - 108.
17. Makhelia, B.D. and Singh, C.M. (1964) *Salmonella vrindavan* - a new and atypical serotype from pigs. *Internat. Bull. Bact. Nomen. & Taxon.* **13**: 177 - 178.
18. Makhelia, B.D. and Singh, C.M. (1964) Public health importance of *Salmonella* infections in pigs. *Indian J. Pub. Hlth.* **8**: 7 - 10.
19. Malik, B.S. and Singh, C.M. (1959) A preliminary note on phage typing of bovine udder staphylococci. *Curr. Sci.* **28**: 453.
20. Malik, B.S. and Singh, C.M. (1960) Studies on staphylococci with particular reference to strains from bovine udder. Biochemical activities. *Proc. Natl. Acad. Sci. India.* **30**: 101 - 108.
21. Malik, B.S. and Singh, C.M. (1961) Studies on Staphylococci. IV. Penicillin sensitivity. *Indian J. Vet. Sci.* **30**: 81.
22. Malik, B.S. and Singh, C.M. (1960) Studies on Staphylococci. VII. Phage typing. *Indian J. Vet. Sci.* **30**: 265.
23. Malik, B.S. and Singh, C.M. (1960) Studies on Staphylococci. VII. Serological typing and its comparison with phage typing. *J. Infect. (USA)* **166**: 256.
24. Malik, B.S. and Singh, C.M. (1961) Studies on Staphylococci. II. Coagulative activity. *Agra Univ. J. Res.* **10**: 47.
25. Malik, B.S., Singh, C.M. and Adlakha, S.C. (1961) Studies on Staphylococci. V. Pathogenicity. *Agra Univ. J. Res.* **10**: 171.
26. Pathak, R.C. and Singh, C.M. (1959) A preliminary report on the isolations and identification of pleuro-pneumonia like organisms from poultry. *Poult. Sci.* **38**: 926 - 929.
27. Pathak, R.C. and Singh, C.M. (1959) Pleuro-pneumonia like organisms from poultry in India. *Curr. Sci.* **22**: 338 - 339.
28. Pathak, R.C. and Singh, C.M. (1959) Isolation of *Salmonella* sp. from fowls. *Indian J. Pub. Hlth.* **3**: 117.
29. Pathak, R.C., Singh, C.M. and Tangadi, R.P. (1960) Chick mortality and the contamination of yolks by means of the *Enterobacteriaceae*. *British Vet. J.* **116**: 81 - 84.
30. Pathak, R.C. and Singh, C.M. (1961) Occurrence of pleuro-pneumonia like organisms in poultry in India. *Agra Univ. J. Res. (Science)* **10**: 155 - 170.
31. Pathak, R.C. and Singh, C.M. (1962) Observations of *Candida* sp. in crops of fowls. *Indian J. Microbiol.* **5**: 89 - 90.

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32. Pathak, R.C. and Singh, C.M. (1967) A diffusible water soluble fraction extracted from *Br. abortus* cells. *Curr. Sci.* 36: 208 - 209.
33. Pathak, R.C. and Singh, C.M. (1967) Comparative study of standard and supplemental tests for the diagnosis of brucellosis in herds carrying infection states. *The Veterinarian* 6: 35 - 43.
34. Pathak, R.C. and Singh, C.M. (1969) Heat stability and kinetics of heat inactivation of specific *Brucella* agglutinins in cattle and buffalo serum. *Indian J. Exp. Biol.* 7: 111 - 114.
35. Pathak, R.C. and Singh, C.M. (1969) Serochemical characterisation of a soluble extracted from *Brucella abortus*. *Indian J. Exp. Biol.* 8: 925 - 929.
36. Pathak, R.C. and Singh, C.M. (1969) Nature of post-vaccinal *Brucella* agglutinins. *Indian J. Exp. Biol.* 8: 31 - 33.
37. Panda, P.C. and Singh, C.M. (1967 a) Characterization of ILT virus of poultry. I. Cultivation, propagation and serum neutralisation test in developing chick embryos. *Indian Vet. J.* 44: 365 - 374.
38. Panda, P.C. and Singh, C.M. (1967 b) Characterization of ILT virus of poultry. II. Cytopathogenic effect and serum neutralisation test in whole chick embryo cell culture system. *Indian J. Poult. Sci.* 2: 1 - 5.
39. Sharma, S.P. and Singh, C.M. (1963) *Salmonella* serotypes in animals. *Indian J. Microbiol.* 3: 13 - 16.
40. Sharma, S.P. and Singh, C.M. (1963) *Salmonella* serotypes from human carriers in Mathura city. *Indian J. Med. Res.* 51: 404 - 405.
41. Sharma, V.K. and Singh, C.M. (1961) Occurrence of *Salmonella* in domestic animals and poultry in India. *Nature (London)* 191: 622 - 623.
42. Sharma, V.K. and Singh, C.M. (1962) Phage typing of *S. typhimurium* isolated from man and animals. *Indian J. Microbiol.* 2: 157 - 160.
43. Sharma, V.K. and Singh, C.M. (1963 b) *Salmonella bareilly* and *Salmonella chester* from an outbreak in chickens. *Indian J. Microbiol.* 3: 85 - 86.
44. Sharma, V.K. and Singh, C.M. (1963) *Salmonella* serotypes from sewage in Uttar Pradesh. *Indian J. Med. Res.* 51: 339 - 403.
45. Sharma, V.K. and Singh, C.M. (1963) *Salmonella brajbhumi* - a new serotype. *Internet. Bull. Bact. Nomen. & Taxon. (Iowa)*. 13: 179 - 180.
46. Sharma, V.K., Datta, S.K. and Singh, C.M. (1964) *Salmonella* infections in rabbits. *Indian J. Med. Microbiol.* 4: 138 - 140.
47. Sharma, V.K. and Singh, C.M. (1967) *Salmonella* serotypes from sewage in Mathura city. *Indian J. Med. Res.* 55: 289 - 290.

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48. Sharma, V.K. and Singh, C.M. (1967) *Salmonella goverdhan*: a new serotype from sewage. *Internat. J. System. Bact.* (Iowa). **17**: 41 - 42.
49. Sharma, V.K. and Singh, C.M. (1967) Effect of altering cultural conditions in inducing serological changes in *Salmonella*. *Indian J. Microbiol.* **7**: 153 - 154.
50. Sharma, V.K. and Singh, C.M. (1970) Pathogenicity of some new *Salmonella* serotypes. *Indian J. Anim. Sci.* **40**: 437 - 440.
51. Sharma, V.K. and Singh, C.M. (1970) Laboratory variants of some new *Salmonella* serotypes. *Indian J. Anim. Sci.* **40**: 309 - 311.
52. Sharma, V.K. and Singh, C.M. (1970) Lysogenic conversion and transduction studies in *Salmonella goverdhan*. *Indian J. Med. Res.* **58**: 16 - 19.
53. Sharma, V.K. and Singh, C.M. (1970) Chemotherapeutic sensitivity of some new *Salmonella* serotypes. *Indian J. Anim. Sci.* **40**: 142 - 145.
54. Singh, M.P. and Singh, C.M. (1968) Fungi isolated from clinical cases of bovine mastitis in India. *Indian J. Anim. Hlth.* **7**: 259 - 263.
55. Singh, M.P. and Singh, C.M. (1969) Mycotic dermatitis in camels. *Indian Vet. J.* **46**: 854.
56. Singh, M.P. and Singh, C.M. (1970) Fungi associated with superficial mycosis of cattle and sheep in India. *Indian J. Anim. Hlth.* **9**: 75.
57. Singh, M.P. and Singh, C.M. (1970) Fungi associated with respiratory tract of buffaloes, sheep, goats, and poultry. *Indian Vet. J.* **47**: 624.
58. Singh, M.P. and Singh, C.M. (1970) Fungi associated with ringworm in dogs. *Indian J. Anim. Hlth.* **9**: 109.
59. Singh, M.P. and Singh, C.M. (1971) Candidiasis in poultry. *Indian J. Anim. Sci.* **41**: 294.
60. Singh, M.P. and Singh, C.M. (1972) *Candida paracrusei* in goats. *Indian J. Anim. Hlth.* **11**: 111.
61. Singh, M.P. and Singh, C.M. (1972) *Trichophyton simiae* infection in poultry. *Vet. Rec.* **90**: 218.
62. Singh, S.B., Singh, G.R. and Singh, C.M. (1964) A preliminary report on the occurrence of infectious laryngot-racheitis of poultry in India. *Poult. Sci.* **43**: 492 - 494.
63. Singh, S.B. and Singh, C.M. (1967 a) Studies on avian pleuro-pneumonia like organisms. I. Incidence of chronic respiratory diseases of poultry in India. *Poult. Sci.* **43**: 492 - 494.
64. Singh, S.B. and Singh, C.M. (1967 b) Studies on avian pleuro-pneumonia like organisms. II. Transovarian transmission. *Indian Vet. J.* **44**: 17 - 24.
65. Singh, S.B. and Singh, C.M. (1967 c) Studies on avian pleuro-pneumonia like organisms. III. *In vitro* antibiotic sensitivity. *Indian Vet. J.* **44**: 187 - 192.

66. Singh, S.B. and Singh, C.M. (1967 d) Studies on avian pleuro-pneumonia-like organisms. Raising PPLO-free flock by antibiotic treatment. *Indian Vet. J.* **44**: 192 - 198.
67. Verma, K.C. Singh, G.R. and Singh, C.M. (1968) Occurrence of infectious bronchitis of poultry in India. *Indian J. Vet. Sci.* **38**: 418 - 423.

Pathology:

1. Rajya, B.S. and Singh, C.M. (1959) Pathology of Johne's disease in sheep. I. Haematological observations. *Indian Vet. J.* **36**: 551 - 554.
2. Rajya, B.S. and Singh, C.M. (1959) Pathology of Johne's disease in sheep. II. Histopathological observations on presence of *Mycobacterium paratuberculosis* in the heart of sheep. *Indian Vet. J.* **36**: 554 - 556.
3. Rajya, B.S. and Singh, C.M. (1961) Pathology of Johnes disease in sheep. III. Pathologic changes in sheep with naturally occurring infection. *Ameri. J. Vet. Res.* **22**: 189 - 203.
4. Singh, B. and Singh, C.M. (1963) Studies on the pathology of chronic respiratory diseases of poultry in India. I. Pathological changes in field cases. *Agra Univ. J. Res. (Science)* **12**: 69 - 78.
5. Singh, B. and Singh, C.M. (1963) Studies on the pathology of chronic respiratory diseases of poultry in India. II. Pathological changes in complicated cases and their correlation with cultural and serological results in relation to PPLO. *Poult. Sci.* **42**: 944 - 949.
6. Dwivedi, J.N. and Singh, C.M. (1963) Pulmonary ossification in a buffalo. *Indian Vet. J.* **40**: 691 - 696.
7. Rajya, B.S. and Singh, C.M. (1964) Pathology of pneumonia and associated respiratory diseases in sheep and goats. I. Occurrence of Jaagsiekte and maedi in sheep and goats in India. *Ameri. J. Vet. Res.* **25**: 61 - 67.
8. Dwivedi, J.N. and Singh, C.M. (1964) Pulmonary lesions in an Indian buffalo associated with acanthomy - B sp. *Indian J. Microbiol.* **5**: 31 - 34.
9. Dwivedi, J.N. and Singh, C.M. (1965) The occurrence of *Fasciola gigantica* in the lungs of Indian buffaloes (*Bos bubalis*). *Indian Vet. J.* **42**: 662 - 663.
10. Dwivedi, J.N. and Singh, C.M. (1965) Pulmonary tuberculosis in buffaloes. *Indian Vet. J.* **43**: 582 - 585.
11. Sharma, D.N. and Singh, C.M. (1968) Studies on pathology of female genital tract of poultry with special reference to egg peritonitis - neoplasms of ovary and oviduct. *Indian Vet. J.* **45**: 388 - 391.
12. Sharma, D.N. and Singh, C.M. (1968) Studies on pathology of female genital tract of poultry with special reference to egg peritonitis - incidence, pathoanatomy and experimental study. *Indian J. Vet. Sci.* **38**: 737 - 746.

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13. Sharma, D.N. and Singh, C.M. (1968) Studies on pathology of female genital tract of poultry with special reference to egg peritonitis. II. Underdeveloped and atrophied ovaries and oviducts. *Poult. Sci.* **47**: 1379 - 1381.
14. Singh, K.P. and Singh, C.M. (1969) Subacute valvular endocarditis in buffaloes in U.P. *Indian Vet. J.* **46**: 541 - 542.
15. Dwivedi, J.N. and Singh, C.M. (1969) Studies on the pathology of female reproductive organs of the Indian buffalo. II. The ovaries. *Ceylon Vet. J.* **17**: 70 - 72.
16. Dwivedi, J.N. and Singh, C.M. (1970) Studies on the pathology of female reproductive organs of the Indian buffalo - Occurrence of rete ovarii and cystadenoma. *Indian Vet. J.* **47**: 115 - 118.
17. Mohanty, G.C. and Singh, C.M. (1970) Pathologic features of focal non-suppurative nephritis in buffaloes. *Indian Vet. J.* **47**: 391 - 396.
18. Mohanty, G.C. and Singh, C.M. (1970) Pathologic features of suppurative nephritis in cattle and buffaloes. *Indian Vet. J.* **47**: 821 - 826.
19. Mohanty, G.C. and Singh, C.M. (1970) Actinobacillic nephritis in male buffalo - a case report. *Indian Vet. J.* **47**: 938 - 941.
20. Singh, K.P. and Singh, C.M. (1970) Parasitic infestation of bovine heart in U.P. *Indian Vet. J.* **47**: 1023.
21. Singh, K.P. and Singh, C.M. (1970) Aortic onchocercosis in buffaloes in U.P. *Indian Vet. J.* **47**: 1137.
22. Dwivedi, J.N. and Singh, C.M. (1971) Studies on the pathology of female reproductive organs of the Indian buffalo. IV. Observations on bursitis and hydrosalpinx cases. *Indian J. Anim. Sci.* **41**: 27 - 32.
23. Dwivedi, J.N. and Singh, C.M. (1971) Studies on the pathology of female reproductive organs of the Indian buffalo. V. Hydrotuboinflation test and mucosal status in oviducts. *Indian J. Anim. Sci.* **41**: 155 - 160.
24. Dwivedi, J.N. and Singh, C.M. (1971) Studies on the pathology of female reproductive organs of the Indian buffalo. I. Ovarian abnormalities. *Indian J. Anim. Hlth.* **10**: 27-36.
25. Dwivedi, J.N. and Singh, C.M. (1971) Histochemical observations on the ovary of Indian buffalo. *Indian J. Anim. Hlth.* **10**: 205 - 211.
26. Dwivedi, J.N. and Singh, C.M. (1971) Histochemical observations on the endometrium of Indian buffalo. *Indian J. Anim. Hlth.* **11**: 31 - 34.
27. Parihar, N.S. and Singh, C.M. (1971) Some avian respiratory affections. *Indian J. Anim. Sci.* **41**: 603 - 609.
28. Parihar, N.S. and Singh, C.M. (1971) Some avian respiratory mycoses. *Indian J. Anim. Sci.* **41**: 712 - 720.

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29. Parihar, N.S. and Singh, C.M. (1971) Pathology of chronic respiratory disease in poultry. *Indian J. Anim. Sci.* 41: 721 - 726.
30. Parihar, N.S. and Singh, C.M. (1971) Some avian respiratory tumours. *Indian J. Anim. Sci.* 41: 731 - 739.
31. Singh, C.M., Singh, B. and Parihar, N.S. (1973) Pulmonary involvement in lymphosarcoma of Indian buffaloes. In: 'Unifying Concept of Leukaemia'. *Biblio. Haematol.* 39, 220-227. Dutcher, R.M. and Chico Bianchi (Editors). Karger Basel.
32. Singh, B., Singh, K.P., Parihar, N.S., Bansal, M.P. and Singh, C.M. (1979) Clinico-pathological studies on lymphosarcoma in Indian buffaloes (*Bubalus bubalis*). *Zbl. Vet. Med. A* . 26: 468-481.
33. Singh, C.M., Singh, B., Parihar, N.S., Singh, K.P. and Bansal, M.P. (1979) Studies on bovine lymphosarcoma / leukemia in Indian buffaloes. *Indian Vet. Med. J.* 3: 97 - 102.
34. Dwivedi, J.N. and Singh, C.M. (1975) Studies on the folliculoids in ovaries of buffaloes. *Indian J. Anim. Sci.* 45: 15 - 20.
35. Dwivedi, J.N. and Singh, C.M. (1975) Studies on the histopathology of uterus of buffaloes. *Indian J. Anim. Sci.* 45: 20 - 24.
36. Dwivedi, J.N. and Singh, C.M. (1978) A note on the neoplasms of female reproductive organs of Indian buffalo. *Indian J. Anim. Sci.* 48: 61 - 64.

Miscellaneous:

1. Singh, C.M. (1972) *Pashu Chikitsa: Nai Chunaution*. Kheti 24(12): 26 - 29.
2. Singh, C.M. (1972) Bovine tuberculsis: In : The Textbook on Tuberculosis. Pp. 482 - 491. K.N. Rao (Editor), Kothari Book Depot, Bombay.
3. Singh, C.M. (1994) Certain highlights and landmarks in virology in tropics. In : Viruses. Narayan Rishi, Ahuja, K.L. and Singh, B.P. (Editors). Malhotra Publication House, New Delhi.
4. Parmeshwar, R., Chaudhary, R. and Singh, C.M. (1992) Report of the Review Committee on Science and Technology Project on Cattle Herd Improvement for Increased Productivity using Embryo Transfer Technology. Pp. 1 - 95. Submitted to Dr. S. Ramachandran, Secretary, Department of Biotechnology, Ministry of Science and Technology, Govt. of India, New Delhi.
5. Somvanshi, R. and Singh, C.M. (1992) Some diseases recorded in captive pheasants in India. Pp. 114 - 118. In: Pheasants in Asia. Jenkins, D. (Editor). World Pheasants Association, Reading, U.K.



● CHAPTER 12

ESTABLISHMENT OF ENDOWMENT TRUST, LIFE'S FAG END AND EVENTS THEREAFTER

During the efforts to collect resource materials for writing the book entitled, "Dr. Chinta Mani Singh: A life history and his contributions to veterinaary science"; the writer was apprised about 'Dr. C. Krishna Rao Endowment Trust, Hyderabad'. Dr. C. Krishna Rao happened to be the former Animal Husbandary Commissioner, Government of India and a famous veterinarian in the country, in whose honour the Andhra Pradesh veterinarians had set up the Trust and brought out some publications. In the course of discussions Dr. C.M. Singh opined that it was good to write about the life of great personalities but it was far better than that to institutionalise the efforts for achieving the aims and objectives for which the great person stood for. If any set up could possibly be created that would continue to work for achieving the goals sacred to the great personality on a sustained basis, the purpose of documenting the life of the person would be served in the real sense. This statement was an indication of his desire for fulfilling his unfinished tasks through an oraganisation. The idea of establishment of the 'Dr. C.M. Singh Endowment Trust' germinated there and then. I absorbed the idea immediately but at the same time realised the enormity of the proposal. Any organisation connected with a great personality-like Dr. C.M. Singh implied onerous task and great responsibility for its establishment and sustained functioning. I, therefore, did not react there and then and prferred time to consult my senior and erstwhile colleagues at the IVRI. At Bareilly, I had consultations and discussions with many scientists and particularly with late Dr. L.N.Singh, Head, Division of Biochemistry and Dr. K.C.Verma, Head, Division of Avian Diseases. Practically all the persons encouraged me to undertake the responsibility and organise the set up for the purpose, promising at the same time to extend all possible help.

Dr. C.M. Singh made available a book containing regulations for establishment of Trusts. He also indicated certain persons whom he preferred as members of the Executive Committee of Trust. He was of the opinion that the President of the Trust should be a retired scientist who could not be harmed by his colleagues jealous of him or bearing ill will against him. The members should be honest and reputed individuals who believed in his principles and ideology. They should be

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men of repute from different places, institutes and disciplines, irrespective of caste and creed representing the varied nature of the country – unity in diversity. But the local persons should be involved more commonly so that the meetings, as prescribed in the Constitution of the Trust were well attended. He had realised that it became difficult for persons to attend meeting from far off places due to economic and other reasons. He also wished that one member of his family, his youngest daughter, Mrs. Sashi Singh, who was living in the country, should be one of the Trustees, and the Director of IVRI, Izatnagar would be the *ex-officio* Trustee.

The “Dr.C.M. Singh Endowment Trust” came into being on 19th May 1999 when it was registered with the Registrar of Societies, Bareilly after completing all the legal formalities. Excluding the acting Director, Dr. Nagendra Sharma and Dr. L.N. Singh, Head, Division of Biochemistry, the following office bearers and trustees attended the court in the hot summer sun to abide by the registration formalities:

1. Dr. Shyamal Kumar Chattopadhyay - President
2. Dr. R.P. Mishra - Vice-President
3. Dr. Samrendra Bahadur Lal - Vice-President
4. Dr. Ramesh Somvanshi – Honorary Secretary
5. Dr. Khem Chandra Verma – Treasurer
6. Dr. L.N. Singh – Trustee
7. Dr. B.D. Sharma – Trustee
8. Dr. R.K. Singh – Trustee
9. Mrs. Shashi Singh – Trustee
10. Dr. Nagendra Sharma – *Ex-officio* Trustee

The Technical Officer in the Institute Library, Mr. Surendra Kumar Shrivastava extended special help and cooperation in the registration process.

Dr. C.M. Singh himself had contributed a sum of about Rs. 80,000/- for the establishment of the Trust, which formed the main corpus. Then and afterwards his close associates, former students and admirers contributed voluntarily from time to time to defray the expenses for the day-to-day running of the Trust. Dr. C.M. Singh wanted that the Trust should function in a distinctly different manner unlike on the lines of general scientific associations and for that purpose he had wide -ranging perspectives.

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Principal activities and accomplishments of Trust :

The activities undertaken by the Trust are regularly documented in the annual reports. However, in brief they are:

1. Five famous veterinarians viz. Dr. J.L. Vegad (Jabalpur), late Dr. L.N. Singh (Bareilly), Dr. Ramesh Chandra Pathak (Mathura), Dr. Surendra Kumar Ranjhan (New Delhi) and Dr. Mahendra Pal Yadav (Bareilly) were honoured for their lifetime achievements by the Trust's highest award, the "Dr. C.M. Singh Samman".
2. Eleven superannuated reputed scientists – Dr. B.R. Gupta, Dr. D.C. Johri, Dr. N.S. Parihar, (Late) Dr. S.C. Das, Dr. B.B. Mahapatra (all from Bareilly), Dr. R.D. Sharma (Nainital), Dr. K.P. Mallick (Patna), Dr. S.S. Sengar (Bareilly) and Mr. Ram Bahadur (New Delhi) were honoured with "Dr. C.M. Singh-Shalihotra Samman" on the occasion of the World Veterinarians' Day – 2004 and National Science Day – 2006, respectively.
3. Three times 'All India Dr. C.M. Singh Veterinary Science Essay Competitions' both in Hindi and English were organised and about 15 scientists and students were awarded First, Second and Third prizes of Rs. 1500/-, Rs. 1,000/- and Rs. 700/-, respectively.
4. (i) The Commission of Scientific and Technical Terminology, Ministry of Human Resource Development, Govt. of India, New Delhi sponsored two national seminars organized by the Trust:
 - (a) 'The perspectives of research in veterinary sciences in the coming decade' from 27th to 28th February 2003.
 - (b) 'Advances in fundamental and applied research in veterinary sciences and animal husbandry' from 28th February to 1st March 2006.
- (ii) Trust organised a 4-day Regional Science Communication Workshop from 24th to 28th April 2004 which was sponsored by NCSTC, Department of Science & Technology, Ministry of Science & Technology, Govt. of India, New Delhi.
- (iii) 'Meet and Greet Dr. C.M. Singh' programme was organised on 10th January 2005.
- (iv) Organisation of National Science Day 2006 from 28th Feb. to 1st March, 2006.

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4. The Hindi book entitled 'Dr. C.M. Singh : A life history and his contributions to veterianry science' was published and widely distributed.
6. The Trust cooperated with Mr. Brijendra Rehi and Dr. Satyendra Singh in completion of a documentary entitled "*Prernashrot*". This 10-12 minutes documenatary is the resource material for information and contents about Dr. C.M. Singh.
7. From time to time, the Trust organises invited lectures on topics of interest and importance by experts. The first Dr. C.M. Singh oration lecture was delivered by Dr. Utpal Sen Gupta from JALMA Institute on Leprosy, Agra in 2005 and the first Dr. C.M. Singh Memorial Lecture by Professor T.P. Singh, Head, Division of Biophysics, AIIMS, New Delhi in 2006. The Trust also organised First Dr. B.S. Rajya Memorial lecture delivered jointly by Dr. Nem Singh and Dr. O.P. Paliwal in 2006.
8. A CD entitled "Dr. C.M. Singh: A memorium" was prepared on the life and achievements of Dr. C.M. Singh by the Trust. This CD has been used on many occasions to deliberate on the contributions and life of Dr. C.M. Singh by Dr. M.P. Yadav, the Director IVRI.
9. The Trust donated a sum of Rs. 100,000/- only to the Deemed University IVRI for instituting "Dr. C.M. Singh Gold Medal" to be awarded to the best Ph.D. student every year.
10. The Trust has sponsored the "Dr. C.M. Singh Award" for the best article published in the Indian Journal of Veterinary Pathology of the Indian Association of Veterinary Pathologists from the year 2003 for a period of three years.
11. Every year the Trust presents its activities and accomplishments in the annual reports. So far six annual reports have been prepared and distributed amongst trustees, members, donors and well-wishers.
12. During his sojourn to Bareilly on 9th and 10th January 2005, Dr. C.M. Singh with his family members reviewed the financial status of the Trust. The corpus of the Trust was further consolidated by a donation of Rs. 100,000/- only by his family members.
13. A provision has been made in the Trust that any person donating a sum of Rs. 5,000/- or more be inducted as an Endowment Trustee. Presently following are the Endowment Trustees:

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- Dr. Balwant Singh, Ludhiana.
- Dr. Mahesh Chandra Kataria, Bareilly.
- Dr. N.S. Parihar, Bareilly.
- Dr. Ram Raksha Shukla, New Delhi.
- Dr. Ramesh Somvanshi, Bareilly.
- Dr. Mahendra Pal Yadav, Bareilly.
- Dr. Bhanu Pratap Singh, London, U.K.
- Dr. K.P. Mallick, Patna.
- Dr. T.V. Anilkumar, Trivandrum.
- Dr. (Mrs.) Shyama Singh, Essex, U.K.
- Dr. K.K. Singh, Sussex, U.K.
- Dr. Satyendra Singh, Manchester, U.K.
- Dr. Surendra Kumar Ranjhan, New Delhi.
- Dr. B.U. Rao, Hossur.
- Shri Kundan Singh, Bareilly.
- Col. R.K. Singh, New Delhi.
- Col. G.S.C. Ranga Rao, Hyderabad

14. After 27th July 2005, in the sacred memory of Late Dr. C.M. Singh, special prayer meetings, religious songs (*bhajans*) and condolence meetings were organised in which members of his family – his wife, Mrs. Chandra Jyoti Singh and all his children participated. It has been planned to commemorate his memory in the years ahead.

The Trust continues to follow its dictum that nothing is more sacred than knowledge and remains committed to work for the welfare and advancement of the veterinarians, veterinary profession and the nation.

Convocation of National Academy of Veterinary Sciences at IVRI, Izatnagar :

The National Academy of Veterinary Sciences awards (A part of its work programme) fellowships and memberships of the Academy to veterinarians and

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scientists and people of repute and distinction. These fellowships and memberships are awarded during the convocations held at different places. Along with the convocation national seminars are held on important topics. Dr. C.M. Singh in the capacity of the President of the Academy in 2002 had entrusted IVRI, Izatnagar to hold the convocation. The Director of the Institute, Dr. M.P. Yadav, identified me as the Organising Secretary for this purpose. The national seminar on the topic entitled 'Veterinary science and animal husbandry science in ancient India' (vedic and Ashokan period) was held on 16th and 17th April 2002 in a grand fashion along with the convocation. The function was graced by Dr. Panjab Singh, the Director-General, Indian Council of Agricultural Research & Secretary to the Department of Agricultural Research & Education, Ministry of Agriculture, Govt. of India as the Chief Guest. Besides Dr. Arun Verma, acting Deputy Director-General (Animal Sciences), ICAR, the participants included Directors and scientists of ICAR institutes, Vice-Chancellors of Agricultural Universities, Deans of Veterinary Colleges, Directors of the State Animal Husbandry Departments, and reputed serving and retired veterinarians totalling about 200 from different parts of the country. The scientists of both IVRI and CARI whole-heartedly took part in the proceedings.

For this programme first of all the auditorium of the National Library of Veterinary Sciences of the Institute was specially furnished, renovated and spruced up. The Academy had funded this venture by a grant of Rs. 50,000/-. The balance expenditure was made up from the advertisement tariff. The Institute paid for the publication of Souvenir containing summaries of the research articles.

In the two days programme many learned veterinarians were awarded fellowships and memberships of the Academy. The Convocation was addressed by the Chief Guest, Dr. Panjab Singh, Dr. C.M. Singh, Dr. Arun Verma, Dr. M.P. Yadav and myself. About 50 research articles were presented in the national seminar. In addition many articles formed part of a grand poster presentation. Dr. C.M. Singh was very happy with the function and scientific presentations. In fact he was not well when he had reached at Bareilly, looking weak and tired. But he participated with full zeal and felt better as the function went on smoothly.

Later all the research articles were compiled in a book form entitled "Veterinary science and animal husbandry in Ancient India" jointly edited by me and Dr.

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M.P. Yadav. The publication was dedicated to Dr. C.M. Singh. It has turned out to be a very popular publication and all the copies of the first print have been sold. During last decade, I had the occasion to organise many seminars but this one was the best, large grand and most successful programme.

Sudden departure for England for treatment :

I could not remain in contact with Dr. C.M. Singh for some time in 2002. It was learnt that his son had taken him to England in view of his deteriorating health so that they could look after him better. Dr. C.M. Singh had developed kidney trouble, had become quite sick and needed urgent attention. Though I had been sending his family members (Dr. K.K. Singh, Dr. (Mrs.) Shyama Singh and Dr. Satyendra Singh) documents about the Trust, like half-yearly and annual proceedings, annual reports and also letters, there had been no response. On our enquiries from Mr. C.K. Vasudev of the Veterinary Council of India, who was perhaps in contact with Dr. C.M. Singh, it was learnt that Dr. Singh was under treatment and had to undergo dialysis on alternate day and that we could contact him on phone. But our efforts somehow did not succeed. At one time we wanted his permission for publication of the book entitled "Veterinary science and animal husbandry in ancient India" in his capacity as the President of the National Academy of Veterinary Sciences. After many attempts we did succeed.

Then in the year 2004 it was heard that Dr. (Mrs.) Sakkubai Ramachandran, Dr. P.K. Uppal and Dr. (Mrs.) Usha Mandokhot happened to visit England and met Dr. C.M. Singh and then we got the authentic news. Not being able to be in contact with Dr. C.M. Singh was a matter of regret and embarrassment for me because I was considered very close to Dr. C.M. Singh but unfortunately I did not have any valid information on his health and welfare.

My visit to England and meeting with Dr. C.M. Singh :

I got the coveted opportunity to visit England to attend an International Scientific Conference at the Lancaster University, Lancaster in September 2004 under the aegis of the British Ecological Society's Annual programme. I presumed that it was a God-sent opportunity to enable me to see Dr. C.M. Singh. I informed him through a letter about my impending visit to England and my desire to see him. Surprisingly, I received a telephonic call from Dr. (Mrs.) Shyama Singh, his daughter. This gave me the chance to not only talk to her but also to get apprised about

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the health of Dr. C.M. Singh. I got a opportunity to talk to Dr. C.M. Singh also. On direction of Dr. Singh, Dr. (Mrs.) Shyama Singh offered to pick me up from the Heathrow International airport, London and to arrange for my stay there. I thanked her and informed that the arrangements for my stay were already made and that I would like to see them on 13th or 14th September at Worthing.

On reaching England I was truly anxious to see Dr. C.M. Singh and spend some time with him and waited for the moment eagerly. I caught the train to Worthing railway station from the place of my stay at my nephew's (sister's son, *Babloo*) house. His eldest son, Dr. K.K. Singh was to receive me at the station. But he was a little late and I had to wait for him. With him I reached his grand house in Mardigrass where Dr. C.M. Singh was expecting me, and so was Mrs. Singh. I paid my obeisance to them by bowing and touching their feet. It was a very sentimental meeting in which we had to exchange lot of information and thoughts.

Dr. C.M. Singh was more lean and weak than I had seen him last but active. After enquiring my welfare he narrated the events of the last 2-3 years. After reaching England in 2002 in sick state, he was able to maintain himself through sheer strong will power and determination. He had to undergo dialysis every alternate day at the local hospital. Dialysis used to be lengthy painful process lasting 5 to 6 hours every time. His both the kidneys had stopped functioning by then. He used to undergo the procedure all alone after being ferried from home to hospital every time to and fro in a ambulance. Fortunately this service was available to him free because his family members (sons, daughter, son-in-law and daughter-in-law) were members of the National Health Service of the United Kingdom. In the beginning there was difficulty in fixing the shunt and therefore his hand became swollen, heavy and quite painful. While narrating all this he also expressed hid regrets for not being able to remain in touch with us in India by maintaining contacts regularly. But he had been keeping himself abreast with all the developments in India and he had full information about the Trust's activities through letters and various reports. As usual he did not desist from speaking non-stop. But in view of his health I restrained him as far as possible. I presented him the book entitled "Veterinary science and animal hausbandry in Ancient India". I also extended him the greetings from people back home and presented the greeting cards I had been given by Dr. M.P. Yadav, Dr. Nem Singh, Dr. J.M. Kataria, Dr. Ranvir Singh, Dr. (Mrs.) Bharti Singh, Dr. O.P. Paliwal and the Trust. He received all the greetings and cards, etc. gladly and was happy about them. I told him how much was he remembered at Bareilly and he was overwhelmed.

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I had taken a packet of Kipps sweets (*Sohan papadi*) for him, which he accepted with pleasure and thanked me profusely.

While we were busy with our talks, Mrs. C.M. Singh had prepared meals for us. Dr. K.K. Singh helped her because his wife was not there at that time. There was a separate room in the house which was used as an office by Dr. K.K. Singh. The room was furnished with all the modern amenities like computer, fax machine, internet, etc. Dr. K.K. Singh happened to be a very reputed colic surgery gastro-intestinal specialist with good practice and Mrs. Singh vouchsafed for the extremely busy life of his son. Dr. C.M. Singh took some rest while I engaged in conversation with Mrs. C.M. Singh. Thus the time passed without our noticing it and the time to leave drew near. I also could not fully appreciate that the beautiful house was situated at the banks of the English Channel and did not appreciate the grand view of the Channel and the scenery.

In the evening we had tea in the glass house outside in the lawn. There was pleasant sunlight giving comfortable warmth. Dr. K.K. Singh got ready to leave me at the station. Dr. C.M. Singh informed that he would visit India soon and that his younger son, Dr. Satyendra Singh has already started making preliminary arrangements. Due to shortage of time, I could not see Dr. (Mrs.) Shyama Singh at Essex and Dr. Satyendra Singh at Manchester.

Last visit to the IVRI – 10th January 2005 :

My England trip had the benefit of myself having established contacts with Dr. C.M. Singh and his family members. Further veterinarians and his well-wishers in the country got apprised of his health and other details. Dr. C.M. Singh had a great desire to visit his native country and strong will power to accomplish the same. Dr. Singh intimated that his youngest son, Dr. Satyendra Singh would come to India in September 2004 from Manchester. According to his programme, Dr. Satyendra Singh visited Bareilly and met Dr. M.P. Yadav, myself and other acquaintances. He gauged the high esteem that the Institute scientists and others harboured for his father. He chalked out the programme for his father's visit then for reaching Delhi and going to Mathura and Bareilly, which included arrangements for dialysis procedure as prescribed medically. He also placed a proposal to make a documentary film on the life and achievements of Dr. C.M. Singh, which was welcomed by one and all. He was assured full cooperation from the Trust.

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Soon a day before *diwali* festival, Mr. Brijendra Rehi visited Bareilly and he took shots, for the documentary, of Director's residence and various other landmarks of the Institute and also conducted interviews with available persons connected with Dr. C.M. Singh-like Dr. Yadav, Dr. Parihar, Dr. Mishra, Dr. Mehrotra. Dr. Chattopadhyay, Dr. Nem Singh, Dr. Paliwal, Dr. Kataria and myself. Mr. Rehi similarly paid a visit to U.P. Veterinary College, Mathura particularly the Department of Pathology and Bacteriology and recorded interview with Dr. R.C. Pathak and others. He had, prior to his visit to Bareilly, already taken shots on Dr. C.M. Singh but without making him conversant with the purpose.

A few weeks later, I received e-mail from Dr. (Mrs.) Shyama Singh detailing the programme of Dr. C.M. Singh's visit from England to India and returning back. He was to reach Bareilly on 9th January and return to Delhi on 10th January, the next day. Before his Bareilly trip he had plans to visit Mathura. The e-mail provided addresses and contact phone numbers of each member of his family.

Meet and Greet Dr. C.M. Singh :

The Trust decided to hold a half-day "Meet and greet Dr.C.M. Singh" programme taking into consideration the extremely cold weather at that time of the year and precarious health of Dr. C.M. Singh. The whole programme was decided after adequate discussions with Dr. M.P. Yadav, Director of the Institute. The Institute Hospital was kept in readiness to meet any emergency, if it may arise. Dr. C.M. Singh had reached New Delhi on 16th December 2004 after a long flight from UK with his family members. On 6th January 2005 he undertook a trip to Mathura where he had his house near *Krishna Janmabhumi*. But he felt ill there and returned to Delhi at night on the same day. A day after i.e. on 8th January he felt difficulty in breathing and had to be admitted in the Sir Gangaram Hospital, New Delhi in the intensive care unit. He had to be examined thoroughly there and his visit to Bareilly fell in jeopardy. But with God's grace his condition improved and then he expressed his firm desire to come to Bareilly at IVRI, Izatnagar to meet his associates, co-workers, scientists and well wishers. We had received the news of his ill health late on the 9th January, when we were already in the thick of the arrangements. On hearing the news we had to draw alternative plan which was that if somehow Dr. C.M. Singh would not be able to make to Bareilly, any member of family would do in his place and the function would be held as already planned. And we will go to Delhi to see him. Hence we tried to contact his family at Delhi

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in the evening. The maidservant informed that Dr. C.M. Singh had already left for Bareilly with all the members of the family totalling nine in number. We got the news confirmed by talking to his son-in-law Col. R.K. Singh on mobile phone. Col. Singh replied in the positive and further stated that they were in fact at Delhi-Uttar Pradesh border en route. He informed that Dr. C.M. Singh was very eager and firm to come to Bareilly even when in the ICU of hospital. The good news spread fast and wide. Dr. Nem Singh, Joint Director (Research) and myself reached the Institute guest house at about 10 P.M. The weather was very cool and foggy. After about an hour the whole group arrived and we enthusiastically welcomed them. They were made comfortable and apprised about the next day's programme:

The "Meet and greet Dr. C.M. Singh" programme was introduced with famous *Saraswati Vandana* by Dr. S.V.S. Malik, Senior Scientist, Division of Veterinary Public Health. Dr. Malik had been doing this favourite item at several occasions in seminars and conferences since a number of years. On the dais Dr. M.P. Yadav, Dr. Nagendra Sharma, Dr.S.K. Chattopadhyay, Dr. Nem Singh, Dr. R.S. Chauhan and myself accompanied Dr. C.M. Singh. The auditorium was filled to the capacity with scientists and staff of both IVRI & CARI, retired scientists and members of Dr. C.M. Singh's family (Mrs. C.M. Singh, Dr. (Mrs.) Shyama Singh, her husband Dr. Rathore and children, Mrs. Sashi Singh and her husband Col. R.K. Singh, and Dr. Satyendra Singh). Dr. Nem Singh, Joint Director (Research) extended a hearty welcome to Dr. C.M. Singh and members of his family, as also to the members of the audience. Then representatives of about a dozen scientific associations in the campus by garlands, bouquets and flowers greeted Dr.C.M. Singh. Dr. Ranvir Singh arranged for plantation of a *rudraksha* plant in an earthen pot by Dr. C.M. Singh. Dr. (Mrs.) Bharti Singh presented a bouquet to Mrs. C.M. Singh.

First there was Dr. C.M. Singh oration lecture on burning topic on "Recent Advances in Mycobacterial Diseases" by Dr. Utpal Sengupta former Director of JALMA Institute of Leprosy, Agra (along with distribution of copies of his lecture). Then the documentary film "*Prernasrot*" depicting life and accomplishments of Dr. C.M. Singh made by Mr. Rehi was exhibited with Dr. Satyendra Singh earlier introducing the same and giving the background for its production. Dr. Nagendra Sharma, presently Vice-Chancellor of Sher-e-Kashmir University of Agriculture & Technology, Jammu, who had long close association with Dr. C.M. Singh, narrated some of his experiences and anecdotes connected with Dr. C.M.

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Singh. The Trust then honoured Dr. M.P. Yadav, Director of the Institute with "Dr. C.M. Singh Samman-2005". The President of the Trust, Dr. S.K. Chattopadhyay – revealing the actor in him – bowed and saluted Dr. C.M. Singh very graciously. He recited few lines from a poem of Gurudev Rabindra Nath Tagore and then requested Dr. C.M. Singh to hand the citation and memento to Dr. Yadav himself. Everybody envied Dr. Yadav's luck at that moment!

Dr. C.M. Singh then addressed the audience telling that on the occasion he would talk on other matters than science. He had not been keeping well for number of years and considered his last 2 – 3 years as the bonus period of his life. He dealt with philosophy of life and explained in detail about it through *slokas* from *Gita* the Holy. From the very beginning we were worried about his habit of speaking non-stop for long hours thus unduly exerting himself. To avoid this we requested him to speak to the audience while remaining seated on the chair. But he did not agree. He said that so much love and affection shown by people had made him strong and being amongst our own people was stimulation enough for him to forget and overcome his weakness. His address was informative, affectionate and captivating. It was very well received amidst incessant applause and clapping. There seemed to be no impression of age and sickness on him at that time. He was presented with a memento in the shape of a bust of deities *Radha* and *Krishna* and also presented with a shawl to honour him humbly and to express the high esteem that we harboured for him in our hearts.

After the function the people took the opportunity to individually meet him informally and were bestowed with his blessings on the dais itself. He partook tea there with the members in the audience, his family members, members of the Trust and Institute staff. All the affection and respect shown for Dr. C.M. Singh had a very deep impression on the members of the family. The big family of scientists and people bore deep affection, respects, regards and faith in Dr. C.M. Singh. They felt overwhelmed and gratified and realised why despite all his severe sickness Dr. C.M. Singh had undertaken long air flight to India and arduous journey to Bareilly. The local media was also busy interviewing Dr. C.M. Singh. Seeing all this, his daughter Dr. (Mrs.) Shyama Singh and few other family members got sentimental and cried. They felt and expressed that the unprecedented flood of affection and sympathy would stimulate their father for greater moral, mental and physical strength and prolong his life.

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After the function in the auditorium, Dr. M.P. Yadav, the Director requested Dr. C.M. Singh to unveil a plaque in the Veterinary Polyclinic near Gate No. 3. Dr. Singh readily obliged. He was happy about it and a group photograph was taken near the memorial stone plaque. Then Dr. Gajraj Singh, Head, Division of Surgery and his staff requested him to inaugurate the 'Small Animal Surgery Unit', which he happily did. Dr. Singh along with the dignitaries inspected the unit and appreciated and praised the work done by the scientists and the staff. Till this occasion, there was no place in the Institute where Dr. C.M. Singh had agreed to have his name. Hence there was widespread happiness among the people.

The Trust had made arrangements for lunch for the guests and dignitaries. Mrs. C.M. Singh quietly asked me to get *khichdi* for Dr. C.M. Singh for obvious reasons. I managed to get the message sent to my home through Mr. Rashid (driver). While the people were gathering in the dining hall and busy talking with each other and Dr. C.M. Singh was busy with the media persons, Mr. Rashid came with *khichdi* in the tiffin box. Dr. Singh enjoyed his lunch with *khichdi*, curd, salad and pickles. He liked the simple food and said that he finished all *khichdi*, which was a matter of great satisfaction for us, particular my wife Mrs. Manju Somvanshi.

After lunch Dr. C.M. Singh called me and asked me to sit near him. Then just-like a parent he enquired about the financial status of the Trust. I informed him that there were sufficient funds for routine activities of the Trust and that there was neither any glaring shortage nor excess. He did understand the implication and called his younger son-in-law, Col. R.K. Singh and instructed him to arrange a donation of Rs. One lakh only from the family. Each Dr. (Mrs.) Shyama Singh, Dr. K.K. Singh, Dr. Satyendra Singh and Col. R.K. Singh would donate Rs. 25,000/- each which would be kept in fixed deposit by the Trust.

By the time it was 4 o'clock in the evening and time for departing back to Delhi had approached. There were a few group photographs taken and we with heavy hearts bid farewell to Dr. C.M. Singh and the family members. This was the last sojourn of Dr. C.M. Singh to Bareilly. Something like last meeting of Lord Rama with residents of *Ayodhya!*

27th July 2005: Departure for heavenly abode :

At about 11.00 P.M. almost in the midnight of 27th July 2005, my phone

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rang incessantly rudely waking me from deep slumber. Almost half-awake I heard Col. R.K. Singh speaking from Delhi about Dr. C.M. Singh passing away. I was jolted out of my bed and then in full senses I enquired Col. R.K. Singh about what he had said. Was he stating the truth? Was the news confirmed? He replied in the affirmative and narrated in brief the events in sequence. Dr. C.M. Singh had become seriously sick since last 45 days and was admitted to the hospital with heart trouble from which he was slowly getting well. But he somehow got Herpes infection which was very painful and devastating. After some time when he returned home, he again felt the cardiac pain after a day or so and had to be readmitted and ultimately passed away on 27th July 2005. He informed that the cremation would take place on next Sunday there i.e. in U.K. only. He also informed that he had already passed on the sad information to Dr. M.P. Yadav, the Director of the Institute. The news was very sad and shocking. All the memories passed through the mind and particularly those of his 10th January visit to the Institute in 2005. None of us had any inkling that his end would come so fast.

Next day morning, I proceeded to Delhi to learn the details of the tragedy from Col R.K. Singh. I met him at his residence. Col Singh apprised me in brief about the main events between January to July 2005. He had sent his wife, Mrs. Shashi Singh - youngest daughter of Dr.C.M. Singh - about 6 weeks back to England when he had received the intimation that Dr. C.M. Singh was sick and had to be admitted to the hospital. Both the eldest and the youngest daughters were with him when he had breathed his last. According to Mrs. Shashi Singh, Dr. C.M. Singh had already had the premonition of his upcoming end. He had told both the

Dr. C.M. Singh : My Memorable and Meaningful Association

From : "swami" <swami@mssrf.res.in>

To : <dirivri@ivri.up.nic.in>

5th August, 2005

My dear Dr. Yadav,

I have received the sad news of the passing away of Dr. CM Singh with great shock and sorrow. During my period as DG, ICAR, one of my most memorable and meaningful associations was with Dr. CM Singh and IVRI. His contributions to animal sciences, research and development have been truly monumental. I pray for the peace of the departed soul.

Kindly convey my condolence to the bereaved family.

Dr. M.P. Yadav

Director, IVRI

Your's sincerely

M.S. Swaminathan

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sisters that he had to go on 27th but could not say where. During his last days his mind and soul longed for the country. Col. Singh promised to give any information that he may have about the family and its likely visit to India.

Not only in Bareilly, but also elsewhere in the country the sad news spread like wild fire. On 28th July people were informing each other about it and expressing their condolences and grieving over the loss. All veterinarians and those connected with veterinary profession remembered gratefully his contributions to the development and progress of the veterinary sciences and animal husbandry and the profession. A large and historic condolence meeting was organised in the Institute on 29th July. A large photograph of Dr. C.M. Singh was decorated with flower-petals. Then it was garlanded and showered with flowers and people one after another expressed their condolences and regards for the departed soul. The hall was filled to the capacity and a large gathering had to remain standing outside the hall. According to Mr. Kundan Singh, who had been organising such meetings, there was unprecedented gathering of people. A resolution was passed to send condolences to the members of the bereaved family in U.K. There was a feeling amongst persons that there should be a memorial in the Institute for Dr. C.M. Singh. The occasion was there for the Institute and the professionals to express their gratitude to the departed stalwart.

C.M. : One of Ten Most Outstanding Human Beings

From : rama <drramakumar@gmail.com>
To : somvanshi@ivri.up.nic.in

5th June, 2006

Dear Professor (Doctor) Ramakumar,

.... C.M. was my close personal friend for more than 40 years, beginning in fact with my very first working visit to India. We were often together over the years in Mukteshwar, Izatnagar, Geneva and in other places in the world. He was my wife's and my houseguest in California and she also has warm memories of him.

Please tell Mrs. CM that I also still remember well being their guest in Mathura one year on the occasion of Krishna's birthday, in which she and CM included me in their private family celebrations. CM's and my common interests ranged well beyond science and included religion. In my memories I recorded my belief that he was one of the ten most outstanding human beings I had the privilege to know well, a man of great passion and integrity.

Sincerely
Calwin W. Schwabe

Dr.C.M. Singh Passes on : Profession has Lost its 'God Father'

28th July, 2005
Trivandrum, Kerala

Dear friends, colleagues, teachers, students,

It is with a heavy heart that I inform you all that Dr. CM Singh, a doyen of the veterinary profession and the founder President, Veterinary Council of India (VCI), founder of National Academy of Veterinary Sciences (NAVS) and former Director of IVRI has breathed his last on 27th July, 2005 after a short illness. Even after his retirement Dr. Singh took upon himself the responsibility of leading the profession of India and the Asian nations. He relinquished the coveted post of President of VCI after serving it three terms in 2002. Despite his failing kidney function Dr. Singh carried the profession in his heart and was ever enthusiastic in professional and scientific activities of India. Dr. Singh gave support and meaning to the concept of macro-epidemiology. Apart from supporting the independent role of Veterinary Public Health, Virology, Immunology, Veterinary Economics & marketing, Molecular biology in veterinary education, he had been a supporter of 'hands on training' and Continuing Veterinary education. His phenomenal contribution of developing the profession's "Mecca", the IVRI from a 6 division institution to a 22 division giant is a testimony of his administrative and professional acumen and single minded dedication. Dr. Singh was more of Institution than an individual and the like of him take birth in this world only once in a century. A dreamer and a man of action Dr. Singh always talked of "optimism in hopelessness" which he had adopted as a principle of his life.

The profession of India has lost its "God father" which vacuum may remain unfulfilled for years to come. Let us all pray for the peace of his soul. May the veterinary family and the breaved family of Dr. Singh have the strength to bear the irreparable loss.

Sincerely your's

Professor (Dr.) Ramakumar V.

*(Who had the good fortune to work for
him for 10 glorious years)*

Prayer meeting at Jorbagh, Delhi

On 21st August 2005, a prayer meeting for religiously bidding farewell to the departed soul of Dr. C.M. Singh for the heavenly abode was organized at Arya Samaj temple Jorbagh, Delhi. I reached 229, Vasant Enclave at about 2 o'clock in the afternoon. I was hesitant as I would be there for the first time when Dr.C.M. Singh would no more be there. I would have to meet all people and especially Mrs. C.M. Singh (*kaki*) – grieving and sad. However, I firmed my resolve and prepared

to press the doorcallbell. Meanwhile, I heard Dr. (Mrs.) Shyama Singh calling out, "Dr. Somvanshi has come" because she had seen me coming. The door was opened and I found Mrs. Singh (*kaki*) before me. I acknowledged and sympathised with (Mrs.) Shyama Singh and then bowed onto the feet of Mrs. Singh. Like all affectionate mothers, Mrs. Singh held me in embrace like a son and started crying in grief. I sympathised and consoled her remaining in embrace for some time. Dr. K.K. Singh came and acknowledged my arrival and sympathies. We sat in the drawing room where I had earlier been many times with Dr. C.M. Singh and had discussed various topics including matters about his life-history, attainments and various facets of life. On this day, however, altogether different atmosphere prevailed.

In the drawing room there was an oval urn on the central table wrapped with a garland. It contained the ashes (mortal remains) of Dr. C.M. Singh. Near the urn, there was a photograph of the glowing personality of Dr. C.M. Singh and a copy of the *Bhagwad Gita* wrapped in a cloth. Dr. C.M. Singh was a great devotee of Lord *Krishna* and had great faith in the *Gita*. There was also a photograph of him taken when he was sick. Also there was a copy of the book on his life written by me. In the room besides immediate family members of Dr. C.M. Singh, there were members of Dr. (Mrs.) Shyama Singh's in-law's family. Mrs. Singh had gradually composed herself and joined us in the drawing room. She narrated the events and last moments of Dr. C.M. Singh.

After a little while a young tonsured person came in. He was the youngest son, Dr. Satyendra Singh, whom I could not immediately recognise because of his changed appearance after tonsuring. He was busy with making arrangements for the evening programme. Col. R.K. Singh also reached after some time. The evening programme was scheduled at Arya Samaj Bhavan temple, Jorbagh, New Delhi.

At about 3-30 P.M., The urn containing the ashes, photographs, *Bahgwad Gita*, book and other items including the central table were transferred into the vehicle of Col. R.K. Singh and we all started for the destination. We reached Arya Samaj Bhavan after procuring bouquets, garlands and flowers en route. There we found many relatives (many of them from Col. R.K. Singh's side), friends and well wishers waiting for us. In the prayer hall there were large white bed sheets spread over the centre of the floor on mattresses and on the sides chairs wrapped in white covers were arranged. The dais on which the urn was placed on the table with Dr.

C.M. Singh's photographs and other items, was decorated with large framed photographs of *Swami Dayanand Saraswati*. In the beginning there were about a dozen people but as the *havan* (sacrificial fire) started and the family members arrived, there became a large congregation with lots of people pouring in. The *havan* finished by about 5 P.M. The priest of the *Arya Samaj Bhavan* had enough copies of the prayer book for conducting the *havan* for the people who were free to take them, if they so desired.

Mrs. Singh was wailing while seeing off the mourners who were offering sympathies and tender feelings. Many people had become very sentimental and some cried and others held back tears with great efforts. I saw Dr. K.L. Sahni and sat near him. He was talking to myself in low tone, "there was no person like Dr. C.M. Singh, nor with there be". Nearby were sitting Col. Bhatnagar and Major-General Kherb of the Remount & Veterinary Corps. Mr. C.K.Vasdev former Executive Secretary of the Veterinary Council of India had also come. Then Dr. Satyendra Singh was there at the mike thanking all the people who had gathered and narrated the past sorrowful moments. The documentary '*Prernasrot*' on the life and achievements of Dr. C.M. Singh was about to be exhibited and Dr. Satyendra Singh invited Mr. Brijendra Rehi to introduce the same. He had been videographing the programme. He gave the background of the documentary and the footage shot in England basing the theme of the documentary largely on the book written by me and many other ancillary matters. The documentary was then screened. Mr. Brijendra Rehi also projected the interview with Dr. C.M. Singh in which he was explaining the *slokas* from the *Bhagwad Gita* by which it was propounded that the person should carry out the duties without expecting any returns whatsoever.

Then there was discourse by *Shastriji* and another invited luminary. Very sentimental heart-felt condolences were expressed. The invited speaker extolled the life and accomplishments of Dr. C.M. Singh for the welfare of animals, veterinary profession and his co-workers. He profusely praised the services rendered by Dr. C.M. Singh for the national cause and invited the family members to join the sacred cause of "Serve and Save Cow" campaign.

Dr. Satyendra Singh wanted his elder brother to speak. But he was reluctant. But later presented a poem on the life and works of his father. The same poem was

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already there printed on the "In memorium" card. Col. Bhatnagar spoke on behalf of the veterinarians and showered eulogiums, sympathies and respectful condolences. He had joined the RVC military services on the advice of Dr. C.M. Singh. By this time Professor R.C. Pathak had already reached with his family. He was in very poor health and appeared in great grief. The programme continued till about 6.30 P.M. and was concluded with the recitation of *Om Shantih, Shantih, Shantih*.

The people in the gathering were meeting each other and everyone tendered his/her condolences to Mrs. Singh. Dr. R.C. Pathak bowed and touched her feet and became overwhelmed with grief and was about to cry but his family members persuaded him to control himself in view of his ill health. The whole function has gone on smoothly, peacefully and serenely. The people were grief stricken and sorry and departed after signing the condolence register with heavy hearts and prayers in their minds for peace to the departed soul.

There were about 10 veterinarians representing the local veterinary fraternity. Many of the veterinarians had missed the information published in The Times of India alone. Though many of invitees were not from the research and education streams, they were all very impressed with the personality and achievements of Dr. C.M. Singh. It was truly said, "There has been no person like Dr. C.M. Singh, nor will there be".

Condolence meeting and *bhajan* programme organised by the Trust :

The family of Dr. C.M. Singh had decided to conduct the *terahwin* (13th day rituals) and *bramhabhoj* (offering meals to community members and well wishers) programmes in his native village, Belaon in Jaunpur district in eastern region of Uttar Pradesh, i.e. *Purvanchal*. The family first reached Varanasi and from there travelled to Belaon. There the traditional rites for the departed soul were conducted with heavy heart by the same family priest (*purohit*), who had conducted the traditional marriage religious cores to solemnise the marriage of Dr. C.M. Singh with Mrs. Singh many decades earlier. He recounted some of the incidents that had taken place during the marriage ceremony. There were around 3 to 4 thousand guests for the lunch that was organised after the *puja* (religious ceremony). During the period the *Purvanchal* area was experiencing heavy rains but with God's grace, during all the rituals the Rain - God remained kind and there were no rains at all. The villagers liked the book on Dr. C.M. Singh very much and took all the copies

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available. From the ancestral village the family reached Bareilly when I received them with Mr. Rashid and Saddiq drivers from Kashi Vishwanath Express reaching Bareilly at midnight. They had come with heavy luggage – many suitcases and attaches. They were duly received and put up as usual in the VIP Guest House of Institute.

The Trust wanted to hold the condolence and prayer meeting with singing of *bhajans* (religious songs) in the Institute auditorium, but could not do there in view the same being a private function. Since the day also happened to be a day before *Janmashthmi*, the birthday of Lord *Krishna*, the *Bankey-Behari* temple premises were also not available. Hence alternative arrangements were made.

The condolence meeting was held in the committee room of the Division of Surgery at about 11.00 A.M. It was well attended, besides officials and members of the Trust, by family members and many scientists and co-workers. The meeting was addressed by Dr. Yadav, Dr. Chattopadhyay, Dr. Mehrotra, myself, Dr. Parihar, Dr. Paliwal and Dr. Uppal. The people expressed their thoughts in context with the personality, working, contributions and personal interactive experiences they had with Dr. C.M. Singh. Then Dr. (Mrs.) Shyama Singh, Dr. K.K. Singh, Dr. Satyendra Singh and Mrs. Shashi Singh expressed themselves. At one time in view of the deteriorating health of Dr. C.M. Singh, the family members had, out of self-interest, tried to wean away Dr. C.M. Singh from the professional activities. Mrs. Shashi Singh revealed that this could not happen because the soul and body of Dr. C.M. Singh resided in the welfare of the profession and the veterinarians. This fact came to their notice when it had rather adverse impact on his health. They all felt guilty and came around. She expressed her feelings the best. Mrs. Singh also spoke a few words.

The Trust presented an album of photographs of Dr. C.M. Singh taken during his 10th January-2005 visit. Then Mrs. Singh was persuaded to be the Patron of the Trust, and Dr. (Mrs.) Shyama Singh, Dr. K.K. Singh, Dr. Satyendra Singh and Col. R.K. Singh to be the Endowment Trustees. Thereafter matters for organising future programmes in the memory of Dr. C.M. Singh were discussed.

In the evening at about 5 P.M. *bhajan* programme for peace and tranquility to the soul of Dr. C.M. Singh was organised at my residence at A-346, Rajendra

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Nagar, Bareilly outside the Institute Campus. Due to summer time, the programme could not be organised on the terrace and had to be held in the limited space available in the house. Hence only about 30 people could be invited. Mr. Ramesh Jalota was the singer. Unfortunately the generator could not be made available on rent at short notice to counter the irregular supply of electricity. By about 6 P.M. most of the people had arrived – some with families. Dr. Yadav, Dr. Chattpadhyay, Dr. Parihar, Dr. Nem Singh, Dr. Chauhan, Dr. Mishra, Dr. Paliwal, Dr. Mehrotra, Dr. Gupta, Dr. Kataria, Dr. Ranbir Singh, Dr. (Mrs.) Bharti Singh, Dr. Bhashkar, Mr. Surendra Srivastava and many others presented themselves. The entire family of Dr. C.M. Singh had joined the programme. My wife Manju, son Vishu, Mr. Rashid and others had jointly managed the show. Mr. Jalota rendered many soulful songs supported by fine harmonium, *tabla* etc. having sobering and tranquilising effect. People felt more at peace and happier.

After the programme there were arrangements for tea when there were also varied discussions. Dr. Singh's family had the programme to visit Mukteswar the next day, which was the *Janmashatmi* day and Dr. Yadav kindly asked me to accompany them. Thereafter we finalised all the travel arrangements.

Janmashatmi at Mukteswar :

We had to start for Mukteswar in the morning after the break fast. But since Dr. K.K. Singh was feeling little unwell there was little delay. Dr. Yadav had come to see the party off. Hence during the interregnum we had some discussion on the future programmes pertaining to creating a website of the Trust and having a book in English on Dr. C.M. Singh. By 10 o'clock we could start for Mukteswar. The discussion continued during the journey with Dr. Satyendra Singh. He was of the opinion that there should be a series of seminars on advances in different fields of sciences. I informed him that on National Science Day we had the proposal to conduct a workshop on "Fundamental and applied research in veterinary sciences", and would have such programmes later also. CSTT, Ministry of Human Resource Development, Govt. of India was sponsoring the proposed workshop. There was also an idea that the Trust activities should expand to all parts of the country. In this direction already efforts had been initiated Dr. C.M. Singh Jayanthi celebrations and Prof. V. Ramakumar was already exploring the possibilities of holding a conference of veterinarians and medicos in Nov.-Dec. 2006 on a common topic and that he would try that the same would be addressed by some great personalities

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like Dr. M.S. Swminathan and others. It was also suggested to induce more persons as Trustees to consolidate the Trust both financially and in substance. In this connection the efforts were on and the positive responses from Dr. B.U. Rao, Dr. (Mrs.) Usha Mandokhot, Col G.S.C. Ranga Rao were noted with satisfaction.

At VOB Mukteswar, after sunset the family got prepared to celebrate the *Janmashtmi*, the day of appearance of Lord *Krishna* on this planet earth. Mrs. Singh had observed fast for the day. A photograph of Lord *Krishna* was decorated on the table with fruits and other requisite materials for *puja*. A photograph of Dr. C.M. Singh was also kept nearby. The family members throughout their sojourn in the country had carried this photograph. Mrs. Singh sang very sweetly and with devotion in the praise of Lord *Krishna* for more than half an hour and later became very sentimental. She prayed the Almighty to have her in His abode. She felt that her life without her husband was of no consequence. Observing such state of mind of his mother, Dr. Satyendra Singh was very much touched and started crying. He had to be comforted by his sisters. After the *puja*, people had their dinner. But Mrs. Singh, though she had observed fast for the whole day, did not partake anything - even fruits. The observance of *Janmashtmi* festival had always been an important event every year for the family, which had been celebrating the same always together and Dr. C.M. Singh used to be blissfully there with all reverence and devotion to the Almighty. This was the family's first *Janmashtmi* without him; so everyone was feeling for him.



ANNEXURE

Important dates

- 1922 - Born in Belaon village, Muftiganj township, district Jaunpur, Uttar Pradesh on 30th November 1922.
- 1941 - Passed High School examination from Inter College, Janupur.
- 1943 - Passed Intermediate Science examination with Biology from Udai Pratap College, Benaras, U.P.
- 1947 - Obtained G.B.V.C. degree from Bihar Veterinary College and won Gold Medal.
- 1947 - 1949 Veterinary Assistant Surgeon, I/C Civil Veterinary Hospital, Allahabad, U.P.
- 1949 - 1950 - I/C Regional Laboratory, Deputy Directorate of Animal Husbandry, Allahabad, UP.
- 1950-1952 - Demonstrator at Veterinary College, Mathura and Research Assistant at Livestock Research Centre, Mathura.
- 1952- Eldest daughter, Shyama Singh, born on 1st April.
- 1953-1956 - Graduate Assistant in the Veterinary Pathology, Department of Michigan State University, USA.
- 1954- Obtained M.S. degree in Veterinary Pathology and Bacteriology from Michigan State University, USA.
- 1956- Obtained Ph.D. degree in Veterinary Pathology from Michigan State University, USA.
- 1956 - Post doctoral fellow in Virology at Cornell University, Ithaca, USA.
- 1957 - Joined as Professor and Head of Pathology & Bacteriology at Veterinary College, Mathura.
- 1958 - Eldest son, Krishna Kumar Singh, born on 19th May.
- 1959 - Daughter, Anuradha Singh, born on 5th May.
- 1960 - Daughter, Shashi Singh, born on 4th June.

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- 1961 - Youngest son, Satyendra Singh born on 4th September.
- 1964 - Joined as Dean, Veterinary College, Hissar under Punjab Agricultural University, Hissar, Punjab.
- 1966 - Joined as Director, Indian Veterinary Research Institute, Izatnagar on 16th July.
- 1982 - Superannuated from post of Director, IVRI, Izatnagar.
- 1982 - Chandra Sekhar Azad University of Agriculture and Technology awarded him the honorary degree of D.Sc.
- 1990 - Deemed University, Indian Veterinary Research Institute honoured him with the honorary degree of D.Sc.
- 1997 - Govind Ballabh Pant University of Agriculture and Technology honoured him with the honorary degree of D.Sc.
- 1998 - Dr. Singh was felicitated by the Society of Indian Veterinary Biochemists and Veterinary Biotechnologists on the Platinum Jubilee of his birth anniversary and Silver Jubilee celebrations of establishment of Division of Biochemistry at IVRI, Izatnagar, U.P.
- 1998 - The Society for Immunology and Immunopathology honoured him with Lifetime Achievement award at AIIMS, New Delhi.
- 1999 - The West Bengal University of Veterinary and Fishery Sciences awarded him the honorary Degree of D.Sc. on 25th February at its first Convocation.
- 2000 - Dr. Singh was elected as the President of Veterinary Council of India.
- 2005 - On 10th January last visit to IVRI and addressed to Scientists of IVRI and CARI and talked about "Philosophy of life" in accordance to the Holy *Gita*. Release of a documentary film "*Preranashrot*" on him.
- 2005 - Dr. Singh breathed his last on 27th July at Sussex, UK.



Section - II

DR. CHINTA MANI SINGH :
MEMOIRS

In The Dearest Memory of
Dr. Chintamani Singh

30th November 1922 -

27th July 2005



कर्मणि कर्मणि कर्मणि वा कर्मणि कर्मणि ॥ १० ॥
वा कर्मणि कर्मणि वा कर्मणि कर्मणि ॥ १० ॥

*"To action alone you have a right, and
never at all to its fruits; let not the fruits
of action be your motive; neither let their be
in you, any attachment to inaction."*

Bhagavad-Gita



Floral tributes by IVRI



Homage by Dr. M.P. Yadav, Director, IVRI



Homage by Dr. O.N. Kunzru, Former Joint Director, Ext. Education, IVRI

Tributes to Late Dr. C.M. Singh



.... Trustee's attending
condolence meeting at IVRI

.... Mrs. Singh & family members
in condolence meeting



.... a group photo after
condolence meeting

.... Mrs. Singh & others are
present in *Bhajan Sandhya*
organised in memory of
Late Dr. C.M. Singh
at Rejendra Nagar, Bareilly



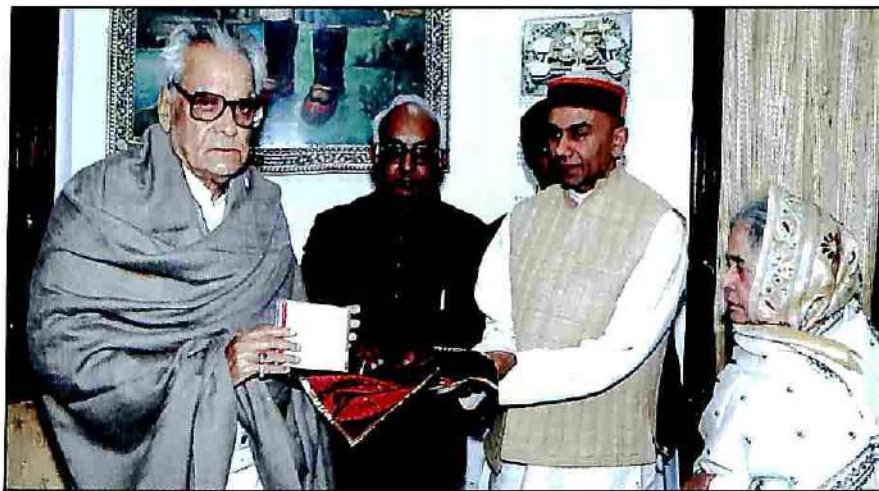
Dr. C.M. Singh Endowment Trust, Bareilly : Condolence meeting & prayer (2005)



Friends and family of Late Dr. C.M. Singh meets Vice President of India Mr. Bhairu Singh Shekhawat



Dr. M.P. Yadav and Satyendra Singh presenting publications of Trust to Vice President, Mr. Shekhawat



Vice President, Mr. Shekhawat releasing a film *Preranashrot* on Late Dr. C.M. Singh. On this occasion Mr. B. Rehi (Producer), Satyendra Singh & Mrs. C.M. Singh are also present

DR. C.M. SINGH : A SHINING EXAMPLE OF HONESTY AND INTEGRITY

S.C. Adlakhia

Once Dr. C.M. Singh traveled by his staff car to Delhi for official work, Mrs. Singh also came at the same time. But Dr. Singh had not brought her in the staff car because the car was only for his official use as Director. Mrs. Singh traveled by bus and because of bad road and bad bus she had sustained fracture in her spinal cord. I visited her in Lady Hardinge Hospital, Delhi and told her that she had paid the price for her husband's honesty and integrity.

During his long tenure as Director, IVRI, even his adversaries (to my knowledge he had no adversaries) never doubted his integrity. He is a shining example of honesty and integrity, The "Y" shaped (Modular laboratory) building was his dream come true. Young veterinarians should try to follow his example.

DR. C.M. SINGH :
A MAN OF VERY HIGH CHARACTER

M.P. Bansal

I was associated with respected late Dr. C.M. Singh for the period August 1963-July 1964 as MVSc Student, January 1970-November 1972 as a Doctorate student (under guidance of Dr. S. Kumar) under directorship of Dr. C.M. Singh, a post-doctoral fellow, November 1972-January 1975, as Virologist in the Bovine Lymphosarcoma Project, June 1975-November, 1982 and as Professor of Immunology in November 1982, the year he suannuated from services of Council.

I could contribute significantly to profession under the able guidance of Dr. C.M. Singh. To list a few are:

1. Culture of cattle and buffalo lymphocytes. During that period this work was not being done in any laboratory in India.
2. First report of presence of Bovine leukemia virus (BLV) in India at several organized cattle farms.
3. First report of transmission of Bovien leukemia virus to laboratory animal (Rabbits).
4. Non-transmission of BLV to buffalo calves. Even sero conversions was not seen.
5. Standardization and adaptation of modern diagnositic tests like- ELISA, RIA for demonstration of BLV antibodies.
6. Transmission of buffalo lymphosarcoma to buffalo calves by cell free lymphocyte culture, fluid filtered through 450 m μ pads.
7. Demonstration of electron microscopic presence of virus particles in lymphocytes of buffalo lymphosarcoma culture.
8. Demonstration of reverse transcription activity in buffalo lymphocytes of affected animals.
9. Establishment of cell line from cases of buffalo lymphosarcoma cell culture.

10. Standardized laboratory of Division of Parasitology for lymphocyte culture work of *Theileria* infected cattle.
11. Standardized laboratory of Division of Physiology for embryo-culture (Dr. N.K. Bhattacharya, Head, Division of Physiology and Climatology issued a appreciation certificate) and for culture of *Theileria* infected lymphocytes (Ph. D. Student of Dr. L.P. Sharma of UP Agriculture University, Pantnagar) and several other techniques.

I can say that Dr. C.M. Singh was neither a *thakur*, *Brahmin*, *vaish* or belonged to any other caste. He was human being of Indian soil. Indian soil must be proud of him. He was neight belonged to UP, MP or any other state. *He was Indian of a very high character.*

He believed his subordinates but at time he will sit with the concerned scientist (report at serial No. 2,3,4,8 and 9) and will discuss, consult literature and then allow publication of research work.

I visited USA and for this fellowship was granted by International Union Against Cancer, Geneva. Its papers were not processed with the consent of Dr. C.M. Singh, but when he was informed, he got it regularized. I visited Frnace, Belgium, Netherlands etc. on the floowhip granted by International Union Against Cancer with the knowledge of Dr. C.M. Singh, but when he sent these cases to ICAR it was later rejected. I did the project work and he was happy with research achievements.

I got Fellow status from International Union Against Cancer, Geneva and was invited to read a paper at International Cancer Conference to be held in September 1982. Dr. C.M. Singh was to retire in November 1982 hence he told me that his terms with Dr. O.P. Gautam, DG are not very cordial hence visit to Seattle, Washington, USA has to be cancelled. In conclusion, I can say that besides a visionary, he was a man of very high character.

AS I KNEW PROFESSIONAL LORD - DR. C.M. SINGH

B.B. Bhatia

I found a very simple, honest, truthful, foresighted, God-fearing and dedicated personality in Dr. C.M. Singh. I first saw him in the corridor of the temporary building of Veterinary College, Mathura in a very simple dress in July, 1952 when I had started attending beginning classes of B.V.Sc. & A.H. Soon after, I came to know that Dr. C.M. Singh had left for the United States for higher studies. I also heard that he took this bold and courageous step despite his very limited financial resources.

After a span of time (probably above 5 years), I saw Dr. C.M. Singh in Veterinary College on his return from United State of America. I found him in a totally changed personality with overflowing confidence. My personal contact started when I was a student of M.V.Sc. (Previous) in 1958-59 and Dr. Singh was our teacher as Professor and Head, Department of Pathology and Bacteriology in the College. His method of teaching was totally different from other Professors in the College. He enriched our knowledge of Pathology with latest techniques based on his practical experiences gained abroad. We the students at that time felt proud to be students of a foreign-return Professor with full of new and innovative approaches in teaching.

He was a man full of new ideas for future development of not only his discipline of Pathology and Bacteriology but also of whole of the veterinary profession. Dr. Singh took bold steps of bifurcation of the existing department into two independent Departments of Pathology and Bacteriology. Despite various hurdles, he was successful in this great effort visualizing the future advancements of the two professional subjects. He continued to exert in such efforts towards overall improvement of the Veterinary Faculty in the College. However, he could not compromise with his development plans with the attitude of the administration of the College. At last, Dr. Singh resigned and joined Haryana Agricultural University, Hissar where he quite successfully managed the position of the Dean of Veterinary College.

Again after a lapse of time, I came in contact with Dr. Singh after he took over as Director, IVRI, Izatnagar. He used to visit Mathura quite frequently. At most of the occasions, I met him at the residence of Dr. Ramesh Chand Pathak (now retired Professor and Head, Department of Microbiology, Veterinary College, Mathura), 20 Jagannathpuri, Mathura with whom Dr. Singh had close family relations. He often used to visit Vrindaban to pay obeisance in some *ashram*. Dr. Singh was particular and cautious about his personal visits in Mathura and Vrindaban in his own way and never used official car even for a few meters. Once he was to go to Vrindaban and had limited time, he readily agreed to go with me on my scooter. By and by, my family and I also came closer to Dr. Singh and his family. Once I requested him to take lunch at my residence after return from Vrindaban. He agreed in no time and told me that he would be back by 12.30 pm. I waited till 1.30 pm I then went to Dr. Pathak's place to enquire about the return of Dr. Singh. By the same time I saw him virtually rushing towards my house. He was sorry for being late. I was amazed at his extreme gentlemanliness.

At one point of time, Dr. Singh conveyed his desire through Dr. R.C. Pathak to purchase a plot of my elder brother in the colony. Since my brother was intending to sell it off, the plot was sold to him. Dr. Singh was keen to get one-room set constructed soon for his personal use. He entrusted the work of construction to me. For this, he handed over the requisite cash to me. When the required construction was completed, I handed over to him a complete expenditure account. After some time when Dr. Singh came to Mathura, he asked me whether I have also done some course in accountancy. I said - "No". He then told that he got the account checked by his accountant in IVRI and it was found perfectly correct. Later, he performed '*graha pravesh*' ceremony with his wife and children in the traditional way.

Later in 1984-85, when I was Professor in GBPUA&T, Pantnagar, I was entrusted to organize VI National Congress of Parasitology of Indian Society for Parasitology. Dr. I.P. Singh, the then Dean of College of Veterinary Sciences, suggested me to go personally to invite Dr. C.M. Singh to be the Chief Guest at the inaugural function. I went to his residence in New Delhi for the purpose. I found him too busy with foreign assignments. He, however, accepted our invitation and told me he was always keen to visit Pantnagar. He came and graced the occasion,

which was praised by the then Vice-Chancellor Mr. Kripa Narain, IAS.

There were many small instances subsequently at Pantnagar where I found him always supporting and, at all times, he agreed to come to my residence whenever requested. Since Dr. C.M. Singh was actively engaged during late 1980s and early 1990s in the formation of Veterinary Council of India, there were many professional interactions. It was a golden day for Veterinary Profession when Dr. Singh was successful in getting through the VCI Act passed by the Parliament and its subsequent gazette notification. Further actions proved that how fast and in true spirit Dr. Singh got the VCI Act implemented throughout the country. He was first President of VCI and showed his command on the adoption of the Act. He continued on this position till his health permitted. Despite his serious illness, he used to monitor all the activities of the VCI. It was his firm determination, acute dedication to the profession and hard work, which gave us Veterinary Council of India. If God would have given him a few more years of life, there could also have been Indian Council of Veterinary Research (ICVR).

Dr. C.M. Singh was really a doyen of the Veterinary Profession of the last half-century who led it to sky-high. Country's Veterinary Profession will always remain indebted to him.



DR.C.M. SINGH – A RARE PHENOMENA IN VETERINARY PROFESSION

N.K. Bhattacharyya

Out of many, a few intellectuals are born who are remembered for their 'karmayog' in different ages. I am lucky to have a rare opportunity to know a few of these legendary personalities during my time. Dr.C.M. Singh was one such intellectual whom I had known for many years when he was at his height at the U.P. College of Veterinary Science & Animal Husbandry, Mathura ; the Punjab Agricultural University , Hissar ; the Indian Veterinary Research Institute , Izatnagar, and thereafter as Founder President , Veterinary Council of India, New Delhi.

When I first met him as Professor of Pathology at the Veterinary College, Mathura, he was a blooming and energetic personality, rigidly attached to his research work and teaching with **ardent sincerity** only comparable to Late Dr. A.Roy, Professor and Head, Department of Veterinary Physiology, Dr. B.P. Pandey, Professor and Head, Department of Parasitology and Dr S.K.Talapatra, Professor and Head, Department of Animal Nutrition. One afternoon at a courtesy call, when I introduced me to Dr. Singh as a doctoral student of Physiology with Dr. D.N. Mallick at IVRI, Izatnagar, he wondered why I missed the opportunity to work with Dr. A.Roy at Mathura. I informed him that I.V.R.I. is my alma mater since graduation but I receive the guidance from Dr. Roy whenever needed. This small conversation left an impression to me that Dr. Singh held a profound pride of his Institution and **possessed a great respect for his senior colleagues.**

Thereafter, I briefly met him at the Punjab Agricultural University at Hissar a few years later. I redeemed the same enthusiasm in him though with a different dimension. I recollect, and he asked me if I chose to serve at the G.B.Pant University of Agriculture and Technology, Pantnagar over the Punjab Agricultural University, Hissar. I craftily conveyed him that the G.B.Pant University of Agriculture and Technology is after all the first among subsequent multi-faculty Agricultural Universities in India which strictly follows the teaching curriculum of the Land Grant Universities of U.S.A. It is indeed not difficult, however, to assess that Dr. Singh was **inherently searching in his mind for superiority and excellence.**

Then comes an elaborate opportunity for me to know him from the very close quarters. The first day of my joining at IVRI as Founder Head, Division of Physiology and Pharmacology on April 2, 1970 was very eventful. I took the oath of allegiance to duty for the post, read out by him. He suddenly reminded me with a rather unquiet piece of caution that I am the youngest Head of the Division at this premiere Institute. When I was expecting a few words of welcome, a few moments of unison, why did he place my age as the first criteria for further dialogue? It touched my tender sentiment at the age of 35 years, just repatriated to India from a long stay at the Oxford University, England. I could not help stating him that Dr. P. Bhattacharya, my Professor took over the post of Head, Division of Animal Genetics and Breeding, IVRI at the age of 29 years during the Imperial era and incidentally, the present Director of the Indian Veterinary Research Institute is the youngest but worthy Director of IVRI . Perhaps it was unexpected from a newly recruited Head of the Division to take such a stand. He wanted to say some thing but the Assistant Registrar then popped in with a few files on which Dr. Singh instantly started working.

I was not sure either this is the practice at this office or a silent signal for me to move out at the middle of initial formality of joining at a senior position at IVRI After a while, I made a helpless request if the Director would like to introduce me to my colleagues in the Division or I should help myself and search out my office. These words worked well and perhaps, it occurred to him that there is yet no office or attached staff decided for the new Head of the Division . He left the chair and started moving towards the door but returned in a haste to pick up a bunch of IVRI publications from the rack. He handed over the publications to me. The bulk was rather too heavy for me to carry besides my own heavy brief case and to follow him to my place of work at some other building. I urged him if my peon should carry the materials later in the day. To my utter surprise, he led me to an empty room in the first floor of erstwhile PG College building with a few chemical bottles on the floor and came downstairs to advise Dr. K.P. Singh , then a Research Officer, to part away a table and three chairs from his laboratory. While leaving me, he simply wished and murmured, which I still hear, this is your *karmachetra*. Now you help create your Division. I stood spell bound for a while in Dr. K.P Singh's laboratory and suddenly realized that the Director is a **Believer**.

A few days later when I had a room, a place to sit and an office with a clerk, I observed that a few of my Sectional in-charges preferred a thorough fare to the Director on administrative matters as it was in vogue prior to the joining of the

Head of Division. I took an appointment with the Director one evening and explained the problem. He listened to me only for a while and abruptly concluded that my problem was the young age. I was visibly unhappy on his rather insolent conclusion and left the room assuring not to disturb him in future. To my utter surprise I found that all my problems were solved from the next day and all the Section Officers started reporting to me since the Director, IVRI refused to meet them on Divisional administrative matters. Look, here is a man who might be unable to conceal his instant irritability due to any reason but he understands the finer threads of administration from its root. Actually Dr. C.M. Singh was an **upright administrator** in the hours of exigency. Let me narrate another instance. There was a case of theft of a programmable first generation calculator (first of its kind then at IVRI) from the HDPP's laboratory. I could sense that my peon was apparently involved as he only had access to all my keys in the drawer. As per requirement FIR was lodged to the local Police Station. The suspect was chased and caught by the civil administration. In the process, the police also got hold of a Post-Graduate student for certain quarries. Advent of police without the permission of the Director at the hostel was the juicy issue before some of my colleagues who advised the students to take a stand. Dr. Singh was out of station during the incidence of theft and recovery. I realized that before my meeting with Director, the distorted information will percolate to him. In the evening of his return to the head quarter, Dr. Singh was to address a student gathering. I met him in the nick of time and told him that the instrument has been recovered. During the process of active investigation by the Police, it would be undesirable for the Director to make any remark in the gathering of students. Dr. Singh took no time to judge the administrative component of the entire episode and he really expressed in the meeting his happiness that this is the first case of recovery of stolen inventory from the Institute. **People around me believed that I had an invisible bond with him.**

Dr. Singh had been often considered selectively social and lived a near isolated life. But I perceived his agony in every case of disaster at the Institute. Dr. U.B. Singh, a colleague and friend of mine, had a massive heart attack on broad day light before the administrative building of IVRI and fell on the street. Dr. M. Sabir of my Division while accidentally passing through the road, resuscitated him by mouth to mouth breathing and informed me about the incidence. I rushed him in my car to the Institute Human Hospital and requested the attending doctor to provide the available life saving support till the specialist from the nearby Railway Hospital, Izatnagar

could attend him. Dr. C.M.Singh was out of station and the Institute hospital was not suited for such emergency case. Dr. Johari indicated to me that he would not advise to move the patient for next 15 days and Dr. U.B. Singh will have better opportunity to survive if nursed at the Institute hospital under his medical care. It was a testing time for me to convince the Doctor in the Institute hospital to agree to the advice of the specialist. As expected anything now happens to Dr. U.B. Singh was my responsibility and my critics lost no time to inform Dr. C.M. Singh on his return from the tour that I had no such authority to play with the life of a Scientist. In the evening I met Dr. Singh at his residence (which was rather unusual for me) and explained him the circumstances on which I had opted the course without any valid authority. He patiently listened to me and had no hesitation to support my stand. After 15 days of intense treatment at the Institute hospital and care from the family of Dr. U.B.Singh, he was transferred to the Mission Hospital at Civil Lines, Bareilly in an ambulance. Dr. U.B. Singh recovered in three months time. The entire medical file was transferred to me for noting and payment of medical dues. Dr. Singh ratified the ex-facto decision recorded in the file by me at different stages. This shows the **sincere sympathy of a man for his colleagues.**

Time passes faster than faith. The opportunity for '*karma*' are too few in any one life and slips away with time. IVRI expands from six to sixteen Divisions; so do the buildings and laboratories. Equipments added phenomenally in three consecutive Five Year Plans; the quality and quantity of research output were increased many folds.

I can't forget that Dr. Singh disagreed to accept his farewell without my presence in the meeting when I was down with fever. It was indeed a great pleasure for me to speak about him and his contribution in the farewell meeting and I experienced a deep pain at my heart for a '*karmayogi*', seldom born in our profession **who could only give every thing but receive none.** A decade later to his superannuation, **I perceived his happiness when he was awarded the Honorary Degree of D.Sc. (h.c.)** from the West Bengal University of Fishery and Animal Sciences, Calcutta. Last I met him at IVRI, in 2002 when he addressed the Fellows of the National Academy of Veterinary Sciences, New Delhi, as the Founder President of the Academy at the NLVS auditorium. Dr. C.M. Singh was as buoyant as in the past and he did not allow the age and health to tell upon him. **So was the intellectual in him who really understood the *karma, akarma and bikarma.***



DR. CHINTA MANI SINGH : A KIND HEARTED PERSON WITH GREAT HUMAN QUALITIES

S.K. Chattopadhyay

“Remembrance is a flower washed by the tears of love and respect”.

July is the month of peak monsoon, when amidst the wet environment mournful memories keep coming through the windows of days of yore. On this month of July, I lost both my beloved parent (20th July, 1966 and 31st July, 2001). On 27th July, 2005, Dr. C.M. Singh, doyen of our profession and architect of modern and premier Institute of Veterinary Science, passed away. I pay my respectful tribute on the occasion of sad demise of Dr. C.M. Singh.

During the hot summer days of 1966, I first met Dr. Singh when he came as external examiner for M.V.Sc. course. While conducting viva and practical examination, he looked straight into my eyes, as if he was able to read my face and mind. This characteristic nature of Dr. Singh, later I observed on all subsequent occasions, denoting his straightforward, bold and dominating personality with strong will power. This rare quality I have seen in another two outstanding scientists of our time: one late Dr. Arubinda Roy, Ex-Director, CSWRI, Avikanagar, Malpura and other Prof. P.K. Ramachendran Iyer, Former Head, Division of Pathology, IVRI, Izatnagar.

I was never very close to Dr. Singh and had seldom met him for personal problems, but I could feel his kind administrative and personal touch whenever I met him. During Dr. Singh's tenure as Director, meeting the Director for a subordinate research staff or student was not at all difficult. Due to sad demise of my father during my M.V.Sc. study, I faced financial problem. I was recipient of ICAR Junior Fellowship and pursuing my study as a departmental staff being on leave for study without salary. I used to get a meagre amount of Rs. 200/- per month only, from which I had to send Rs. 100/- to support my family. Once payment of fellowship was delayed leading to financial crisis so, I decided to meet the Director. One afternoon, I went to Director's chamber. As customary, I handed over the slip writing my name and status (Final year M.V.Sc. student). Within minutes I was called inside the chamber where Dr. Singh was absorbed in files. My head was

shaven, as I had performed the funeral and last religious rites of my father. I stood in front of him. He looked straight in my face and enquired about the reason of my visit. I told him that due to delay in payment of fellowship, I faced financial problem. Immediately Dr. Singh asked his attendant Mr. Jodh Singh to call the head clerk of the College office. Head clerk was a short stratured Muslim fellow. On his arrival, Dr. Singh instructed him to make immediate arrangements for early payment of Fellowship. So my problem was solved in no time through the kind intervention of Dr. Singh. This episode I have cherished in my memory till date.

Dr. Singh was very fond of cultural programmes organized by the Institute's staff and students. At the time of the first visit of Director General, ICAR , Dr. C.M. Singh instructed late Dr. K.P. Singh to organize a decent and compact cultural programme by the staff and students of the Institute. Earlier, on the occasion of festival of colours *Holi*, staff and students had gathered in the Institute central ground of that time surrounded by Divisions of Animal Nutrition, Animal Genetics, Parasitology and Poultry Science. Director, Dr. Singh was also there. At that time the students performed spontaneously. Dr. Singh was in hilarious mood and enjoyed the performances and had also liked my performance. Dr. K.P. Singh came to me and told that Director had desired that I should also present my programme in the cultural evening on the occasion of Director General's visit . Accordingly, I performed my caricature monoacting skit. It was immensely liked by all including Dr. Singh and his family members. Dr. Singh appreciated and enjoyed my performances at IVRI and other Institutes with childlike simplicity and I received prizes from his hand several times. At the time of interview for the post of Jr. Pathologist (Farm Animals) in 1972, Dr. Singh told me that 'you people had left this Institute with impression that Director was not thinking for you all, but I have planned to offer proper posts to all of you'. I was selected and again joined my parent Institute. Here, I worked as Jr. Pathologist and later as Scientist in Sheep Project and Dairy Project under leadership Dr. P.N. Bhat and Dr. B.B. Katpatal.

One of our scientific staff of Division of Veterinary Public Health, Dr. D.K. Ray was suffering from melancholy. A group of senior staff of his Division prepared a voluminous file for his suspension for erratic behaviour and put up the case through Joint Director for approval to the Director. Dr. Singh returned the file and opined that the victim was a professional colleague and suffering from psychological problem leading to erratic behaviour and as such he required sympathetic con-

❖ Dr. C.M. Singh : Memoirs ❖

sideration from his colleagues. Then Dr. Singh advised Dr. B.S. Rajya, Joint Director to instruct Dr. Ray's colleagues and friends to extend sympathetic behaviour and make arrangements for his proper treatment. Thus due to sympathetic attitude and kindness of Dr. C.M. Singh, the life of Dr. D.K. Ray was saved and settled.

Our beloved departmental colleague Dr. S.C. Gupta, was also suffering from melanchol and depression. Dr. Gupta and family members were totally upset. At the time of Dr. C.M. Singh's visit to this Institute for his felicitation by IAVP, the matter of Dr. Gupta's ailment was brought to his notice. Dr. Singh desired to meet Dr. Gupta, who was brought by Dr. A.C. Goel and with the kind courtsey of Dr. O.N. Kunjru a meeting was arranged in the Central Library. Dr. Singh talked to Dr. Gupta with deep affection and sympathy and consoled that Dr. Gupta need not be afraid, nobody can harm him and assured him of all possible help from the Institute. Dr. Singh then asked Dr. Kunzru for extending proper help and cooperation from the Institute. This was the greatness of Dr. C.M. Singh.

After retirement, Dr. Singh lead a simple life of an Indian intellectual. His *dhoti* and *kurta* clad feature was indicative of plain living and high thinking. At various conferences, after the official function, I had the opportunity to see him in typical and simple Indian dress. He was strict and difficult to approach outwardly but inside he was soft and sentimental. As narrated by Dr. Somvanshi in his book on life of Dr. C.M. Singh, Dr. Singh was very pious and patriotic and an ardent follower of Netaji Subhas Chandra Bose. He was an honest and religious man with highest regards for Respected *Shri Shri Mukteswar Maharaj ji*. We the members of Dr. C.M. Singh Endowment Trust were all moved to hear from Dr. M.P. Yadav, Director, IVRI at the condolence meeting organized by the Trust in August, 2005 at the time of departure from Mukteswar-Kumaon on the eve of his last visit. Dr. Singh was very sentimental while meeting *Shri Shri Mukteswar Maharaj ji*, who told Dr. Singh "Next time we will meet in heaven". We do believe the words of Respected *Shri Shri Muktesar Maharaj ji*. We pray the Almighty to let the noble soul of Dr. C.M. Singh rest in peace in Heaven.



DR. C.M. SINGH : STRONGEST AND MOST HUMBLE PILLAR OF INDIAN VETERINARY PROFESSION

H.V.S. Chauhan

I must write at the very onset that I have not seen a man of his kind in my life. A true '*karmyogi*' having hardly any concerns for his personal comforts, food, dress etc. He was honest to every cell as a scientist and administrator. He never reacted or even uttered contradictory statements against his critics even after bitter and untrue criticisms written as letters to editors of newspapers or published through "friendly press reporters" by his opponents. We as his Ph.D. students used to ask for his permission to contradict the completely false campaign against him through newspapers but he always discouraged it. He said that scientific differences should be discussed in scientific forums, seminars, symposium and published in scientific journals because common news paper readers can not evaluate scientific conflicts published in news papers.

Dr. C.M. Singh never confined himself to 'working hours'. He always worked overtimes without any financial or other gratifications. He was a great institutions builder. It will not be an exaggeration to say that more than half of Indian Veterinary Research Institute, laboratories, divisions etc. were built during his tenure as Director of this Institute. He continued to work even during fevers or ill health. I doubt if he ever took earned or casual leave. He did not have any thought of 'holidaying' or going on pleasure trips with his family. He was the pioneer in establishment of Veterinary Council of India of which he was the founder president.

I wished he must have got "*Padamvibhusan*" or at least "*Padamshree*" award for his rare achievements in discipline of veterinary science and animal husbandry. He was very kind too. Once I told him as a student (of Ph.D.), that somebody has stolen my bicycle, a priced possession at that time. He was Dean of Veterinary College at that time at Hissar, to my surprise he started looking and searching for my bicycle himself since the college was closed. He did not have any servant or peon at his residence not even a private maid servant since Mrs. Singh did, washing, cooking, cleaning etc. all by herself. A watchman was kept his

residence at night who worked, purely as a watchman.

Dr. Singh spared a big hall and three rooms of Director's bungalow for setting up laboratory for three of his Ph.D. scholars including me. As students he did not show any favours for facilities or financial aid beyond rules. He did not allow the use of horse driven *tonga* for my research to go to military slaughter house where slaughter of goats for meat was carried out between 3 to 6 a.m. I used to go to slaughterhouse situated of a distance of about 8 to 10 kms away. My main problem was not cycling but a cluster of stray dogs, who chased me in darkness and at the risk of being bitten.

I will always remember Dr. C.M. Singh as the strongest and most humble pillar of the Veterinary Science profession. He was an unsung hero who, I believe, must have been honoured by God after the end of his struggling life.



DR. C.M. SINGH : FATHER OF MODERN VETERINARY SCIENCE IN INDIA

R.S. Chauhan

Dr. CM Singh former and Founder President of Veterinary Council of India and Director of Indian Veterinary Research Institute, was an academician, administrator and a recognized scientist in the field of veterinary science. He contributed a lot to the veterinary science profession during his service career and even after his superannuation. He founded Veterinary Council of India and National Academy of Veterinary Sciences and was pioneer in initiating the uniform syllabus of B.V.Sc. & A.H. programme throughout the country.

Though I heard him several times in conferences, symposia, seminars, I came in personal contact with Dr. C.M. Singh during my Ph.D. viva-voce in 1990. When I was told by my supervisor that Dr. C.M. Singh is coming to evaluate you on your PhD viva voce examination, I became so much excited that the country's top most Veterinarian is coming for my examination. It was a rainy cold day of 25th December 1990 when he came to Pantnagar at about 10:00 AM and started oral examination. Earlier, I was quite worried but soon after the start of viva, I became normal and first I presented my findings and then question-answer session started. He was in hurry to go to back to Delhi but even then took oral examination for about 8 hours. During this examination, he was having depth knowledge of rotavirus infection in animals. He, while appreciating the quality of research work, also encouraged me to have taken help from other institutes- like Central Drug Research Institute, Indian Toxicology Research Centre and All India Institute of Medical Sciences. He was of the opinion that the scientists should not stop/divert their research because of non availability of equipments/ facilities in their lab/ institute rather they should come forward to utilize the facilities available in other labs or institutes, as I did in my Ph.D. programme. Also his views were for the combined efforts of medicos, veterinarians and biology scientists to work together. It was his idea which gave us strength in establishing Society for Immunology and Immunopathology in 1998 under his and Dr. Ganguly's patronage. I became first Secretary General of the Society. The seed grown in 1998 became a good institute in itself after 8 years, having moreover 300 life members from medical, veterinary

❖ Dr. C.M. Singh : Memoirs ❖

and life science. The Society also conformed "First Lifetime Achievement Award" on Dr. C.M. Singh during its first convention in AIIMS New Delhi on November 3, 1998. When he visited in January, 2005 at IVRI and came to know about achievements of the Society he was quite happy with the performance and advised me to continue my efforts for this joint venture of medicos, veterinarians and life sciences.

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GREAT, DIVINE, STATELY SAGE : DOCTOR SAHEB (DR. C.M. SINGH)

J.N. Dwivedi

Dr. C.M. Singh adorned the chair of Professor of Pathology & Bacteriology at Veterinary College, Mathura during 1957-58 session. At that time I happened to be the student of III B.V.Sc. & A.H. and thus came in contact with him. Dr. B.S. Rajya and Dr. P.K. Ramachandran Iyer used to respectively take the theory classes in Pathology and Bacteriology. Dr. C.M. Singh took a few classes and had taught granulomatous inflammation. In the final examination Dr. M.R. Dhanda, renowned bacteriologist was the external examiner for both these subjects. He awarded 85% marks and distinction to my colleague, C.A. Ogunbude from Nigeria in the written examination. At that time the first division was awarded on scoring at least 60% marks, which only a rare few brilliant students could achieve. Dr. C.M. Singh showed his answer book to all the students and advised us to follow him. In this way I got the opportunity to be Dr. C.M. Singh's graduate student.

In those times, the College used to rather traditionally encourage bright students to undertake teaching jobs in the alma mater and later pursue higher studies in the subjects in which they had excelled. I happened to be reasonably good student and, therefore, Dr. A. Roy, Professor of Physiology called me at his residence to tender formal advice after finding out my inclination for the choice of subject for post-graduation. When I indicated my desire to undertake M.V.Sc. studies in Bacteriology or Pathology before taking up the job, he expressed his happiness. He used to address Dr. C.M. Singh by his first name: 'Chinta Mani'. He said that it would be nice. But if somehow, I could not be accommodated in those subjects, he would prefer to have me in Physiology. During those times Dr. A. Roy and Dr. P.G. Pande were greatly revered names in the veterinary education and research. Both of these greats were unique amalgam of sympathetic, selfless and helping attitudes.

During the session 1959-60, the conditionality of having professional experience was done away with; and hence even as a fresher without experience I was selected for post-graduation and was allotted Pathology subject, although I had stated my preference for Bacteriology. Dr. S.C. Adlakha was selected for Bacteri-

ology. Being dissatisfied with this allocation of subjects, I went to Dr. C.M. Singh's residence at Golf Line, Mathura Cantt. and narrated him my anguish. He (Dr. C.M. Singh was generally referred by his students as Doctor Saheb) gave me a thorough and patient hearing and then exhorted the equality of both the disciplines. Then he advised and encouraged me to pursue the same subject i.e. Pathology, which was allocated to me. It was general feeling in the Department at that time that Dr. C.M. Singh paid more attention to Bacteriology than Pathology, which was not true. Hence whenever such topic for discussion arose, I would oppose the same to the dislike and discomfort of many of my colleagues. My colleagues in the subject were Dr. G.P. Khare from Mathura and Dr. G.C. Mohanty from Patna Veterinary Colleges. In the hall under the College Library, four small tables used to be arranged together and with chairs all around, Dr. C.M. Singh used to take classes. His method of teaching, however, was not conventional lecturing. He would open the main topic, divulge its outlines, highlight the important points, and then would distribute facets of the main topic amongst three of us helping with important references. Each of us would prepare the assignment covering relevant aspects with references and present the same for collective discussion. This way of teaching and learning was little odd but its importance and value came out when we ourselves had to teach in the classes. Then we realised the enormity, wide ramifications and facets of the knowledge on any one topic. For conducting laboratory practicals and post mortem examinations on various animals and birds, we had to take instructions from Dr. B.S. Rajya and help and guidance from senior student colleagues: Dr. D.C. Kulshreshta, Dr. R.P. Awadhiya and Dr. V.C. Richharia. Soon after their admission, Dr. C.M. Singh used to consider his post-graduate students, equal to departmental staff members, treated them as such and bestowed them with responsibilities accordingly. He was of the opinion that this entrustment instilled a sense of responsibility for learning and research and enabled the students to learn the setting up and maintenance of laboratories, thus putting into shape the theoretical knowledge gained. In order to informally discuss and take stock of such working, all the staff members and students used to gather at tea in the evening at 4 o'clock for about 10 minutes.

For M.V.Sc. practical examinations, Dr. P.G. Pande, renowned pathologist and Director of the Indian Veterinary Research Institute, Izatnagar was the external examiner and had brought with him a box of slides. Dr.P.K.Ramachandran Iyer, who had by then moved from Mathura to IVRI, under the impression that the

College might not have good slides, had sent them. Each student was given three slides for interpretation. In the air-conditioned room adjacent to the examination hall, Dr. P.G. Pande examined the slides of the Ph.D. work of Dr. B.S. Rajya and also took his lunch. After a little rest after lunch, the students were called for examination with slides and answer books in which the interpretation was written by us - first Dr. G.C. Mohanty, then Dr. G.P. Khare and then myself. All three of us had interpreted and diagnosed the slides correctly. I was the last student for examination and was finished. Then I saw that Dr. Rajya collected all the slides, arranged them in the box and was handing over the same to Dr. Pande for him to carry the same back to Izatnagar. At that time, Dr. Pande affectionately and appreciatively placed his hands on the shoulders of Dr. C.M. Singh and Dr. B.S. Rajya telling them that they had worked assiduously and diligently with the students and the box of slides was meant for the College Department - sent by Dr. P.K. Ramachandran Iyer with the intention stated above. Such were the homely, blissful and tender feelings Dr. Pande harboured for Dr. C.M. Singh and Dr. B.S. Rajya and their students, who in turn bore great respect, trust and affection for them.

Having been found suitable for the post of Veterinary Assistant Surgeon in the Animal Husbandry Department and also for the post of Demonstrator at the U.P. Veterinary College, Mathura by the State Public Service Commission, I was asked to opt for one of them, when I was still M.V.Sc. student in the final year. I went to the residence of Dr. C.M. Singh in the Veterinary College campus to seek guidance. He listened to the whole situation and circumstances and also about my inclination and then advised me take the final decision on my own. When I conveyed him my decision to join the College, he became very happy. For my research work of M.V.Sc. final thesis, I was assigned to study the affections of buffalo lungs. Along with other affections, the pulmonary pleural surfaces revealed pearl-like swellings or thickenings of non-tuberculous nature in 9 cases. These lesions apparently looked-like lymphoid growths. These findings aroused Dr. C.M. Singh's interest and such lesions on pleural and other serous membranes became the topic of Ph.D. research of his student, Dr. R.M. Sharma, and also a subject of research project proposal under the P.L. 480 Scheme for funding.

With Dr.C.M. Singh, the students used to be at liberty to write their theses but he would not permit them to be too speculative and was very strict when any claims were being made about the findings which were new or being for the first

time reported in the country or the world. The introduction part of the thesis was generally finalised after the summary of the thesis was completed. At that time the students were generally able to assess the standard of their work as well as the likely publications that would emanate out of the thesis work. The students were free to get their papers published in the journals of their choice. The students were also advised to prepare the articles from the theses before the oral examination. But many a times the students would not heed to the advice. According to him publishing the findings was necessary for the benefit of other research workers, science and people. He also used to make clear to the students that the credit for the work would go to the workers i.e. the students themselves, i.e. the first authorship would be that of the student, and not of the guide, followed by of those who had contributed substantially. This practice was invariably followed.

During one of his inspection tours, the Animal Husbandry Commissioner, Uttar Pradesh, Dr. H.B. Shahi was taking a walk late in the evening in the campus along with Dr. C.V.G. Chaudhary, Principal of the College. At that time they noticed that the lights in the laboratories of Pathology & Bacteriology and other departments were on and the students and some staff members were busy with their research work. They then felt convinced about the necessity to enhance the laboratory facilities and space for the different departments. Under this proposal the Pathology & Bacteriology department was sanctioned a new building and posts of one lecturer each for clinical pathology and virology because of the efforts made by Dr. C.M. Singh. Dr. D.C. Kulshrestha was the first lecturer in clinical pathology appointed in January 1961. Later when he was promoted and posted at the Agricultural College, Kanpur, I got the opportunity to work on that post.

All of a sudden, once I suffered from vomiting and severe diarrhoea and since I was residing in the Mathura city away from the campus and in the absence of any means of commutation, I could neither take the 9-15 A.M. morning class nor could inform about the sickness. Hence the students had gathered on the road in front of the Anatomy block and were noticed by the Principal on way to his office. He confidentially asked Dr. C.M. Singh an explanation for this lapse. I had informed Dr. C.M. Singh about my sickness the next day. Dr. C.M. Singh did not let anyone know about the confidential note and took the blame upon himself stating that he was to take the class himself and regretted for the lapse, assuring at the same time that such thing would not happen again. This incident came to light much later. But this was how Dr. C.M. Singh would help and protect his associates.

During the construction of the Pathology & Bacteriology building, Dr. C.M. Singh remained involved at all stages of its coming up and completion. As soon as the Pathology part of the building was ready in the summer of 1962, the laboratories of the Pathology department were shifted. Dr. C.M. Singh also shifted to the new building and assigned the responsibility of taking care of dead and consumable stocks to me. The Bacteriology part of the building got completed 6 months later and then the Department of Bacteriology was shifted to the new building. By this time the gas plant and gas pipe line fittings were also complete. In the Department of Pathology I was there along with Dr. B.S. Rajya, but in the Bacteriology department many more staff members were there. The Pathology & Bacteriology building had 28 rooms, post mortem facility and experimental house. Naturally there were occasions when people would talk about sharing or transferring of responsibility of looking after the dead and consumable stocks with me or to some other staff member/s. Dr. C.M. Singh, however, would not talk on the matter. Once stung by the remarks/comments of my colleagues, I took all the registers and left them on Dr. C.M. Singh's table without saying him any thing. Dr. C.M. Singh did not react for a couple of days and then one day he came to me with the dead stock register and gave it to me telling that I would have to continue with the responsibility as long as he was there. He assigned the responsibility of maintaining the consumable (perishable) items to Dr. V.K. Sharma. Dr. C.M. Singh used to believe and keep faith in his staff and would get the best out of them. Two incidents come to my mind in this context.

Microscopes were being procured from a Delhi firm. They were approved to be purchased on the basis of proforma invoice submitted by the firm when the financial year was to end in the month of March. The representative of the firm had earlier brought the microscopes for demonstration and in anticipation of the deal had kept the microscopes along with some other articles in the boxes and handed over the keys to Dr. C.M. Singh, who had kept them in his own almirah. When the purchase order was placed, the representative of the firm came to finally hand over the items. At that it was discovered that the stand of one of the microscopes was not there. Everybody was astonished. Then Dr. C.M. Singh sent the representative to me to sort out the matter. Then I asked the representative to give me the identification number of the stand, which he said was not there. But he could not produce the same. He had not brought the same when he had brought the microscopes for demonstration but had failed to notice the same. We also tried to

contact their Delhi office but at that time communication was not easy. The firm's representative preferred to take the box as such, after receiving the payment for the supplied items.

The second incident related to explosion in the gas plant. When the gas plant exploded, Dr. C.M. Singh has already resigned, the *Dussehra* holidays were on and Dr. B.S. Rajya had proceeded for Sweden. I had been to the Pathology department in connection with my own Ph.D. research work and to attend to any post mortem examinations of birds and/or animals but had returned home in the Mathura city away from the College by noon. At home in the afternoon I received the news that there had been an explosion in the gas plant, which had been started by the students of the Bacteriology department. I was Incharge of the plant and had to explain the matter. Not only the gas plant but the ceiling and room above were also damaged. The gas plant was under the warranty period. It was found that the explosion had occurred in the absence of the safety valve. Upon investigation it was found that although the firm had issued the certificate to run the gas plant but they had not yet fixed the safety valve, though they had brought the same with them. The firm was apprised about the accident and the findings, which were confirmed by their representative. Then the firm refitted the gas plant in a new room behind the building.

Dr. C.M. Singh functioned also as Dean of the Veterinary Faculty of the Agra University from 1961 to 1963. During this tenure he successfully transformed the examination system and evaluation of the teaching faculty, which had far reaching implications and salutary effects on standard of education. There were 25% marks allotted for two internal examinations and 75% marks weightage was given for the theory and practical examinations conducted with the external experts. On the instructions of the Indian Council of Agricultural Research, there were numerous attempts made to modify this system. When the College was placed under the control of Chandra Shekhar Azad Agricultural University, the attempts were intensified and even threats to withdraw the grants were made. At that time I happened to be the Dean of the College. When I sought Dr. C.M. Singh's advice in the matter, he enquired the volume/amount of the grant. When I informed him that it was a meagre amount of about 2 to 3 lakhs per annum and that the Mathura graduates used to secure top positions in the ICAR Junior Fellowship examinations in different subjects, he unhesitatingly advised that the College should continue

with the system already in vogue and not alter the same to placate the ICAR. He had full faith in this system of examination and later the Veterinary Council of India also adopted the same at the Chennai conference with slight modification of 40% and 60% weightage respectively for the internal and external final examinations under the Semester system.

For the appointment and selection of teaching faculty members, there were proposals to adopt any one of the two criteria. The Principal of the College, Dr. C.V.G. Chaudhary wanted the basic minimum qualification of M.R.C.V.S. (Member of Royal College of Veterinary Surgeons) from United Kingdom or M.S. (Master of Science) from United States of America or M.V.Sc. for eligibility for the posts of teaching faculty. But Dr. C.M. Singh would not settle for candidates with less than Ph. D. degree qualification. The matter was decided by the Veterinary Science Faculty and the Academic Council of the Agra University in favour of Ph. D. degree being kept the minimum qualification for the Professors' posts. This decision had far reaching effect in shaping the veterinary education and research in the State and the country. This decision, however, was not to the liking of Principal Chaudhary and all the non-Ph. D. candidates and was also one of the reasons for Dr. C.M. Singh's departure from Mathura after resigning the post. Dr. C.M. Singh had to face the same problem at the Indian Veterinary Research Institute and overcame the same. This decision spurred the M.V.Sc. degree holders to earn Ph.D. degrees as soon as possible indirectly giving a filip to research activities. I was also worried about my own fate having earned only M.V.Sc. degree. I met Dr. C.M. Singh to seek guidance. There were only two places for Ph.D. scholars in the department at Veterinary College, Mathura. Dr. R.M. Sharma had secured admission against one of them and at the other, Dr. B.S. Rajya was already working and his work was almost complete. He advised me to seek admission against the place to be vacated by Dr. B.S. Rajya or seek admission for Ph.D. in some American University. He assured to help me in the matter as far as possible. Till then the U.P. Govt. rules were kept in abeyance by Principal Chaudhary in the wake of the controversy over the faculty qualifications. After the Academic Council had decided on the matter the Ph.D. admissions were finalised. At the time of admissions, Dr. M.D. Pande, M.R.C.V.S. in Physiology and Dr. R.C. Pathak, M.S. in Bacteriology also chipped in and became competitors against Dr. H.C. Pant and Dr. V.K. Sharma, respectively. At the time of faculty qualification controversy, Dr. M.D. Pande and Dr. R.C. Pathak had extended their support to Principal

Chaudhary. Dr. C.M. Singh did not carry any notions on this matter and helped all of them by getting one each additional vacancy created to accommodate all of them thus making way for them to be eligible for competitions for becoming faculty members.

The post of Professor of Bacteriology was created under the Five Year Plan. Dr. D.K. Murthy at that time, though permanent on the post of Assistant Professor of Bacteriology, was acting on the higher post of Veterinary Disease Investigation Officer in place of Dr. R.N. Mohan, who was on deputation to Veterinary Collge, Hissar. But by then he was being repatriated. Dr. C.M. Singh agreed with Principal Chaudhary to promote Dr. D.K. Murthy to the post of Professor of Bacteriology to save him from reverting to the post of Assistant Professor with the understanding that he would be working with him and the integrity and singular identity of the department of Pathology & Bacteriology would be maintained, as had already happened in the case of department of Physiology & Biochemistry.

One evening it was learnt that appointment orders of Dr. D.K. Murthy on the post of Professor of Bacteriology had been received. Simultaneously the designation of Dr. C.M. Singh was changed to Professor of Pathology in place of Professor of Pathology & Bacteriology and the single department of Pathology & Bacteriology was bifurcated into two separate departments: department of Pathology and department of Bacteriology - thus snatching away the charge of Bacteriology from Dr. C.M. Singh. Dr. Singh was apprised about the orders. He first went to Dr. A. Roy, Professor of Physiology & Biochemistry and then met Principal Chaudhary, who assured him that the department would not be bifurcated and the orders to this effect would be received by the evening. But the evening dak from the Principal's office brought only endorsed copies of the appointment orders already known. There was no change made in the bifurcation order. Taking these copies, Dr. C.M. Singh went home. Next day at about 9 A.M. I was busy with my research work in my laboratory when Dr. C.M. Singh came and telling me to see him, went into his chamber. I went to him after a while. He handed me a letter telling me to go through it and then to despatch through the dak register to the Pricipal's office. It was three months' notice for resigning from the post of Professor of Pathology & Bacteriology, on reading which I was stunned. Since all the decisions within the department used to be taken by consensus among people, and since Dr. B.S. Rajya was in Sweden, I took about an hour to compose myself and deliberate on the

matter and then approached Dr. C.M. Singh to request him to reconsider the matter. But he determinedly said that he had already taken a well-considered decision and that I should send the letter to the Principal's office, which I did reluctantly. This step taken by Dr. C.M. Singh evoked both appreciation for his bold principled stand and also criticism for the great risk involved. This was an extremely unexpected happening that bore direct repercussions on his family members and his students, particularly the research scholars, amongst whom I was the one. Dr. C.M. Singh did not have any job then; neither we any guide. Fortunately about *Dussehra* time, the post of Dean at Veterinary College, Hissar under the Punjab Agricultural University was advertised. We persuaded Dr. C.M. Singh to apply for the same, which he agreed and assured us to attend the interview for the same. We were of the opinion that it would be possible for Dr. C.M. Singh to return to Mathura from Hissar. Dr. C.M. Singh, having made up his mind to leave Mathura in case the order for the bifurcation of the department of Pathology & Bacteriology were not rescinded, met Mr. Thapar, I.C.S., the Vice-Chancellor of the Punjab Agricultural University in this connection. He impressed him very much and the Vice-Chancellor extracted a promise from Dr. C.M. Singh that he would certainly join the post at Hissar irrespective of favourable or unfavourable response of the U.P. Govt. to his resignation letter, in case he were offered the same. On the matter of his resignation the Department of Animal Husbandry of U.P. Govt. did not take any other decision and so he did not withdraw his resignation letter. Thus he lost any opportunity of maintaining lien with the U.P. Govt. and lost the advantage of continuity of service, which in post retirement stage of his life cost him very dear in respect of reduced pensionary benefits. This determination and firm resolve to maintain the integrity of the departments of Bacteriology and Pathology at all costs and making firm commitment to the Vice-Chancellor were reflection of his Rajput ancestry and characteristics. Mrs. Singh, his wife, did not like to leave Mathura but followed her husband on the dictum "with you always".

There were four Ph.D. students under Dr. C.M. Singh registered more than 6 months earlier and hence were eligible to be guided by him from any place other than Mathura also. Dr. C.M. Singh acted precisely on this promise.

When Dr. C.M. Singh was moving from Mathura to Hissar, Dr. Usha Mandokhot was his M.V.Sc. student in Bacteriology and she wanted to continue with Dr. C.M. Singh as her guide for her research work. This arrangement was

agreed upon and approved by the Principal also. Dr. C.M. Singh assigned the responsibility of looking after her interests at Mathura on me. All went on well for some time. But one day the personal assistant of Principal Chaudhary went to Women's hostel in DQ-2 quarter in the campus and threatened her unless she changed her guide, Dr. C.M. Singh and carried out her research problem under the guidance of Dr. D.K. Murthy, Professor of Bacteriology. Next day morning when I was passing near Dr. Mandokhot's laboratory, I heard her sobbing. I stopped there in the gallery and enquired from the sweeper working there, who also confirmed about Dr. Mandokhot crying. I called her out. She did come but could not control herself. I sent for a glass of water for her through Mr. Nagar and then asked her to see me in Dr. C.M. Singh's former chamber, which was in front of Professor's laboratory. I asked her the reasons for her crying and she narrated the whole happening of the previous evening. I comforted her telling her that I would sort out the problem with the Principal. Then I arranged to see the Principal and narrated him the whole incident. He was surprised with the development and promised to take action after making enquiries. The incident had truly taken place and the matter of unduly pressurising a girl student unnecessarily in the Women's hostel was a grave matter. Gauging the seriousness of the matter, Principal Chaudhary paid a visit to the department, expressed his regrets and assured Dr. Mandokhot. Dr. C.M. Singh came to know about this matter, when he came from Hissar to Mathura at weekend. He then extended his stay for Monday and suitably reprimanded the personal assistant after calling him in the Principal's chamber. He made him to tender apology in writing and handed over the same to the Principal for taking suitable action in the matter.

During Dr. C.M. Singh's tenure at Hissar, we four students - Dr. R.C. Pathak, Dr. V.K. Sharma, Dr. R.M. Sharma and myself - would meet him at Hissar on holidays turn by turn to apprise him with our progress. At Hissar we used to stay at his bungalow and enjoy Mrs. C.M. Singh's cooking. In this way Dr. R.M. Sharma and Dr. R.C. Pathak were able to submit their theses. At Hissar also, there were three Ph.D. students viz., Dr. N.S. Parihar, Dr. H.V.S. Chauhan and Dr. Balwant Singh attached with Dr. C.M. Singh for Ph.D. studies and these students also shifted to Izatnagar, Bareilly for research work when Dr. C.M. Singh moved to Izatnagar as Director of the Indian Veterinary Research Institute from Hissar. Dr. V.K. Sharma has also submitted his thesis by then. I alone was left to submit the thesis and my registration was to end in April 1968. Hence in order to

complete the thesis I took earned leave in the month of February 1968 and shifted to Izatnagar, Bareilly at Dr. R.M. Sharma's residence in IVRI campus. Whenever Dr. C.M. Singh used to be at the headquarters i.e. Izatnagar, I would reach his residence in the evening at about 6 P.M., about which time Dr. C.M. Singh would be back from office. Then we would sit together and would not only have tea but meanwhile he would also go through the manuscript of the thesis and suggest suitable corrections and modifications and outline for presentation. We would barely have 30 to 40 minutes at our disposal and those too not on regular basis. Occasionally even during those coveted periods, some visitors - generally officials of the Institute would drop in and at those times, I could easily feel exasperation on his face because it would not only interrupt our deliberations but since many confidential and many important matters had to be discussed, I would have to discreetly leave them alone. Thus despite his extremely busy schedule that he had to maintain in his capacity as Director of the Institute, he constructively helped me in overcoming all the difficulties and complete the thesis in time for submission to the Agra University. The thesis had to be typed for days and nights and only when he had signed the certificate, he felt satisfied. On the completion of the thesis, he attained great satisfaction and blessed me whole-heartedly. Also because of his persistent untiring efforts, it became possible for me to appear for the oral examination merely a single day before the Convocation of the University was to be held in the same year 1968. I did get my degree during the Convocation.

Dr. C.M. Singh used to keep in mind the interests of all his students but would never meddle in their inter-personal relations. Since there was only one post of Professor at Mathura, he encouraged Dr. B.S. Rajya to try for the post of Head, Division of Pathology at the IVRI, Izatnagar. Later, I was appointed Professor of Pathology and tried to fulfill Dr. C.M. Singh's expectations.

The Veterinary College, Mathura celebrated its Silver Jubilee in the year 1972 and Union Minister of Agriculture, Babu Jagjivan Ram was the Chief Guest. On this occasion, U.P. State Agriculture Minister, Shri Sharma jee was also present. He, in his address, dealt at length on the beneficial qualities and useful characteristics of goats and that address stimulated a debate on the necessity of research studies on the goat species. Dr. C.M. Singh took advantage of the opportunity and proposed to set up a centre of research on goats if the U.P. Govt. transferred Makhdoom (Farah) Livestock Farm to the IVRI. Sharma jee readily agreed to this

proposal on behalf of the U.P. Govt. and spontaneously received the consent, patronage and blessings of Babu Jagjivan Ram, the Union Agriculture Minister & the President of the Indian Council of Agricultural Research, the parent body of the IVRI. Dr. C.M. Singh made strenuous and stupendous efforts to develop this unique research facility and the Central Institute of Research on Goats came into existence with the help of devoted team of scientists headed by Dr. K.L. Sahani. In the beginning when the Farm was taken over from the Govt. of UP, there was no staying facility at the Farm and also at the College. Dr. C.M. Singh, whenever he would visit the Farm at every 2 to 3 months' intervals, would stay with me at my A-6 quarter in the Veterinary College campus. On one occasion when Dr. C.M. Singh reached my place in the evening, my eldest daughter who was at that time about 8 years old enquired her mother about him. My wife told her that he was his father's teacher. My daughter was amused as she was accustomed to many in-laws of her mother and told her mother that Dr. Saheb was her (my wife's) 'teacher-in-law'. When Dr. Saheb heard about it, he was greatly pleased and laughed heartily and told her to call him the same. This daughter of mine is now married to an engineer employed with the Indian Veterinary Research Institute and living in the campus there. Whenever we happen to remember Dr. Saheb, this topic often comes to our mind.

On the third and concluding day of the Silver Jubilee celebrations, the meeting of the Old Boys' Association was held. The meeting was presided over by Dr. P.G. Pande. At that time Dr. R.C. Pathak was the President of the Old Boys' Association. At this occasion Dr. P.G. Pande agreed to unveil the photograph of Dr. C.M. Singh in the Reception Hall of the Pathology & Bacteriology building. Dr. C.M. Singh was also an invitee at the function and the whole ceremony was a grand success. At that time my humble request and invitation to the dignitaries to dine with me was gracefully accepted. After dinner when the sweet dish - *kheer* was served; Dr. Saheb looked at me questioningly and pleaded with Dr. P.G. Pande not to take it. Unfortunately, I did not know till then that Dr. P.G. Pande was diabetic. Dr. P.G. Pande addressed Dr. Saheb by his first name Chinta Mani and said that he would surely take the sweet dish (*kheer*) served so affectionately and innocuously and that it would not harm him. And everybody was so happy about it.

When the veterinary graduates complete their interneeships, they are administered the professional oath by the Dean of the Veterinary Collge. In the Golden

Jubilee year of the College in 1997, however, Dr. G.R. Singh, who was the Officer-in-Charge of the graduate interns, came forward with the proposal that on this historical occasion, Dr. C.M. Singh, who happened to be the Chairman of the Veterinary Council of India at that time, may be requested to administer the oath or at least to grace the function. The proposal pleased everyone and efforts also bore fruit. Dr. C.M. Singh gave his consent. The graduate interneers got the oath engraved on a stone block and Dr. C.M. Singh unveiled the same. And with him by my side, I got the oath administered orally. The graduate interneers presented a bronze replica of the meditating Buddha available in the Mathura museum on the occasion to Dr. C.M. Singh, which adorns the office of the Veterinary Council of India in Delhi. The stone engraving of the oath has been fixed near the large door of the Kothari Veterinary Hospital in the campus. It was the last function that we had together before my superannuation.

On one occasion, when Dr. R.C. Pathak was presiding over the seminar on 'mycoplasmosis', I happened to be the Dean of the College, and Dr. Saheb was the Chief Guest. When I was presenting bouquet to Dr. R.C. Pathak (myself and Dr. Pathak were both his students), his happiness was worth watching at our (his two former students') mutually respectful behaviour and conduct.



DR. C.M. SINGH : A REMEMBRANCE

D.C. Johari

I joined ICAR services in 1978 as Scientist S-3 in AICRP on Poultry Improvement at IVRI, Izatnagar when Dr. C.M. Singh was Director, IVRI. He was quick decision-making and strong administrator. I remember an instance when I joined as S-3 in Poultry Project. The egg storage cabinet was out of order and the M/s Blue Star Company wanted an advance of Rs. 10,000/- for its repair. An advance of such a value was very difficult at that time due to administrative reasons. I approached him and informed that most of the fertile eggs are spoiled by keeping them in room temperature. Most of the eggs started hatching and spoiling the other eggs and it was great loss to the project. He immediately called me and asked me apply an advance of Rs. 10,000/-. He sanctioned the amount and I sent the draft to the concerned company. The machine was repaired and the loss of valuable germplasm was saved by his immediate action.

Another instance, I recall that at that time most of the administrative and financial power were vested in Head of Divisions. It was difficult to do small things including purchase of salt for the poultry feed. He took the decision and empowered all the S-3's with the powers of Head of Division, which solved the day-to-day problems of the research schemes, which resulted in good achievements during that period.

He was a very good teacher and able administrator with strong character and honesty I ever met at such position.

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DR. C.M. SINGH : A DISTINGUISHED VISIONARY

S.S. Khera

In the 115 years long glorious history of the Indian Veterinary Research Institute (IVRI), Mukteswar-Izatnagar-a premier institute of veterinary research and the oldest research establishment in the country-Dr. C.M. Singh occupies an eminent position as an administrator and for having had the second longest tenure of 16 years (1966-1982) as its Director. Earlier Dr. Alfred Lingard, the founder Director of the Institute, initially named as the Imperial Bacteriological Laboratory, had the longest tenure of 17 years (1980-1907). I had known Dr. C.M. Singh since 1966 when he joined IVRI at Izatnagar as Director of the Institute. At that time although I was located at Mukteswar campus of the Institute. There were numerous occasions to interact with him on professional and administrative matters. Our closer association began after I shifted to Izatnagar as Head of a newly established Division of Epidemiology. Then it was necessary for me to meet the Director frequently to pursue urgent matters related to filling up the posts of office and supporting staff, recruitment of scientists, formulation of research and teaching programmes and creation of infrastructure and physical facilities for various sections that were coming up in the new Division. Despite his busy schedule of unending administrative responsibilities, Dr. Singh found time to duly consider and discuss my proposals and whenever it was necessary to promptly accord his approval. His helpful attitude, keen interest and encouragement to nurture activities in the field of epidemiology, enabled me to resurrect its importance for clearer understanding of widespread economically important animal diseases endemic in the country and their control. Within a few months of establishment of the new Division, we were able to start two short term courses; one on epidemiology for the field veterinarians and the other on the diseases of wildlife for zoo veterinarians and members of staff of the Zoological Survey of India concerned with the management of wildlife in the country.

Apart from a number of developmental activities initiated and actively pursued by Dr. Singh to promote, streamline and assess the progress of research work in the then existing Divisions, I think his most notable contribution for which he will be

remembered for a long time is expanding the scope of research and educational activities in several important hither-to neglected disciplines of veterinary science by establishing a number of new Divisions which include Epidemiology, Veterinary Public Health, Experimental Medicine and Surgery, etc. Creation of several new divisions entailed a very difficult and challenging task of building up the required infrastructure and development of physical facilities for accommodating and equipping the fast growing number of laboratories, which came up under the new divisions. Consequently, within a span of few years, many new buildings were constructed. These include spacious Modular Laboratory Building, National Library of Veterinary Science, new P.G. Students Hostels and International Guest House. At personal level, my acquaintanceship with Dr. Singh was limited to only one occasion when both of us were together for a few days at Canberra, Australia to attend the 2nd International Symposium on Veterinary Epidemiology and Economics during May 1979. He was a simple individualistic person and followed an austere and spartan life-style. I think the veterinary fraternity owes a great debt to Dr. C.M. Singh, firstly for having upgraded the IVRI in terms of its enhanced activities and secondly for having guided the affairs of the top two prestigious national veterinary organizations, namely the Veterinary Council of India and the National Academy of Veterinary Sciences for several years after his retirement from the Indian Veterinary Research Institute.



DR. C.M. SINGH : A LEGENDARY SOUL

O.N. Kunzru

I had the honour of meeting Dr. C.M. Singh for the first time on 25th April, 1972 when I had gone to IVRI to join as Head, Division of Extension. When I was ushered in his office, I was cordially received by him. Since I did not know a soul in IVRI, the cordiality did make me a little comfortable, I would be lying if I say that I was not a little nervous when I had gone to join at IVRI, the *Mecca* of veterinary research and education and being face to face with a well-known doyen of Veterinary Science. Until then I had only heard about Dr. C.M. Singh from Dr. Mohan Singh, our Dean at Veterinary College, Bikaner, my *alma-mater*. They had studied together at Michigan State University in USA. The fact that I had also done my Master's from the same university was no solace, for obvious reason.

Since the Division of Extension was only two years old when I had the privilege of joining it as its Head, I needed the required support, advice and guidance from my colleagues in the Division and the Director from time to time. I do not remember any occasion when Dr. Singh avoided or brushed aside any such request made by me. He was always straightforward, honest and quick in taking a decision whenever, and it was quite often in the initial stages, I approached him about any matter concerning my Division, which required interacting with him.

IVRI, being a national and the oldest research institute, always had a totally different environmental aroma and aura, being highly cosmopolite in its intellectual composition. With a doyen - like Dr. C.M. Singh at the helm of its scientific affairs, it had a built-in potential for providing learning experiences for a person like me. And truly speaking my 12 years with Dr. C.M. Singh, and over 10 years after he retired in 1982, from the legendary institute I learnt a lot through my interactive and participatory experiences with my colleagues and seniors. Differences in perceptions, opinions or interpretations also have a built in potential for providing learning experiences for willing learners. To learn how to react in a given situation is as important as to learn how not to. One such experience with Dr. C.M. Singh has, however, always remained, and will always remain, alive in my mind. I can vividly recall it as if it happened only yesterday.

I had to discuss some papers with the Director and so had gone to his office. When I entered his office, peon was getting the files done from him. When

Dr. Singh saw me he gestured me to sit down. Since the office peon was standing amongst the chairs in front of him I sat down on the vacant side-chair at his table. He was going through a file and I observed that his face was red, probably with what was written therein. With the blood still rushing to his face, as he went on reading the file, I started feeling that I had come in at a wrong time. Subordinates usually avoid discussing something with their superordinates in that situation. But there I was in that awkward situation. After he had read the file he, in a controlled voice, asked his office peon to call Mr. so n so. While I was still contemplating to excuse myself and come back later, Mr. so n so walked in. To be honest, I had expected some fireworks but what I saw was Dr. Singh pushing that file to him and asking him in a controlled voice "Yeh kya likha hai?". Mr. so n so rotated the file to be able to read what was written in there, read it and very quietly replied, "Sorry, Sir Abhi theek kar ke lata hoon". With this he picked up the file and left. Dr. Singh sat quietly for about a minute during which time I noticed his face draining off the blood which had rushed in while he was reading the file, and he was his usual normal self. I discussed the matter I had gone there for and left. I was amazed at the absolutely controlled emotional resilience of the person sitting on that august chair and the U-turn he was able to take to normalcy within no time. For me, it was a supreme experience in self-management.

After reaching my office I was still pondering over the experience when I suddenly realized what had prompted that quick U-turn: one word-Sorry-which Mr. so n so had uttered. The good old principle in anger management, "If you are right, you need not be angry and if you are wrong you can not afford to be angry" had been exhibited in its purest form.

Dr. C.M. Singh was visionary and a good soul. The pitiless exactions of time, however, take no denials and we, all mortals, have to bow to HIS wish. And so he departed leaving behind his legendary footprints on veterinary profession and IVRI.

I had heard this very early in life.

वो काम कर कि उम्र खुशी से कटे तेरी, वो काम कर कि याद तुझे सब किया करें,
जिस जुबां पे तेरा जिक्र हो, हो जिक्रे खैर ही, जब नाम तेरा ले तो अदब से लिया करें।

Dr. C.M. Singh personified the poet's thoughts.



DR. CHINTA MANI SINGH : MY ASSOCIATION WITH HIM

B.S. Malik

I had about five years association with Dr. C.M. Singh at Veterinary College, Mathura and more than ten years at New Delhi, when he was President of Veterinary Council of India and National Academy of Veterinary Sciences. When I was a student of Third B.V.Sc. and A.H. in the year 1950-51 at Veterinary College, Mathura, Dr. C.M. Singh joined the College as demonstrator in the Department of Physiology and Biochemistry.

When Dr. Singh was traveling for USA for higher studies a very interesting incidence had taken place. He had booked his seat for USA by a ship. The date of his departure was approaching very fast but the case of his leave sanction was delayed. Without waiting any more, he reached Bombay and waited for the papers at the sea-port. The papers reached him through some one only on the last moment when the ship had already given whistle to sail. During this hustle and bustle he was not in touch with his family who came to know about him after two weeks of his departure from India to USA.

For the first time in India Government of U.P. started M.V.Sc. degree programme in the year 1956 at Veterinary College, Mathura. The post of Professor of Pathology and Bacteriology was lying vacant in the College. Dr. C.M. Singh was contacted in USA for his appointment on this post. The offer was accepted by Dr. Singh and he joined the post of Professor of Pathology and Bacteriology at Mathura in 1957. I, being a student of 1st batch of M.V.Sc. in Bacteriology, remained in close contact of Dr. C.M. Singh and submitted my M.V.Sc. thesis under his guidance. I was awarded M.V.Sc. degree in May/June 1959. Soon after, I was posted as demonstrator in June 1959. On 31st August, 1961, I proceeded to USA for higher studies. During my three years stay in USA, I was regularly in touch with Dr. Singh.

During the year 1964, the Department of Pathology and Bacteriology was bifurcated into two separate Departments of Pathology and Bacteriology. A new post of Professor of Bacteriology was created and Dr. D.K. Murty was adjusted on

this post temporarily. Dr. C.M. Singh continued as Professor and Head, Department of Pathology. In August/September 1964, Dr. Singh joined the post of Dean, Faculty of Veterinary Science and Animal Husbandry at Punjab Agriculture University, Campus, Hissar.

Dr. C.M. Singh served the Department of Pathology and Bacteriology at Veterinary College, Mathura for more than seven years. I being in the Department of Pathology and Bacteriology either in the capacity of M.V.Sc. student or teaching staff, remained associated with Dr. C.M. Singh. During this period, Dr. Singh created excellent teaching and research facilities. The Department moved from old administrative building to a newly constructed building, which provided ample space to the Department for expansion. Several M.V.Sc. and Ph.D. students obtained their degrees under Dr. Singh's guidance. The post-graduate students produced very good research work, which was published in reputed journals. On account of all round development, additional teaching and research posts were sanctioned in the Department.

During all these years, when I worked with him, I found him very punctual, hard working and honest. His life style was very simple. While working on the position of Professor at Veterinary College, Mathura, he did not maintain a car. From his residence in the Cantonment area, he used to go to the College on his bicycle or rikshaw. He used to travel to Agra by roadways bus to attend meetings in the University as Dean of Veterinary Faculty. Dr. Singh was pure vegetarian. He never took alcoholic drinks. He was very religious and practiced naturopathy. During illness, he avoided taking medicines. If at all it became very necessary, he preferred *aurvedic* medicines, rather than allopathic medicines. He always treated his staff and post-graduate students well and gave them full freedom of working. He also gave full credit to his students for the research work conducted by them.

After serving Punjab Agricultural University (now C.C.S. Haryana Agricultural University) Hisar, as Dean, Faculty of Veterinary and Animal Husbandry for about two years, Dr. Singh was selected as Director, IVRI, Izatnagar. Dr. Singh joined this post on 18th July, 1966 and served this Institute for more than 16 years. He retired from IVRI on 30th November, 1982. During all these years, there was tremendous development all around in IVRI. The number of Research Divisions increased from 6 to 22. A number of new buildings were added on the

campus. The old campus at Mukteswar, where the Institute came into being in 1893 was strengthened and now caters the needs of Division of Virology and Coordinating Unit and Project Directorate of Foot and Mouth Disease Virus. In addition, new Regional Research Stations were established at Calcutta in 1970, at Bangalore in 1972 and at Srinagar in 1973. High Security Animal Disease Laboratory, one of its kinds in Asia, was established at Bhopal. By establishing these Research Stations in different parts of the country, IVRI truly reflected its position of national Institute. The Institute was conducting post-graduate teaching and research since 1958 when it was affiliated to Agra University and later on to Rohilkhand University. It was declared Deemed University in 1983 by UGC, Govt. of India. The credit to set up the system of admission of post-graduate students, their teaching programmes and the conduct of examination, etc. goes to Dr. C.M. Singh to a great extent.

In the year 1981, Dr. Singh visited JN Krishi Vishwa Vidyalaya, Jabalpur as a member of University Board of Management. At that time, I was Dean of Veterinary Faculty of the University and residing in Dean's Bungalow at Veterinary College Campus. During that visit Dr. Singh preferred to stay with me at my residence, even though the University had made the arrangement for his stay in the University guest house. This indicates his affection towards his colleagues who worked with him.

After my retirement from JNKVV in January, 1987, I settled at Ghaziabad. Dr. Singh was residing at New Delhi after his retirement from IVRI, Izatnagar. He was maintaining a good health and had a great desire and enthusiasm to serve the cause of Veterinary Profession. In the year, 1984, the Act of Veterinary Council of India was passed by Indian Parliament. Its Gazette modification was issued in August, 1989. The main purpose of VCI, along with other functions, was to bring uniformity in veterinary education in the country. Dr. Singh was elected the Founder President of VCI on 12th January, 1990. Soon after other members of Executive Committee of VCI were elected and approved different Regulations for smooth working of VCI. The Council appointed me as a consultant for the preparation of draft Regulations for Veterinary Education. For this purpose a committee of the following was constituted, in the year 1991-92:

1. Dr. B.S. Malik - Retd. Dean, Veterinary Faculty, JNKVV, Jabalpur.
2. Dr. M. Aravindan - Principal Scientist, Division of Education, ICAR, New Delhi.
3. Dr. V. Rama Kumar - Secretary, Veterinary Council of India, New Delhi

The Committee met several times and prepared the draft of Regulation for Veterinary Education specifying standards for a Veterinary College admitting 60 candidates each year. The minimum requirement of the college included number of departments, curricula and courses, buildings and equipments, number and qualifications of teachers in each department, admission requirements, conduct of examinations etc.

As a special invitee, I attended a number of VCI meetings and inspected several Veterinary Colleges as Inspector. My services were also available to VCI to supervise examinations conducted at various centers in the country. VCI developed a system where in all its activities ran smoothly under the Presidentship of Dr. Singh. It was the time when his attention was drawn to establish National Academy of Veterinary Sciences. The Academy was registered in 1993 under Society Registration Act of 1860 with its Headquarter at Delhi. The Department of Animal Husbandry and Dairying, Govt. of India, in consultation with Planning Commission declared the Academy as the National Coordinating Agency for Continuing Veterinary Education. The Academy started functioning from the premises of VCI at 16/15, WEA, Arya Samaj Road, Karol Bagh, New Delhi. Dr. C.M. Singh was elected its founder President. The Governing Council of the Academy had 10 members including the President, Vice President and Secretary. I was one of the founder members of Governing Council of the Academy. Dr. Singh also appointed me as Treasurer of the Academy in March, 2000.

Dr. Singh presided over the last meeting of Governing Council of Academy on April 16-17, 2002 at IVRI, Izatnagar. During his Presidentship, the Academy Conferred the Fellowship on 243 and Membership on 46 distinguished veterinarians of the country. He arranged four seminars/symposia during his period on different topics pertaining to Veterinary Science and Animal Husbandry.

Dr. Singh is no more with us. In him, we have lost an able administrator, a good scientist and a gentle human being. The loss to profession due to his death is difficult to be filled up. We pray God to give peace to his soul and strength to his family members and friends to bear the loss.



MY ASSOCIATION WITH LATE DR. CHINTA MANI SINGH

B.B. Mallick

Dr. Chinta Mani Singh, former Director of the Indian Veterinary Research Institute, Izatnagar was one of the most successful directors served for 16 years in the chair. During his time Dr. Singh expanded the physical facilities and thus created 22 divisions of contemporary scientific need from the existing only 6 divisions. The buildings housing these divisions were unique and self sufficient in facilities. The leadership given by Dr. Singh helped to man these new divisions and suitable posts were got sanctioned by his persistent efforts. He secured cooperation of Director-Generals of ICAR- like Dr. B.P. Pal, Dr. M.S. Swaminathan etc. to help him for developing and enriching IVRI for which Dr. Singh constantly tried to do something or other.

First of all, I had come to know Dr. C.M. Singh in the month of June, 1966 in Paris, when I was pursuing my research for my Doctoral studies there. He came to participate in the OIE meeting, where I was also a participant from French Government side. Mr. S.P. Dubey who was in-charge of Administrative office at IVRI did attempt to contact me frantically for making arrangement for accommodation, transport etc in Paris for Dr. Singh's stay of a week there. Dr. Singh was not conversant with French language. On his arrival, Dr. Singh told me that he was vegetarian and tea-totaller. The meeting was in Champ-de-Elysee's famous hotel and the lunch/dinner was served in the underground cave, which were not only decorated most tastefully but where Picasso and others painted Frechco on the walls. It was hard job to provide him vegetarian food and to serve him with Vicy-mineral water, which there was meant for sick people and infants.

After my return to India in 1968, I worked very closely with Dr. Singh, first as Professor of Bacteriology/Virology, subsequently as Project Co-ordinator, Respiratory Diseases of Poultry, Head, Division of Virology and Station-in-charge, IVRI campus, Mukteswar. I did work with him till he retired in 1982. My formative stage as scientist, opportunities for research management, chances to contribute in veterinary science and projecting and occupying the place, whatever little in

the profession came in my way was entirely due to my association with him. Therefore grateful thoughts for him come to my mind whenever I talk about professional matters. Post-retirement he held positions of President VCI and National Academy of Veterinary Science. My association with the VCI as a counsellor for 4 years and also with NAVS made me feel that Dr. C.M. Singh was completely devoted to the well being of veterinary profession and he did not shirk to combat any opposition in the matter of professional good. The weak point, I realized that many professionals did not come forward to help him in the great cause. His untiring efforts did bring forward many break through for which the entire veterinary profession in India should be ever grateful to Dr. Chinta Mani Singh and I think, all right thinking veterinarians are.

Dr. Singh had very few friends who really understood him. He was very strong personality and he would not hesitate to say 'No' on anybody's face, even if it looked indecent. But his deep sense of gratitude to those who loved and supported him without expecting any favour from him. Therefore, our association with him remained so sweet and memorable all the years. My joining the post of "Professor of Eminence" was not to his liking. He actively discouraged my joining there even though, he extended me all facilities. His point was very valid, that it will be very difficult to develop research models by such a chair under existing set up of research institutions. He proved right when one by one senior research management jobs were refused to "Professor of Eminence" with one plea or another. Of course, that was corrected little later.

The last we worked together was for selection of Vice-Chancellor for a Veterinary University. I found in him a strong person who held away political and other pressures and asked me to get the best person from the long list of applicants.

Briefly, I would like to record that the veterinary profession in the country has lost a person of great capability, whose selfless and untiring efforts could raise the status of the profession and expanded the scope of research and education tremendously. I personally felt happy to be able to confer on him the "Doctor of Science" *Honoris Causa*, first from Deemed University, IVRI and subsequently from W.B. University of Animal and Fishery Science during my tenure as Director, IVRI and Vice-Chancellor WBUVAFS, respectively. I am proud of my association with late (Dr.) Chinta Mani Singh.



DR. C.M. SINGH : FARMERS WELWISHER AND HIS KEEN INTEREST IN RURAL DEVELOPMENT

K. P. Mallick

During my professional career of about 37 years, I met three most important celebrities, whom I consider as super human. The 1st person was Dr. Y. Prasad, Ex-Director, Animal-Husbandry, Govt. of Bihar under whom I served as VAS/VO in Bihar State. The 2nd person was Late Dr. C.M. Singh Ex-Director, IVRI and the 3rd person was Dr. O. P. Gautam, Ex-Professor of Eminence (Vety. Medicine), HAU, Hisar, who was my advisor in Ph.D. programme. All the above mentioned persons were of proven integrity, disciplinarian and well-versed in professional knowledge. Amongst all the above mentioned three persons, I got myself emotionally attached to Dr. C.M. Singh due to his several qualities.

While serving under the Bihar Govt. as VAS, I saw the photograph of Dr. C.M. Singh in 1966 in The Indian Veterinary Journal, which was published with his bio-data after taking over the assignment of Director, IVRI. Then I developed desire for serving at IVRI but, at that time I was not possessing the required qualifications for my recruitment at this institute. After I completed my M.V.Sc. in Veterinary Medicine in the year 1974, I became an applicant for the post of Junior Extension Specialist (Animal Health) in the Division of Extension at IVRI, which was advertised during this year. God granted my wish and I was selected for this post and joined IVRI in the year 1976 after being relieved from the post of Assistant Professor (Animal Health) at Animal Production Research Institute, Pusa under Rajendra Agricultural University, Bihar.

Memories of Dr. B. D. Rao, a classmate of Dr. C.M. Singh : Just few days before proceeding to join IVRI in 1976, I had gone to office of the Deputy Director, Animal Husbandry, Muzaffarpur from Pusa for some work. I met there Dr. B. D. Rao, who was Deputy Director in that office; I told him about my new assignment at IVRI. Then he replied happily that I was very fortunate man to get an opportunity for working under his classmate, Dr. C. M. Singh. Dr. Rao described about various qualities of Dr. Singh. He told me that he was feeling proud of being a classmate of Dr. Singh.

A brilliant student of Bihar Veterinary College, Patna : Dr. B. D. Rao informed me that Dr. C.M. Singh was very brilliant student of Bihar Veterinary College, Patna and always stood first in the final examinations of 3 years GBVC course, right from 1st to 3rd year. In fact, Dr. Singh could have completed GBVC course in 1946, but he dropped the final examination in this year as he had developed an abscess in his armpit for which he had undergone operation. Then Dr. Singh passed the final GBVC examination of 3rd year in 1947 securing 1st position with very good marks. Dr. Rao informed me that Dr. Singh took admission in GBVC course after passing Inter Science, which was very rare during those days. Mostly the candidates used to take admission in GBVC course after matriculation which was a prescribed qualification.

A true devotee of Goddess Sarswati : Dr. B. D. Rao told me that Dr. C.M. Singh always took active part in *Sarswati pooja* at Bihar Veterinary College, Patna. He told me that Dr. Singh used to carry the idol of Goddess *Sarswati* on his head for immersion at river the *Ganga* walking the distance of about 6 kms on foot from Veterinary College. Even at IVRI, I learnt that he used to attend the *Sarswati pooja* celebrated by Post-graduate students in the hostel if he remained present at headquarters. I personally feel that Dr. Singh had really acquired the blessings of Goddess *Sarswati* as he had keen intellect, sound professional knowledge and excellent oratory capacity.

Interest in rural oriented programmes : Since Dr. C.M. Singh himself was basically from rural background, he used to take keen interest in the implementation of rural oriented programmes under the Extension Division of IVRI like- Operational Research Project (ORP) and Lab to Land programme. After joining IVRI in the year 1976, I was assigned the duties of animal health care in the adopted villages under ORP and Lab to Land programme by virtue of being a man of Veterinary Medicine with long experience of treatment and control of animal diseases at Bihar State.

With the initiative of Dr. Singh, a stockman centre at Rithoura, Distt. Bareilly was taken over by IVRI from the Department of Animal Husbandry, Govt. of U.P. which became the ORP Centre. Dr. B. D. Gupta was also posted in ORP for taking care of animal breeding programme. Both myself and Dr. Gupta established this ORP centre. The animal health and breeding programmes started functioning actively with the cooperation of Divisions of Medicine & Surgery and Animal

Reproduction from the institute level. Soon the other activities in ORP like fodder production and extension education were also started. Later, this ORP turned to be a popular rural Veterinary Polyclinic. Dr. Singh appreciated our efforts when he paid the first visit at ORP Centre, Rithoura in the year 1977 along with Dr. O.N. Kunzru, Head, Division of Extension.

Interaction with Dr. C.M. Singh at ORP Centre, Rithoura : I remember that Dr. Singh used to visit ORP Centre, Rithoura frequently with Dr. Kunzru till 1981 for the perusal of the progress of ORP programmes. Once during the inspection of ORP, he told that the extension work is difficult task for the scientists as compared to other duties. He explained that the scientific staff under the ICAR system or State Agricultural Universities fall under five categories. In the 1st category, comes the job of professor, who are leaders of research work, teaching and guiding students. Under the 2nd category are those scientists who conduct research in the laboratory and publish papers out of that. The 3rd category of the scientists are those who are concerned with research management-like Head of Divisions and Director of the Institutes. The 4th category are those scientists who are assigned with the duties of farm management such as management of livestock, poultry and agricultural farms. In the 5th category are the scientists involved in extension works and deal with various types of persons like large, small and marginal farmers, even the landless labourers and small peasants without any consideration of time and duty hours. He expressed that scientists who devoted their much time in extension works deserved credit.

After hearing the above statements of Dr. Singh, I got an inspiration for carrying on the extension activities in animal health in ORP villages with more enthusiasm. Once I asked a simple question to Dr. Singh about my justification as a medicine man in ORP, when its very definition is "transfer of technology in order to identify the constraints" as laid down by Dr. M.S. Swaminathan, Ex-D.G., ICAR. Dr. Singh gave me the convincing reply of my above question and cleared the doubts. He expressed that as a scientist of Veterinary Medicine in ORP, I had to disseminate my knowledge and experience for protecting the livestock of the farmers by providing necessary health care measures. At the same time, I had also to identify and collect the problems pertaining to animal health and feed them back to the institute for further research. In this way, I had to justify my services in ORP.

Dr. Singh suggested me to avail the laboratory facilities of the animal health divisions of the institute for diagnosis of the diseases and publish the significant

findings. Infact, I followed his suggestions and reported several diseases duly confirmed by laboratory examinations. In 1978, there was severe out-break of FMD in Rithoura area. I collected the materials from clinical cases and sent to Mukteshwar for typing of the virus, which was Asia-1. When I presented my report in Staff Research Council about FMD outbreak, Dr. Singh appreciated it. Dr. Singh emphasized that the scientists of IVRI should have rural biasness, they might undertake the research problems on rural livestock concerning animal health or production, so that they could establish their identity as scientists of national institute amongst the farming community.

Historical visit of Dr. M.S. Swaminatham at ORP Centre, Ritoura : Within 2-3 years, the activities of ORP gained momentum. Many dignitaries from ICAR, SAU's and even from the abroad visited the ORP Centre to see the rural oriented programmes of IVRI. Once Dr. Swaminathan visited ORP Centre, Rithoura accompanied with Dr. C.M. Singh and Dr. O.N. Kunzru. Dr. Swaminathan inspected the clinical activities of the centre and also reviewed the other programmes of ORP, he expressed his happiness on the proper functioning of ORP. Dr. Singh presented two M.V.Sc. theses of post-graduate students viz. Dr. S.K. Agrawal and Dr. S.K. Chaudhary to Dr. Swaminathan for his perusal. These students had worked on the breeding problems of cattle and bufaloes in and around ORP area. Dr. Swaminatan appreciated the findings of the students after reading their thesis and suggested that the studies on other aspects of rural livestock like feeding and management should also be undertaken.

Remarks of Late Colonel (Dr.) S.M. Ishaque: It was probabely in the year 1979 or 1980 that Late Col. (Dr.) S.M. Ishaque who was a retired Principal. Bihar Veterinary College, Patna, visited IVRI on certain occasion. Late Dr. O. N. Singh, Ex-Animal Husbandry Commissioner, Govt. of India was also present on that occasion. The scientists of Bihar State had arranged a get together programme in which both Drs. C.M. Singh and O.N. Singh were present and Col. (Dr.) Ishaque was chief guest, who happened to be the teacher of both these dignataries at Bihar Veterinary College, Patna.

I remember that Col. (Dr.) Ishaque stated that he was proud of remaining the teacher of two stalwarts of national repute i.e. Dr. C.M. Singh and Dr. O.N. Singh, the first man was managing the research component of Veterinary and Animal Sciences at national level as Director IVRI and the second one was taking care

of livestock developmental programmes of nation as Animal Husbandry Commissioner.

Col. (Dr.) Ishaque mentioned in his talk that Dr. C.M. Singh was very brilliant scholar, which he noticed while he was teaching him Surgery and Gynaecology in the final year GBVC course in the year 1946. He also mentioned that he used to preserve the answer sheets of terminal and final examinations of Dr. C.M. Singh for showing to the students of subsequent batches as model answers of questions.

His views on the promotion of ORP Scientists : I continued to work in ORP till I left IVRI for my Ph.D. programme at HAU Hisar in February, 1982. There were comments by some scientists of the institute that we had no prospect for promotion by assessment as we were not doing any research work in ORP. Then we became scared and expressed our feelings to Dr. O.N. Kunzru, who was Head in the Division of Extension. Dr. Kunzru invited Dr. C.M. Singh at ORP Centre, Rithoura. We interacted freely with Dr. Singh on our problems. Dr. Singh pacified us and gave very sensitive reply which I still remember. He said that if he would remain alive, none could prevent us from being promoted. He also said that even if I could not be promoted; the contentment which I would get after curing the maximum number of ailing animals of farmers by virtue of my skill, would not be less than the promotion. I felt later that his version was absolutely true.

I became S-2 by assessment when Dr. C.M. Singh was still the Director of IVRI. After completion of my Ph.D. in 1985 from HAU, Hisar. I applied for some post of S-3 by direct recruitment, but I was not selected. Even I was rejected for the post of Chief Technical Officer, Kirshi Vigyan Kendra by ASRB for which I was very potent candidate, fulfilling all the criteria for this post. But, I did not become disappointed and continued rendering the animal health services under the extension programmes with the same spirit carrying the words of Dr. C.M. Singh in my mind. I was transferred to the Division of Medicine in September 1992 and retired on 31st January, 1996. After retirement, I visited IVRI. occasionally and learnt that the farmers of Rithoura and Bhojipura areas were still remembering me where I rendered animal health care services. Even Dr. M.P. Yadav, Ex-Director, IVRI acknowledged the impact of my services in the rural areas.

I was honoured with Dr. C.M. Singh – Salihotra Samman-2006 recently on the National Science Day, the 28th February, 2006 for my contributions in the field of Veterinary Medicine and extension works. I was also awarded with Fellowship of National Academy of Veterinary Sciences in the same year at JNKV, Jabalpur, M.P. I personally feel that these honours are mainly due to the inspirations and blessings which I could get from Dr. Singh for the dedication towards my duties.

An instance of His kind act : There was a sweeper named Lallu who was working at ORP centre, Rithoura. He used to remain absent from duties frequently even without any intimation causing problem for me in the cleaning work of ORP Centre. I reported against him to Dr. Kunzru Head, Division of Extension because I became much annoyed with him for the negligence of his duties. It was proposed that Lallu's service should be terminated as he was a temporary staff. When the file was put up to Dr. Singh for approval, he returned the file and told Dr. Kunzru that we should not be so serious for finishing the source of livelihood of a poor sweeper, he should still be given chance to amend himself.

An excellent orator with sound knowledge of Veterinary Science : Dr. C.M. Singh was an excellent orator with upto date knowledge of advances in Veterinary Science particularly in the disciplines like Bacteriology, Virology, Pathology and Veterinary Public Health.

The ARS probationers from NAARM, Hyderabad used to join Extension Division of IVRI for rural orientation training. I used to interact with them at ORP Centre, Rithoura during their training. Dr. Singh used to visit NAARM to deliver lecture in every batch of ARS. It was the opinion of ARS probationers that the oration of Dr. Singh with facts and figures was always adjudged to be the best at NAARM as compared with other speakers. In 1982 or 1983 Dr. R.P.S. Tyagi, Ex-Dean, College of Veterinary Sciences, HAU Hisar had arranged a programme to honour Dr. Singh after his retirement from IVRI. At that time, I was doing Ph.D. at HAU. I noticed that after arrival of Dr. Singh, the auditorium of Veterinary College became fully packed with the audience consisting of entire faculty members and students. Some of them told me that they came to hear the illuminating speech of Dr. Singh. Others spoke that they came to attend the lecture of Dr. Singh for updating their advanced knowledge of Bacteriology and Virology. I observed that Dr. Singh delivered extempore lecture for about 2½ hours continuously and there was pin-drop silence in the hall.

His past memory of treating clinical cases of Surra : Once Dr. C.M. Singh enquired from me during his visit at ORP Centre Rithoura about any disease problem in that area. I straight way spoke that the treatment of surra was problem, because the highly effective drug against surra known as Antrycide was not available at that time in the market. Then Dr. Singh told me that he cured many cases of surra using Tartar Emetic solution intravenously, while he was VAS in 1947. I listened to the reply of Dr. Singh on treatment of surra. It was later learnt that Tartar Emetic supplied by M/s Bengal Chemicals was a standard and effective drug for treating surra those days. Its manufacture was later discontinued by M/s Bengal Chemicals. Further Dr. Singh told about his active role in the laboratory diagnosis of surra while he was VAS in the office of the Deputy Director, Animal Husbandry, Allahabad.

Attachment of for his alma mater : In the year 1987, I heard that Dr. C.M. Singh took over the assignment of Advisor to Vice Chancellor, Rajendra Agriculture University, Pusa, Bihar for the faculty of Veterinary and Animal Sciences. It appeared surprising for me, because in my opinion it was below the dignity for a person who remained the Director of the premier Veterinary Institute of India for 16 years. But, later I learnt that Dr. Singh had desire to contribute for his alma mater by his rich experience i.e. for Bihar Veterinary College, Patna from where he obtained the basic degree of Veterinary Science.

Dr. Singh gave excellent ideas and suggestions to Vice-Chancellor, Rajendra Agriculture University for bringing about overall improvement of Bihar Veterinary College, Patna. Dr. Singh also mobilised some eminent retired veterinarians of Bihar state and established the Alumuni Association of Bihar Veterinary College, Patna. He was unanimously elected the Founder President of this Association.

Now, I would like to conclude the memoirs of Dr. C.M. Singh expressing few words from the core of my heart about his personality. Dr. Singh was a person parexcellence with full of human virtues. He was a pious, God fearing, honest and kind hearted man. As I understand that Dr. Singh had the distinction of having many firsts in his career. He stood first during all the 3 years of GBVC course at Bihar Veterinary College, Patna. He was the first Indian to remain the Director of IVRI for 16 years. He was the first Indian person to become the President of Veterinary Council of India and also National Academy of Veterinary Sciences

(India). He was also the first person to become the President of Alumuni Association of Bihar Veterinary College, Patna.

It will not be exaggeration to say that Dr. Singh played significant role in the development of the Nation by placing the Veterinary and Animal Science research on the map of India. The visibility of the IVRI was enhanced amongst the farming community during the directorship of Dr. Singh. The demise of Dr. Singh has created a vacuum in the Veterinary profession of this country. It is irreparable loss for this profession.



DR. CHINTA MANI SINGH : AS I UNDERSTOOD HIM

Usha V. Mandokhot

I passed B.V.Sc. with merit from Nagpur Veterinary College, Maharashtra, in 1962. I was the only lady student in veterinary science in Maharashtra. In the same year, I got married to a veterinarian who was a faculty in Banaras Hindu University, Varanasi. I was interested in continuing my education for post graduate studies. My husband was post graduated at Indian Veterinary Research Institute, Izatnagar and serving in Banaras Hindu University, Varanasi, North India was well-aware of Dr. C.M. Singh's reputation as an excellent teacher/scientist in an area of Veterinary Bacteriology and Virology in India. Incidentally, I was awarded ICAR merit junior fellowship for M.V.Sc. in Bacteriology and Virology in 1963. I applied for admission in Veterinary College, Mathura. The then principal was hesitant/reluctant to admit me as there was no facility to accommodate lady student on the campus as there was not ladies hostel. Dr. Singh made efforts, even at ministerial as well as secretary, U.P. Govt. level and succeeded in getting directed the principal to convert one demonstrator's quarter in ladies hostel. He even arranged for a watchmen as night guard. This shows his interest in girls' education. This thinking of him is also reflected in educating his daughters in different fields. When I was finally admitted in Veterinary College, Mathura and started my classes and studies, my husband said, I am free of worries because it has been now taken over by Dr. Chinta Mani Singh.

Dr. Singh used to take our classes. He always used to forget time. During teaching he used to convey/speak about philosophy of life. His favourite words were, "At higher level all sciences merge in common philosophy". This indicates his versatile knowledge and its applicability.

After M.V.Sc. (previous), Dr. C.M. Singh, Professor and Head, Pathology and Bacteriology was made Professor and Head of Pathology only, though he was qualified to guide in both the subjects. This change in his career he took very seriously, true to the Chinese proverb, "Crisis is an opportunity to come up", he took it (crisis) as an opportunity to come up higher and higher. Dr. C.M. Singh re-

signed his nearly two decade's service in U.P. Government and joined as Dean, College of Veterinary Sciences, P.A.U., Hisar. This created a problem for me. The newly appointed Professor and Head, Bacteriology was insisting me to work under him and report daily work and progress. I wanted to work with Dr. C.M. Singh only. He took a firm stand and compelled Veterinary College, Mathura administration and Agra University to continue him to be my guide.

In course of discussion with my mother about reservation for women in education and service, Dr. Singh was very much happy and surprised to know her views, "When women want to progress and occupy positions at par with men then they should compete and or ask for reservation and favour." My mother and all here daughters not only followed this principle in their carrer in medical, veterinary, education but also accepted the challenges.

I observed that and he also said, when he was working hard for the upliftment and progress of institutions (Veterinary College, Mathura, PAU and IVRI) and profession in general, there were parallel forces working against. Winstan Churchill had rightly said, "Kites rise higher against the wind and not with it." Dr. C.M. Singh proved it.

My daughter Aparna got a post doctoral fellowship in prestigious medical institute in USA. When we told this to him, his comments were, "Indian parents" priority is marriage and you have its priority over education". His desire was; she should avail of this opportunity. He emphatically expressed his opinion. When we met him after few months, his joy knew know bounds when we told him that Aparna reached USA to join post doctoral research.

At times, I differed with him on technical grounds. He accepted it very gracefully and it was not reflected in our future professional life. He was proud of me and my achievements, particularly when I joined as Joint Commissioner, Ministry of Agriculture, Government of India. When I was in Ministry of Agriculture, Dr. C.M. Singh was President, Veterinary Council of India. He used to come to Indian Council of Agricultural Research and Ministry of Agriculture for official work with big load of files. He used to sit in my cabin and look into the files. One day he asked me, "Usha, do you know why I come to you and sit here?" I said, "No". He replied, "Because you do not ask and demand me anything."

Dr. C.M. Singh loved science and had capacity to appreciate even the small scientific achievements. When my husband authored one book, he personally came to appreciate and congratulate him. When I was awarded NAVSc fellowship, he also congratulated my husband for help and encouragement given to me.

That was the last time, when I alongwith my husband and son met him in UK in 2003. We were with him for few hours. He was very happy to meet my family and said, "Many people who know me come to UK. They phone me saying we will come to meet you but never come. But you people are the first who came to see me".

This write-up is the best tribute I am paying to this greatest man or 'पुरुषोत्तम'. He was *purushottam* in true sense-great teacher, administrator, professional expert with long and wide range objectives and over and above an excellent human being. I would like to end this write-up by citing a favourite poem of my parents, which gave them, me and my family the strength, moral and courage to lead a life against the current. It is truly applicable for Dr. C.M. Singh's life.

मन साफ तेरा है या नहीं ।
पूछ ले जिसे । पूछ ले जिसे ।
फिर जो कुछ भी तुझे करना है ।
तो कर ले खुशी से ।
घबरा न किसी से ।

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DR. C.M. SINGH : A REVOLUTIONARY IN THE VETERINARY PROFESSION IN INDIA

P.B. Mathur

My first meeting with Dr. C.M. Singh was in the year 1957, as one of the graduate student in the U.P. College of Veterinary Science and Animal Husbandry, Mathura. He had returned afresh from USA after his M.S. Ph.D and joined there as a teaching staff. During my long professional life, as a veterinary research scientist and as Assistant Director General (Animal Science, Education) at ICAR, Headquarters, I was associated with him in various programs, committee meetings, technical seminars and scientific activities. I scratch his valuable span of life in three major portions. As a teacher, as a research manager and as the first chief of Veterinary Council of India.

As a teacher, he had to face the change in the professional educational qualifications. At that time, most of the helm of affairs possessed Membership of Royal College of Veterinary Science (MRCVS) from England. This was natural because we came out from the British regime. The social and financial status of veterinarians was considered comparatively low with persons of poor background and lower intelligence. The department consisted of scarce qualified persons. Veterinary Colleges were numbered in the country. The available veterinarian per animal population were less than one per ten thousand. The poverty of India was the poverty of villages because India's more than 70 per cent population was rural based. The need for upliftment and development of agriculture and animal husbandry was paramount after independence, which was also recommended by many constituted committees. Indian Council of Agricultural Research was reoriented and was vested with the responsibility of agricultural development.

As a teacher in that era, he was not only appreciated by students and staff but major changes were brought about in the Veterinary Colleges. ICAR played a pivotal role in establishing Agricultural Universities and at least one Veterinary College in each major province was established with land grant pattern of education from USA. His contribution was phenomenal because of his own experience. Dr. C.M. Singh was quickly promoted to the level of Dean of the most important and

prestigious Veterinary College of the country and contributed for reorienting and modifying the veterinary education in India. Soon after he was selected as Director of the premier Veterinary Research Institute, i.e. Indian Veterinary Research Institute, Izatnagar. Major life-time he spent in bringing about drastic changes in this old reputed organization. Many upcoming disciplines were planned and new buildings were added like 'Y'-shaped (modular laboratory) building, library, administrative block, hostels, guest houses, staff quarters to house the staff and students. Academic and research programmers were provided with modern scientific equipment to foster a mind setup for research project orientation. Highly competent qualified manpower was recruited. Among scientists, he initiated and created a feeling of developing new technologies for livestock production not only for India but also in wider context of global development. New disciplines-like Veterinary Biotechnology, Veterinary Medicine, Veterinary Surgery, Veterinary Public Health, wildlife diseases and others were introduced in the programmes. In short, major changes after British regime were thought and brought about in his time as Director, IVRI. I was not his close associate but his plans, programmes, thoughts and feelings were always known and sometimes discussed in ICAR, where I participated. On my visits to the Institute, as research review member of different committees, I never found any pending files on his table. He was very clear about the scientific matters and never involved in any undesirable policies and practices.

One of my close working with him was as a member of the committee created to establish a new and first animal science university at Tamil Nadu (TNVASU) in the year 1988-89. First Vice-Chancellor Dr. R. Masillamony, Dr. C.M. Singh and I visited and traveled widely in the State to understand and justify a separate animal science university. Living and passing time closely, I noted and observed a great deal of new ideas in him with dedication, zeal and enthusiasm. He discussed various aspects of the profession, in details and intensively during day and night, at lunch, dinner or breakfast. I observed that he was a man of simple habits, simple food, with no inhibitions. He was God fearing with religious, spiritual habits with cultural background and obligations. He possessed lot of professional knowledge, which was expressed, in his speeches, which were excessively long and would sometimes not allow other to speak.

Real transformation in the veterinary profession, professional competence was seen when he joined as the first chief of Veterinary Council of India. Establish-

ment, formulation and enactment of IVC 1984 was spectacular event in the veterinary profession. Minimum standards of Veterinary Education (B.V.Sc.) like registration of the qualified veterinarians, curricular changes, uniformity of syllabi etc. at under-graduate were done. Minimum departments, staff, teaching-load, duration of courses in different colleges along with equipments and buildings required were the major contributions. The Council is vested with powers under section 19th of IVC Act 1984 to inspect veterinary institutions and examination. The council deputed inspectors for the purpose of finding their status with standard guidelines and performance. This is targeted for quality assurance and expected capability to run the veterinary profession. Professional regulations, registration of veterinarians, State veterinary council, financial assistance, maintenance of veterinary hospitals, veterinary legal cases, annual health certificate, their validity and legal status etc. were initiated. How much they have been implemented in different states is separate matter, which I would not like to comment.

In country - like India bringing such changes in a tremendous task. It requires lot of enthusiasm, zeal, political support, willingness, sacrifice and patience. As the first President of the newly created Veterinary Council of India, he provided the vision, strategic planning, leadership, development in implementation and ongoing management. My feeling about him is natural. At this time, I express that his loss is great. I am sure that he will always be remembered by not only professionals but by all those, who are associated with livestock development in the country.



DR. C.M. SINGH : MY FORTY YEARS ASSOCIATION

M.L. Mehrotra

I came in contact with late Dr. C.M. Singh at Mathura when he had started his carrier after returning from USA. Sometime during 1958 he was our neighbourer, living in front of our house in 'Gopal Bhavan' belonging to Mr. D.P. Bhargava. My family had been associated with U.P. Veterinary College, Mathura since its establishment during 1947. Senior Professors-like Dr. R.L. Kaura, Dr. P.G. Pandey, Dr. R.B. Singh, Dr. A. Roy and many other staff members used to stay in adjacent bungalows near Cantonment and used to visit our famous photo studio cum residence M/s Chiranji Lal & Company. Besides business affairs the group also had friendly relation with my father and uncle (late Sri Chiranji Lal Ji). Incidentally my house had sweet water well and all these families used to collect drinking water from the same and meet frequently. To some extent our family was also instrumental in establishment of the college.

Dr. Singh was probably youngest in the group and had young children. These children used to play with my niece in our premises and lawns. His eldest daughter Shyam Kishori (Dr. Mrs. Shyama Singh) was eldest in the group. Dr. Singh used to remain busy in his research work and return to home late in the evening. At that time, I was a B.Sc. student and studying at Agra and I had never met or seen him. After some time Dr. C.M. Singh shifted to another near-by house where Dr. R.B. Singh's family was residing. Unfortunately, Dr. R.B. Singh expired during service and Dr. Singh occupied a portion of this house. Dr. A. Roy and other staff also used to live in the same campus. Dr. Singh had great regards for the family of late Dr. R.B. Singh, Professor, Animal Genetics and Breeding. He extended all possible help to his family. Dr. R.B. Singh had left behind him his wife, one married daughter (Dr. Mrs. Kamla Singh) and two sons.

I joined B.V.Sc. & A.H. at Veterinary College, Mathura in the year 1959. In second year of B.V.Sc. & A.H. he was our Pathology teacher. He took our classes on cancer for almost one month. Again in third year of B.V.Sc. & A.H. he taught us General Virology including virus multiplication in cells. Dr. V.K. Sharma used

to accompany him. At this time, Dr. B.S. Rajya, Dr. B.S. Malik and other dedicated staff was working with Dr. Singh in the Department of Pathology and Bacteriology. We used to get lot of practical training in classes including post-mortem examination of poultry and animals. Dr. Singh used to be present in every practical examination with external examiner to assess students. He was Dean, Faculty of Animal Sciences at Agra University to which the college was affiliated for the award of degrees. He introduced partial internal examination grading system during his period. I completed B.V.Sc. & A.H. in the year 1963 and joined in college as staff for two years. I used to meet Dr. Singh frequently at the College. During his visit to our house he used to discuss amongst other matters including prevailing practices of his village Belaon in Distt. Jaunpur. In the year 1963, I left for my post-graduate studies for Veterinary College, Bikaner. Soon Dr. Singh also left Mathura and joined as Dean, HAU, Hissar.

I completed my M.V.Sc. degree and joined at Trachoma Research Center (ICMR), Gandhi Eye Hospital, Aligarh. During this period, I once met Dr. Singh and he asked me to join on the post of SRA at the IVRI. During 1970, I appeared in an interview for the post of SRA at IVRI as my project at Aligarh was coming to close. In the month of April 1970, I again came to IVRI and met Dr. Singh in his office. I enquired about the result of previous interview for which I appeared. He called me after a few hours and informed that I was selected for the post but financial approval of project from ICAR was awaited. He asked Registrar, Mr. Sagar whether any post of RA was vacant. Mr. Sagar informed Director that approval for a post of SRA under All India Coordinated Research Project on Calf Mortality had just been received. Director immediately directed him to give me offer of this post. To my utter surprise, same evening, I received the appointment letter for the post of SRA. I joined at Division of Pathology, IVRI on 14th May, 1970 and started working under the able guidance of Dr. B.S. Rajya, Head, Division of Pathology.

My life at IVRI was very busy and I did not meet Dr. Singh for any work or help for long time. I visited Japan in 1972 and UK in 1981 for scientific trainings. I think this was possible due to kind help of Dr. Singh. He frequently used to visit my laboratory at room No. 101 of MLB along with visiting scientists. He used to take lot of interest in my research project on emerging viral diseases-like IBR and bluetongue. I have attended several Annual SRC meetings under his Chairmanship, which he used to conduct late evening hours. The working atmosphere at the Institute

❖ Dr. C.M. Singh : Memoirs ❖

and Division of Pathology was excellent. During this period from the post of SRA, I was promoted to the posts of ADIO, Scientist S-1, S-2 and S-3 of ARS. I was always associated with Dr. B.S. Rajya and worked for development of Division of Pathology. At one time, it was the best-equipped division of the Institute.

Unfortunately, during 1982, just before retirement, Dr. Singh fell sick. At this time, I accompanied him till he was admitted in Military Hospital, Bareilly and later shifted to Delhi. I accompanied him to Delhi in a car. After some time he recovered from this ailment. He then started working for profession with same zeal and enthusiasm. I assisted him to shift his household items to his residence near *Krishna Janmabhoomi* at Mathura. After retirement he developed close association and liking for me. Whenever Dr. Singh used to visit IVRI, he used to call me and discuss my research on IBR and Bluetongue diseases. At times we travelled together to Delhi, Pune and Mukteswar. I was closely associated with him when he was asked to chair one session in World Buffalo Conference held at Delhi. I assisted him in compilation of his lecture for this Conference. I also worked with him for his Silver Jubilee lecture to be presented at Indian Science Congress held at Pune. He was interested in retroviruses particularly on Caprine Arthritis and Encephalitis (CAE) and Buffalo lymphosarcoma viruses. He used to spend lot of time in the library and collect literature for his reference and I enjoyed every moment of working with him. He was all the time worried about development of veterinary profession and its future.

He used to visit my house and preferred simple vegetarian meals. He had special liking for '*fry mung dal*', '*khichari*', '*mukka chapati*' etc. He loved to eat fruits-like mangoes and guava. I found Dr. Singh a dedicated scientist, honest administrator and staunch veterinarian. He will always be remembered for his selfless devotion to profession and upliftment of veterinarians. His contribution in establishment of Veterinary Council of India and National Academy of Veterinary Sciences will always be remembered by the society and veterinarians of India. Even time will not be able to erase his contributions to the advancement of Indian veterinary profession.



DR. C.M. SINGH : A GREAT MAN AND TRUE REPRESENTATIVE OF VETERINARY SCIENCE

R. P. Misra

I came in contact with Dr. C.M. Singh at U.P. Veterinary College, Mathura during 1958 when I was a student of B.V.Sc. & A.H. and he was Head, Department of Bacteriology and Pathology. He was probably youngest Professor at the College. Dr. C.M. Singh had intimate family relations with Prof. R.B. Singh who was Professor and Head, Department of Animal Genetics and Breeding. Prof. R.B. Singh belonged to a village of Distt. Jaunpur near which my village is also situated. Prof. R.B. Singh had helped Dr. C.M. Singh in his deputation to USA for higher studies. Therefore, Dr. Singh was personally obliged to Prof. R.B. Singh and had high regards for him. Unfortunately, Prof. R.B. Singh passed away for heavenly voyage during an official tour to a hill station. At this point of time, Dr. Singh came forward to help the family of Prof. R.B. Singh and shifted to same premises where family of late Prof. R.B. Singh was living. In this way Dr. C.M. Singh helped this family during crisis, which showed his kind hearted nature.

When Dr. Singh used to lead M.V.Sc. students on educational tours, he used to look after them very well even at his own expense. He also used to invite experts from various Medical and Veterinary Colleges for scientific lectures on current topics. He used to expose students to recent developments in discipline of pathology and bacteriology. I remember that during 1959-60 he invited Col. (Dr.) Kalra from Army Medical College, Pune who delivered a talk on relatively uncommon topic "Rickettsial infections of human beings". He also deputed one of his students, Dr. Tiwari for training in the mycology. Later Dr. Tiwari got post-doctoral fellowship (PDF) in USA only on account of this training and his research work in animal mycology. Presently, Dr. Tiwari holds a high position in USA.

In the year 1966, Dr. Singh joined as Director of Indian Veterinary Research Institute, Izatnagar. At this time, Division of Biological Products was one of the active and pioneer divisions of the Institute. Dr. Singh started taking lot of interest in the activities of this division. From time to time he asked Dr. T.L. Gulrajani and Dr. S.K. Sinha the than Head of Divisions to organize short-term courses/trainings for

field veterinarians working in states. This provided country trained man-power for preparation of vaccines and biologicals for the control of dreaded infectious diseases among livestock. He advised all the State Department of Animal Husbandry to strengthen their Biological Products sections and get sufficient aid from Government of India from Five Year Plan with the result country became self-sufficient in veterinary biologicals. He was fully responsible for the replacement of old goat tissue rinderpest vaccine with more potent tissue culture rinderpest vaccine in the country. This vaccine helped to eradicate rinderpest from India. In the same way he successfully replaced crude sheep brain tissue rabies vaccine with Flury strain of rabies vaccine. This was another break-through in vaccinology in the country.

Dr. Singh's personnel encouragement helped me to develop canine distemper and sheep-pox tissue culture vaccines. He managed to get technology of sheep pox vaccine production from Iran. I had the privilege to work on these new biological products. With this experience of production of veterinary biologicals I got an appointment in FAO for which I am obliged to him. During his tenure as Director, IVRI, Izatnagar, Dr. Singh had made relentless efforts to mobilize funds from ICAR, UNDP, PL480 scheme, FAO and WHO in building strong infrastructure for the Institute. Dr. Singh used to admire good workers and helped them in their career promotion and progress. He used to refrain from adverse personnel comments on anybody.

He was a sympathetic human being. Prof. P.K. Ramachandran had some misunderstanding with Dr. Singh but when Mrs. Ramani Ramachandran fell seriously ill, Dr. Singh regularly used to enquire about her health. Mrs. Singh used to visit Mission Hospital, Bareilly to see and know her welfare. He was a super gentle human being and a stern veterinarian.

The aim of Dr. Singh had been to do something substantial to help and improve the standards of veterinary education in the country to make it more informative and applicable and for this he made efforts to established successfully Veterinary Council of India (VCI) and National Academy of Veterinary Science (NAVS)".



DR. C.M. SINGH : AN INIMITABLE VETERINARY ARCHITECT

C. Natarajan

Dr. C.M. Singh was a great visionary. He had strong professional convictions and executed them boldly. He was well-known for his able administration with impeccable honesty. He believed in integrating animal health, animal production and animal products technology for the optimal growth of animal husbandry research, education and development in India and strived hard to achieve it. I had the good fortune of having four decades of close association with Dr. C.M. Singh when he was the Director, IVRI and President, Veterinary Council of India. It is not easy to describe the multifaceted personality of Dr. Singh. I have made a modest attempt here to list some of his notable achievements in animal health in which I had an in-depth personal involvement.

The year 1968 which became a turning point in my professional career was closely linked to the time when Dr. C.M. Singh had just completed two years of his office as Director, IVRI. Having got my postgraduate degrees with theses on Staphylococci and Corynebacteria, I was looking for a career in Veterinary Bacteriology at IVRI. Dr. Singh had just then succeeded in getting an ICAR funded All India Coordinated Research Project on Foot and Mouth Disease Virus Typing and he was keen that I should get into the Project as an Assistant Virologist. It was the start of a logarithmic rise in my career and I accepted to change my professional interests to virology.

His futuristic vision on FMD epidemiology and control in India had its roots in the establishment of the AICRP. The Project initially had four Regional Centers and was aimed at innovative research on FMD virus typing. My task at that time involved several visits to investigate FMD outbreaks in the length and breadth of the country and virus typing, preservation of virus types and mapping of their incidence. The teamwork carried out under the overall guidance of Dr. Singh led to the firm establishment of the Project, which laid the foundation of the presently enlarged Project Directorate on FMD.

With the large collection of FMD field isolates and expanded facilities for virus typing, the understanding of the epidemiology and the antigenic coverage of

the strains substantially improved. With this first step, Dr. Singh focused his attention on the development of a modern vaccine for FMD. His vision and unstinted efforts led to the production and standardization of Tissue Culture Vaccine, first with cattle tongue explants at IVRI, Mukteswar and then with BHK 21 monolayer cum suspension culture in fermenters at Bangalore in collaboration with DANIDA. This was the beginning of manufacture of modern FMD vaccine in India. I had the opportunity of continuing that monumental effort as Joint Director of the Bangalore Campus in later years.

Dr. Singh had the credit of introducing new disciplines of Veterinary Epidemiology, Veterinary Public Health, Immunology etc. in IVRI, which became the fore-runner for subsequent inclusion of these disciplines in other State Agricultural Universities. He identified me for advanced training in Epidemiology in the School of Public Health at the University of Minnesota, USA under a WHO fellowship programme. After my return from USA he appointed me as Epidemiologist and entrusted me with the responsibility of organizing the Division of Epidemiology. He was very clear in his mind that the epidemiological studies were quantitative in character and required a firm integration of livestock statistics and economics in the aspects of descriptive, analytical and experimental epidemiology. His vision was such that he had been constantly advising me to make liberal use of the then available computer facilities at the Institute of Agricultural Research Statistics in New Delhi. Presently, computer based data analysis has become vital to epidemiologic decision-making.

I owe in large measure to Dr. Singh when he picked me up dramatically, as was unique to him, to function as the Head, Division of Veterinary Public Health at IVRI. His leadership, dynamism and professional acumen saw through the linkages of IVRI with WHO, CDC Atlanta, USA and the Department of Health in Germany. Several inter-country seminars and training programmes were organized in IVRI bringing together the medical and veterinary professional all over the world. This led to the recognition of IVRI as a WHO/FAO Collaborating Center on Veterinary Public Health for South-East Asia. During this period, Dr. Singh played a vital role in the organization and conduct of inter-disciplinary research with ICAR, ICMR and the Ministries of Health and Agriculture. A sound beginning was made by starting a post-graduate programme at All India Institute of Hygiene and Public Health at Kolkata in 1971 with the award of the MVPH degree of the Calcutta University.

My association with Dr. Singh continued even when I was functioning as Director, in the Department of Biotechnology, Ministry of Science and Technology, New Delhi. His regular guidance and advice helped the DBT in establishing the research and developmental infrastructure for Animal Biotechnology in the country. He had then become the Founder President of the Veterinary Council of India to serve the larger cause of veterinary profession. With my completion of tenure at DBT, I was posted back to ICAR as Principal Scientist and Project Coordinator, National Project on Rinderpest Eradication, in the DAH&D. In that capacity I had an intense association with Dr. Singh by helping him to establish the office of the VCI and its multi-faceted activities.

During my tenure as Joint Director cum Officer-in-charge of the IVRI campus at Bangalore, Dr. Singh provided me the much required moral support to carry out my responsibilities which elevated the stature of the Campus to effectively compete with the private sector in FMD vaccine manufacture by improving the training and quality control aspects. It was with his advice that a High Security Animal Testing Facility was established at Yelahanka under the IVRI Bangalore campus.

Dr. Singh will shine forever as an invaluable jewel in the crown of veterinary profession in India in view of his innumerable lifetime contributions.



DR. C.M. SINGH : REMINISCENCES

K. Pradhan

I remember my first meeting and introduction with Dr. C.M. Singh, then Director of IVRI, Izatnagar some time during second half of 1970 in Krishi Bhawan corridor when I was searching for the committee room where an interview for the post of Project Coordinator (Forage Crops) was to be held. Dr. J.S. Kanwar, then Deputy Director General (ICAR) was seen walking towards us. Dr. C.M. Singh and Dr. J.S. Kanwar wished each other and exchanged some note, while I was standing there. I introduced myself to with Dr. Kanwar as the Professor and Head, Department of Animal Nutrition in the Haryana Agricultural University, Hisar and requested him to direct me to the committee room, I was looking for. Dr. Kanwar extended me a warm welcome and stopped me there. Both Dr. C.M. Singh and Dr. J.S. Kanwar seemed to be very happy to meet me. I narrated about my working with USDA, Beltsille, USA before my joining the Haryana Agricultural University, Hisar. After talking to them for some time, I realized that both were serving HAU till 1970. Dr. C.M. Singh was Dean, College of Veterinary Medicine and Dr. J.S. Kanwar the Director of Research before joining ICAR. We had good interaction, discussing about agricultural research and education. It was more of educating me about the system. They were happy that I joined HAU after leaving a job in USA and encouraged me to do well under the dynamic leadership of the Vice-Chancellor Mr. A.L. Fletcher.

Dr. Kanwar, who was the Chairman of the Selection Committee of the post of which I was an expert member, led me to the committee room and then, Dr. C.M. Singh proceeded to Director General's chamber in Krishi Bhawan. Since then, I developed great regard for Dr. Singh and continued to interact with him whenever any opportunity came. I could find in him the greatness of a Scientist and a Veterinarian, always talking of the role of veterinary science and veterinary profession in the context of rural economy.

Dr. Singh was a great visionary and determined to pursue science and develop technology on health and diseases of livestock and poultry. At the same time he wanted upliftment of the status of veterinarians in the country. He was a rare individual who always thought of livestock development and also professional advancement and loudly expressed them both in private and public. He once told me in private, "Pradhan, I have worked hard with all sincerity and honesty to

contribute my best in veterinary sciences, but some unfinished work is left for me to be completed before it is too late i.e. establishment of Veterinary Council of India (VCI) and National Academy of Veterinary Sciences (NAVS)". That was a part of his vision for veterinary profession, which he could also accomplish within the time frame probably set by him.

He was so happy when he learnt that I was appointed as the Vice Chancellor of OUAT Agricultural University, Bhubaneswar. He telephonically congratulated me and conveyed his blessings for my success. He reminded me that "Dr. G. Biswal, then Dean of Orissa Veterinary College was an aspirant for the post and could not be appointed because, he was a Veterinarian but now his student i.e. K. Pradhan is occupying the position. It gives me great pleasure."

My last meeting with Dr. C.M. Singh dated back April 16-17, 2002 at IVRI, Izatnagar when the Third Convocation of National Academy of Veterinary Science along with a National Symposium on "Historical Overview on Veterinary Sciences and Animal Husbandry in Ancient India (Vedic and Ashokan period)" was organized by NAVS and IVRI. Dr. Panjab Singh, Director General, ICAR and Dr. C.M. Singh and many eminent veterinarians were present on the occasion. That was probably the most successful last event for Dr. Singh. In the evening of 16th April, we had a meeting in Dr. C.M. Singh's room in VIP Guest House of IVRI. Dr. Panjab Singh and myself were present. We discussed in great details about the financial status and the future of the Veterinary Academy. It was alarming to note that NAVS has no financial support from any source in the Government. Dr. Panjab Singh was apprized of it and got convinced that NAVS should receive financial support from ICAR as being provided to National Academy of Agricultural Sciences, for which President NAVS should approach Director General, ICAR immediately. Also, NAVS should request the Department of Animal Husbandry and Dairying, Ministry of Agriculture, Government of India, New Delhi for grants. It was very unfortunate that Dr. Singh had to rush to England for treatment and continued there for long and therefore, could not pursue the matter further. Since then, I had no occasion to meet him, though regularly being informed about his deteriorating health. I got the sad news of Dr. Singh's demise from Dr. B. Panda, Ex. Director of CARI, Izatnagar.

We are all proud of him and his contributions to the Veterinary Science and Veterinary Profession. I admire him for his determination, will power and straight forwardness in achieving the goals. I salute to the distinguished personality.



DR. C.M. SINGH: A BRILLIANT SCIENTIST AND COMPETENT ADMINISTRATOR

G.S.C. Ranga Rao

Dr. Chinta Mani Singh, M.S. Ph-D. (Michigan, USA), a doyen of Veterinary profession was born at Belaon, Distt. Jaunpur (UP) on 30th November, 1922. He worked as Professor of Bacteriology and Pathology at Veterinary College, Mathura and also subsequently as Dean, Veterinary College at Haryana Agricultural University, Hisar. By virtue of his academic excellence, vast and varied administrative experience, he was selected for the coveted post of Director, IVRI, Izatnagar where he worked for a long period of over 16 years.

His phenomenal contribution of developing the Institute from mere 6 divisions to 22 divisions is a testimony par excellence of his professional skills, devotion and dedication to the cause of elevating veterinary profession to national and international levels. Dr. Singh was an embodiment of fine culture and inspite of his busy schedule he always found time to listen to the problems of his subordinates. He was kind, fair to the scientists working with him and after thoroughly analyzing their suggestions. He used to take quick decisions and implement them with lightning speed. Dr. C.M. Singh's contributions in the field of Veterinary Sciences are many and well documented which earned him national and international recognitions:

I met him first in October, 1970 at IVRI, Izatnagar, while undergoing specialized training in "Trichomoniasis in Cattle : Diagnosis, Treatment and Prevention". He told me that he was very keen to start a National Diploma of 9 months duration in Equine Husbandry, Medicine and Surgery in IVRI. Since Remount and Veterinary Corps of Indian Army got necessary infrastructural facilities and holding a large number of quality equines in their organized stud farms and Remount Depots, the course can be run at Army Veterinary School (new college) at Meerut Cantt. (UP). According to him, not much attention was paid in many Veterinary Colleges in our country in the important field of equines and therefore he wanted to establish a separate institute exclusively for conducting research on equines disease control, genetics, breeding, etc. and shall request ICAR to establish such institute in the near future. On my return to Meerut, the matter was discussed with Addi-

tional Director General, RVS Army Headquarters. A detailed syllabus was prepared for the National Diploma Course and forwarded to the Director, IVRI for his approval, and the course was subsequently started at Meerut.

I worked as Senior Instructor for 5 years at RVC Centre and College. At the end of each academic year Dr. Singh made it a point to visit Meerut, addressed the student officers and presented the Diploma of NDEHMS. During his address he used to highlight the recent advances in Veterinary Sciences and encourage the students to equip themselves with better skills and to upgrade their professional knowledge, which would go a long way for improving their future prospects.

During May and June, 1971, I attended Summer Institute on "Immunology" at IVRI, Mukteswar. Dr. Singh addressed the scientists and student officers. He mentioned that he was making all out efforts to get the status of Deemed University to IVRI, which should be the first Veterinary University of its kind in Asia. He achieved his long cherished desire subsequently.

While I was working as Joint Director and Station-in-charge at IVRI, Mukteswar during 1990-95, Dr. Singh visited thrice along with some senior scientists from ICAR and had long discussions with me on improvement of Mukteswar Campus-providing best research facilities to the Scientists and improving the quality of life of the employees. He emphasized that all old buildings should be repaired and renovated and every employee should be provided with residential accommodation and the Central School should be upgraded to 10+2. I completed these assigned tasks within 3 years. I used to meet Dr. Singh at IVRI, Izatnagar during the meetings of Academic Council/Board of Management. During March, 1993, I informed him that IVRI Campus, Mukteswar completes hundred years in that year and we would like to celebrate its Centenary on a grand scale and organize a National Symposium during November/December, 1993. I requested him for his valuable advice and guidance. He advised me to invite eminent scientists for the symposium and bring out a souvenir. He suggested that required funds might be collected towards advertisement charges to be published in the souvenir from various drug pharmaceutical companies and organizations dealing with animal feeds and veterinary equipments and stores. The required funds were collected and with the whole-hearted support extended by the Director, IVRI and excellent co-ordination and help rendered by the staff at Mukteswar. The Centenary was celebrated with

❖ Dr. C.M. Singh : Memoirs ❖

pomp and show, which included games and sports events, dramas for the Mukteswar staff members and for the students of Central School and other schools located at Mukteswar.

In January, 1995, Dr. Singh attended Academic Council meeting and he suggested that there was requirement to start a National Diploma on "Wild Animals-Their Care, Management, Disease diagnosis, Control, etc. at IVRI, Izatnagar/Mukteswar".

Dr. C.M. Singh was the founder President of Veterinary Council of India and founder of National Academy of Veterinary Sciences. He was the architect for framing the B.V.Sc. and A.H. Regulations (1993), which brought uniformity in under graduate veterinary education in our country. He rendered yeoman's service to the veterinary profession. His gentleness, humility and noble qualities will be remembered forever by all the veterinarians in our country.

Despite his failing health since the year 2001 he was very enthusiastic in professional and scientific activities in India and Asian countries. In his death veterinary profession has lost a brilliant scientist and very able and competent administrator. His demise has created a vacuum, which will be difficult to fill-up. I salute his noble soul and pray to almighty to bestow it eternal peace.



After completing his Ph.D. degree in Pathology in 1956, Dr. C.M. Singh came as a Professor of Pathology and Bacteriology, when it was one Department at Veterinary College, Mathura. He was full of zeal and dynamism coming straight from the USA. He had initiated the concept of holding Workshops/Seminars at Veterinary College, Mathura given by the students and the faculty members. Staff Research Council Meetings in the Auditorium of IVRI, which used to run for a week or more, used to be very lively. I remember we as Heads of Division had to do lot of home work at the Divisions and come fully prepared.

He occupied the Chair of President, VCI and the National Academy of Veterinary Sciences with distinction. He got the National Academy of Veterinary Sciences (NAVS) registered in 1993 on the lines of National Academy of Medical Sciences, which will provide Continuing Veterinary Education as well as provide Post-graduate education to the veterinarians.

Several anecdotes occur to my mind, trivial though they might appear; yet there is a hidden message for all of us to learn from them. It had always been his attitude to treat the property of the IVRI as public property. I can vouch about this because on many occasions when we used to go to attend IVRI meetings at Mukteswar, he would invariably enquire me whether I was going by my own car. I would always say 'yes' because I would like to take my family with me. Then he would tell me that he would not allow the mileage by car since the staff car was also going and I was supposed to travel by IVRI vehicle. I learnt this great lesson from Dr. C.M. Singh that if an official was taking his family to the place of temporary stay and was using his own car, one should not be a burden on the public exchequer. Hence, I would never charge TA/DA for such journeys. I still vividly remember that once he was going to Delhi by staff car, he did not allow his wife to share the vehicle. She traveled on her own in a public transport bus. Unfortunately, while traveling on one such occasion by bus, she was hurt in the back from which injury she has not yet recovered. Small and insignificant though these incidents might appear, they have a great message of integrity and honesty. It is common practice these days that we just do not distinguish between official duty for which we are entitled certain perks, vis-à-vis private work which we might combine with it. Now a days, the certificate that the Government officials have routinely been giving is that they were constructively and not merely at the place of temporary stay, so as to entitle themselves for full TA/DA for the whole period of stay. However, people of the caliber, integrity and honesty of Dr. C.M. Singh would never do so.

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Dr. Singh combined the rare qualities of head and heart, honesty, integrity, devotion to duty and leadership to take with him his colleagues and staff through thick and thin.

Dr. C.M. Singh has established the Veterinary Council of India on a sound footing for which we have now our own building and the Courses for B.V.Sc. & A.H. have been adopted. He successfully fought for conducting the Pre-entrance Examination to Veterinary Colleges of India from the ICAR through the intervention of Supreme Court of India. Similarly, he established sound foundation of NAVS in which now 300 Fellows have been recognized for significant contribution and eminence in the country. During his last visit to India in January 2005, I had the privilege to meet him at his residence in Vasant Enclave, New Delhi. While blessing me on my election as the President of NAVS, he had wished that the NAVS would strive to achieve its avowed goals. He had then discussed with me for almost 3 hours what really he wanted from the Academy. I do hope we will come to his expectations.

We had a very close family relationship with Dr. C.M. Singh. My children went to the school with his children. Actually my eldest daughter, Sunita and Bhaiya (Satyendra) were classmates in Bareilly. On many occasions we will go on picnics, which were organized by my wife, Mrs. Ranjhan, who was Secretary of the Children's Club of IVRI.

To sum up, it will not be an exaggeration to say that Dr. C.M. Singh was *Bhishmapitamaha* of Indian Veterinary Profession. I also really feel honoured to have received the Dr. C.M. Singh Samman-2004 Award, as it is associated with Dr. C.M. Singh's name who has always been my philosopher, friend and guide.



DR. C.M. SINGH: INSPIRATION BEHIND ESTABLISHMENT OF CENTRAL INSTITUTE FOR RESEARCH ON GOATS

K.L. Sahani

During one of the ICAR Institutes Director's annual meetings at Krishi Bhawna, New Delhi Hon'ble Sri Jagjiwan Ram, the then President of Indian Council of Agricultural Research and Union Minister of Agriculture, GOI, expressed desired that we should help the poorer section of the society by encouraging Goat Research and Development and Extension in the Country. Soon after, Dr. M.S. Swaminathan, Dr. B.K. Soni and Dr. C.M. Singh met together to draw an action plan for the purpose. Dr. C.M. Singh who had already established himself as a dynamic leader for creation of infrastructure at IVRI, Izatnagar (Y-shape or Modular Laboratory Building) and at FMD Vaccine Production Laboratory, Bangalore, was given the responsibility to develop Makhdoom Farm as another Campus of IVRI for sheep and goat research. As a matter of fact, he was already negotiating with U.P. Government for acquiring the Makhdoom Farm during last 3 years. Somehow, the Department of Animal Husbandry, U.P. was reluctant to part with this farm which was not serving any useful purpose at that period of time. The credit for getting the farm transferred to ICAR in December, 1974 should go to late Sri Shah Nawaz Khan, Hon'ble Minister of State for Agriculture, Govt. of India, New Delhi. Dr. C.M. Singh got this matter sorted out quickly between Lucknow and New Delhi. A month before this deal, I was suddenly relieved from CSWRI, Avikanagar, Rajasthan to join at IVRI, Izatnagar. During this period, I was getting myself acquainted with the Sheep Project (Mutton) at Izatnagar and Pashmina Goat Project at Mukteswar.

Dr. Singh called and told me to proceed to Makhdoom along with the Deputy Director, Department of Animal Husbandry, UP, who was deputed by the Government of U.P. for handing over the charge of the Farm. Dr. B.U. Khan assisted in taking charge of the infrastructure of Makhdoom. Immediately, before proceeding at Makhdoom, Dr. Singh suggested that I could establish an office at Mathura or Agra and stay at any of these places because except for a dilapidated buildings, there was nothing worth living at Makhdoom. However, my reaction was that in the interest of developing of campus, it is necessary that I should stay at

the farm and should be available at the spot. As he saw this determination in me, his face gleamed with a broad smile. He stood up from his chair and shook hands with me and uttered spontaneously "Now my problem is solved".

Simultaneously the staff alongwith few heads of *Muzaffarnagari* sheep of IVRI were transferred to Makhdoom. Few *Jamunapari* goats were already available at Makhdoom Farm. The services of all the staff which comprised of few *mazdoors*, drivers and a technician were retained after they were given option either to go back to State Service or stay permanently with ICAR.

Makhdoom farm did not have even an approach road as it was a neglected ravine jungle located at the bank of Jamuna river. Hardly any piece of land was plain. It was a sandy soil with uneven and forest vegetation. Lot of rainy water would stagnate. The unauthorized grazing by cattle of surrounding village was common. Even criminals would easily pass through the farm and cross the Jamuna river. Even drinking water was not available. A bullock cart was used for bringing drinking water in the big drums for distribution among us. The place was dead dark during nights. Snakes would enter even my residential quarter (A type II, small two room quarter) where I was staying with my family. Dr. B.U. Khan was staying alone in the small hut made of thatch and wood. The remaining Scientists had to stay in dingy and small rented houses at Farah which was just 1km away. Farah Bazar was a big consolation for meeting our daily needs. One jeep was made available from IVRI, Izatnagar which served the official purposes as well as for sending our children to schools at Mathura. All the children suffered because the timings of various schools were different and lot of time was wasted in waiting for each other.

The wild *babool* trees and *zauliflora* was quite abundant around our residential and office sites. Its smell was awful and obnoxious. Somehow, my wife became allergic to the smell and she could not eat food properly for first few months of our stay. Fortunately this was temporary set back and she gradually adjusted. I also had three attacks of malarial fever during first 2 years. Since we had come from a semi-desert area of Rajasthan, we did not have the experience of this serious fever during last 5-6 years. There were no medical facilities. Even Dr. V.S. Vihan, Scientist (Veterinary Medicine) felt nervous after seeing the magnitude of shivering and high fever. Even so we could manage the fever with the use of anti-malarial drugs.

The first item of purchase consisted of few tents from Jail at Farrukhabad. Dr. B.U. Khan managed these items and got these tents pitched to serve as office and sitting rooms for scientists. Few thatched huts were also put up to serve laboratories. An old type writer (manual) was handled by our store-keeper. Most of the correspondence was done by me in my own hand writing during first one or two years. A guest house was also built with specific tents. It gave wonderful experience and comforts to many visitors who come to stay with us. Few friends came to stay with their children and moved about in the forest area and around Jamuna bank for enjoying the nature's beauty and some peacock dancing around. A bullock cart was always at our disposal for moving inside the farm (about 700 acres) and going to bus stand at Farah. School going children came from Delhi to see lamps being lit with kerosene. They had never seen such lamps earlier. Thus in spite of all the hardships of living, the life became interesting, exciting and challenging. After a year or so temporary arrangements for electric connections could be made.

During our first meeting which was attended by all the four scientists Dr. J.D. Joshi, B.U. Khan, V.S. Vihan and N.K. Sinha, I made the following statements which formed our basis of future working:

1. No wrong act should be done even if I happen to ask you to do. You should have courage to say "No" to me and any other higher up.
2. Whosoever make any purchase locally from Mathura or Agra or any other place, he should put his signature on the back of the voucher. This would make us each responsible for the reasonableness of rates.
3. We should set as example for discipline, honesty, punctuality and avoid wasteful expenditure. The lower staff will follow our example.
4. You are all like my younger brother and we will sit together in the same boat. Patience and truth will help us in meeting the challenge of developing Makhdoom Campus.

Dr. C.M. Singh used to visit Makhdoom almost every month during first year of establishment. He provided lot of moral support and treated us with compassion and gave his mature guidance and help in basic planning and execution of several items of activity. He used to appreciate our little achievement and would mention the merits of team work every where in the country. This attitude kept us

moving and enable us to face all the hardship gladly. With his moral support we became soldiers and kept our objective above everything else.

After getting us adjusted to the new situation we started action on several fronts. Dr. J.D. Joshi was deputed to purchase fresh stock of *Muzzaffarnagari* sheep. I had also gone there to make a spot assessment for facilitating the work. Subsequently this sheep flock thrived so well in the ecology of Makhdoom that it becomes our pride possession. My experience of first purchasing and then managing several thousand sheep at CSWRI, Avikanagar, proved quite helpful. We used to do a lot of waling in the farm and all our staff would spend fore-noon with the livestock. Dr. C.M. Singh was also fond of walking. It was during one such walk near Jamuna rive where he had gone to see water lifting arrangement with a diesel pumping set he remarked, "Dr. Sahni-Development of an institution is a National asset and whatever you do here it would go down in the history as your professional achievement." Believe me, this remark was responsible for changing my outlook. Earlier I was feeling frustrated that I was not allowed to do my research work at Avikanagar where I was busy in building small school on "artificial insemination of sheep". That was my only regret. I realized that I shall not be able to make publication for the few years. The land development work was given to Rajasthan Agro (A public undertaking) and the bull dozer did a very difficult job. It was a novel experience. The cultivation of fodder crops was done in the fields leveled. The change in shape of land was very scenic and exciting. Those who had seen the Makhdoom farm earlier will not believe the extent of face lifting of land done mechanically.

Simultaneously we have been frequently meeting the CPWD authorities and senior architect at Agra and Delhi. Dr. C.M. Singh was kind enough to go with me several times for getting the detailed drawing made. The survey and mapping of entire farm was done in the first year itself. The approach road, fencing, boundry and livestock farm was completed in the year 1977-78. Electrification of campus, construction of 44 residential quarters, human hospital, overhead tank, electric substation, 250 KVA big generator set and long farm roads were completed subsequently. The residential quarters were utilized for office, library, laboratories, committee room or guesthouse temporarily. Earlier our campus gave an appearance of "ashram" but now it was functioning from residential quarters. In the year 1977 and 1978, 6 more young and energetic Scientist (S-1) of ARS had joined. Thus, the

team became fairly strong. We started publishing papers mostly popular and extension type. Several research projects were started. Extension work around villages became very popular. A ICAR Summer Institute on Goat Production was organized. This gave an opportunity to meet many experts who came to lecture as well as gave advise to our young staff. Subsequently a very elaborate book on "Goat Production" was published and distributed.

Another interesting feature of the campus was that many important persons from all walks of life and foreigners from international organization came to visit us. The first VIP to visit was Sri Shah Nawaz Khan, Union State Minister of Agriculture in the year 1976. It was the first and big historical event. He evinced keen interest and encouraged us to continue in this nation building activity. After observing our situation and different working conditions he became our admirer and supported at the ICAR head quarter.

The ICAR declared the Makhdoom campus of IVRI as a Central Institute for Research on Goats (CIRG) in July, 1979. I was appointed as officer on special duty (OSD) and was given the same power as that of a Director of any other Institute. I was also working as a Project Co-ordinator for All India Coordinated Research Project on Goats since early 1976. All this could be possible in a short period of three years. Indeed, IVRI helped us a mother institute. Although we did not have any senior officer to work as Administrative and Accounts officers but the staff at Izatnagar became cooperative and attended to our problems at priority. At Makhdoom we could develop a team spirit which was backed and encouragement by the commanding force of Dr. C.M. Singh. He responded full faith and confidence in us, which kept us moving in spite of difficulties.

It is impossible to go down to memory lane far as back as 30 years and count even all the important events. However, I could not forget our deplorable living condition. There were several visible cracks in our old quarter and in the office building. Although these structures were declared unsafe still we could not help using them. One day when we were busy in attending "*bhumi puja*" at the laying of foundation of new residences, the roof of old office building gave away with a big thunder. As the God so willed we were all doing *puja (hawan)* otherwise few of us would lost life or would have suffered serious injuries. God saved us from a major disaster.

❖ Dr. C.M. Singh : Memoirs ❖

The creative and challenging nature of activity kept us busy and it proved truly that "work is reward in itself". Although I had to leave Makhdoom as suddenly (1984) as at Avikanagar (1975) and the history virtually repeated for me but the love and affection of staff who gave me a very big farewell at both places in now permanently edged in my memory. Now I feel happy and contented.

Dr. C.M. Singh was our great inspirer. He was like a first class hurricane lamp; was unwavering in this inner light, undaunted in this courage and had a word of cheer of faith and of hope for every one around. He was a '*karmyogi*'. He had led a life of simplicity, service and sacrifice. He was Founder President of Veterinary Council of India—a statutory professional body of Government of India devoted to the cause of our profession in the field and Veterinary Education. He was also Founder President of National Academy of Veterinary Science. Fortunately for me, I am now serving as Honorary Secretary of this institution.

A year before my retirement (1994) Dr. Singh called me at IVRI and enquired about my plan of settlement. Simultaneously he took promise from me that I would join his team of professionals of Veterinary Council of India at Delhi. Initially (1995) he gave me professional advice and orientation on the aims and objectives of VCI. I took his command like a loyal soldier and in this process, inspected several Veterinary Colleges and also explained briefly the aims and objectives of the Council. Because of my long association with him, he always listened me patiently and guided properly. We again worked together for another seven years. Our relationship was of trust, confidence and brotherhood. There was not a single occasion for me to shirk from any responsibility, which he gave me at several occasions. He had the God's gift of identifying the merits of an individual and would then provide all the facilities.

During his last visit to India in December-January, 2004-05, I had a telephonic talk with him for 30 minutes at Delhi. Even on dialysis people live for 8-10 years in England. He was a very "*satvick*" person. He was a vegetarian and would like simple food. I could not imagine that such an active, energetic and bold person having family of successful and obedient children could suffer from kidney failure. When I made these points, he confided in me and told that it was due to neglected hypertension. And cause of persistent hypertension as his appeal to Hon. Supreme Court for getting the charge of All India Entrance Examination for BVSc

& AH, which was taken by ICAR. Although VCI won the case but the President suffered his health. He loved his profession so much that in his anxiety to save the prestige of Veterinarians, he did not care for his health. Who would do so much for the profession? Such men are very rare and come to this world once a while. He has left his legacy of sainthood, courage and professionalism. He gave us good "*sanskars*" and on the strength of these, we will continue to serve the cause of Veterinary Profession in India. Probably his last wish to establish an Indian Council of Veterinary Research (ICVR) could not materialize so far. Hopefully, the National Academy of Veterinary Science is working towards that aim.



DR. C.M. SINGH: THE DOYEN OF VETERINARY PROFESSION

Nagendra Sharma

Dr. C. M. Singh, the chief architect of the veterinary profession in India, spent his life in the service of the dumb creatures, which is the neglected backbone of country. He dreamed for bringing the smile on the lips of major chunk of society and earned blessings to ride on the peak of veterinary mountain. The dream, which he saw with open eyes, is a mission for us and I hope the tree of veterinary education which he implanted will yield more and more fruits with course of time.

In spite of his ailing health and voluntary retirement from the post of President, Veterinary Council of India he was ever enthusiastic in professional scientific activities of India and Asian countries. The sad demise of the architect of the Indian Veterinary profession in July, 2005 is irreparable but it will never stop the works which he handed over to younger generations. At this junction, I recall the background and achievements of Dr C.M. Singh. Further, many memorable moments strike me which I want to share with every one of the profession.

Dr C. M. Singh was born on November, 30th, 1922 in a village of Jaunpur district of Uttar Pradesh. After completing his education in village school and Udai Pratap College, Varanasi, he graduated from College of Veterinary Sciences, Patna, and then M.S. and Ph. D from Michigan State University of Agricultural and Applied Sciences, Michigan State, and had Post Doctoral at Cornell University, USA. From childhood he was sincere and brilliant. The lesson of dedication, firmness and honesty which he learned in his early phase of life from Udai Pratap College, Varanasi remained his "*moolmantra*" of success. He was honored with the Doctor of Science (D.Sc.) by four universities, C S A University of Agricultural Sciences and Technology, Kanpur, Indian Veterinary Research Institute, Izatnagar, Bareilly, G B Pant University of Agriculture & Technology, Pantnagar and West Bengal University of Animal & Fishery Sciences.

After serving for few years as Veterinary Assistant Surgeon, Phoolpur in Allahabad district of Uttar Pradesh, he was appointed as Demonstrator in Veterinary College, Mathura. After returning from abroad in 1957, he was elevated to the post

of Professor and Head, Department of Pathology and Bacteriology, Veterinary College, Mathura, where he served up to 1964. Here he contributed for the re-organization and development of post graduate and Ph.D programme in disciplines of Bacteriology, Pathology and Parasitology. He guided more than 35 M.V.Sc. and 8 Ph.D students. Many of his students including Drs. R.C. Pathak, B.S. Rajya, Balwant Singh, G.C. Mohanty, J.N. Dwivedi, HVS Chauhan, N.S. Parihar and U.K. Sharma added name and fame to his mentor. Later he moved as Dean, College of Veterinary Sciences, Punjab Agriculture University, Hissar.

In 1966, IVRI was honoured when he was appointed as youngest Director of Indian Veterinary Research Institute, where he remained for 16 years up to the age of his retirement on 30th November, 1982. His phenomenal contribution for developing IVRI from a 6 division institution to 22 division is the real testimony of his administrative and professional acumen. Under his able leadership, Indian Veterinary Research Institute emerged as Hub in veterinary research not only in India, but earned the name of veterinary "Mecca" of Asian countries. As the Director of this national institute he has the distinction of establishing two independent National Institutes of Research, CIRG at Farah and CARI at Izatnagar. He had diversified the scope and depth in veterinary research and education, resulting into that IVRI was declared a "Deemed as to be University".

As a Director, Dr Singh has introduced several schemes for the benefit of the poor farmers. Here I would like to quote a scheme, which he introduced for upliftment of the financial condition of the farmers of the local area in "Sunha" (assembly constituency of Bareilly district). Under this scheme the male calves born from high producing dairy cows at the institute dairy farm, once thought as burden on the farm, were handed over to the poor people free of cost for rearing with full technical and clinical support. The grown up calves added the new dimensions to the draught power in the area. The scheme resolved the problem of excessive number of calves on the limited spaced dairy farm of the institute and also gained the confidence of the local people. The bridge of confidence which he built between veterinary professionals and local farmers was one of its own kinds.

Dr Singh always emphasized the research on farmers needs. He often told that the time has changed and it is demand of the day that researchers and scientists must visit the farmer's door instead of waiting him to come in lab and clinics. Dr.

Singh has to his credit more than a hundred papers of original research in the subject of Pathology, Bacteriology and Virology which has been published in the journals of National and International repute. Dr Singh has been associated in reporting new species of Salmonella, Mycoplasma and other bacterium first time in India and was a pioneer investigator of buffalo lymphosarcoma. Dr Singh has widely traveled abroad and has participated in several international Seminars and Symposia. He had the privilege of being the member on the Advisory Board of WHO for zoonotic diseases in global scenario. He has established National Centre of Salmonella at IVRI in collaboration with WHO/FAO. He has also served as expert member of the Indian delegate to Tanzania. He has been invited several times by FAO as Consultant and advisor for project evaluation expert committees of the WHO.

Establishment of Veterinary Council of India is a result of long struggle and sincere efforts made under the dynamic leadership of Dr C. M. Singh. While struggling for the establishment of council, Dr Singh never lost the hope and showed a way how to win a lost battle in spite of all odds. As the founder President of the VCI, he was responsible for framing the BVSc & AH Regulations (1993), which brought uniformity in under graduate veterinary syllabus and education. The evaluation of undergraduate students in external examination under the regulation forced the educational institutes, teaching community and students to come in close liaisons.

Person in Dr C. M. Singh:

At age of 24 years he was married to Miss Chandrajyoti of Azamgarh district, Uttar Pradesh. He was blessed with three daughters Shyama Singh, Anuradha Singh, Shashi Singh and two sons Krishna Kumar Singh and Satyendra Singh. His one daughter and both sons are medical doctors in United Kingdom. One daughter is Scientist in USA while another stays in New Delhi. His both son-in-laws and daughter-in-laws are either in medical or teaching profession. They all are well settled in life and full of health and wealth.

Dr Singh was an example of "simple living and high thinking". He had simplest living style and standard at home. In his life he worked riding upon it instead of allowing work to ride upon. He was too dedicated for profession to give even very little time to his family and children at home. All credits for grooming the children go to his homely wife Mrs Chandrajyoti Singh. He was a perfect

human being and able administrator who always listen others patiently and showed him the right path. In spite of his ever busy schedule, Dr Singh was within reach of every person. He was a nice gentleman with charming personality which always drew the attention of the rest. He was not very fond of proper meal and most of the time he used to miss the meal due to work pressure. He used to like most the rice and *Arhar dal*. He was so simple and easily approachable that some time, while leaving the office he used to sign papers on bonnet of car also. I was deeply associated with family members of Dr C. M. Singh. Here, it will be worth to quote some of incidence, which reflect his simplicity. He was recognized as a “solution man for all sorts of problems”.

Once I was traveling with this great scholarly person in car to Delhi for some urgent meeting. I noticed that in hurry, Dr C. M Singh forgets to wear his shoes and was wearing bathroom slippers. When we were about to reach Delhi, I steadily pushed my shoes towards him and in lieu took his slippers. As we reached Delhi, he attended his meeting and I finished my work. Incidentally we required to come back to headquarter (Bareilly) on the same day. While coming, when the car was about to reach Bareilly, he slipped my shoes towards me and in lieu I pushed his slippers towards him. We went back to our houses and nobody talked anything about this incident. After retirement while going to Geneva he stayed for a night with me at my place in France, where I was doing my Post doctorate. He was not very well due to cough and cold and that night it was snowing and raining. His cloths and shoes were wet and he was to leave to Geneva by morning flight. I told him not to worry as your cloths will be dried and ironed by morning. Since he was not well so I was sitting beside him and trying to provide him with vapour of Vicks. While we were discussing about India and IVRI, suddenly he spoke - Dr Sharma “do you remember the incident when I left for a meeting to Delhi without shoes and we exchange shoes and slippers”. I was struck by his simplicity and watched him rapturously. But I pretended being dispassionate and remembering the incident he smiled and slept.

Many people misunderstood me as “Yes man” of Dr Singh, but indeed I was his “No man”. We disagreed on many things but it was due to his benevolent nature that he tolerated me even as his “No man” on logic and facts. Today in this selfish world we want to demolish a person who does not agree to our views. It was his peculiarity and ability to maintain his personal relations separately from profes-

sional life. Form the core of heart he was an honest person. I still remember that quite often he was on official tour to Delhi and in evening he used to go to hostel of Medical College to meet his daughter. But he always paid for it as personal use. Though, many of us used the same staff car for even going out to take dinner or for other works. Although he always used to take his food in guest house but he never objected to spare the staff car to us, but sometime he "in his own way" used to tell us that it is better to have food in guest house, though it is simple but it is hygienic, and better than Cannought place hotel.

He was strictly a teetotaler. Once while coming from abroad one of his colleague asked him, can I take liquor in your name? He allowed him with condition that it may be purchased on my name but you will carry it to excise gate. If it is required to be placed in my hand I will certainly drop it and his friend understood his sentiment towards liquor and did not purchase even for himself.

All words will ring hollow in expressing my sincere gratitude to this Giant of the Indian Veterinary Profession.



DR. C.M. SINGH : MY ASSOCIATION AND REMEMBRANCES

R.R. Shukla

I had pleasure to receive Dr. C.M. Singh at Railway Station, Mathura in 1957 when he returned from USA after doing his MS and Ph.D. from Michigan, USA. At that time, I was in final year of my B.V.Sc. and attended couple of his lectures. Earlier, at Veterinary College, Mathura, Prof. R.B. Singh encouraged him to go to USA for higher studies. Dr. Singh came as our examiner in 1959 at Mukteswar and later on he revisited Kumaon hills in June 1961, when late Dr. P.G. Pandey, Director, IVRI was camping in summer in Lingard's Home. We were playing badminton in the lawn and rushed to receive him. Immediately there was lightning on nearby pine tree that was splintered- like matchsticks. Mrs. V. Pandey had fainted and was attended by Medical Officer Dr. K.C. Pant. It seemed that Dr. Singh came to Mukteswar as divine soul to save us all.

Later on I met him at XVIIIth World Veterinary Congress in Paris, which was attended by all Drs. M.R. Dhanda, Abdul Salam, K.K. Agarwal and B.B. Mallick. I joined ICAR in 1971 as a Senior Scientist and had chance to meet Dr. Singh who had joined IVRI as Director from Hissar, where he had worked as a Dean of Veterinary College.

In April 1973, I left Delhi and went to Nepal and then to Congo, as FAO expert on deputation but in 1978 when I came on vacation I was compelled by Director General, ICAR to resign. I visited Izatnagar in June and submitted my resignation and was relieved after 18 years of service without any benefits although I could not have continued for another 2 years. He was very much upset and expressed his helplessness for all episode and bid goodbye to me with all his kindness and affection that still makes me feel and think about his greatness.

Later during my two years of stay in Delhi we became quite close. When Dr. Singh became President of VCI in 1987, I came closer to him and used to be invited as an invitee to attend meetings of NAVS. I had chance to meet him in Faizabad when there was a meeting with Vice-Chancellor of the University about having a Veterinary College. Dr. M.B.L. Bharadwaj, Dr. I.P. Singh, Dr. C.M. Singh, Dr. Kirti Singh

and myself were present. Nobody was in favour of another Veterinary College in UP. As an observer of FAO I met Chief Minister of UP who was keen to have this college in Eastern UP. When I informed that Chief Minister is already in its favour and had agreed to sanction Rs. 10 crore for this purpose. luckily, everybody agreed to have this college. Further, we would not serve the interests of this region if we want to open this college after formulation of a separate state of Purvanchal.

As President of VCI Dr. Singh formulated uniform syllabus for all Veterinary Colleges and wanted that Veterinary Profession should be at par with Medical Profession. It should be administered by Ministry of Health and not by Ministry of Agriculture. Now many western countries-like France and UK are trying at OIE level to settle this issue globally.

In 1992 he visited his daughter Guddi (Anuradha) in USA and telephoned me that she is going for Gordon's lecture in Plymouth. Could he come and stay with me in Nashua? I said, "Do you need permission to stay in your house?". Next day he came and we spent one week together. We had very lively time. After two weeks, I asked Guddi to apply for the post of Assistant Professor, in the University of New Hampshire, which she reluctantly did. Luckily she was selected and after a week Dr. Singh telephoned me and expressed his gratitude for this help.

I was invited to attend the meetings of NAVS as a special invitee. He dedicated his life for Veterinary Profession and did his best to create ICVR but somehow or other it could not be achieved during his lifetime. We have to work hard to achieve this goal. This will be a real contribution to remember him. Hope we all join hands in this task. I remember that he was felicitated by Society for Immunology and Immunopathology on his 75th birthday on 30th November, 1997 at All India Institute of Medical Sciences, New Delhi in the presence of Director-General, ICMR and I presented him a replica of Lord Vanketeshwara of Tirupathi, which he liked very much.

I was shocked to hear about his death on 27th July 2005 in UK, when Dr. I.P. Singh phoned me at San Jose. On return to Delhi we met Mrs. Singh and his son Dr. Satyendra Singh in October, 2005 and to condole them. There is a need that we should build a suitable memorial in his everlasting memory to express our gratefulness for his immense contribution for our profession.



DR. CHINTA MANI SINGH: AN EPITOME OF INDIAN VETERINARY PROFESSION

Harpal Singh

I used to hear about Dr. Chinta Mani Singh from Prof. Ratan Singh since 1963. Prof. Ratan Singh was colleague of Dr. Chinta Mani Singh during years 1955-56 at Michigan State University, USA. Prof. Ratan Singh prophesied that Chinta Mani is industrious, competent, dynamic and upcoming Veterinary Scientist that one day he will lead the profession to newer heights. What he said come to be true earlier than expected when at the young age of 44 years Dr. Chinta Mani Singh was appointed as Director of Indian Veterinary Research Institute, Izatnagar in 1966. He gave new dimensions to this institute and finally a rise with 22 divisions. Institute was raised to international fame. New vistas were opened and futuristic research, academic and development programs were conceived and planed which ultimately resulted into the growth of a first Veterinary Deemed University in the country. In his whole tenure he worked like a bacon light. Younger Scientist who come into his contact or who heard of him always felt encouraged by his personality. Compromise with quality was difficult for him. His preference to Microbiology and Pathology was appreciable.

I developed close relation with him when he was President of Veterinary Council of India and I was Dean, College of Veterinary Science (1995-99), GBPUAT, Pantnagar. He remained member of Board of Management of Pantnagar University for about 16 years. After observing tremendous progress of Veterinary College and Pantnagar during my Deanship, he was so overwhelmed that he told me- "Harpal, what progress of College you made in 3 years could not be achieved by any one during last 25- 30 years". Further, he opined that Veterinary College, Pantnagar was so much developed that it may be taken as a model Veterinary College of India for all to emulate.

The life of Dr. Singh was full with ideals. He was a saintly person. Criticism could not deviate him from his chosen stand. Instead he worked with greater vigor and enthusiasm. His personality was exemplary and worth adopting. He will always be remembered with great respect as visionary in the field of veterinary education, research, management and development. Such persons are not borne everyday.



MY MEMORIES OF LATE DR.C.M. SINGH

I.P. Singh

Rarely one comes across in his lifetime a person, who leaves behind indelible memories of some of his above humanly qualities. Such a person in my lifetime and also many others was Dr. C.M. Singh. He was a gentle and kind soul. Late Professor Karam Chand of Veterinary College, Haryana Agricultural University during our conversations, in nineteen sixties, fondly referred Dr. C.M. Singh as "*Maula*", meaning a saint. Reflecting back, I now know what Prof. Karam Chand meant, because whenever I think of Dr. C.M. Singh I am reminded of what Sant Kabir had said: "*Kabira Khara bazaar main, sub ki mange khair, na kahu se dosti, na kahu se bair*". Such was his demeanor, gentle but resolute in character. I know him for 1951 when I entered the UP College of Veterinary Science and Animal Husbandry, Mathura, where he was my teacher in Animal Physiology. Before my graduation he left for USA for higher studies in Veterinary Pathology at the Michigan State University.

I again had a brief contact with him at Mathura when I returned from USA after doing Ph.D. in Veterinary Microbiology in 1961. By then he was a Professor and Head of Department of Veterinary Pathology and Bacteriology and a rising star in veterinary profession and I was looking for a job. He had established a sound foundation of education and research in Veterinary Pathology and Bacteriology at Mathura. His fame was growing and had attracted the attention of Mr. P.N. Thapar ICS, the first Vice Chancellor of Punjab Agricultural University, who was then busy building the best Agricultural University in the country. He chose Dr. C.M. Singh to lead the College of Veterinary Sciences at Hissar Campus. I was lucky to join him there as Professor and Head of Veterinary Bacteriology and Hygiene. This is how our association really began. In short time the Veterinary College under his dynamic leadership and younger team flourished. Many younger veterinary scientists were attracted to join the college. Here I learned a great deal about him and from him as a person and as a professional colleague.

His stay at Hissar was short as he was soon called upon to shoulder the responsibility of Indian Veterinary Research Institute, Izatnagar, which was languishing for some time for want of leadership. While at Izatnagar, he acquired the

status of the 'First Veterinarian' of the country and assumed full responsibility to uplift the image of veterinary profession.

Dr. C.M. Singh had always felt that the veterinary profession has a greater place in our society and should have an independent status-like medical profession. He worked unselfishly even at the cost of his health towards this goal and after overcoming several hurdles achieved what was considered as impossible. This was the establishment and recognition of Veterinary Council of India (VCI) by an act of Parliament of Government of India. This will remain a historical event and will always be joined with his name. The VCI, which has revolutionized veterinary education and research in India, is his gift to coming generations, who will choose this profession as their career. To me he was my *guru*, elder and a wonderful friend. My family and I will always miss him.



**DR. C.M. SINGH : AN IDOL OF HONESTY,
INTEGRITY, CHARACTER AND
A MAN OF MAGNIFIED AND
DAZZLING PERSONALITY**

Parmatma Singh

I joined Indian Veterinary Research Institute, Izatnagar on 19th August, 1980 when Bareilly was reeling under curfew. In afternoon as courtesy I met Hon'ble Dr. C.M. Singh and submitted my joining as Scientist S-3 in the Division of Livestock Economics and Statistics. The first question Dr. Singh asked me was how I managed to join today when curfew is clamped in the city. I replied, "With the Gods grace I could manage to join". His next question was about Delhi's situation where his daughter was living and I informed, "Delhi is peaceful". Since the city was under curfew I requested him to give me permission to stay in the guesthouse. He gave me permission as a special case for a week. Bareilly was not peaceful even after a week and I again requested him for permission and the answer was "I gave you permission for a week as a special case and no more extension can be granted." This showed how much he was attached with his principles. After a month he visited to my office. I was sitting with another Head of Division, Dr. S.K. Negi, now who is no more. I was informed about his arrival in my office and I reached there and received him. For an hour he advised me about the system, its working and the problems which I can face as Head of Division and I still remember those advices. On that day, Dr. Singh was very happy to see that I am using a small table and three chairs only. This was an indication how much he was attached with simplicity in life.

His personality was an inspiration to all the individuals who used to come in contact with him as it was concerning all the aspects of life including academic and research parts. I still remember the valuable advice of Dr. C.M. Singh that one should not allow the situation to move beyond one's control to not to be a loser. One should try to solve all the problems and difficulties at one's own level. I still remember and practiced this advice with all sincerity.

The way Dr. C.M. Singh developed and built up IVRI : one can think of it, one can visualize and comprehend it but it is very difficult to get it emulated and

materialized. His honesty was well known in the ICAR system and in the country with the result that any financial proposal submitted by Dr. C.M. Singh in ICAR got approval without any difficulty (if it bore signature of Dr. Singh). Another advice of Dr. C.M. Singh was to develop the caliber to forget and forgive if you have to develop the system. He used to advise, "Do not waste your energy in tackling negative and non-performing people. Always take performing people with you so that you can deliver excellent outputs and leave behind non-performers and negative thinking people so that their shadows do not touch to the performing team." This is another lesson, which I still use in my life.

There are many things, which can be talked and written about Dr. C.M. Singh. It is easy to think of him and his performances but very difficult to practice his level of honesty, integrity and performance. I wish God give me strength to move close to the personality of Dr. C.M. Singh, if not in this life, at least in my next life. His personality was beyond expression in terms of words. I wish the departed soul to be in peace in heaven and wish others to follow the ideals of Dr. C.M. Singh. This will transform the society to its positive performing phase.



REMEMBERING PAPAJI

Shyama Singh, Krishna K. Singh, Anu Singh-Cundy, Shashi Singh and Satyendra K. Singh

Papa wasn't home very much when we were little, but the time he did spend with us, his five children, was suffused with a radiance that was all the more powerful because it wasn't routine. Those special moments spent with *Papa* are now among our warmest childhood memories. The most cherished among those memories were the Sunday morning snuggles with *Papa*. All five of us would climb into our parents' bed while *Papa* read to us from the Hindustan Times between sips of his *tulsi*-flavored morning tea. Having found a cosy spot to park our toes under the *rajai*, we would listen enthralled as *Papa* explained and interpreted the news of the day. The older children sometimes took turns reading aloud from the paper, carefully declaiming barely-comprehended newstories about political machinations and esoteric financial analyses, trying their best to sound like Jotika Roy on All India Radio. Like many small children, we were fascinated and mystified by that dimly-perceived but seemingly all-powerful entity known as The Government, and we would pepper *Papa* with questions: how can the government not have enough money? why can't they just print more money (deficit financing by the central government was the doleful routine back in the 1970s). To this day, his explanations of currency regulations and inflationary pressures, and about government and society in general, resonate with greater clarity and meaning than anything we were subsequently taught in civics and economics lessons at school.

Papa was very much a renaissance man. Among his many extraordinary traits was his adaptability and his ability to appreciate and learn from the great breadth of life experiences and diversity of cultural and intellectual influences he encountered. As the second-oldest son of a prominent *zamindar* family, his early years in the village of Belawon, in Jaunpur district of southeastern U.P., were idyllic and privileged. His grandfather was a local baron in the old tradition, with a fondness for horses and hunting. He owned several villages in addition to Belawon but lost much of the acreage in the wake of post-independence land reforms. *Papa's* father (we called him '*Bubba*') was a benevolent, good-humored man, with a penchant for the judiciary. *Bubba* would have liked to see his second-oldest boy

grow up to be a lawyer or judge, but this quiet and scholarly village lad had other dreams. Little did anyone imagine back then that this boy from Belawon would one day sail the seven seas in quest of the best education in veterinary medicine then available and that he would go on to nurture the profession in India as head of the premier veterinary science institute the nation.

As a youngster, *Papa* loved taking solitary walks, swimming in the *Gomati* river, and reading on the *chabutra* under a favorite *pipal* tree. His uprightness, truthfulness, and sterling character were widely recognized and admired. Despite the constraints of village life in those days, he was never tainted with the communal, caste-conscious mind set prevalent among many of his contemporaries. The transition to college life in Jaunpur broadened his horizons further. He was especially inspired by the sense of nationhood that was emerging at the time from Gandhiji's Quit India campaign, and his commitment to serving the nation took shape at this phase of his life. In 1952, he embarked on a sea voyage to the US, a distant land that must have been more dream than reality to the young man. The event was enough of a sensation that the Jaunpur paper featured the news prominently and well-wishers from many miles around came to see him off. He took in stride the many new experiences and challenges presented by America, an ascendant and confident nation with its traditions of personal liberty and dizzying technological might. He admired, and learned from, the best features of Western society, especially the emphasis on individualism. The top-notch training he received at Michigan State, and later at Cornell, strengthened his determination to foster the growth of veterinary science in India so it would attain world class stature and deliver on its potential for improving the life of the rural poor in particular.

A life-long quest for learning and joy in knowledge for its own sake was a defining feature of *Papa's* life. His intellectual curiosity encompassed disciplines from philosophy and civics to, of course, the biomedical sciences. *Papa* encouraged us to seize every opportunity to learn everything we could about the world around us. Our house was filled with rows upon rows of books in just about every room. He bequeathed his love of books to all of us, and he made our childhood an intellectual feast. We grew up on the Time Life book series with titles that covered everything from world history to astronomy, and each issue of Science Today was eagerly awaited at our home. We got books for birthday presents, and his return from a long trip in a far corner of the country or overseas was invariably heralded

with the present of a hefty encyclopedia or glossy coffee table book on marine life or geology or some such topic that would hold us in thrall for many days to come. The principle of life-long learning that he taught us continues to enrich and strengthen our lives today, a passion we hope to pass on to our children.

In every school project, every entrance examination, every departure for distant shores, and every venture we embarked on as adults, we were buoyed by *Papa's* unflagging support. His faith and confidence in each of us became a powerful motivating force in our lives and gave us a strong reason to strive for excellence. Krish, his oldest son recalls: This was one man I could always count on to believe in me. *Papa* was a teacher, guide and counselor, not only to us, his five children, but also to our friends and acquaintances. He encouraged and inspired all who came under his influence to do their best and to leave the world better than they found it.

Papa also communicated his love of nature to each of us and nurtured our interest in plant and animal life. He delighted in our collection of insects and snakes, ignoring the advanced state of decay displayed by some specimens due to the improper mixing of the formalin preservative. *Papa's* love of natural beauty was perhaps best exemplified by his tremendous pride and delight in the Mukteswar campus, a love he transmitted in full measure to all five of his children. Regular visits to the Mukteswar campus were the highlight our youth: the long hikes in the ban oak forest, picnics among the deodars, *kafal*-picking in May, watching the vivid monsoon sunsets from the temple, crawling up to the hole in the *Chauthi jaali* rock outcrop and peering down at the valley floor below, late night walks to see the lights of Almora or a *Ram Lila* episode near the upper club, when the micaceous rocks glinted underfoot and the Milky Way spangled the skies above. Even though the five of us are scattered over three continents today, Mukteswar remains our spiritual home, an evocative place, resplendent with the rich memories of a happy childhood. Preserving the specialness of Mukteswar, protecting the reserve forest from the axe in particular, was something of a battle for *Papa* when he was Director. The generations that come after us will be grateful, as we are, that *Papa*, and those who assumed stewardship of Mukteswar after him, have been such staunch protectors of this island of beauty and scholarship among the Kumaon hills in a world where such jewels are becoming rarer with every day that passes.

A man of independent thinking, *Papa* believed in the methods of science and saw evidence-based information as the only sure way to objective knowledge about the universe. He wasn't dogmatic or orthodox in his own beliefs, and encouraged us to think for ourselves; there was no religious preaching in our household, and we were free to form our own opinions. Consequently, as adults our belief systems range from atheism to *Vedantism*. Our *Mummy ji* is a devout Hindu in the conventional vein, but *Papa* was not enamoured of religious ritual, and formulated his own version of spirituality, blending the higher-order philosophy of Hinduism and Buddhism. His one stab at gardening used to be something of a family joke: he would meticulously prune and train a grapevine in our backyard that produced foliage with great exuberance but steadfastly refused to yield any fruit. Now that he is gone, it has occurred to us that his unceasing efforts with that stubborn grapevine are a fitting metaphor for the *Gita*-based philosophy he based his life on: *karmanyevadhikarste ma phaleshu kadachana* (to work alone you have the right, but never claim its results).

Papa was a man of principle and personal integrity. He drew confidence, inner strength, and sense of purpose from a stringent moral code and adherence to the highest ethical standards. He was unwavering in the face of corruption and unsavory political influence, deriving peace of mind from the deeply-held conviction: '*Satyamev Jaitay*'. His sense of fairness extended even to his detractors and opponents, and he did not lack for those in his days as Director, IVRI. Despite the hostile pressures he faced almost daily, he was never heard to speak ill of anyone. He described his detractors in value-neutral factual terms, never with any venom or even overt anger. We marvelled at the magnanimity and inner peace that allowed him to wish well for his opponents even as they heaped vitriol on him.

He was a kind and generous man, compassionate toward man and beast and ready to help anyone in need. As an outstanding B.Sc. student, he received a scholarship from Uday Pratap College. He spent all of that scholarship money on medical supplies to treat villagers from his own and surrounding villages who flocked to the family *haveli* when news went out: '*chhotte doctor aa gaillay*'. As children, if we asked for 5 rupees for an outing, he would insist on giving us 10 "just in case" 5 weren't enough. After retirement, he helped raise one of his grandsons, Shailendra, with an attentiveness and tender nurturing that surprised many.

Papa was an eternal optimist. His sunny outlook on life could be counted on to lift anyone's flagging spirits. He put a brave face on adversity, and this was most evident when he was diagnosed with end stage renal failure in 2001 and the remaining five years of his life came to be dominated by often painful, and sometimes harrowing, medical procedures. Yet he was analytical and clinically curious about his illness, and he learned so much about his condition that he was dubbed an 'honorary nephrologist' by the attending physicians. The only time he displayed visible anguish was when he felt he was being a burden on others. He saw adversity as a challenge to be understood and overcome with dignity and grace. His gentleness of spirit, unassailable integrity, and ideals of serving the country and making the world a better place, remain the guiding lights in our lives today.



MY MENTOR: DR. C.M. SINGH

P. K. Uppal

It was in 1961, when I graduated from Veterinary College, PAU, Hisar. I learnt the name of Prof. C. M. Singh known for his nobility and great teaching skill which sounded so sweetly in my mind that I traveled to Mathura on my own expenses since I determined to join my Master's degree programme under him. I silently reached his Department on the date of arrival at 8:00 p.m. and rushed inquisitively to his department and was surprised to find that he was absorbed with his students. I watched him from a distance for about more than two hours and could not dare to speak and returned without meeting him. This travel was without the knowledge of my father who was working at IVRI, Izatnagar. I appeared for the interview for my Master's degree programme at Veterinary College, Mathura for which only ten candidates in all, amongst the various disciplines were to be selected. I was amazed that Dr. C.M. Singh was not present in the board. His absence in the selection board for my Master's degree programme some how was a disturbing factor in mind. Therefore, even instead of my selection at Mathura for my Master's degree programme, I joined at IVRI, Izatnagar. But his impact on my career was so strong that I decided to be a teacher. Eventually my first posting through Union Public Service Commission was Asstt. Professor, at Division of Bacteriology , IVRI, Izatnagar.

My first meeting with Dr. C.M. Singh happened when he joined as the Director ,Indian Veterinary Research Institute in 1966 in the vicinity of his bungalow where my experimental animals were being kept in his out houses. Cladded in white shirt and white trousers with *chappal* in his feet he approached silently when he found me working. It was a pleasant surprise for me to find him near me as Lord *Krishna* has appeared. He spoke nicely asking my name and proposed that I should meet him for better technical facilities. His simplicity is difficult to express. Subsequently, from 1966 till he left for United Kingdom before his demise to join his family, I had the privilege and distinction of his unqualified directions, suggestions and advise which had been a powerful to shape my career in various capacities as Asstt. Director General Education, Animal Health and Director, National Research Center on Equines. It was his "spirit" and encouragement that I attained the maxi-

mum in my life as Managing Director, Department of Biotechnology, Ministry of Science and Technology – the highest paid veterinarian in those days.

I found in him value for science and respected the power of knowledge. It was his vision that he brought me from the University of Cambridge, U.K. without my being applying for the position first as Virologist, FMD vaccine production and subsequently when I left for U.K. he suggested my coming back as Virologist, FMD research, which I accepted with delight. Believing in quality working, he again brought me back from Denmark where I was working as Post Doctorate Fellow, as Professor and Head, Division of Bacteriology IVRI, Izatnagar, without my being present for the interview. He appreciated my scientific contributions and on my open selection to be the first academic fellow from IVRI, by the Association of Common Wealth Universities through University Grants Commission, he valued science and he granted my movement with full salary and allowances including all other facilities during my absence, as an exemplary approach in those days.

I stood with my mentor, Dr. C.M.Singh, both in sorrow and happiness. I saw him roaring for several successful stories associated with science and also found him in deep sorrow with trickling drops of tears when science was being teared. His mind was in the expansion of veterinary science and its upliftment. He always spoke with me about multi disciplinary approach and used to discuss the blend of animal health and production. I shouldered several responsibilities with him, which I cherished whether it was science, sport, social or various scientific association activities. He was a strong personality with newer scientific thoughts and believed in the expansion of veterinary profession, which laid foundation of various divisions at IVRI and thus created ample job opportunities for the veterinarians.

He ignored his family comforts on the expense of science. I could write several experiences, which could run into a book on Dr. C.M. Singh, but I record three most memorable events, which I happened to experience during his life- time.

When Union Agriculture. Minister Shri Surjit Singh Barnala visited IVRI, Izatnagar, I was asked to receive and follow the protocol and strict to the sanctioned entertainment allowance as per the laid down rules and regulations of ICAR system. I still remember it was not more than Rs. 20/- for lunch or

dinner and the number of people not exceeding 8. I just raised the issue for the collection of funds, which he disallowed with strong conviction, and found him upset. Anyhow, I respected his feelings.

When I was establishing National Research Center on Equines, he cautioned that the frontage of institute should be on the Hisar- Sirsa main road rather than 8 Km. away on the side road. He further added that for a good science, scientist comfort for traveling need to be considered. This laid determination in me and I carried out the flag successfully inspite of all negativity from my neighboring institute and other competent authorities who were supposed to be the occupier of land and decision markers.

In one of his evenings, advise he forcefully argued that "Look Prof Uppal' You cannot compromise on not eliminating horses humanly if they are suffering from the dreaded disease like equine infectious anemia (EIA)- the virus which has all the similarities with human AIDS virus. Though these special horses belong to richest of the rich with political access in India. His Inspiration was exemplary inspite of the fact that he was complete vegetarian. Today, I am happy that India is free from EIA and above all amongst various livestock of India, it is only horses, which are being exported to various countries with better economic returns. Dr. Singh did not hesitate making his statement during the Indian Science Congress, Look the boldness of a Uppal who took up the challenge to eliminate the horses suffering from EIA. A positive step for Veterinarian.

In brief, I learnt how one has to be very strong, dedicated worker and to be positive in his approach and appreciate the value of scientific work and to reward the personals for their good functioning without compromising on the rules and regulations laid down by Govt. of India. Dr. C.M. Singh had unlimited qualities and I feel proud that he was my mentor.



MY RENDEZVOUS WITH DR. C.M. SINGH

J.L. Vegad

It was in 1956 that I first met Dr. C.M. Singh at Mathura. He was then Professor of Pathology at Veterinary College, Mathura. I was on my way to Indore to appear in an interview at Madhya Pradesh Public Service Commission for the post of Assistant Research Officer (Sheep and Goats). At that time, I was doing my Associateship of IVRI at Mukteswar-Kumaon in Veterinary Pathology under late Dr. G.L. Sharma. I had yet to start my research work and I thought that if I could meet this eminent pathologist on my way to Indore, I would be really benefited by his superb knowledge of pathology. Dr. Singh was Ph.D. from Michigan, USA- a rarity in those days.

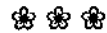
When I met him in the Department of Pathology, Veterinary College, Mathura, I was greatly influenced by his strong personality, professional demeanour, warmth of feelings and above all, his unassuming modesty. At no stage he made me feel that I was talking to a renowned person. I was not only touched by the warmth of his welcome, but felt overwhelmed by his humility. I was amazed that when I left his chamber and looked at my wrist watch, I had consumed nearly one hour of his precious time. I had greatly enriched my knowledge of pathology, in its wider dimensions, during that one hour discourse. My heart was full of gratitude, not only because of the new ideas I had imbibed, but also because he had gently and caring shown me the path for my future. Perhaps for whatever I could achieve or contribute in subsequent years, I owe much to him.

Since I belonged to his discipline of pathology, I had numerous occasions to meet him at places like Indian Veterinary Research Institute, different Veterinary Colleges, Agricultural Universities, Veterinary Council of India and twice at his residence in New Delhi, when he was Chairman of the VCI and President of the National Academy of Veterinary Sciences. Each time I met him, I felt invigorated, as if infused with energy, *gusto* and *joie de vivre*.

I also had numerous occasions to hear his seminars and speeches at various places throughout the country. I was simply overpowered by his excellent oratory, by his superior diction and uninterrupted flow of words with their most appropriate

usage and above all, by the depth of his technical knowledge and expertise. He was one the rare, high-profile personalities I had ever come across in my life. A real stalwart.

To conclude, one could go on writing pages after pages about such a great man, but in brief, he was one of those rare veterinarians whose name will go down in the annals of profession for his everlasting, monumental contributions. He was undoubtedly doyen of the veterinary profession and his legacy continues to inspire the posterity in years to come.



VISION OF DR. C. M. SINGH IN ADVANCEMENT OF POULTRY RESEARCH AND EDUCATION IN INDIA

S.V.S. Verma

Many scientists, teachers, technocrats, industrialists and farmers through their devoted efforts during the past five decades or so have remarkably contributed to the success story of poultry research, education and development in India. Dr. C.M. Singh was one amongst those whose foresightedness, sincere and devoted efforts contributing significantly towards this noble cause will always be fondly remembered.

Dr. C.M. Singh, a learned veterinary academician, researcher, visionary and an able administrator Chairing Director IVRI, visualized the role of poultry not only in the advancement of scientific research but also in combating malnutrition prevalent in the developing society. Anticipating the writings on the wall, he set priorities for himself in public interest, and motivated Dr. B. Panda and his small but dedicated team of scientists in the Poultry Research division to go ahead with research and education planning in the national perspective in order to meet challenges before us. By reorienting the divisional laboratory and the experimental poultry farm facilities, Dr. Panda geared his team into action, setting up new goals before them for conservation and improvement of the germ plasm available at the time.

Center of Excellence in Poultry Science: It has been well said that, "If there is a will there also is a way". Under the able directions of Dr. C.M. Singh, it became possible for Dr. B. Panda to explore different avenues/resources of help and derive due advantage thereof in laying down a firm base for tropical poultry research and education in India. Assistance from the United Nations Development Programme (UNDP) came handy with valuable material support available in forms of technical literature and books, laboratory equipments and appliances that helped augment infrastructure facilities in the division further. Dr. Singh supported all proposals and readily extended administrative sanctions to recruit competent scientific manpower to several teaching and research positions in the area of avian nutrition and physiology, genetics and breeding, health cover and disease control. Quite a few of

the scientific staff were also deputed abroad for training at the UNDP expense. The discipline of Poultry Science at IVRI was created in the year 1970. The master's and doctoral programme with specific courses designed on various aspects of scientific poultry production in the tropics started in 1972 and 1974, respectively. The research work of practical importance as applicable to the Indian conditions was aimed at benefiting the farmers, the industry and of course the consumer of poultry products. The programme became highly successful in that there had been an overwhelming response for admission to Poultry Science, and jobs for students passing out the course had been waiting. Besides, the germ plasm in form of fertile Japanese quail eggs from California, USA during 1974 came as a handy tool allowing faster pace of research work.

During 1970's, poultry research and education at IVRI had been at its prime. The Indian Poultry Industry in offing needed trained scientific personnel for manning challenging positions. In order to boost up this area of animal sciences, the ICAR on 02 November 1979 carved out Poultry Research Division from IVRI and rightly established a separate institute - the Central Avian Research Institute (CARI) at Izatnagar itself. By doing so, the pace of poultry research and education became even more faster thereby helping evolve poultry strains of high productivity for making these available to the private and public sector units all over the Indian Union. Today we find thousands of persons occupying key positions in the poultry production units, the ancillary industries and all along the poultry products distribution chain. Many such persons had affiliations with the erstwhile Poultry Research Division, the CARI and/or with IVRI at some stage in their lifetime. Both Dr. C.M. Singh and Dr. B. Panda will always be remembered for having laid a strong foundation to the modern poultry research and education facility in India. As the IVRI was conferred Deemed University status in 1984, the teaching of Poultry Science at master and doctoral degree levels became its integral part. The programme derives full support from CARI in terms of both the teaching faculty and the research facility.

Breeding chickens for high egg and meat potential: Systematic studies in poultry breeding to develop superior hybrid commercial layer and broiler chicks for use by the industry in an effort to make the country self-sufficient in superior poultry germ plasm were planned and initiated in early 1970's when the ICAR launched a number of poultry projects on egg and meat production. The All India Coordinated Re-

search Project (AICRP) on poultry breeding for egg and meat with its coordinating units at Poultry Research Division and sub-centers at different institutions/veterinary or agricultural colleges/universities had been the first major step in this direction.

It is a matter of great significance to highlight the untiring efforts of Dr. C.M. Singh, as Director, IVRI, in extending all possible financial and administrative help to ensure quality output of research efforts for evolving highly prolific poultry strains for egg and meat production suitable to harsh Indian environment. At times Dr. Singh even went out of way to see the continuity of research and teaching programme that went hand-in-hand for ensuring and realizing their timely completion in the public interest. He even banned for several years the live disposal of surplus germ plasm (chicks, fertile eggs, adult birds etc., generated from biological material that were initially imported at an exorbitantly high cost through global tenders) to safe guarding its pilferage through unscrupulous hands from the institute premises. The egg- and meat- strains of chickens evolved, multiplied, tested for several generations were Indianised in our conditions by way of rearing at different places/centers in the country. The time-tested strains compared well with those of the best exotic strains in productivity of eggs and meat, and proved efficient converters of feed manufactured indigenously. Such strains were made available to the public and private sector units for mass poultry production. Today, India is self sufficient in poultry products and a sizable amount of both poultry meat and eggs are being exported to certain neighboring countries. India made poultry equipments and appliances have been in great demand in the SAARC countries. Indian scientists/technocrats have been executing many of the large-scale poultry operations in the Afro-Asian region.

The Indian Poultry Science Association: Research workers, teachers and extension specialists in any area of development need a platform to gather and confer about the recent innovations, problems, ideas on a particular subject in an attempt to finding plausible solutions and also to deciding on the future course of action(s). With similar objectives in mind, in a meeting of poultry research workers in March 1965 at Pune, it was resolved to form the Indian Poultry Science Association (IPSA) with its Headquarter at Poultry Research Division, IVRI, Izatnagar. Dr. P. Bhattacharya, the then Animal Husbandry Commissioner with the Govt. of India, New Delhi, was unanimously accepted as the President of the Association whereas

Dr. S. Bose, the then Head, Poultry Research Division, IVRI, Izatnagar entrusted, as Chief Editor, the responsibility to publish the Association journal. Accordingly, the first issue of the Indian Journal of Poultry Science (IJPS), an official organ of the Association, rolled out of press in September 1966.

Mean time in 1966, Dr. C. M. Singh assumed charge as Director, IVRI, Izatnagar. In order to enable smooth functioning of the Association activities, Dr. Singh, in 1968, was nominated Vice-President, IPSA, Headquarter. Unfortunately, however, both the Association and its journal suffered a temporary setback during the period 1968-72 primarily due to the retirement on superannuating of Dr. S. Bose, the Chief Editor, IJPS and secondly due to paucity of funds for printing the journal. However, with Dr. C. M. Singh assuming responsibility as IPSA President and Dr. B. Panda, as Chief Editor, the wind changed for better.

As the nature's natural course would have it, an emergency meeting of all office bearers and senior members of the Association including those from the government and academic institutions, the poultry industry, the organized farm sector, and the poultry press was on 22nd January 1971 held in IMA building, New Delhi with Dr. C.M. Singh on Chair. After discussing Association matters at great length, it was resolved to revive its activities with greater enthusiasm. It is worth mentioning that the President Dr. C. M. Singh exhorted the hon'ble members present in the meeting to contribute at least Rs 100/- each and that he (Dr. Singh) himself would pay the balance of money whatsoever to help tide over financial crises such that the journal could come out of press. The generous financial help instantly coming from such members together with a donation of Rs. 250/- from Mr. Vinod Kapoor, President, Kegg Farms, New Delhi helped tide over the financial crunch, and which helped bring the Association back on rails. Today a sum of Rs. 100/- may seem very small but at that time it amounted nearly one-third of the basic salary a scientific officer at IVRI may have drawn. Parting away that much of money by any one was not a joke, but the senior IPSA members did it for a cause. The Association remains ever indebted to such members. Considering their professional spirit, Dr. C. M. Singh, Dr. B. Panda, Dr. J. N. Panda, the then Jt. Commissioner (Poultry), Govt. of India; Mr. Vinod Kapoor, President, Kegg Farms, New Delhi-Gurgaon; Dr. B. V. Rao, President, Venkateshwara Hatcheries, Pune; Mr. Ravi Chawla, Managing Editor, Poultry Times of India, Bombay; Mr. C. P. Narang, Managing Editor, Guide Group of Publications, New Delhi, were con-

ferred with the IPISA honors/awards. The tradition has been kept alive in that anyone (a scientist, teacher, industrialist, farmer, technocrat, poultry journalist) contributing significantly towards the development of Indian Poultry is duly felicitated for his/her services.

Strong convictions: Once convinced, Dr. C.M. Singh acted firmly to realizing set goals. An occasion that the author witnessed in 1973 is narrated. The AICRP on Poultry for egg and meat was well in progress in the Poultry Research Division of IVRI, Izatnagar. Under this project, germ plasm of highly prolific strains of poultry was procured from certain foreign countries at exorbitant costs. Such germ plasm were being maintained under expert care and utilized for cross breeding to obtain strains that could produce optimally under the harsh Indian conditions. One fine morning, the then Union Minister for Agriculture paid a visit to the institute experimental poultry farms. The Hon'ble minister was taken by the beautiful birds and desired to have a few of them in his Delhi residence backyard. Dr. Singh informed the Hon'ble minister firmly that no poultry from here would be disposed alive until our scientists at the institute have evolved high producing strains of birds for official release. He nodded in affirmation and admired Dr. Singh on his strong convictions. While leaving, the Hon'ble Minister wished the programme a great success.

Apparently tough but kind at heart: Dr. C. M. Singh at 44 years of age was the youngest director IVRI ever had, and he served continuously for 16 years, the longest tenure for any Indian Director in the history of this national institute. On joining IVRI early in January 1965 as Research Assistant (RA), the author was placed to work in the Poultry Research Division with Dr. S. Bose as Head. Dr. C.M. Singh joined as Director, IVRI in 1966. With his active dedicated efforts the slow passive life-style of work soon became a thing of the past. He had a strict administration on the campus and employees during working hours dare not stray around.

However, parts of the research cadre, the RA's at that time were not treated gracefully. On the salary day they were to line up outside the cashier room in central office awaiting their name(s) to be called first for fixing the revenue stamp against their name on the pay bill and subsequently for receiving payment in cash through a small slit in the window to the cashier room. It was usually a days affair and some times took even two-three days with no other jobs to concentrate on.

Feeling disgraceful, the author discussed the matter with other colleagues but to no avail. He, therefore, decided to react differently. In February and March 1967, he did not visit the cashier to receive salary. Around 15th March, Director's office enquired of HOD Dr. S Bose whether Mr. S.V.S. Verma (at that time veterinary graduates without Ph.D. degree were not addressed as Dr.) is on leave or has left the job already for he has not called on the cashier for collecting his salary in the past two months. Dr. Bose, a renowned scientist and a saintly person too, called for me and enquired of the matter. Hesitatingly, I apprised him of my feelings with respect to the disgraceful manner RAs were being paid their salary. Having understood the matter, Dr. Bose briefed the Director Dr. C.M.Singh, accordingly.

Soon, the author was summoned by the Director, and the news spread in the institute campus like the wild fire. As asked, Mr. Verma presented himself that afternoon before Dr. C. M. Singh in the Director's chamber. Looking keenly, he asked, "Why this matter was not brought to my knowledge earlier?". Gathering some courage, I managed to mince some words, "Sir, I could not dare to call on you for none of the other colleagues vouched for it". Therefore, I did not visit the cashier for my salary hoping to be noticed by your good self some day.

Dr. Singh nodded and rose from his seat, while I observed his facial expression changing. He hugged me by the shoulders and asked as to how I would like to be paid. I simply suggested, either through the bank or the pay packet (envelop containing cash and pay slip) to be delivered through the divisional office so we need not waste time and energy simply for collecting the salary. As he nodded, I felt relieved. Immediately, he called his PA and dictated the matter for issuing general instructions in respect of salary disbursement to the scientific staff including the RA's. Thanking immensely, I begged for his leave. On the following day, it was nice to have received the salary enveloped in a dignified manner.

Setbacks to poultry developments in India: It is true that nothing proceeds with the same pace always; difficulties are part of life for any one and anywhere. The Indian Poultry grew steadily from almost nothing to acquire a status of a well-organized industry. Under most circumstances, it remained economically viable, socially acceptable, and an easy-to-do activity that generated food products of high nourishing value for all age groups of the population. The activity attracted people

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from all walks of life naturally with no fun fare thus helping in a variety of ways; providing millions of job opportunities multifarious in nature, employing hitherto unused materials used for shelter and bedding the birds, transforming agro-industrial wastes into high-quality eggs and meat to enrich diet of undernourished and/or malnourished. However, despite of a yeoman service to the nation the poultry scientists and academicians found themselves at a loss, and the Indian Poultry at cross roads. The profession, booming until the nineties when the manpower requirements were met well for both the growing institutions and the industry, suffered at the hands of its own professionals.

The Veterinary Council of India (VCI) in 1993 revised the entire course structure for veterinary degree programme from B. V.Sc. to B. V.Sc. and A.H. The poultry science courses were merged with those of animal production, livestock production and management and animal genetics and breeding. The post-graduate degree programme also was diluted with other disciplines. It is pity that the ICAR, whose Deemed University at IVRI, Izatnagar offers masters and doctoral degree in Poultry Science, excluded the discipline from Agricultural Research Service (ARS). Earlier in 1991-92, several poultry science post-graduates successfully passing the ARS exams (written test and interview) were denied scientific positions they applied. This was unfortunate and unethical too. Despite of an option to seek judicial help in the matter, they like the disciplined soldiers accepted the challenge and contested successfully in other related discipline, and serving their profession gracefully. Should the people in high offices creating chaotic situation for the poultry professionals not feel ashamed on their wrong deeds, and correct the anomaly immediately before it leads to an irreparable loss to the Indian Poultry.

The author, in his personal capacity and as General Secretary, IPSA discussed many a times this issue with Dr. C.M.Singh, President, VCI. He realized that the curriculum for veterinary graduates has not been revised appropriately and unfortunate; the VCI accepted the recommendations in a hurry. He further added that at Post-Graduate level, the VCI's circular never implied to disband Poultry Science Departments at various veterinary colleges/universities, as has been done by some institutions that did not take the matter rightly. Moreover, no one in the ICAR, ARS or the ASRB appeared keen on the issue; people liked poultry delicacies on their dining table only. The problems of the Indian Poultry were not understood rightly and a positive attitude towards the poultry professionals lacked, possibly

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❖ Dr. C.M. Singh : Memoirs ❖

because it developed faster than other livestock enterprises and benefited the nation by way of benefiting the masses.

Today, Dr. C.M.Singh is not with us but his works and deeds are. We remember him as an academician, a researcher for some of the very useful professional works, as a technocrat for helping advancement of knowledge in the area of veterinary science including the poultry science, and as an able administrator for pursuing the cause of poultry research, education and industrial development in India. Besides, Dr. Singh will always be remembered as an honest kind hearted person dedicated to his profession. He served and loved his country with integrity of highest order, and will always be remembered as a true statesman of his time.



DR. C.M. SINGH : AN EXTRAORDINARY LEGENDARY PERSONALITY

M.P. Yadav

My first acquaintance with Late Dr. C.M. Singh dates back to 1963-64 when I entered the portals of veterinary education at Veterinary College, Mathura as a student of B.V.Sc & A.H. and started attending the courses in the Department of Bacteriology and Pathology headed by Dr. Singh. My first impression of Dr. Singh was that of a teacher par excellence and a role model for others to emulate. The learning experience invariably was that of an indelible imprint of subject of study into our young minds. He always made it a point to chair the viva-voce examination as a part of practical examination. Whenever he found a student performing well and having good knowledge of the subject, Dr. Singh felt very happy which one could read from his pleasing face. After a brief stint as Dean at Hisar Veterinary College, he joined the coveted post of Director at Indian Veterinary Research Institute in 1966. During the same year, I applied for admission to M.V.Sc at IVRI and was offered a seat in Animal Genetics and Breeding. However, I could not avail the IVRI offer as I preferred to join M.V.Sc in the discipline of Veterinary Bacteriology at my alma mater at Mathura itself largely attracted by the good research facilities created and the good work carried out under the dynamic leadership of Dr. C.M. Singh. After completing M.V.Sc from Veterinary College, Mathura, I decided to pursue my doctoral research at IVRI. At that time, the interview for Ph.D admission at IVRI was quite tough as Dr. Singh used to chair the interview board along with Head of Divisions, who were stalwarts in their own fields. Despite the initial nervousness during the interview, I performed well and was greatly relieved when I learned that out of 19 candidates in the Bacteriology discipline, I scored the highest marks.

Dr. C.M. Singh had immense passion for teaching and research, which was so eloquently reflected in his persona throughout his career. He was one of the brilliant, visionaries of all times with a towering personality ever produced among veterinary professionals in the country. He believed in simplicity, conviction, dedication, selfless service and honesty of purpose and action. During my association with Dr. Singh at IVRI, initially as Ph.D student (1969 to 1972) thereafter as Graduate Assistant/Post

Doctoral Fellow (1973-74), and Professor and Head, Division of Virology (1981-1986), I found that he had the vast and extraordinary capacity to take quick and firm decisions. The progress made by IVRI during his tenure, spanning 16 years as Director, will always be written in golden letters in the annals in the history of veterinary sciences in India. It would not be an exaggeration to describe him as the modern architect of the present day IVRI having 24 full-fledged Divisions, six Campuses/Regional Stations with distinct mandates and valuable accomplishments, to their credit, Deemed University status, unique central facilities-like National Library of Veterinary Sciences, Communication Centre, Human Hospital, Computer Centre, Polyclinic, Psychometric Chamber, etc. only to mention a few.

Dr. Singh played a key role in expanding the IVRI by bringing several new divisions/disciplines, regional stations. His zeal, enthusiasm and capability to get the funds, new buildings, international collaborations, projects and programmes was tremendous and unimaginable. While still undergoing my doctoral programme, I applied for the post of Junior Research Officer (Rabies) at IVRI. My advisor Dr. S. Kumar who was Project Coordinator of Respiratory Diseases of Poultry (AICRP) after consulting Dr. C.M. Singh advised me that I should not appear for the interview on a JRO post and rather complete the thesis work first and then apply for Class I post of Research Officer. I did the same as per their advice but to my bad luck, the recruitments in ICAR were frozen due to Gajendragadkar Enquiry Commission consequent to the suicide committed by a scientist of ICAR. At this juncture, Dr. Singh advised my research advisor that his students (myself and Dr. M.P. Bansal) should take up Graduate Assistantship for the time being and he would try to get post-doctoral fellowship (PDF) for us from ICAR. Probably, Dr. Singh discussed the matter with the Director-General, ICAR, Prof. M.S. Swaminathan. Since there was no such scheme in the ICAR at that time, the proposal met some setbacks and obstacles in the finance wing. But Dr. Singh kept on pursuing the proposal personally and finally succeeded after about a year of sustained efforts to keep his promise. Most of those who came in contact with Dr. C.M. Singh, would be well aware that he was highly energetic and dynamic person. However, one is amazed to learn that his food habits were very simple and his diet was very meager to sustain the dynamic work routine he had.

Dr. Singh has left behind a very distinct style of functioning. He tried to be far away from political and social influences while taking decisions and his deci-

sions were purely based on merit of a person and cause. Soon after taking over the reins of IVRI, he realized the immediate necessity of inducting new talented faculty and to his credit the Institute soon had several faculty positions occupied with meritorious and talented Joint Directors, Head of Divisions and Scientists from India and abroad. He also realized the growing importance of zoonoses, veterinary public health, epidemiology, biological standardization, disease investigation, diagnostics and vaccines. In fact, it was due to the foresightedness of Dr. Singh that IVRI could develop reliable vaccines for foot and mouth disease, rinderpest, lungworm of sheep, African horse sickness and a number of other diseases employing modern technologies for large-scale production. It is of common knowledge that these vaccines have been largely responsible for the breakthroughs and unmatching progress achieved in livestock and poultry sectors leading to white and red revolutions in the country.

Dr. C.M. Singh's contributions are many for elaboration. His singular contribution to the cause of veterinary education and practice in India under the ambit of Veterinary Council of India (VCI) will always be remembered and cherished by veterinary professionals. He established the twin institutions of VCI and National Academy of Veterinary Sciences as founder President and nurtured them well till he shifted to U.K. on health grounds. His kidney ailment unfortunately, could not be diagnosed timely as he gave little importance for his own care and comfort and kept on working with the same zeal, enthusiasm and dedication during his sickness. His illness came to light when Prof. Rama Kumar, the then Secretary of VCI took him to a clinic without his knowledge.

It was Dr. Singh who conceived the original idea of a High Security Animal Disease Laboratory at IVRI for undertaking work on exotic animal diseases. Subsequently, after great efforts made by subsequent Directors including Prof P.N. Bhat, Dr. D.S. Balain, Dr. Kiran Singh, Dr. G.C. Mohanty the BSL-4 laboratory became a reality at Bhopal in 1998 and was dedicated to the Nation in June 2000 by the then Hon'ble Union Agriculture Minister, Government of India, Sri Nitish Kumar in the presence of Dr. R.S. Paroda and Dr. Kiran Singh, the then Director General and DDG (Animal Sciences), ICAR. Dr. Singh will always be remembered for establishing a P3 laboratory for R&D on foot and mouth disease vaccinology with Indo-Danish Collaboration during 1970's, which stands out as first of its kind in the country.

I also like to place on record about the rare sense of attachment and belongingness of Dr. Singh to the campus. After my joining at IVRI, on 17th May, 2000, it was observed that the site originally decided for the construction of the Academic-cum-Administrative Block of Deemed University, IVRI was in one of the four plots situated between the Divisions of Parasitology, Animal Nutrition, Biochemistry and Animal Genetics. Since the edifice was disturbing the symmetry of this complex, it was not appealing. The matter was discussed with Dr. Nagendra Sharma, the then Joint Director (Academic) but we could not decide a suitable alternative site. The plinth work finally started at the pre-decided site on the plea that the CPWD provided the estimate for this site only. In the mean time, Dr. C.M. Singh visited the Institute and when I showed the site of the university building, he showed his disagreement and very politely explained that by constructing the building on this site, the IVRI would be deprived of the site which forms the lung space for the campus. He went on to further explain the sentiments linked with the visit of Dr. B.P. Pal, the then Director-General, ICAR to IVRI and how Dr. Pal sat on the lawns and made landscaping drawings in his own handwriting. He further emphasized that a landscaping and plantation strategy given by a dignitary, no less than Dr. B.P. Pal, should not be changed. I was at once convinced and touched by the sentiments expressed by Dr. Singh for his superiors and ultimately the site of the building was changed to its present location between library and modular laboratory building.

Dr. C.M. Singh had a reverential attitude for the farmers, who are the stakeholders and beneficiaries of all the research carried out at the Institute. Once a delegation of farmers from the State of Uttar Pradesh visited the Institute and Dr. Singh was addressing the group explained his happiness and sentiments of honour to the Institute on the visit of the true custodians to the campus.

Dr. C.M. Singh was a true beacon of light to veterinary profession and in brief, I can summarize that he was an able administrator, educationist, researcher, research manager and above all a perfect human of par excellence. He was truly an institution in himself.



Dr. Chinta Mani Singh

Vidya Pati Dixit

Your life!

Excellence – driven, constructive

Bright, poignant, trusting, planning

Name, deeds – matching.

For temple of animal welfare

Architect par – excellence

Indomitable spirit, unwavering faith

Meticulous planning, dynamic trait.

Painter's canvas

Service garden

Robust plants

Seed water intelligently used.

Plants, shrubs, herbs, trees

Flowers abundant

Limitless ocean, unfathomed secrets

Determination personified, goals set.

Learned, striving, visionary

Kind, concerned but detached

Humane, tolerant, considerate

From the land of imponderables straight.

True leader and guide

Salutations to you untold

Ever indebted the people feel

For the accomplishments excellent.

Prof. Chinta Mani Singh : The Boy from Belaoan
(Scientist - Philosopher - Teacher - Visionary)

K.K. Singh

*From humble beginnings
in a tiny village in north India
he rose to the Doyen 'Pitamah'
father figure in veterinary science.*

*An exceptional student
a hunger for learning
and a voracious appetite for reading
he sailed the seas to a doctorate in Michigan
pioneering tissue culture at Cornell*

*Returned to his home
For duty to the nation
Professor of pathology microbiology at Mathura
Dean of veterinary sciences at Hissar
directed then a new era
at the Indian Veterinary Research Institute
an exponential growth
a vision realized
for scientists, workers and the nation.*

*Never retired only 're-tyred'
WHO, FAO, UPSC all gained
National Academy of Veterinary Sciences
Veterinary Council of India
Completed the Vision*

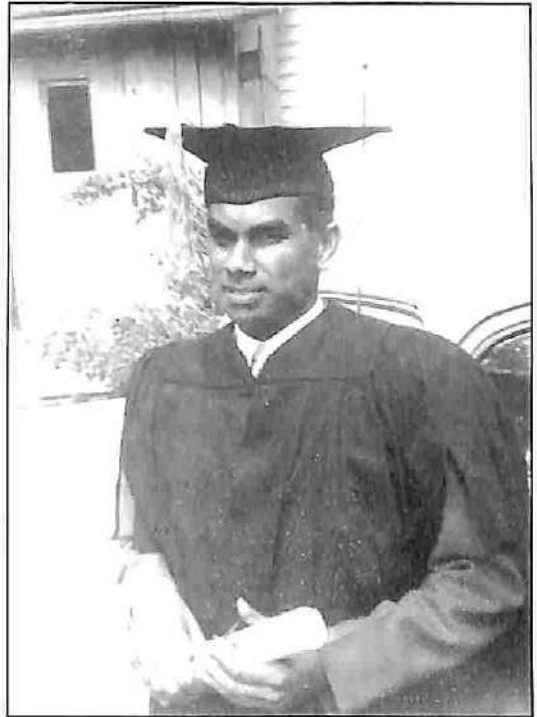
Gita'the mother'
**was the motivation
a philosophy followed
a True life lived**

Dr. CM Singh
**a Life to rejoice
not mourned in the passing
but an Inspiration forever
an Optimism for eternity**

**Loved and Revered
by one and all
devoted wife, family
and people across the world.**

Section - III

DR. CHINTA MANI SINGH :
PHOTO GALLERY
(Illustrations)



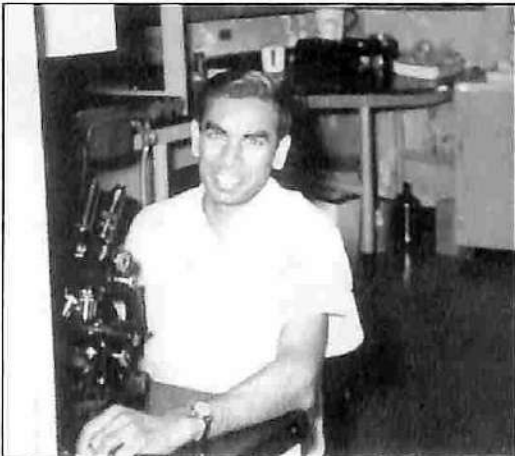
Dr. C.M. Singh : College & University Scholar



.... with a child



.... in deep study



.... in laboratory



.... an experience with cooking



.... in auditorium



.... with a American host

Dr. C.M. Singh : Post-graduate scholar in USA



Udai Pratap Chatriya College,
Varanasi

His alma mater :
Bihar Veterinary College, Patna

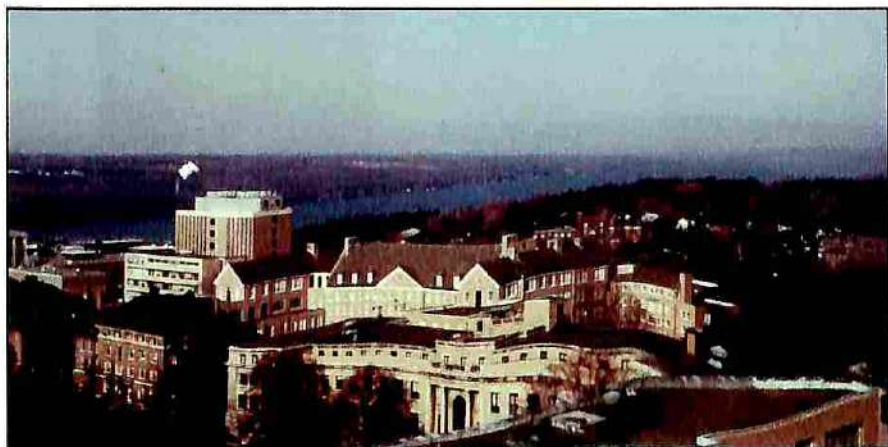
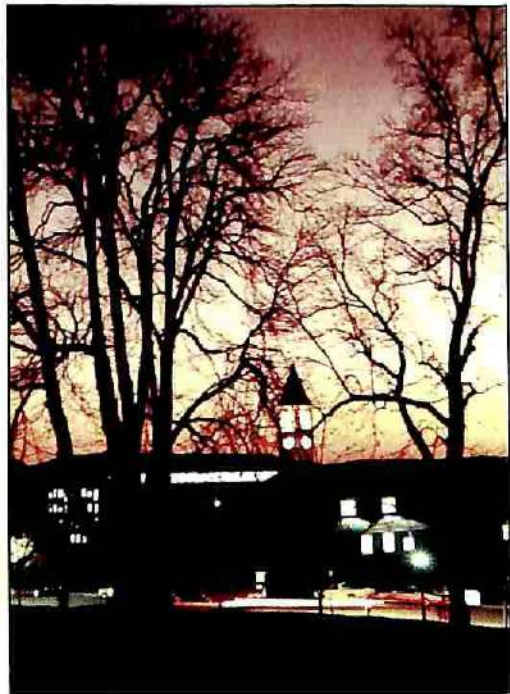


His first *Karmabhumi* :
UP Veterinary College, Mathura

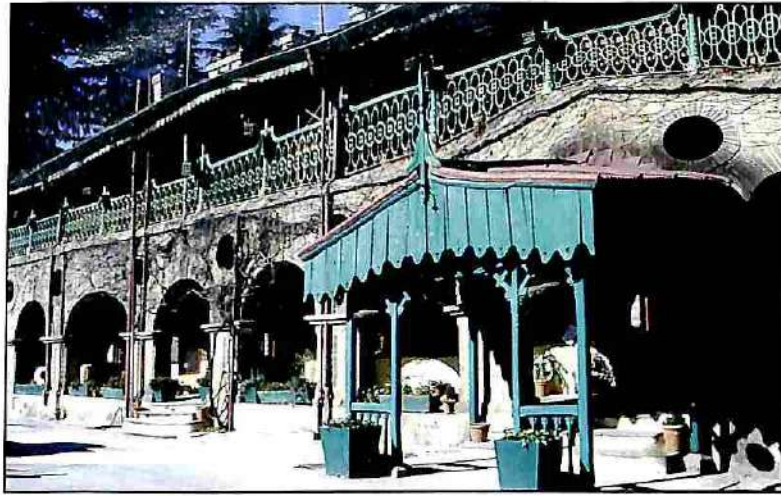
His first established laboratory :
Deptt. of Pathology & Bacteriology,
Mathura



Dr. C.M. Singh : His alma mater & laboratory



His alma mater : University of Michigan, USA



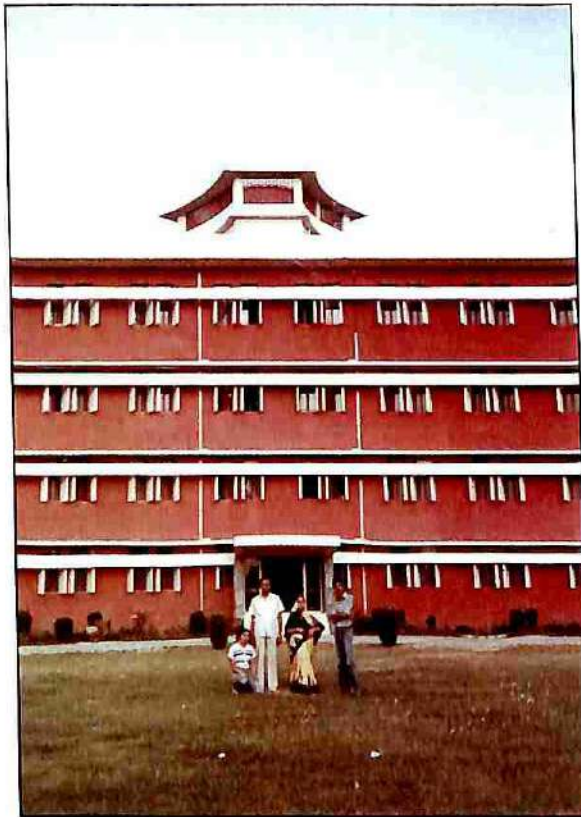
His Most Favourite Place : IVRI, Mukteswar



Administrative Block IVRI, Izatnagar (before 1970)



His Creation : IVRI Campus Bangalore
IVRI Campuses



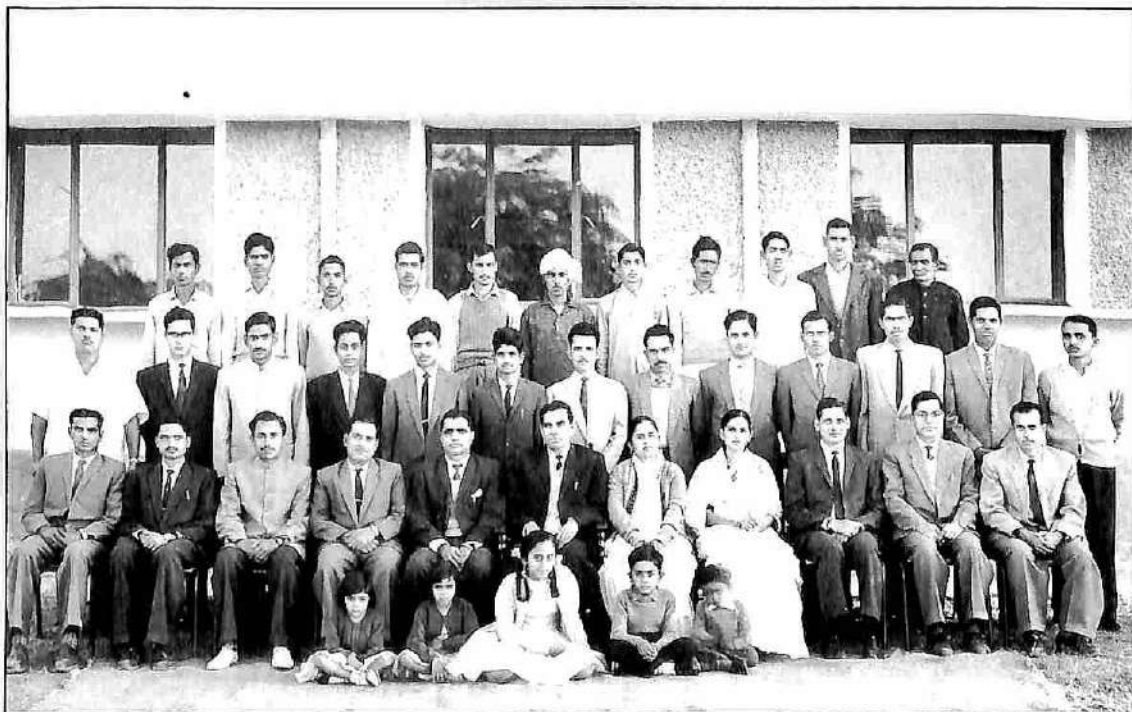
His dream : Modular Laboratory Building, IVRI, Izatnagar (1972)



Dr. C.M. Singh with participants of a National Symposia



Young Dr. C.M. Singh : Addressing a College function

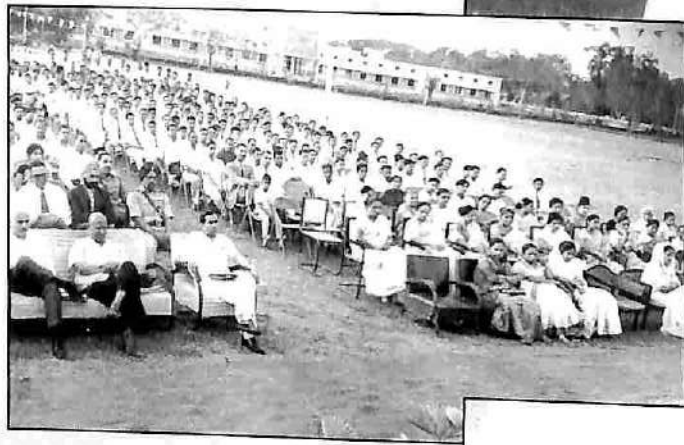
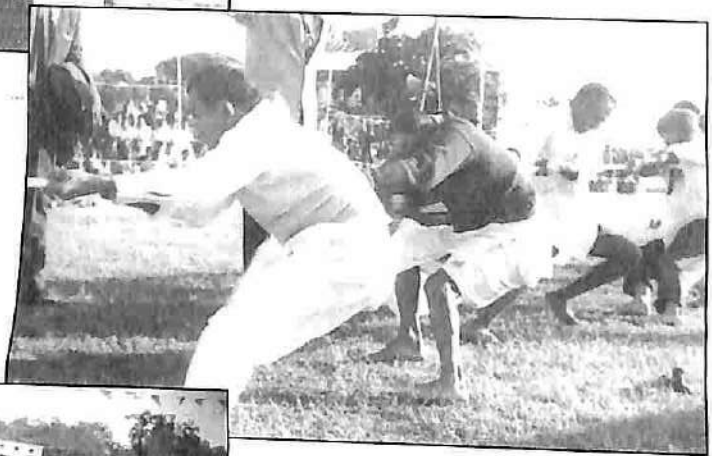


Farewell of Dr. C.M. Singh from UP Veterinary College, Mathura (1964)



.... with Baster tribals

.... champion of tug of war



.... in Annual Foundation Day Sports

.... receiving trophy from his wife



Annual Foundation Day of IVRI, Izatnagar



.... ready to distribute sports prizes

.... greeting winner with
pleasure & warmth



.... with winners & Sports Secretary
Dr. T.N. Jaiswal

.... a discussion with
sports organisers

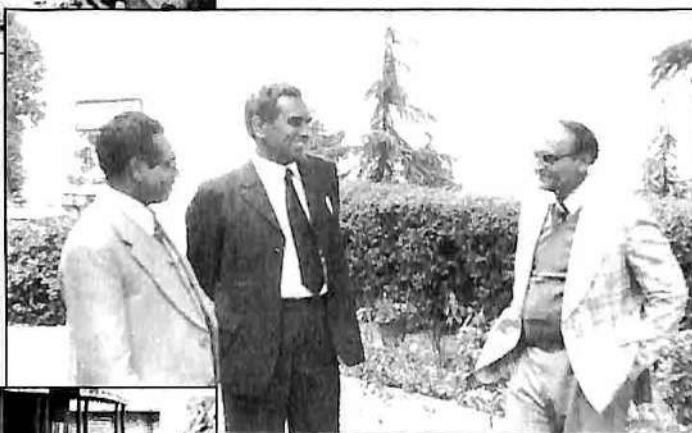


Annual Foundation Day of IVRI, Izatnagar



.... observing plantation of a sapling

.... with Dr. B.B. Mallick &
Dr. P.K. Uppal at Mukteswar



.... with Dr. M.S. Swaminathan DG, ICAR
& Dr. S. Kumar at Mukteswar

.... with scientists (Dr..S. Kumar,
M.C. Pandey & R.C. Joshi)
at Mukteswar



Dr. C.M. Singh at IVRI, Mutkeswar



.... with foreign and Indian delegates

.... with Dr. Laxmi Sahai
former AHC, Govt. of India



.... with his old colleague

.... receiving trophy from
Mrs. E.J.L. Soulsby wife of
Eminent Parasitologist now
Lord Soulsby



Dr. C.M. Singh with guests



Dr. C.M. Singh explaining lamb irradiated lung worm vaccine nuclear technology to Mrs. Indira Gandhi, Prime Minister of India

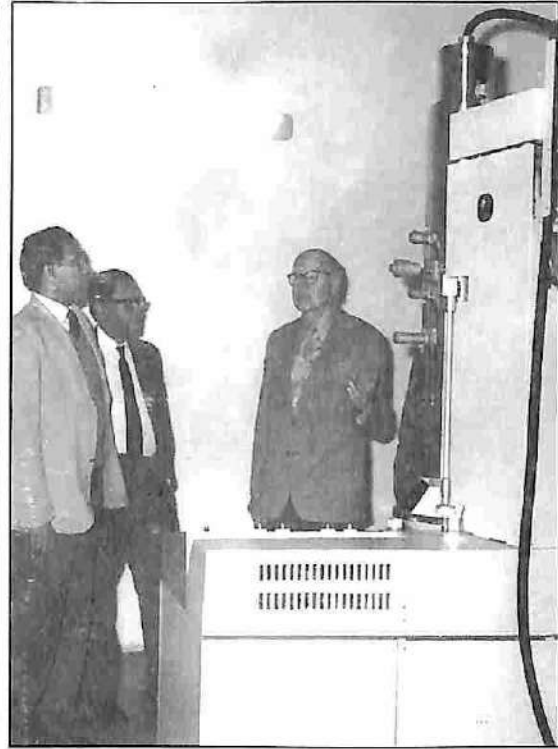


Dr. C.M. Singh discussing scientific matters with Dr. M.S. Swaminathan DG, ICAR at IVRI, Mukteswar

Dr. C.M. Singh with VVIPs



... visiting an exhibition



... with visitors E. M. Lab. at IVRI, Izatnagar



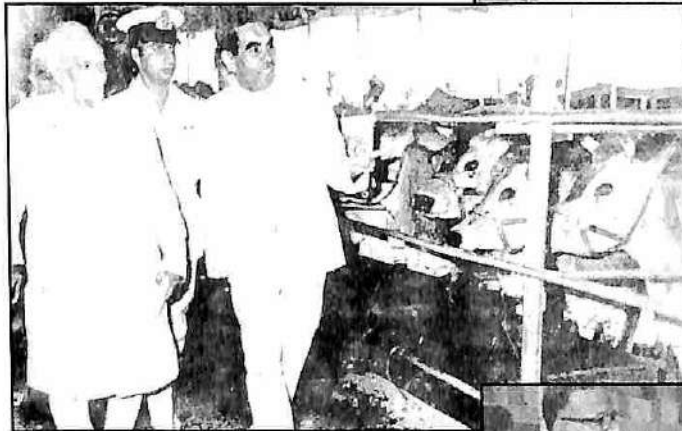
... with participants of Summer Institute on Diagnostic Pathology
at Division of Pathology, IVRI, Izatnagar (1979)

Dr. C.M. Singh at IVRI



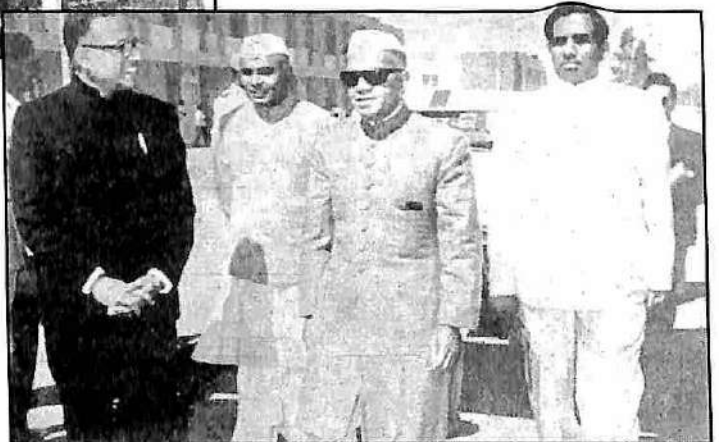
.... HE Mr. V.V. Giri, President of India
laying foundation stone of MLB
at IVRI, Izatnagar (1972)

.... MLB foundation stone
laying function ceremony



.... with President Mr.V.V. Giri
at livestock exhibition

.... with Mr. Fakhruddin Ali Ahmad,
Union Minister of Agriculture &
Dr. M.S. Swaminathan



Foundation stone laying ceremony of MLB at IVRI, Izatnagar



.... Dr. Swaminathan in a
exhibition at IVRI

.... with Dr. G.L. Sharma,
Dr. B.K. Soni (DDG, AS),
Dr. M.S. Swaminathan
& Dr. B.S. Rajya at IVRI



.... explaining activity
of IVRI to a minister

Dr. C.M. Singh with distinguish dignitaries at IVRI, Izatnagar



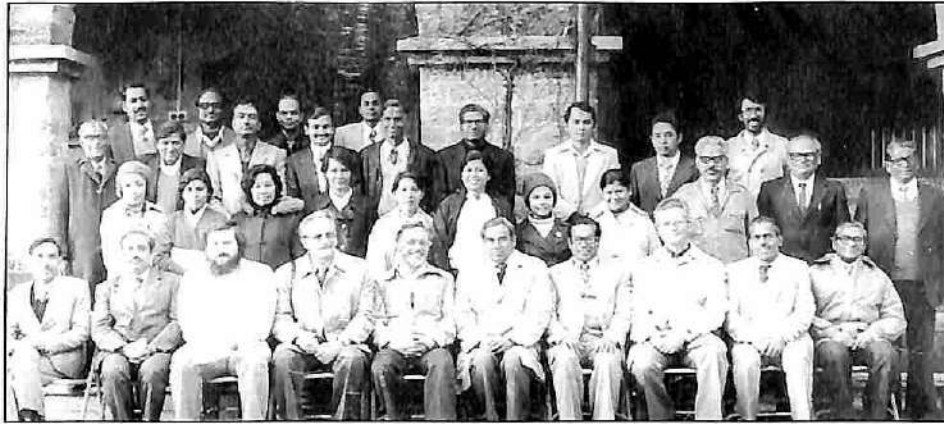
.... explaining activities of IVRI campus Makhdoom, Mathura to Mr. Shah Nawaz Khan, Union State Minister for Agriculture. Dr. K.L. Sahani OSD is also present



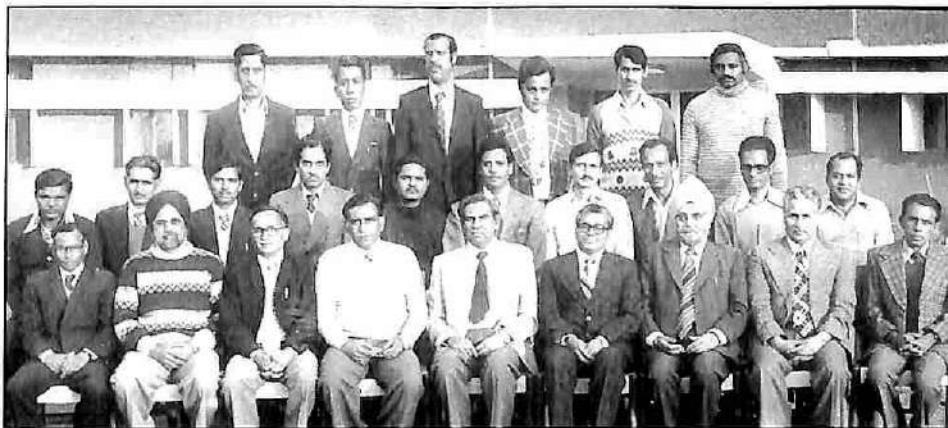
.... with Mr. Shah Nawaz Khan, Union State Minister for Agriculture at Makhdoom, Mathura



.... inauguration of Centre for Research on Goats IVRI Campus Makhdoom, Mathura
Dr. C.M. Singh at IVRI Campus, Mathura (1976)



.... with participants of WHO Inter Country Workshop on Advanced Microbiological Methods in Food Hygiene at Mukteswar (March, 1979)



.... with participants of Special Course in Rabbits at Izatnagar (Dec., 1979)



.... with participants of Short Term Course on Food Hygiene at Izatnagar (April-July, 1980)

Dr. C.M. Singh with participants of VPH Courses



.... with participants of WHO Inter Country Workshop on Advanced Microbiological Methods in Food Hygiene, Izatnagar (Feb. to March, 1979)



.... with participants of Principles and Practice of Veterinary Public Health, Izatnagar (April - July, 1979)



.... with participants of Principles and Practice of Veterinary Public Health, Izatnagar (April - July, 1981)

Dr. C.M. Singh with participants of VPH Courses



**Dr. C.M. Singh with international experts at FAO/WHO
Veterinary Public Health Conference**



Conferred with D.Sc. (*Honoris Causa*) in Special Convocation of Deemed University IVRI



Procession of Convocation at DU, IVRI



Dignitaries present at IVRI Convocation



Conferred with D.Sc. (*Honoris Causa*) in Special Convocation of Deemed University IVRI by HE Mr. Reddy, Governor of UP

Dr. C.M. Singh with President of India & Governor of UP



Mrs. & Dr. C.M. Singh doing *pooja* at their Mathura residence



Mrs. & Dr. C.M. Singh doing *pooja* at their Mathura residence

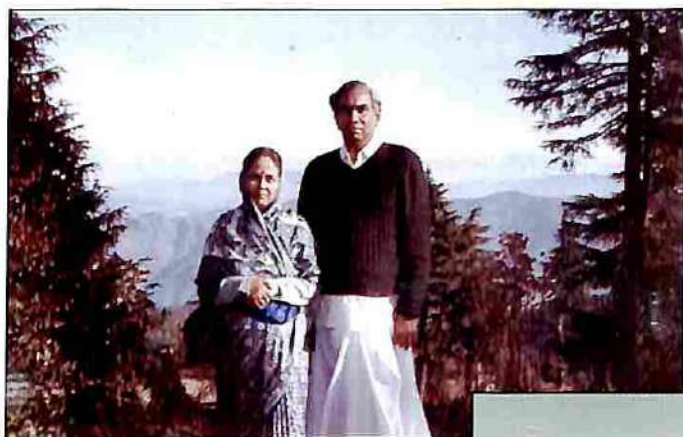


Mrs. & Dr. C.M. Singh at home

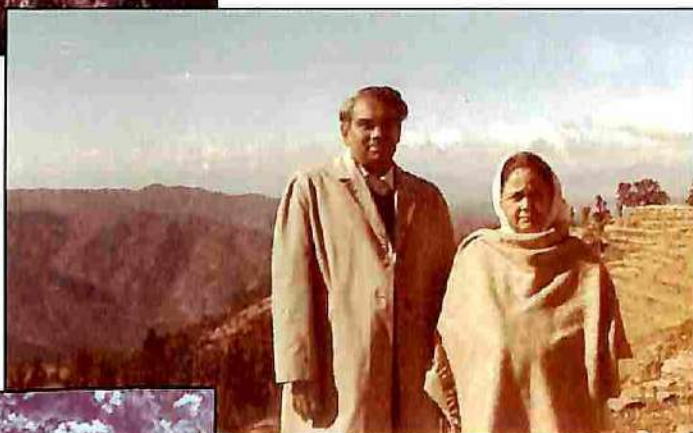


Mrs. C.M. Singh

Mrs. & Dr. C.M. Singh : At home



... at Mukteswar



... at Mukteswar



... in lawn of their residence



... in guest house

Mrs. & Dr. C.M. Singh



... visiting a historical monument



... in a religious function



... in garden



... during fag end of his life in UK (2004)



... at VVIP guest house IVRI



... during fag end of his life in UK (2005)

Mrs. & Dr. C.M. Singh



.... very early family picture

.... early family picture at his
parental village, Jaunpur

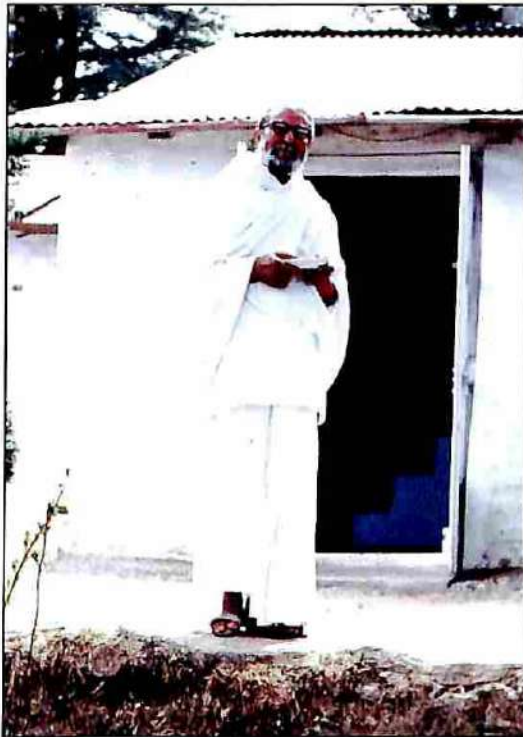


.... with his family at
Director's residence, IVRI

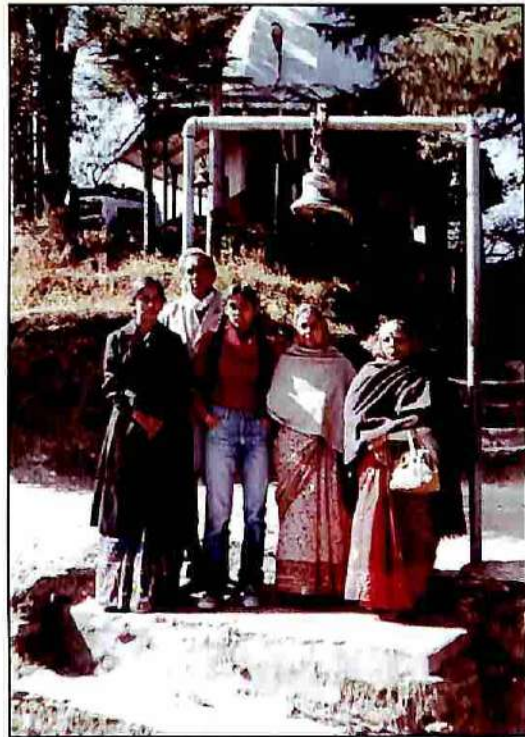
.... with their daughter Sashi Singh



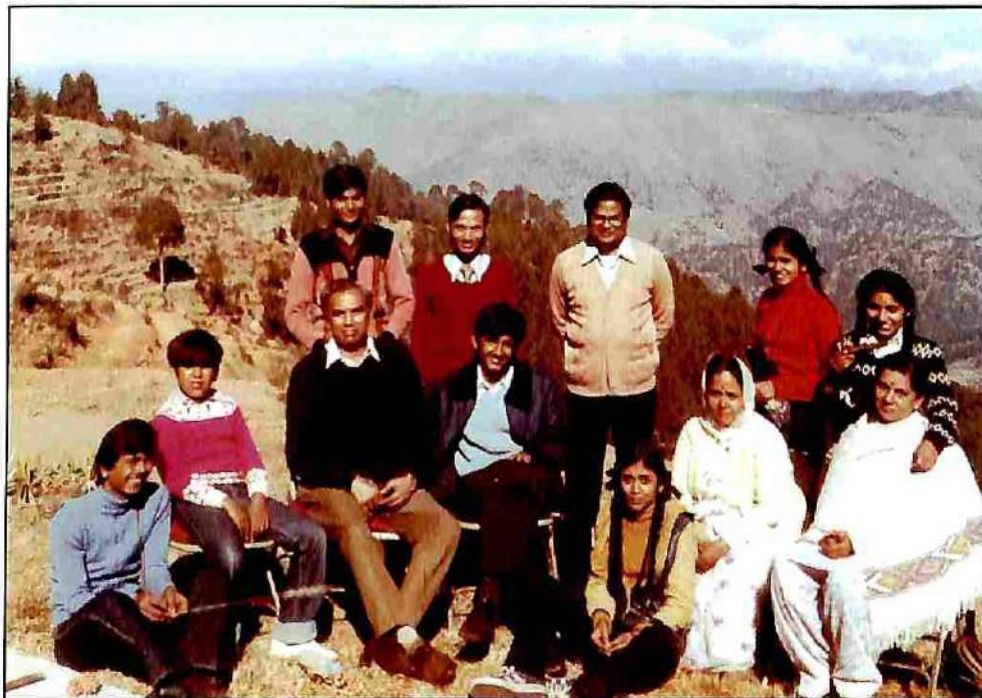
Dr. C.M. Singh & his family



.... his spiritual Guru Maharaj ji



.... with his family & Mrs. Rajya at temple gate,
Mukteswar

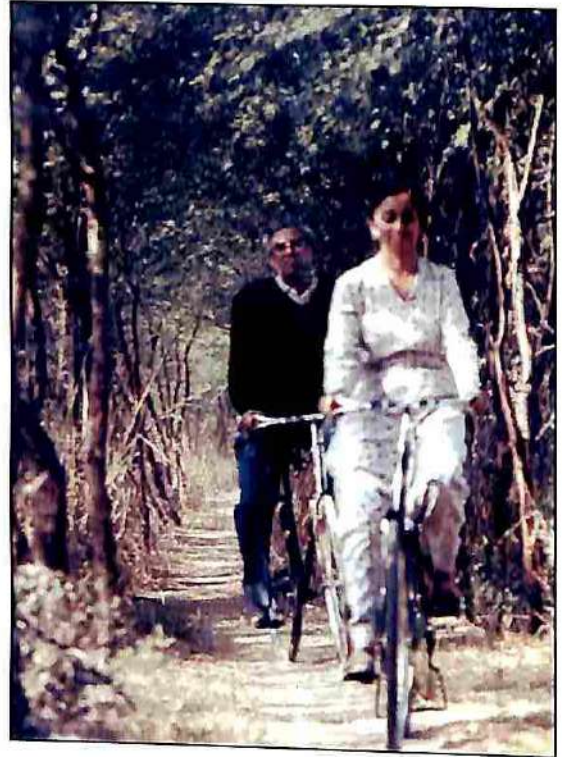


.... with Dr. S.K. Ranjhan's family for picnic at Surmani, Mukteswar

Dr. C.M. Singh with his friends and their families



.... picnic with family at Agra



.... enjoying cycling with elder daughter
Shyama Singh at Bird Sanctuary,
Ghana, Bharatpur (Rajasthan)



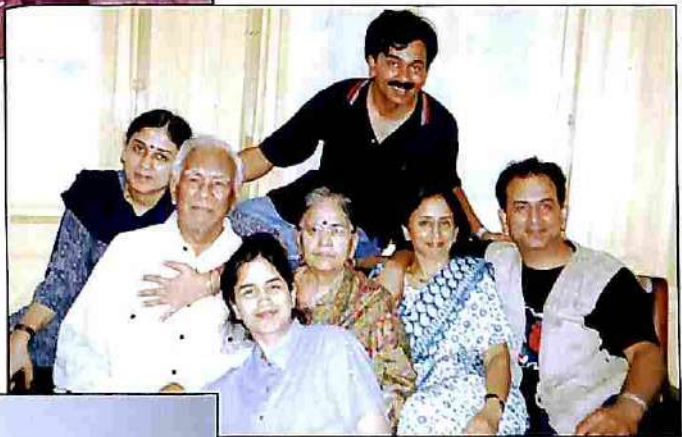
.... with his friend in a forest

Dr. C.M. Singh with his family and friends



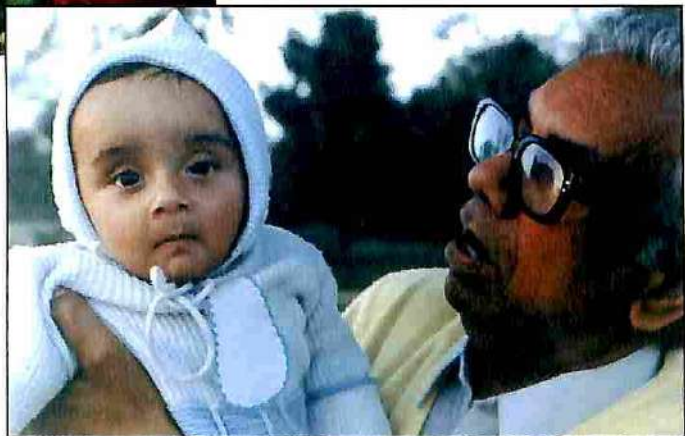
.... busy in grape gardening with his daughter Anuradha Singh

.... happy family

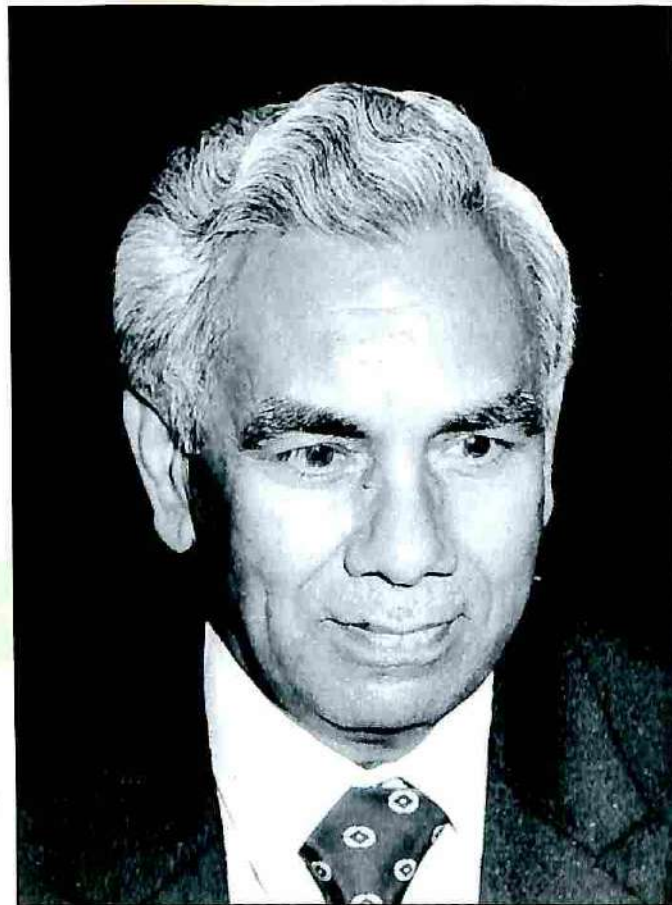
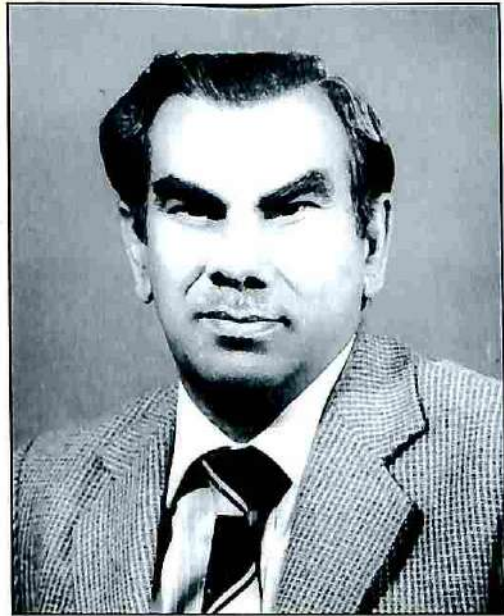


.... with their grand child

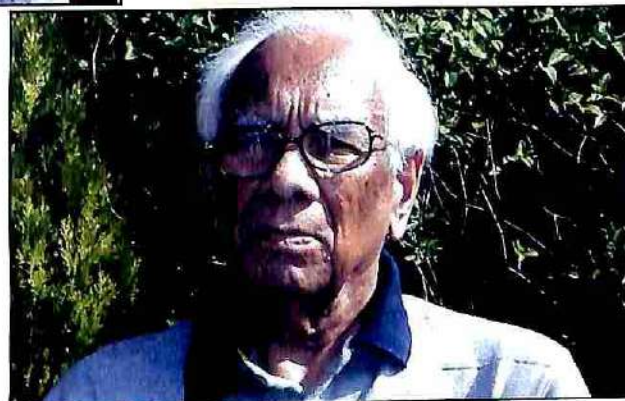
.... fondling grand son Shailendra
(S/o Dr. Shyama Singh)



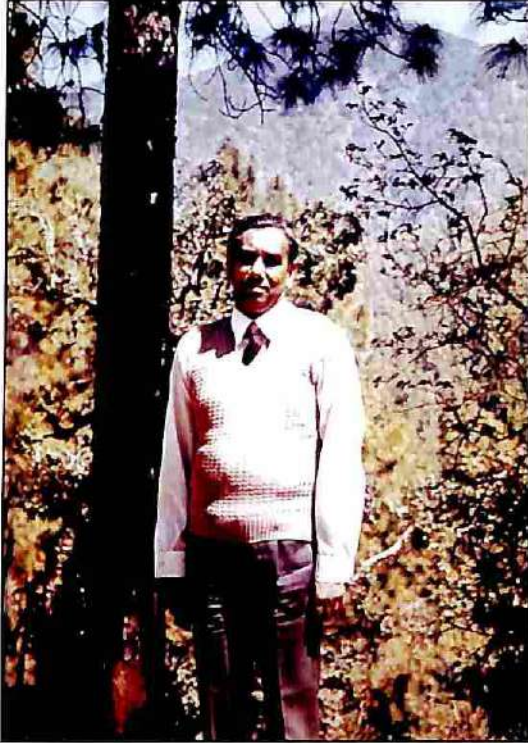
Dr. C.M. Singh with his family



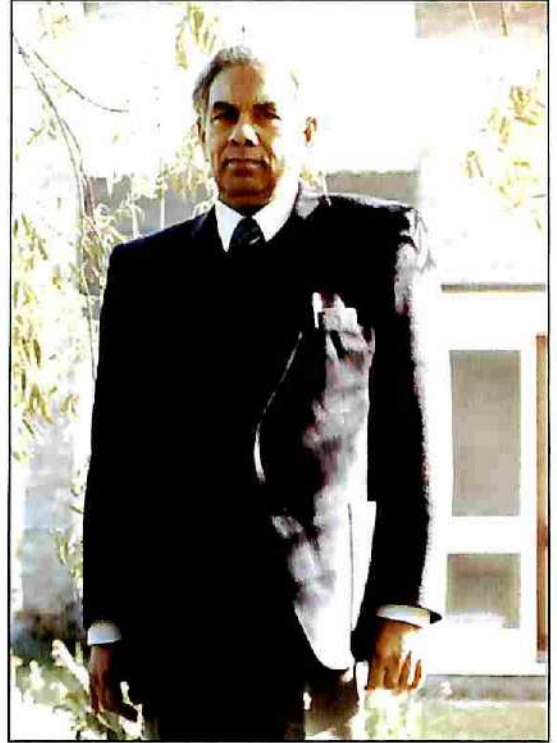
Dr. C.M. Singh during 1970 and afterward



Dr. C.M. Singh during 1980 and afterward



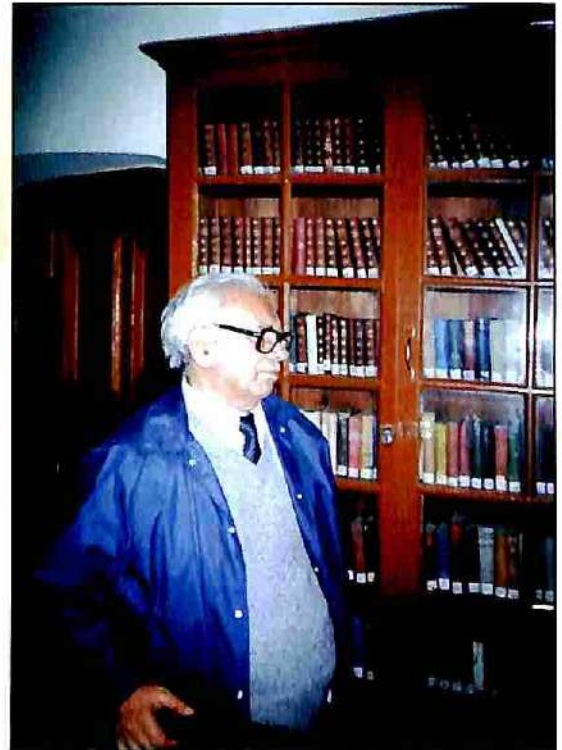
.... in lap of nature



.... in serious thought



.... perhaps thinking of nature



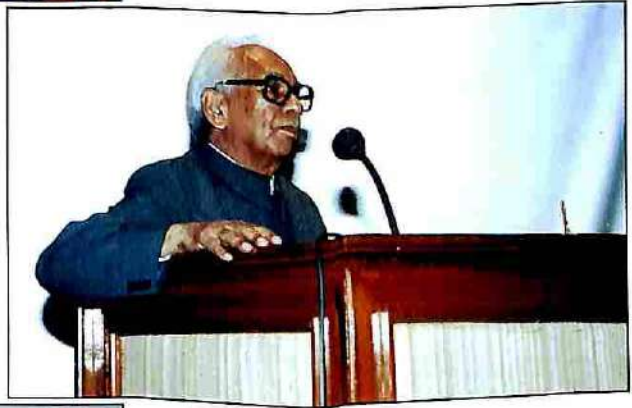
.... in Club library, Mukteswar

Dr. C.M. Singh in different moods



.... studying with a cup of tea

.... addressing



.... as President, VCI addressing a meeting

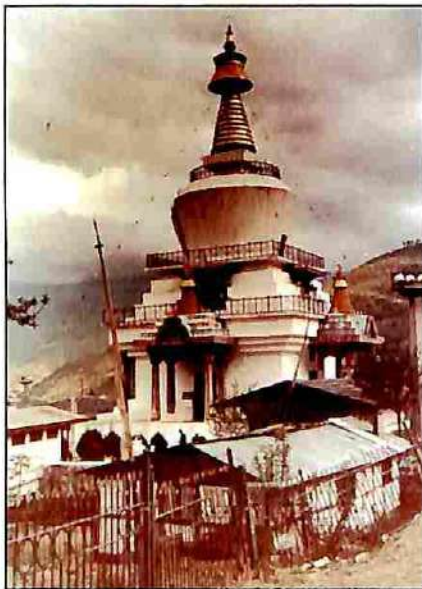
.... lightening a lamp in
inaugural function



Dr. C.M. Singh discharging different responsibilities



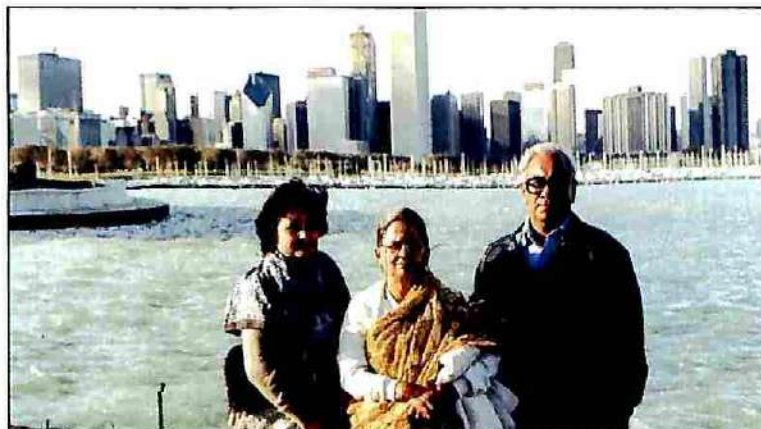
.... with his foreigner friends



.... in Thailand



.... in Thailand



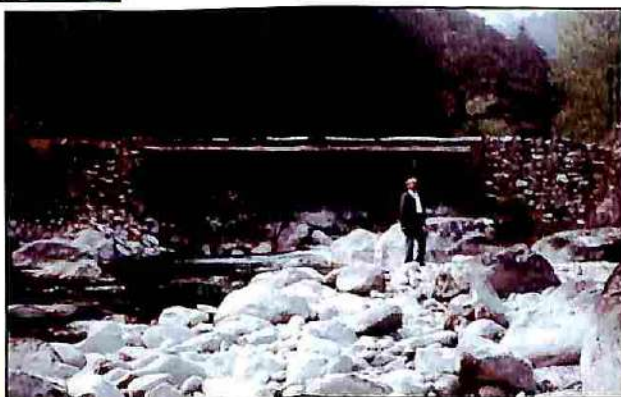
.... in USA

Mrs. & Dr. C.M. Singh : At Abroad



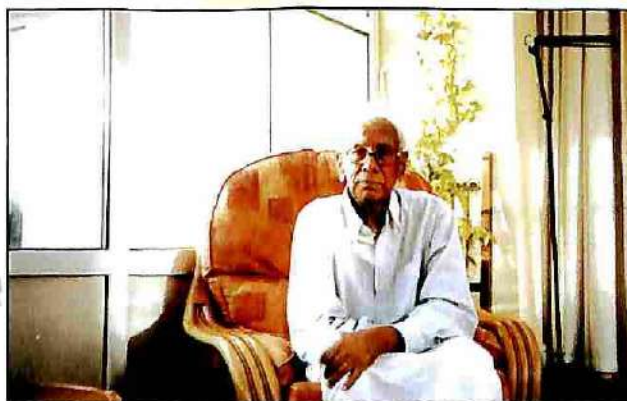
.... in a cheerful mood during a VCI meeting at Hyderabad

.... difficult & stony path of his life



.... boat riding at Sangam, Allahabad with his wife

.... in West Sussex (UK) residence during his illness (2004)



Dr. C.M. Singh : Different phases of life



.... with his friends Dr. R.R. Shukla,
Col. Bhatnagar, Dr. I.P. Singh,
& Dr. Manchanda in USA

.... with Dr. R.R. Shukla &
his family in USA



.... with Dr. Usha Mandokhot &
her family in his West Sussex
residence in UK (2004)

.... with author Dr. R. Somvanshi
in his West Sussex residence
in UK (2004)



Mrs. & Dr. C.M. Singh with professional friends and their families



.... in a VCI meeting at New Delhi

.... welcoming Mr. Raghuvansh Prasad Singh
Union State Minister of Agriculture,
Govt. of India in a National Seminar
& Annual Convocation of NAVS
at New Delhi



.... conversation with Minister

.... Mr. Raghuvansh Prasad Singh
presenting fellowship certificate
of NAVS to Dr. Singh



Dr. C.M. Singh : Participation in VCI & NAVS functions



.... addressing VCI & NAVS
National Symposium at
New Delhi

.... lightening lamps at KAU, Mannuthi,
Kerala



.... addressing at Hyderabad, AP

.... receiving momento at APAU,
Tirupati, AP



Dr. C.M. Singh : Participation in VCI functions in different states of country



.... garlanding by his student
Dr. N.S. Parihar

.... exchanging views with
Dr. V.K. Taneja DDG (AS) at New Delhi



.... on a cup of tea with
Dr. Harpal Singh, Dean
College of Veterinary Sciences,
GBPAUT, Pantnagar

.... with Prof. V. Ramakumar,
Secretary VCI &
Mr. C.K. Vasudev,
Executive Secretary, VCI



Dr. C.M. Singh : With distinguished professional colleagues



.... with Dr. J.N. Dwivedi, Dean Vety. College, Mathura & Dr. R.C. Pathak

.... present in Golden Jubilee Celebrations of Vety. College, Mathura. Dr. Dwivedi is welcoming him & addressing the function



.... addressing inaugural function of SIIP at AIIMS, New Delhi (1998)

.... receiving Life Time Achievement Award of SIIP from Prof. N.K. Ganguly DG, ICMR & Prof. Ramesh Kumar, President, SIIP at AIIMS, New Delhi



Dr. C.M. Singh : Felicitations



.... with Prof. Ramesh Kumar,
Dr. N.K. Ganguly & Dr. R.S. Chauhan
at inaugural function of SIIP

.... Dr. Panjab Singh DG, ICAR
addressing Annual Convocation of
NAVS & Vet. History Symposium at
IVRI, Izatnagar. On dias
Dr. R. Somvanshi, Org. Sec. &
Dr. C.M. Singh are present



.... with dignitaries present in
NAVS Convocation at IVRI, Izatnagar

.... conferred with Doctor of Science
(*Honoris Causa*) by WB University of
Animal Sciences & Fisheries,
Kolkata



Dr. C.M. Singh : Award & Honours



Award of Dr. C.M. Singh Samman to Prof. J.L. Vegad



Award of Dr. C.M. Singh Samman to Prof. R.C. Pathak



Award of Dr. C.M. Singh Samman to Dr. S.K. Ranjhan

Annual Functions of Dr. C.M. Singh Endowment Trust, Bareilly



.... with dignitaries on dias

.... with Dr. Nagendra Sharma
VC, SKUAST, Jammu
& Dr. M.P. Yadav
Director, IVRI



.... last address to scientists of IVRI
& CARI. Talking on philosophy of life

.... after unveiling inauguration stone of
Referral Poly Clinic, IVRI

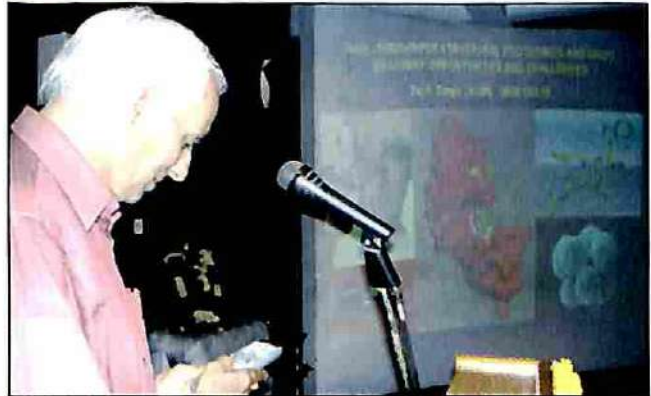


Dr. C.M. Singh : Last visit to IVRI, Izatnagar



.... release of a book

.... Prof. T.P. Singh
Head, Division of Biophysics,
AIIMS, New Delhi delivering
First Dr. C.M. Singh Memorial lecture



.... Dr. A.P. Mamtani
Chief Editor, Polivet, Gujrat receiving
Dr. C.M. Singh-Salihotra Samman
from Dr. M.P. Yadav

.... amongst audience
Mrs. C.M. Singh,
Mrs. Shanti Yadav & others
are present





Dr. C.M. Singh's first Indian lab. : Deptt. of Pathology & Bacteriology, Mathura



His dream : Modular Laboratory Building, IVRI, Izatnagar



Dr. Singh conferred with D.Sc. (*Honoris Causa*) at Deemed University IVRI
by HE Mr. Reddy, Governor of UP