

## In conversation with Dr. Chitra Srivastava



*Although not so ambitious but most energetic, highly motivated, consistent and hardworking Dr. Chitra Srivastava speaks to associate editor Dr. Bhagyasree on her successful journey in the field of entomology.*

Dr Chitra Srivastava currently helping the system as Emeritus Scientist (Entomology), basically she is from Prayagraj (earlier Allahabad) city. She superannuated in the post of Head, Division of Entomology, IARI, New Delhi. She is an able scientist with rich research, teaching and managerial experience of over 33 years in the field of insect toxicology and storage pest management. She has demonstrated excellence in Insect toxicology particularly for management of stored grain insects and has made significant contribution in solving emerging problems of insecticide resistance and management of storage insect pests through several externally funded research projects. Her work on 'use of alternate methodology i.e., use of carbon dioxide to kill insect pests in storage' has been acclaimed a great deal and adjudged noteworthy. She carried out extensive research to identify some insecticidal plants (*Clerodendron infortunatum*, *Lantana camera*, *Andrographis paniculate*, *Milletia pachycarpa*, *Gymnema sylvestre*, *Vinca rosea*, *Gloriosa superba* etc) extracts as potential component for IPM which proved deleterious to insect pests. Also undertaken various bioefficacy studies of new series of formulations against insect pests wherein 31 substituted hydrazines of nalidixic acid hydrazide showed insecticidal properties against Lepidopteran and coleopteran insect

pests. Bioefficacy of new compounds viz., 3-substituted -3,4-dihydro-1,3-benzoxazines, N-alkyl-N-(1-(2-hydroxyphenyl) ethyl amines and Isoxazole derivatives were also evaluated by her against *S. litura* and pulse beetles and all showed good insecticidal activity. Further, she has also evaluated toxicity of various novel insecticides against different populations of BPH (*Nilaparvata lugens*). Efficacy of CO<sub>2</sub> was found to protect wheat seed against storage insects. She obtained several out agency/foreign aided research projects and generated enough funds to carry out 'Stored grain and Insect Toxicology' research work and produced/trained better human resource.

Actively engaged in teaching PG courses on 'insecticide toxicology' and 'storage insects management'. Guided for eighteen (14) Ph. D. and five (5) M.Sc. theses at PG School, IARI. Out of them, two of them were adjudged as 'Best thesis of PG School of IARI', 2 for 'IARI Gold Medal' and another one was given 'Dr S. Pradhan Memorial Award'. Many of her students have succeeded in ARS and are serving in different ICAR institutes, some are working as Assistant/Associate Professors in SAUs, one (1) student is serving under Indian Forest Service (IFS) and another from Iran is serving as Assistant Professor in Shahid Bahonar University of Kerman, Iran. She is

a most acknowledged faculty and has been actively engaged in teaching PG courses on 'insecticide toxicology' and 'storage insects management'. In the year 2007, she herself was adjudged as 'Best Faculty' and bestowed with 'Best Teacher Award' for excellence in teaching in Entomology.

Her focus to students is to provide quality education with skill development. Made significant contribution and published bulletins, research papers, review articles, symposia papers and popular articles. She is editor/co-editor of 10 books/bulletins, author of several chapters in different books, over 140 peer refereed research journals and several symposia papers, training manuals, patents and over popular articles. Her diverse published research papers highlight her contributions. Dr Chitra Srivastava is a life member of several scientific societies. She earned 'Fellowship' of Indian Entomological Society of India (FESI) and Society of Plant Protection Sciences (FSPPS). She is on Editorial Board and Referee of many reputed peer reviewed National/International research journals related to plant protection. She has par excellence interpersonal and communications skills, and possesses high level of initiative, strategic judgment and adaptability and resourceful person with a sustained record of achievement and innovation. She had demonstrated competency in research or discussions; project management, including teaching and guidance. Dr. Chitra is an eminent scientist, we are glad we have opportunity to know about her journey.

**Bhagyasree S.N. (BSN): Thank you for speaking to Indian Entomologist magazine, how did you pursue career in**

### **Entomology, especially in toxicology and storage pest management?**

Dr. Chitra Srivastava (CS): It was both choice and chance, I like insects the most which fascinated me to understand the unique behaviour of wide diversity of insects. I did my Doctoral work on "Studies on the haemolymph free amino acids and proteins of *Achoea Janata* and the effect of juvenoids on them. "from prestigious University of Allahabad. While pursuing there for my Ph.D program, I was fascinated to work in IARI, New Delhi. Luckily, I was married to an ARS scientist which motivated me to write for ARS Examination and fulfil my dream to move to IARI, New Delhi. His constant motivation, prompted me and I appeared for ARS 1985 examination (my first and last chance) and got selected, In the meanwhile, I was offered Post Doc Fellowship of ICAR (those days it was difficult as it used to be given very few people only across the country taking all agricultural discipline into consideration) under Dr. K. N. Mehrotra. Really, it was very difficult thing and extremely rare to get at that time. Under his able guidance, I started working on evaluation of Plumbagin against lepidopteran pests and learnt a great deal. During the period I had learnt how to do bioassay, as it was new to me. I had to leave Post Doc Fellowship in between since I had to join ARS Service during February 1986 at IARI New Delhi. After joining it was difficult for me to get posting in the Division of Entomology and thus, I didn't get posting in Entomology Division in the beginning. I was posted in RPC section of Central office, involved in scientific project management. But as I explained earlier, I had huge interest in research and teaching in Entomology, hence, being at Central Office (non-research position), I was continuously

requesting authorities to put me in research in Division of Entomology. Dr. S. K. Sinha the then Director, IARI was kind enough and he agreed to my request and transferred me the Division. I was first posted to work in Earthworm project, as I was basically from Zoology background, there I worked on effect of herbicide on earthworms. I was always interested to work on toxicological experiments like Resistance and Residues, later I was shifted in Insecticide resistance to storage insects project in association to Dr. JD Saxena. Initially,, I worked along with very good seniors like Dr. RK Bhatnagar and Dr. J D. Saxena where I had full freedom to work as well as to learn a great deal. I was also associated with Dr. S Dhingra, who was really a hard task master, a brilliant teacher. I learnt a lot from her. I

---

*“Happiness and satisfaction with whatever we have is very important for healthy life”*

---

thus, learnt a lot from my seniors. This way my dream fulfilled and my journey started from zoology to entomology and then to toxicology.

**BSN: Who is your role model in personal and professional life?**

CS: It's my MOTHER, both personally and professionally, she was a teacher in Psychology, she was not from modern family, ours was big joint family, she was married at an early age after completing her XII standard (Intermediate examination). My mother apart accomplishing every household chores, she balances joint family extremely well. She hails from Lucknow and she used to go to college in “Tanga” covered with curtains as girls were not

allowed to show their faces at that time. My father's thought was progressive, and he persuaded her to complete further studies. After completing her postgraduation, she opted for a job of teaching in an Intermediate College in Prayagraj. She coped up family responsibility and her profession very well. She was liked by her students a lot. She fulfilled her responsibility of daughter-in-law of a joint family extremely well, looking after everything, that really, we can't even dream and imagine today. I wish I should have strength like her.

**BSN: Its great hearing about your mother, I wish young working generation has to learn a lot from the women like your mom. How did you balance your personal and professional life, usually in working women life career and biological clock goes in opposite direction, how did you cope up with that?**

CS: Dear Bhagyashree, when I was writing ARS exam, I had a son, after getting selected in ARS, my elder daughter was born. My husband and his family were very cooperative and supportive, they helped me looked after everything so well. My in-laws stayed with us to look after my children. Thus, I could able to manage and balanced my professional and personal life very well.

**BSN: What a working woman should possess to have balance and healthy life?**

CS: Adjusting nature!!! I was not much ambitious. Getting the position as Head (Entomology), ICAR-IARI, was very big thing for me and what I thought in Allahabad was fulfilled. I am extremely satisfied and happy about my accomplishments. Happiness and satisfaction with whatever we have is very important for healthy life. And I am lucky, I worked with

very good colleagues and students. My students owned my lab as their lab and always felt responsibility, take care of everything in lab as their own. This attitude of my students also supported me in a great way to balance the professional life. My students are really my assets.

**BSN: What are the biggest challenges or hurdles you have come across while working as a Head, Division of Entomology, ICAR-IARI, New Delhi?**

CS: Am lucky, I always had support of my colleagues and other staff members and didn't face any problems or hurdles in the division. In IARI, working is very systematic. I could handle everything smoothly without any hinderance. The technical and administrative staff also supported me so much. Dr. Subhash Chander, Professor (Entomology) was also very supportive and he cooperated a great deal. Because of all the support from senior and junior staff, I have not faced any hurdles.

**BSN: As toxicologist, what do you say, is pesticide usage boon or bane to attain sustainability in agriculture? Are they really causing cancer, neurological defects and chromosomal aberrations?**

CS: I would say it's a boon, but we have to use cautiously and judiciously, else production will be affected. To attain food and nutritional security, use of pesticides are necessary. Right pesticide and right dose are extremely important. So, we should do need based application in IPM.

**BSN: What is your opinion on impact of recent ban?**

CS: Government of India proposed a blanket ban on the use of 27 generic pesticides,

causing real concerns among the farmers, scientists and the industry. Though only 27 pesticides are proposed to be banned but along with them will go 134 formulations also. These pesticides are registered for protection against wide range of pests and diseases in 74 crops. Such sudden ban on these commonly used generic pesticides, in the absence of suitable alternatives may have negative impact on production also.

**BSN: As a storage entomologist, you have worked with farmers, and rural women a lot, with your experience why do you think managing storage pest are difficult and what can be done to manage the food grain loss?**

CS: In storage, insect pests are not facing any scarcity of food and shelter. Storage insects are very small in size and most of them are internal feeder so feeding stages are not visible. We can see them only when substantial loss already occurred. To control these insects, we cannot apply or mix any chemical as grains are edible commodity, also as stages of these insects are hidden inside the grain chemical will not reach there. Only through fumigation we can kill these insects. same time to check the cross infestation prophylactic treatment with insecticides is also important.

Before keeping grains in storage grains should be insect free and dry, moisture should be reduced. Cleanliness and hygienic conditions should be maintained.

**BSN: How did you feel when you got Best teacher award??**

CS: It was the happiest moment for me. As teaching and students were very close to my heart, I felt very happy receiving that award.

**BSN: You are student's favourite teacher, there is no doubt in that, constantly every student in the IARI liked you the most, what is that one thing/things which made students to like you a lot according to you?**

CS: All teachers are excellent in IARI, and students are also very studious. Whenever I use to chide my students, I always thought, how my children will feel in the same situation? Specially in M.Sc these students are leaving their home for the first time, they need affection, help and some strictness also during gaining knowledge. Hence, they have to be tackled intelligently and patiently. As I have already told you my students were close to my heart, I am very lucky to have them.

**BSN: Your suggestions/views to Young entomologists magazine?**

CS: It's very good, all the articles are very informative, youngsters are doing good job.

In the end, I would say that she possesses high level of initiative, strategic judgment and adaptability and resourceful person with a sustained record of achievement and innovation. She has par excellence interpersonal and communications skills. She had demonstrated competency in research or discussions; project management, including teaching and guidance.

---

*Dr. S.N. Bhagyashree is working as Scientist at the Division of Entomology, ICAR- IARI, New Delhi. She is working on IPM of Vegetables and Biological control and also one of the Associate Editors of IE, managing Women In Entomology Section.*

*[Email - bhagyashree.sn@gmail.com](mailto:bhagyashree.sn@gmail.com)*

---