

INDIAN SOCIETY FOR PLANT PHYSIOLOGY
DEDICATES THIS VOLUME
IN THE MEMORY OF



DR M. N. SARIN
(1935-1972)

*'his dedicated services to the Indian Society for Plant
Physiology as Executive Secretary-Treasurer from
1967 to 1972 will long be remembered by all of us'*

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IN MEMORY OF DR. M.N. SARIN

Dr M.N. Sarin, our Executive Secretary-Treasurer passed away at Karnal on July 14, 1972. In his untimely death India has lost a distinguished Plant Physiologist and our Society a outstanding worker.

Mahendra Nath Sarin was born on 11th October, 1935 at Agra (Uttar Pradesh). After having completed his schooling in 1949 he joined Agra College, Agra and obtained his B.Sc., M.Sc., and Ph.D. degrees in 1953, 1955 and 1959 respectively. On getting his M.Sc. degree, he was employed at Agra College on a U.P. Scientific Research Committee's scheme on 'Physiology of salt-tolerance in crop plants' under the supervision of Prof. I.M. Rao, the then Associate Professor of Botany, under whose guidance he worked for the Ph.D. degree. In August, 1957 he was appointed lecturer in Botany at Agra College and continued in this position till May, 1960, when he joined Indian Agricultural Research Institute, New Delhi as Assistant Plant Physiologist. He was promoted to the post of Assistant Professor in 1962 and Plant Physiologist in 1964. In 1970 he left for Karnal (Haryana) on his appointment to the post of Head of the Division of Plant Physiology and Genetics at the newly established Central Soil Salinity Research Institute and worked there till the tragedy struck.

Dr Sarin's major research interest had been concerned with the elucidation of metabolic pathways through which the damage due to the presence of excess of nutrient elements in the growing medium is mediated. The findings of his research group suggest that the adverse effect, due to accumulation of ions, is primarily routed through retarded phosphorylation (both oxidative and photo) resulting in lowered energy levels. The lowered energy levels bring about a reduction in other energy requiring processes like energy mediated uptake of essential nutrient elements, synthesis of peptide bonds and consequently protein synthesis, thus resulting in depressed growth and development. His keen interest in analysing the mechanism of salt action led to the finding that delay in germination, often observed under saline conditions, was found to be associated with belated duplication of DNA then in DNA-dependent RNA synthesis. His experiments on wheat and peas showed that the reduction in RNA

levels during seed germination caused a depression in synthesis of enzyme proteins, particularly of α -amylase resulting in lowered mobilization of reserves.

Realising the importance of growth regulators in ameliorating the adverse effect of soil salinity on plants, he and his associates took up a detailed study on screening different groups of growth regulating substances and observed that growth retardant phosphon-D could ameliorate partly the adverse effect of soil salinity on plants and this response was mediated by protecting protein breakdown as also by supporting peptide bond synthesis.

The other area of interest for Dr Sarin had been the understanding of the role of boron in plants. His studies contend that primary effect of deficiency of boron from the growing medium is slower mitosis caused by prolongation of G-1 stage of the interphase nuclei. The retarded mitosis causes reduction in meristematic zone and consequently in vascular elements resulting in inhibited translocation of reserves to apical regions of roots. He also worked for a while on the effect of auxins on sprouting of potato tuber during storage.

At Central Soil Salinity Research Institute, Karnal he continued his investigation on salt-tolerance of crops and their varieties. He was especially interested in elucidating the basis that was of consequence in determining the behaviour of salt susceptible and tolerant types, raised under saline substrates.

Dr Sarin had a great fascination for teaching. As a young teacher at Agra College he drew a great admiration and appreciation from students and colleagues alike for his clear thinking and excellent delivery of the subject matter. He taught diverse subjects like fossil Pteridophytes and Gymnosperms at post-graduate level.

During his stay at Indian Agricultural Research Institute, New Delhi, Dr Sarin participated actively in the deliberations of the post-graduate school and was elected to the Academic Council as Faculty's representative in 1965. He also worked as Assistant Warden of P.G. Hostels during 1963-66. As a faculty member he guided four students for the M.Sc. and three students for the Ph.D. degrees. He went abroad for a year during 1967 on a research assignment to work in collaboration with Professor Hans Burström at the Institute of Plant Physiology, Lund University, Lund (Sweden), where he also supervised the work of two Fil. Lic. students. He visited different centres of research in Europe (including USSR) and U.S.A.

During his research career, Dr Sarin published 26 original research articles in Indian and foreign journals, besides writing two reviews published by the Indian Council of Agricultural Research in collaboration with Professor R D. Asana, former Professor and Head of the Division of Plant Physiology and Phytotron, IARI, New Delhi.

In addition to his being a researcher and teacher of great repute, he was deeply interested in dramatics and film making. During his studentship he was closely associated with the activities of Indian Peoples' Theatres Association and participated in numerous performances at Agra and other places. He acted in a Swedish Film 'An evening in Chicago' which earned him a gold medal of Swedish Film Society, a unique distinction for a career scientist. He also directed and acted in a Rajasthani documentary film '*Haldi ko rang surang*', which unfortunately was completed after his demise.

Dr Sarin was a founder member of Indian Society for Plant Physiology and was intimately associated with its various activities. He was elected as Executive Secretary-Treasurer of the society in 1967 and was re-elected in 1970. During the period of his Executive Secretary-Treasurership a national seminar on '*Plant Physiology and Crop Production*' at Solan and an international seminar on '*Physiology of differentiation in plants*' at Simla were held in 1969 and 1971 respectively. For organising the international seminar Dr Sarin put in extra-ordinary hard labour, time and energy, even at the cost of his health. Those who attended the seminar must have felt the impact of his personality in its organisation. It is no exaggeration that but for his pioneering efforts the international seminar would have not taken place at all. His friends and all the other participants in the seminar will always remember him for his extra-ordinary qualities and service to the Indian Society for Plant Physiology.

The death of Dr Sarin has also been a personal loss to me. Dr Sarin and myself had a long association of being the pupils of the same institution and of the same teacher, besides being colleagues at Agra College, Agra and Indian Agricultural Research Institute, New Delhi. Dr Sarin had a charming and colourful personality and I had always found him well composed and cheerful even under the moments of great anxiety and stress. He was a man of great zeal and determination and would put his soul and heart for any work he undertook. His dedicated services to Indian Society for Plant Physiology will long be remembered by all of us. He leaves

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behind his widow, two sons and a daughter, to whom we offer our heart-felt sympathies.

S. N. BHARDWAJ