

## The Fountain of Microbial World: Prof. Santosh Kumar Goyal

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**Prof. Santosh Kumar Goyal**  
(19.9.1939–28.10.2018)

Prof. Santosh Kumar Goyal born on 19th September 1939 in Nagaur District, Rajasthan, did his graduation and post-graduation in Botany from Jodhpur University. He completed his Ph.D. in Microbiology in 1970 from Indian Agricultural Research Institute (IARI), New Delhi. He was honoured with a Gold Medal, by Hon'ble President of India, Dr. V.V. Giri for his outstanding academic performance. He worked on Morphology and Ecophysiology of Blue Green Algae with special reference to their application for human welfare. He initiated an ambitious programme in 1981 on survey, isolation and characterization of cyanobacteria. He contributed nearly half of the accessions in Germplasm collection, held at the National Collection Centre for Blue Green Algae at IARI. He developed a method for production of soil based algal inoculant that became popular with rice cultivators all over India esp. in UP and TN. He developed a protocol for commercial

production of clay based algal inoculum, that was approved by Bureau of Indian Standards (BIS). Algalization in rice cultivation was the culmination of his research efforts which showed, Cyanobacteria are: (1) widespread in tropical soils and contribute significant nitrogen to rice crops, (2) compatible with agrochemicals including nitrogenous fertilizers and (3) secrete growth regulators. He also worked on the biology of Tree-Legume–Rhizobium symbiosis and showed that the symbiosis is temperature and salinity tolerant and cross nodulates with green gram and black gram. His trials on micro-algal mediated reclamation of wastewater enabled him to isolate pollution tolerant forms like *Oscillatoria angustissima* and *Chlorella pyrenoidosa*, which improved the efficiency of water treatment plants and removed heavy metal through bio-sorption.

Prof. Goyal was selected as a member of Indo-US Senior Scientists' Panel Programme, by Indian Council of Agricultural Research (ICAR), Ministry of Agriculture, for 1984–1989. As a Visiting Scientist to the University of California, Davis, USA, he worked on photosensitivity, phosphorus nutrition and thermostability of *Azolla*–*Anabaena* symbiosis. As a scientific consultant for Soil Technologies Corporation, Iowa, USA, he was engaged in manufacturing algal inoculants and bio-pesticides. He published over 80 research papers, including five review articles and four popular articles. He also published 2 books, 12 book chapters and 5 laboratory manuals. He served as the Executive-editor for Indian Journal of Microbiology from 1999 to 2005. He also served as Chief-editor of 'Phykos' the only Indian Journal on Algology. He believed that research output must be translated to outcome and reach the farmers. He was instrumental in demonstrating the benefits of algal biofertilizers in several field trials across India and built the confidence among farming

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community. He retired in September 1999 from Division of Microbiology, Indian Agricultural Research Institute, New Delhi after serving 38 years and thereafter lived a happy life until he breathed last on October 28, 2018. He was the fountain head of knowledge, a true scientist and the most beloved teacher, great source of inspiration, a

compassionate husband, affectionate father and a joyful grandfather. He has left a strong goodwill with sweet memories. All his followers will always miss him and cherish his words and sayings. He will always be remembered and admired by his students and children who will carry his value systems and teachings forward.