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You are reading the ninth annual issue of *Better Crops South Asia*. This publication is released in the fourth quarter of each year, and follows a format similar to our flagship publication *Better Crops with Plant Food*.

Our 2015 issue is focused on phosphorus (P).

The research featured in this issue is a tribute to the scientific progress that is continually being made in the

fields and laboratories throughout South Asia. Once again, we at IPNI wish to congratulate and thank the many cooperators, researchers, farmers, industry representatives, and others who are working for the benefit of agriculture in South Asia.



A handwritten signature in black ink, appearing to read 'Terry L. Roberts'.

Dr. Terry L. Roberts, President, IPNI

IPNI Scholar Award Recipients - 2015

The International Plant Nutrition Institute (IPNI) has selected the winners of the annual Scholar Award Program. A total of 37 graduate students, representing 13 countries, were chosen in 2015. Each winner receives the equivalent of US\$2,000. In the South Asia region, IPNI selected eight Scholars whose details are provided below.



Lakshmi D. Maddukuri

Ms. Lakshmi Durga Maddukuri, Indian Agricultural Research Institute, New Delhi, India is obtaining a Ph.D. in floriculture and landscaping. Her dissertation title is “Development of Site-Specific Integrated Nutrient Management Systems for Gladiolus and Marigold using Soil Test Crop Response Correlation Studies.” Her project objectives include, developing soil test based recommendations of nitrogen, phosphorus, and potassium for specific levels of yield targets of gladiolus and marigold. She plans to continue her research and work with farmers to improve soil fertility and nutrient use efficiency.



Kali Krishna Hazra

Mr. Kali Krishna Hazra, Indian Institute of Technology Kharagpur, West Bengal, India is completing his Ph.D. in agronomy. His dissertation title is “Assessment of Soil-plant Phosphorus Dynamics in Aerobic Rice-lentil Production Systems for Strategic Phosphorus Management.” The goal is to address the issue of reduced phosphorus availability under non-flooded rice cultivation practices such as the System of Rice Intensification (SRI) and Direct Seeded Rice. Mr. Hazra plans to conduct more research related to crop and soil related issues.



Muhammad Imran

Mr. Muhammad Imran, Bahauddin Zakariya University, Multan, Punjab, Pakistan, is obtaining his Ph.D. in soil science. His dissertation title is “Phosphorus Management for Biofortification of Zinc in Maize Grown on Calcareous Soils.” Muhammad’s goals include, finding the fixation and retention capacities of Zn and P in different textured soils by the Michaelis-Menten adsorption model as a function of time, management of P to increase Zn bioavailability in maize grains, and different Zn fertilization approaches in terms of improving estimated Zn bioavailability in humans. Mr. Imran wants to pursue more research on Zn bio-fortification of cereals and work to alleviate mineral malnutrition in humans.



Basavaraj Patil

Mr. Basavaraj Patil, University of Agricultural Sciences, Dharwad, Karnataka, India, is pursuing a Ph.D in agronomy. His dissertation title is “Precision Nutrient and Water Management in Sugarcane.” In India, the average productivity of sugarcane is relatively low. Site-specific nutrient management strategies have produced tangible yield gains, along with higher efficiency and improved soil health, but the process is quite intensive and feasible in small domains only. The present investigation aims at precision water and nutrient management for achieving the target yield of sugarcane by taking into consideration soil spatial variability. Mr. Patil plans to become a research scientist and continue his work in the area of precision nutrient management.



Amrita Sengupta

Ms. Amrita Sengupta, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal, India, is working towards her Ph.D in agronomy. Her dissertation title is “Enhancement of Groundnut Productivity through Isolated Rhizobia and Phosphate Solubilizing Bacteria.” In India, Groundnut is mostly grown under energy starved conditions and microbial interventions can therefore be a sound strategy for enhancing productivity. She is working on isolation, characterization and successful utilization of some new microbial strains to increase the productivity of groundnut, by partial replacement of inorganic fertilizers. Ms. Sengupta plans to extend her research in an interdisciplinary manner, preferably in the fields of agronomy, soil science and plant breeding, with the goal of improving soil and crop management and preserving natural resources.



Abhijit Sarkar

Mr. Abhijit Sarkar, Agricultural Research Institute, New Delhi, India, is earning his Ph.D. in soil science. His dissertation title is “Development and Characterization of Superabsorbent Controlled-release Nitrogen-Phosphorus (NP) fertilizer Formulations and Their Impact on Soil Health under Rice-wheat Cropping System.” Nitrogen and P are two of the most important nutrients for plant nutrition, but various environmental challenges are associated with excess losses from conventional fertilizers. One possible solution is the development of superabsorbent controlled release NP-fertilizer that supplies nutrients in accordance with plant demand. Mr. Sarkar’s research interests include nutrient management, nanotechnology, and environmental sciences. He would like to develop fertilizer products with improved nutrient use efficiency.



Dibakar Ghosh

Mr. Dibakar Ghosh, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal, India, is completing his Ph.D. in agronomy. His dissertation title is “Weed and Nutrient Management in Maize-greengram (Residual)-rice Crop Sequence under New Alluvial Soil.” The project examines combined weed and nutrient management in maize-greengram-rice crop sequence under new alluvial soil to assess the treatment combinations relating to their effects on weed flora and their growth, productivity, and quality of crops in sequence, and nutrient mining by crops and weeds. His future interests include developing environmentally and economically beneficial sustainable technologies for farmers.



Ashok K. Koilakonda

Mr. Ashok Kumar Koilakonda, Indian Institute of Technology, Kharagpur, West Bengal, India, is earning a Ph.D. in agronomy. His dissertation title is “Comparative Assessment of Direct and Carry-over Effects of Organic and Inorganic Nutrient Management for Rice-chickpea Production System in Lateritic Soil.” The study focuses on selecting the right source of nutrients such as vermicompost and chemical fertilizers as a source of nutrients, the right quantity of nutrients with varied levels of organic and inorganic fertilizers, and the right time of application like basal and split application of organic and inorganic fertilizers. He would like to focus on site-specific nutrient management and provide recommendations to the region’s rice growers.

Graduate students attending a degree-granting institution located in any country within an IPNI regional program are eligible. The award is available to graduate students in science programs relevant to plant nutrition science and the management of crop nutrients including: agronomy, horticulture, ecology, soil fertility, soil chemistry, crop physiology, environmental science, and others.

Regional committees of IPNI scientific staff select the recipients of the IPNI Scholar Award. The awards are presented directly to the students at a preferred location and no specific duties are required of them.

Funding for the scholar award program is provided through support of IPNI member companies, primary producers of nitrogen, phosphate, potash, and other fertilizers.

More information is available from IPNI staff, individual universities, or from the IPNI website: www.ipni.net/awards. 