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## 2008 SCHOLAR AWARD RECIPIENTS NAMED BY INTERNATIONAL PLANT NUTRITION INSTITUTE

September 30, 2008 – Norcross, Georgia, USA – The 2008 winners of the Scholar Award sponsored by the International Plant Nutrition Institute (IPNI) have been selected. The awards of US\$2,000 (two thousand dollars) each are conferred to deserving graduate students in sciences relevant to plant nutrition and management of crop nutrients.

“We received a significant number of applications for the Scholar Award and were impressed with the academic records, research programs, and other credentials of the graduate students,” said Dr. Terry L. Roberts, IPNI President. “The academic institutions these young people represent and their professors and advisers can be justifiably proud.”

A total of 14 (fourteen) graduate students were named to receive the IPNI Scholar Award in 2008. They are listed below by region and university/institution.

- North America:**
- Carolina Medina, University of Florida
  - Trenton Roberts, University of Arkansas
  - Darrin Roberts, University of Nebraska
  - Fernando Salvagiotti, University of Nebraska
  - Mark Slavens, Cornell University
  - Amy Burton, Pennsylvania State University
- China:**
- Xiaofeng HU, Southwest University
  - Xiaokun LI, Huazhong Agricultural University
  - Wenjuan LI, Graduate School, Chinese Academy of Agricultural Sciences
- India:**
- I. Vimal Jothi, Tamil Nadu Agricultural University
  - Wasim Iftikar, Visva Bharati University
- Latin America:**
- Nahuel Reussi Calvo, National University of Mar del Plata, Argentina
  - Sebastian Mazzilli Vanzini, Universidad de Buenos Aires, Argentina
- Southeast Asia:**
- Trinh Quang Khuong, Cuu Long Rice Research Institute (CLRRI), Vietnam

Funding for the Scholar Award program is provided through support of member companies of IPNI, primary producers of nitrogen, phosphate, potash, and other fertilizers. Graduate students attending a degree-granting institution located in any country with an IPNI program region are eligible. Students in the disciplines of soil and plant sciences including agronomy, horticulture, ecology, soil fertility, soil chemistry, crop physiology, and other areas related to plant nutrition are encouraged to apply. Following is a brief summary of information for each of the 2008 winners.

**Ms. Carolina Medina** is pursuing her Ph.D. degree at the University of Florida, with a doctorate dissertation titled “Towards Acceptance of a Short-Term Laboratory Test to Measure Nutrient Release Characteristics of Controlled-Release Fertilizers.” Her research has been centered on developing methodologies

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to quantify the release properties of controlled-release fertilizer (CRF) sources. She is developing a 72-hour laboratory extraction procedure for use in estimating long-term N release properties of CRF sources. For the future, she hopes to contribute to design, support, and testing of fertilizer products that can sustain global demand of agricultural products while reducing environmental impacts of fertilization.

**Mr. Trenton Roberts** is working toward his Ph.D. degree in the Department of Crop, Soil and Environmental Science at the University of Arkansas. His doctoral dissertation title is “Soil-Based Tests for Nitrogen Fertilizer Recommendations in Arkansas Rice and Wheat Production.” His objectives include development of a soil-based N test that accurately quantifies potentially mineralizable N, correlation of plant response parameters such as total N uptake and relative grain yield with the test, and calibration of the soil-based N test for N fertilizer recommendations.

**Mr. Darrin Roberts** is pursuing his Ph.D. degree in the Department of Agronomy and Horticulture at the University of Nebraska-Lincoln. His dissertation is entitled “An Integrated Crop- and Soil-Based Strategy for Variable Rate Nitrogen Management in Corn”, with a focus on how to combat the potential environmental hazards of N fertilizer applied to fields. His study involves active canopy reflectance sensors as a tool to accurately assess N stress during the growing season. The incorporation of soils information with in-season remote sensing data could potentially fine-tune N fertilizer application in a variety of soils and geographic areas.

**Mr. Fernando Salvagotti** is completing his Ph.D. degree in the Department of Agronomy and Horticulture at the University of Nebraska-Lincoln. His thesis title is “Nitrogen Fixation in High Yielding Soybeans.” The primary objective is to quantify the contribution of N fixation during the entire crop growth cycle under different N management strategies. A native of Argentina, Mr. Salvagotti received his M.Sc. at the University of Buenos Aires in 2004 and his Agricultural Engineer (Ing. Agr.) degree at the National University of Cordoba in 1996. He is returning to Argentina to continue research and extension projects.

**Mr. Mark Slavens** is pursuing a Ph.D. degree in Horticulture at Cornell University in Ithaca, New York. His thesis title is “Nutrient and Pesticide Fate in Home Lawns through Runoff and Leachate”, and seeks to help homeowners, turfgrass managers, and others better assess use of fertilizers and pesticide products. His research involves several different lawn settings in urban environments. He installed a system of lysimeters in the soil to collect all leachate, which is then analyzed for water quality. His findings will measure benefits and risks to water quality of lawns with and without fertilizers and/or pesticides compared to annual or broadleaf weed lawns.

**Ms. Amy Burton** is working toward a Ph.D. degree in Horticulture at Pennsylvania State University. Her dissertation title is “Physiological Trade-Offs to Nutrient Uptake and Genetic Regulation of Aerenchymatous Root Tissue of *Zea mays*”, with a focus on the formation of aerenchyma in the roots of maize (corn) and the role of this tissue in nutrient acquisition in crop plants. Aerenchyma is a tissue formed from root cortical cells in response to environmental factors. The presence and management of this root trait offers great potential for greater uptake and use efficiency of some nutrients.

**Ms. Xiaofeng HU** is completing her Ph.D. degree at Southwest University in Chongqing, China, with a thesis title of “Effect of Slow Release Compound Fertilizers (SRCF) on Environment and Crops.” The development of SRCF technology offers several potential advantages. The SRCFs offer the opportunity to improve resource utilization, improve profitability, and reduce environmental concerns in China. Her experiments on farms are studying effects of SRCFs produced by the university, primarily involving N for rice.

**Mr. Xiaokun LI** is completing his Ph.D. degree program at Huazhong Agricultural University in Wuhan, Hubei Province, China. His dissertation title is “Research on Two Kinds of Fish Grasses and Balanced Fertilization”, and seeks to improve understanding of grasses produced for fresh water fish production. Working with sudangrass and rye grass, his study is showing the advantage of properly balanced applications of N, P, and K to increase forage yields.

**Ms. Wenjuan LI** is pursuing studies for a Ph.D. degree at the Chinese Academy of Agricultural Sciences (CAAS) with a thesis title of “Effect of Potassium on Sugar, Phenol Metabolism, and Its Relation to Corn Stalk Rot.” Her study has found that when corn (maize) plants are infected by the stalk rot pathogen, they tend to absorb more K, which increases resistance. Her work has also provided greater insight about the

mechanisms involving plant nutrition and plant protection. Detailed analysis of sugar metabolism is expected to provide more understanding regarding the effects on cell walls and structure. For the future, Ms. LI hopes to work as a professional agricultural scientist in plant nutrition.

**Ms. I. Vimal Jothi** has been involved in doctoral studies at Tamil Nadu Agricultural University (TNAU), India, for the past 2 years with the thesis title of “Effect of Neem-Coated Urea on Nitrogen Use Efficiency, Yield, and Quality of Sugarcane.” Her study seeks to address the problem of storing more N in soils of arid and semi-arid regions, which is complicated by limitations to build-up of soil organic matter. Approaches that help slow mineralization rate of fertilizer sources can increase immobilization rate and subsequently slow release of N. The result is higher N utilization by plants. She has investigated delaying the hydrolysis and nitrification of urea by treating with neem, a natural nitrification inhibitor. In her final year of study, research will establish the mineralization pattern and associated N losses of neem products under lab and field conditions.

**Mr. Wasim Iftikar** is pursuing a Ph.D. degree in Agronomy through a program called “Studies on Geographic Information System (GIS)-Based Soil Fertility Mapping for Nutrient Management in Red and Lateritic Soils” at Visva Bharati University, India. Its objectives include assessment of spatial variability, comparing the relative efficiency of a GIS map-based soil fertility evaluation system to conventional soil testing for native fertility prediction in farmer fields, and exploring use of GIS maps in site-specific nutrient management in the rice-potato-sesame cropping sequence. He has also worked as a research fellow on a program called “Importance of Soil Test Based Nutrient Application through Farmers’ Participatory Approach in Red and Lateritic Zones of West Bengal.” He is optimistic that GIS-based soil fertility mapping and other innovative practices will be effective in achieving progress.

**Mr. Nahuel Reussi Calvo** is seeking his Ph.D. degree at the National University of Mar del Plata, Buenos Aires, Argentina. His dissertation title is “Sulphur Deficiency in Wheat: Indicators of Availability in Plant Tissue”, and involves research to better understand sulphur nutrition and its relationship with nitrogen availability. Sulphur deficiency in wheat in Argentina is a fairly recent development, and his studies are looking at methodologies being used for winter wheat in other countries. He is also studying relationships between total sulphur concentration in the wheat crop and aboveground biomass accumulation.

**Mr. Sebastian Mazzilli Vanzini** is earning his Ph.D. degree at Universidad de Buenos Aires in Argentina with a dissertation title of “Tillage and Root Production and Distribution Importance in the Balance of Carbon in Cultivated Soils.” A native of Paysandu, Uruguay, he graduated as Agronomist from Universidad de la Republica in 2005. As part of his Ph.D. program, he initiated a large long-term study at the Experiment Station of Facultad de Agronomia in Uruguay. His work addresses the impact of management on long-term carbon balance of soils.

**Mr. Trinh Quang Khuong** is working toward his Ph.D. in Agronomy at Can Tho University, Vietnam. His thesis is “Optimization of Integrated Crop Management (ICM) with Emphasis on Plant Population, Fertilizer N Management, and Water Regime under Different Cropping Systems in Intensive Rice Farming.” He has worked previously for over 20 years in the Department of Agronomy of Cuu Long Rice Research Institute (CLRRI) and played an important role in national and international studies regarding fertilizer management and integrated crop management for rice and maize.

The IPNI Scholar Award recipients are selected by regional committees of IPNI scientific staff. The awards are presented directly to the students at their universities and no specific duties are required of them. More information is available from IPNI staff, from individual universities, or from the IPNI website: [www.ipni.net/awards](http://www.ipni.net/awards).

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*Photos of the Scholar Award recipients are available at the IPNI website: >[www.ipni.net/pr](http://www.ipni.net/pr)<.*

*Or contact Don Armstrong, Editor, IPNI, phone: (+1) 770.825.8080; e-mail: [darmstrong@ipni.net](mailto:darmstrong@ipni.net).*

*Abbreviations and notes: N = nitrogen; P = phosphorus; K = potassium.*