

Winners of IPNI 2009 Nutrient Deficiency Photo Contest

The 2009 edition of the IPNI nutrient deficiency photo contest has once again assembled many excellent quality images entered from around the world. For 2009, our judges have selected two prize winners for each category as well as a grand prize winner for the best photo across categories.

“This contest was initially designed to appeal to the competitive spirit of all who work in support of crop production,” said IPNI President Dr. Terry Roberts. “It is apparent that each year’s set of entries are adding to a valuable collection of documented examples of crop nutrient deficiency.”

Entries were judged on the overall quality of the image as well as any supporting data provided by entrants. Entries are posted for viewing at: www.ipni.net/2009photocontest.

Congratulations to all winners and sincere thanks to everyone who participated. IPNI would encourage all readers to look for other opportunities to capture digital photos and share documented cases of crop nutrient deficiencies in 2010. Also watch for details outlining the 2010 edition of the IPNI nutrient deficiency photo contest.



Grand Prize for Best Overall Photo

Grand Prize (US\$200): Cui Rongzong, Shandong Soil & Fertilizer Institute, Jinan, Shandong, China, entered this excellent close-up of Fe deficiency in peanut just prior to the crop’s flowering stage. Plants are clearly displaying the symptoms of strongly chlorotic young leaves while leaf veins remain green. “The image was taken near Ouyu Village, Zaozhuang City in Shandong. The site has characteristically high soil pH values and Fe fertilizers have not been used for many years. Soil test Fe was measured at 3.3 mg/kg and the active Fe content of young leaves was determined to be 10.4 mg/kg.”

Nitrogen Category: N-Deficient Maize



1st Prize (US\$150): M.R. Umesh, Post Doctoral Fellow at New Mexico State, submitted this field trial shot of N deficiency at the Gandhi Krishi Vignana Kendra, University of Agricultural Sciences, in Bangalore, Karnataka, India. “The photos were taken 69 days after planting and showed a significant N deficiency through a side-by-side comparison of a 100 kg N/ha application (left) and a N omission plot (right). Plant tissue analysis and soil test values both indicated a deficiency of available soil N.” He acknowledges Dr. M.A. Shankar, who supervised planning and execution of field trials.

Runner-up (US\$75) - Teff: Assen Yesuf, Oklahoma State University, Plant and Soil Sciences Department, Stillwater, Oklahoma, USA.



Abbreviations and notes: N = nitrogen; P = phosphorus; K = potassium; Fe = iron; Mn = manganese.

Phosphorus Category: P-Deficient Cassava



1st Prize (US\$150): S. Srinivasan, Agricultural College, Tamil Nadu Agricultural University, Killikulam, Vallanad, India, shot this vivid example of P deficiency in a 4-month old cassava crop. "I captured this image of a plant that received no P after planting. The deficiency was confirmed with chlorotic lower leaves while upper leaves had a healthy green appearance. The lower yellow leaves eventually turned purple and shriveled. Thin stems and narrow leaf lobes and poor root growth were also noticed. A history of mono-cropping cassava has depleted soil P. The soil test revealed that P content was very low (less than 2.8 mg P/kg). Leaf tissue analysis also registered a lower value of 0.19%."

Runner-up (US\$75) - Canola: Lu Jianwei, Huazhong Agricultural University, Environment and Resources College, Wuchang, Wuhan, Hubei, China.



Potassium Category: K-Deficient Sugarcane



1st Prize (US\$150): S. Srinivasan, Agricultural College, Tamil Nadu Agricultural University, Killikulam, Vallanad, India, also submitted this crisp example of K deficiency. "I photographed this view of K deficiency in a 6-month old sugarcane crop in Tamil Nadu. The deficiency was confirmed by typical yellow-orange chlorosis of lower leaf tips and borders. Stalks were slender and older leaves had a fired appearance. Fully developed leaves had 0.9% K."

Runner-up (US\$75) - Cluster bean, Guar Gum: Ch. Srinivasa Rao, Central Research Institute for Dryland Agriculture, Hyderabad, Andhra Pradesh, India.



Other Category: Mn-Deficient Oil Palm



1st Prize (US\$150): Hendra Sugianto, of Sampoerna Agro, Sukamara, Kalimantan Tengah, Indonesia, shot this close-up view of Mn deficiency. "The deficiency was discovered within a 2-year old (immature) oil palm stand. Plant symptoms dissipated and stands recovered with an application of 300 g $MnSO_4$ or a foliar spraying at 0.20%."

Runner-up (US\$75) Mn-Deficient Wheat: U.S. Sadana, Department of Soils, Punjab Agricultural University, Ludhiana, Punjab, India.

