2018 PHOTO CONTEST WINNERS

Congratulations to this year's crop of winning photo submissions! In addition to their cash award, each will receive our most recent USB flash drive collection featuring hundreds of images. More details on our image collection are available at: http://ipni.info/nutrientimagecollection.

Thanks to all for supporting our contest! **BCSA**

4R Nutrient Stewardship Category

FIRST PLACE:

Stabilized Urea in Maize

André Luis Vian, Experimental Agronomic Station of Universidade Federal do Rio Grande do Sul, Brazil.
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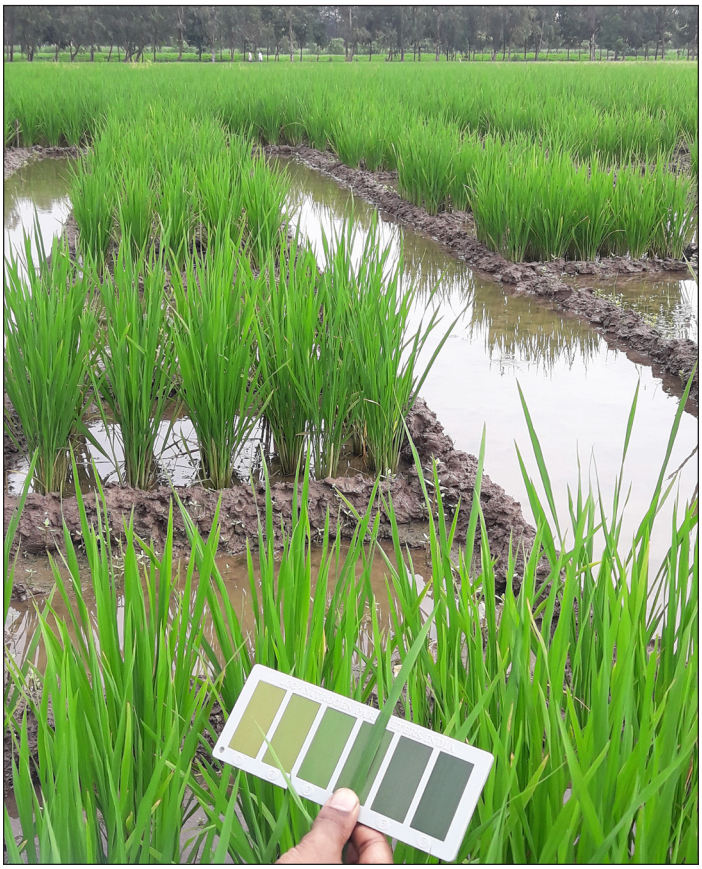
Mr. Vian submitted a close-up example of a topdress application of a stabilized nitrogen (N) source (urea with urease inhibitor) for a maize crop. Use efficiency for N was maximized given this right source applied at a right rate and time (i.e., 250 kg N/ha during V8 stage with eight completely formed leaves). Fertilizer placement near the root system provided for an opportunity for maximum response to N given the crop's productive potential.



SECOND PLACE:

Real Time Nitrogen Management in Rice

Nitin Gudadhe, Navsari Agricultral University, Gujarat, India.
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Real time N management is demonstrated at this Instructional Farm through the use of a leaf color chart (LCC) in rice. Leaf color chart panel number 4 was used to check the N fertilizer requirement of rice at tillering and panicle initiation stages. Ammonium sulfate was applied as a topdressing when the color of panel 4 matched the rice leaf color. Right timing of fertilizer application, guided through the use of a LCC, can increase rice crop yield by up to 10% over farmer's practice.

Primary Nutrient Category

FIRST PLACE:

Potassium Deficiency in Soybean

Gustavo Dos Santos Cotrim, Londrina, Paraná, Brazil.
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Selected for its sheer clarity, Mr. Cotrim captured this example of potassium (K) deficiency in a soybean field near Londrina, Brazil. The crop is in the midst of its seed production stage (i.e., R5.5).

SECOND PLACE:

Potassium Deficiency in Wheat

Mark Reiter, Virginia Tech, Accomack County, Virginia, USA.
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Dr. Reiter reported that this wheat field had an issue with poor growth down its center. The field history for the past seven years include poultry litter applications at 3 t/A prior to corn in a corn-wheat-double crop soybean rotation on sandy loam soil. Field soil potassium (K) values range from low (L+) to medium (M). This photo was taken where 127 lb/A K was sampled (M) using Mehlich-1 extract with soil water pH of 6.1. Plant flag leaf concentration was deficient at 1.31% K. The plant also exhibited poor root growth and a hardpan at 6 in. The farmer applied 100 lb N/A in two split applications in the Spring using 30% urea-ammonium nitrate solution. Phosphorus concentrations were very high (128 lb P/A). The farmer bales his straw each year to aid in soybean establishment.

Secondary Nutrient Category

FIRST PLACE:

Magnesium Deficiency in Pomelo

Guo Jiuxin, International Magnesium Institute, College of Resources and Environment, Fujian Agriculture and Forestry University, China.
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Soils in this region are strongly acidic (pH 4.3), have low organic matter (1.5%), have high K concentrations (315 mg/kg), and are deficient in the available magnesium (58 mg Mg/kg). The Mg concentration for these chlorotic leaves was 0.23%. The smallholder farmers tend to use unbalanced fertilization strategies involving excessive NPK fertilizer (more than 2,500 kg/ha/yr), while neglecting secondary and micronutrient applications. This Mg deficiency was corrected by application of a Mg fertilizer, specifically $Mg(NO_3)_2$.

SECOND PLACE:

Magnesium Deficiency in Mango

K. Venkatesan, Horticultural College and Research Institute, Tamil Nadu Agricultural University, Periyakulam, India.
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This inverted 'V' shaped chlorosis of older leaves typical of magnesium (Mg) deficiency was observed in this 25-year-old mango orchard at harvesting stage. The orchard soil had low organic matter content and a pH of 7. In the deficient leaves, Mg content was very low at 0.17%.

Micronutrient Category

FIRST PLACE:

Boron Deficiency in Sweet Potato

Susan John Kuzhivila, ICAR-Central Tuber Crops Research Institute, Kerala, India.
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The symptom of boron (B) deficiency was manifested as typical cracking and splitting of the tubers, which cannot be marketed. These crops were supplied with recommended NPK at 50-25-50 kg/ha through urea, rajphos, and MOP as basal and topdressings at 20 and 40 days after planting. Placement was at the bottom of the plant mounds. The soil analytical data indicated a B content of 0.5 ppm, which is the critical level. The plant analytical data on B content of the leaves bearing these tubers was 32 ppm, which is below the critical level of B for sweet potato (40 ppm) indicating that the deficiency of B in the plant might have affected tuber cracking.

SECOND PLACE:

Boron Deficiency in Sugarcane

Mr. Eduardo Cancellier, Compass Minerals South America, Brazil.
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The picture demonstrates a classic boron (B) deficiency symptom in sugarcane 200 days after planting. Since B is not mobile in the plant, the more intense symptoms are found in the youngest leaves with little effect on older leaves. The soils in the area are derived from a sandstone parent rock known as Arenito Caiuá, hence the soil is very sandy. This type of soil is naturally poor in B and the element is prone to leaching, especially because of the intense rains in the area, usually amounting to 1,500 mm of precipitation per year. Soil tests indicated a very low level, 0.05 mg/dm³ of B in the top 20 cm of soil and 0.2 mg/dm³ in the 20 to 40 cm layer. The critical level is considered to be 0.6 mg/dm³. Leaf tests of the index leaf indicated 0.14% B. The lower limit of the B sufficiency range is 0.1 to 0.3%. This sugarcane cultivar (CTC 9001) was planted using 540 kg/ha of the NPK (10-26-26) without B.