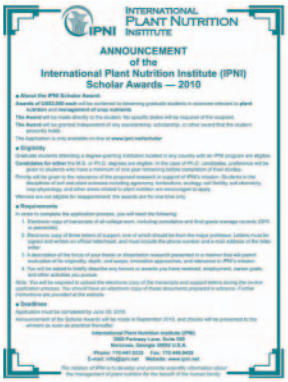
IPNI Awards Available to Graduate Students and Scientists in 2010

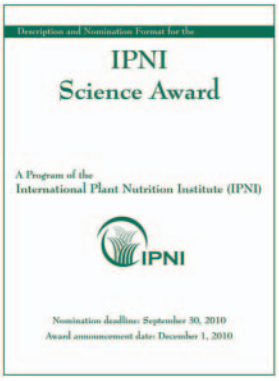
Each year, IPNI offers the Scholar Award to honor and encourage deserving graduate students, and also the IPNI Science Award to recognize and promote distinguished contributions by scientists.

"We receive very favorable reaction to these awards each year and they clearly have many positive benefits," said IPNI President Dr. Terry Roberts. "It is important to encourage talented young people in their studies of agronomic and soil sciences, while established scientists also deserve recognition for career accomplishments. These awards are made possible by our member companies and are evidence of their respect for science."


IPNI INTERNATIONAL PLANT NUTRITION INSTITUTE

ANNOUNCEMENT of the International Plant Nutrition Institute (IPNI) Scholar Awards — 2010

The Scholar Award requires students who are candidates for either a M.S. or Ph.D. degree in agronomy, soil science, or related fields to submit an application and supporting information by June 30. Individual graduate students in any country where an IPNI program exists are eligible. Only a limited number of recipients are selected for the award, worth US$2,000 each. The application process is available online only. Recipients are announced in September.


Description and Nomination Format for the

IPNI Science Award

A Program of the International Plant Nutrition Institute (IPNI)

IPNI

Nomination deadline: September 30, 2010
Award announcement date: December 1, 2010

The Science Award goes to one individual each year, based on outstanding achievements in research, extension, or education which focus on efficient and effective management of plant nutrients and their positive interaction in fully integrated crop production, enhancing yield potential and/or crop quality. It requires that a nomination form (no self-nomination) and supporting letters be submitted by mail before September 30. The Award announcement is December 1. It includes a monetary prize of US$5,000.

More information about past winners of these awards, plus details on qualifications and requirements for both awards, can be found at the IPNI website: >www.ipni.net/awards<. BC

Magnesium...from page 27

most commonly used as a K source, but is useful where both Mg and K are required (variable solubility).

Langbeinite – $2MgSO_4 \cdot K_2SO_4$; 11% Mg – A widely used source of Mg, as well as K and S, this mineral is an excellent multi-nutrient source. While totally soluble, langbeinite is slower to dissolve than some Mg sources and not typically delivered through irrigation systems (240 g/L).

Magnesium Chloride – $MgCl_2$; 25% Mg – Generally sold as a liquid due to its high solubility, this material is frequently used as a component in fluid fertilizers (560 g/L).

Magnesium Nitrate – $Mg(NO_3)_2 \cdot 6H_2O$; 9% Mg – Widely used in the horticultural industry to supply Mg in a form that also provides a soluble N source (1,250 g/L).

Magnesium Sulfate (Epsom salt) – $MgSO_4 \cdot 7H_2O$, 9% Mg – Epsom salt derives its name from naturally occurring geologic deposits in Epsom, England. It is a common mineral and a byproduct from various brines that makes an excellent Mg source. It is similar to Kieserite, except it contains seven water molecules associated with the $MgSO_4$ (357 g/L).

Schoenite – $K_2SO_4 \cdot MgSO_4 \cdot 6H_2O$; 6% Mg – Although more commonly used as a K source, it is also a useful soluble Mg fertilizer material (330 g/L).

Animal Wastes and Composts The concentration of Mg in these organic materials is low compared with mineral sources. However, high application rates can supply significant quantities of Mg to the soil. Magnesium in these materials is generally considered to be totally plant available within a growing season.

Foliar Sprays These may contain one or more of the soluble Mg materials discussed above. Specialty materials containing EDTA, lignosulfonate, and other complexing agents may be used with soluble Mg sources to improve foliar uptake. Leaf sprays are effective at correcting Mg deficiency, but they generally must be repeated to maintain maximum plant growth and are usually considered a temporary resolution before the soil can be modified.

Semi-Soluble Mg Sources

Dolomite – $MgCO_3 \cdot CaCO_3$; 6 to 20% Mg – Depending on the geologic source, the concentration of Mg will vary considerably. Pure dolomite contains 40 to 45% $MgCO_3$ and 54 to 58% $CaCO_3$. However a concentration of 15 to 20% $MgCO_3$ (4 to 6% Mg) is common for material called "dolomitic limestone". Dolomite is often the least expensive common source of Mg, but may be slow to dissolve, especially where soil acidity is lacking.

Hydrated dolomite – $MgO \cdot CaO/MgO \cdot Ca(OH)_2$;18 to 20% Mg – This product is made by heating dolomitic lime (calcined) to form MgO and CaO. It is then hydrated to form dolomitic hydrated lime, which may contain only hydrated calcium oxide or it may also contain hydrated magnesium oxide. These compounds dissolve faster than untreated dolomite.

Magnesium oxide – MgO; 56% Mg – Composed of only magnesium and oxygen, it is formed by heating $MgCO_3$ to drive off carbon dioxide. It contains the highest concentration of Mg of common fertilizers, but is rather insoluble. Applying in advance of plant demand and using a fine particle size will help make this nutrient source useful for plant growth.

Struvite – $MgNH_4PO_4 \cdot 6H_2O$; 10% Mg – Struvite is produced primarily during the recovery of P in wastewater from animal manure and municipal treatment plants. While slow to dissolve, struvite also provides a valuable supply of N and P, nutrients not found in other Mg-containing fertilizers

Crop fertilization practices continue to intensify with the demand for high yields. Magnesium is an essential plant nutrient that is frequently overlooked and may be limiting plant growth. Soil testing should be used to identify potential deficiencies, and there are many excellent Mg sources available for farmers when needed. BC

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