

freezing stress. Freezing the internal water within a plant causes severe damage. An increased accumulation of K increased the symplastic (inside the cell plasma membrane) osmotic pressure, thereby limiting freeze-induced dehydration. For example, frost damage is often ameliorated by high K fertilization, such as in potato.

Optimized K fertilization is crucial to maximize plant response. There are many advances yet to be made in K fertilization, understanding K behavior in soils, and in improving plant utilization of K. 

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Further information and detailed scientific references are available in the original in J. Plant Physiol. paper available online, October 17, 2013 <http://dx.doi.org/10.1016/j.jplph.2013.08.008>

Fertilizer Industry Round Table Recognition Award Deadline is June 30

Criteria

- 1) The award recognizes outstanding achievements in research, extension and/or education that centers on fertilizer technology and associated benefits to agricultural productivity and sustainability.
- 2) Applicant will be judged based on research originality, quality and practical application as demonstrated by concrete results, letters of recommendation, dissemination of findings, contribution to sustainability, and potential for international application.
- 3) Applicant must be a resident of Canada or the United States.

Application Procedures

- 1) Electronic copy of three letters of support. If a student, one should be from the major professor.
- 2) A description of the focus of the research presented to be evaluated on originality, scope, innovation and po-



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tential application.

- 3) Award recipients are not eligible for more than one award.
- 4) Priority will be given to those who support the mission of the Fertilizer Industry Round Table (FIRT).
- 5) Questions and application materials should be directed in electronic form to: DMessick@sulphurinstitute.org.

Selection Process - A panel of three individuals will select the award winner. The panel will consist of representatives from academia, industry and an environmental-focused entity.

Award - US\$2,500 and travel to FIRT's annual conference.

Conversion Factors for U.S. System and Metric

Because of the diverse readership of *Better Crops with Plant Food*, units of measure are given in U.S. system standards in some articles and in metric units in others...depending on the method commonly used in the region where the information originates. For example, an article reporting on corn yields in Illinois would use units of pounds per acre (lb/A) for fertilizer rates and bushels (bu) for yields; an article on rice production in Southeast Asia would use kilograms (kg), hectares (ha), and other metric units.

Several factors are available to quickly convert units from either system to units more familiar to individual readers. Following are some examples which will be useful in relation to various articles in this issue of *Better Crops with Plant Food*.

To convert Col. 1 into Col. 2, multiply by:	Column 1	Column 2	To convert Col. 2 into Col. 1, multiply by:
Length			
0.621	kilometer, km	mile, mi	1.609
1.094	meter, m	yard, yd	0.914
0.394	centimeter, cm	inch, in.	2.54
Area			
2.471	hectare, ha	acre, A	0.405
Volume			
1.057	liter, L	quart (liquid), qt	0.946
Mass			
1.102	tonne ¹ (metric, 1,000 kg)	short ton (U.S. 2,000 lb)	0.9072
0.035	gram, g	ounce	28.35
Yield or Rate			
0.446	tonne/ha	ton/A	2.242
0.891	kg/ha	lb/A	1.12
0.0159	kg/ha	bu/A, corn (grain)	62.7
0.0149	kg/ha	bu/A, wheat or soybeans	67.2

¹The spelling as "tonne" indicates metric ton (1,000 kg). Spelling as "ton" indicates the U.S. short ton (2,000 lb). When used as a unit of measure, tonne or ton may be abbreviated, as in 9 t/ha. A metric expression assumes t=tonne; a U.S. expression assumes t=ton.