Retailer Bulletin

Foliar boron and manganese – a chance to add that last yield bump

Applying most fertilizers is a bit of a leap of faith for growers most of the time. Crop producers have to make a call very early in the season as to how much nitrogen to put on, how much phosphorus to add and how much potash or sulphur they need – all before they know what kind of a year it's going to be weather-wise.

Not so with foliar-applied micronutrients. A deficiency can be detected and quickly addressed with a foliar spray. And, the grower has the advantage of seeing how good the crop looks, and can determine whether it's worth adding boron, manganese, copper or zinc to give the crop a last yield boost.

There is no question correcting deficiencies and optimizing nutrition in-season can pay. One study from the University of Tennessee[1] showed that applications of boron added about eight percent to cotton lint yields (Figure 1).

Treatment	Yield (lbs lint/ac)	Petiole boron (ppm)
No B	976	52
B at low rate	1,050	65
B at high rate	991	93

Figure 1: Foliar micronutrients can add to yield; cotton and boron

Other work conducted at Purdue University looked at using combinations of Wolf Trax® Manganese DDP® – applied as a soil treatment, as a foliar and as both, found significant yield increases with some of the treatments. Subsequent calculations conducted using recent prices for soybeans revealed that the return on investment for the combination of Manganese DDP as a soil application, followed by a foliar application (in a mix with glyphosate) boosted the ROI up from $2.28 to $3.50 return for each dollar spent on the Manganese DDP (Figure 2).

[1] D. D. Howard, C.O. Gwathmey and C. E. Sams, Agronomy Journal 90:740-746

(continued)

Treatment	Return on Investment Per $ Invested[i]
Starter fertilizer plus Manganese DDP Nutrient	$2.28
Starter fertilizer plus Manganese DDP plus foliar Manganese DDP application	$3.50

Figure 2: Foliar micronutrients can add to profit; Soybeans and manganese

Why are DDP Nutrients the best choice for foliar applications?

Dual Action Availability: The patented Wolf Trax DDP Formulation includes two forms of the micronutrient in question. This unique Dual Action™ Availability combines the immediate availability of sequestered products with the extended availability of suspension products. Only Wolf Trax Nutrients provide immediate plant uptake (within 48 hours) together with continuous feeding (up to 28 days) over time. The proof has manifested itself in fields across the US, Mexico, Canada and the EU.

Figure 3: Wolf Trax Manganese DDP at work in a North Carolina soybean field. Untreated is in the background - treated is in the foreground.

Ease of mixing: Due to the advanced DDP formulation, high quality and purity, DDP Nutrients are easy to use, and will disperse almost instantly. Wolf Trax Manganese DDP and Boron DDP are mixable with most crop protection products. That allows the grower to work in applications along with other field operations. There are specific instructions regarding order of mixing and rates when using with glyphosate. And, as usual, always conduct a "jar test" to ensure good mixing with specific chemical formulations or combinations.

More efficient operations: Operationally, Manganese DDP and Boron DDP allow you to be more efficient. High quality, 20 pound boxes can replace bulky bags or jugs and storage and handling costs are greatly reduced.

You and Wolf Trax....Growing Forward® together.

For more information on the Wolf Trax DDP family of Innovative Nutrients, please call 204-237-9653, or visit us at www.wolftrax.com.

[i] ROI estimates are based on estimated costs at the farmgate: cost of starter fertilizer = $2.91/gal; price of soybean = $13/bu; retail cost of Manganese DDP =$7.85/lb. For full study see previous retailer bulletin: How to make foliar applications of manganese pay, available at: http://www.wolftrax.com/_uploads/PageContent/documents/retailer_bulletin_foliar_manganese_part_2_of_3.pdf