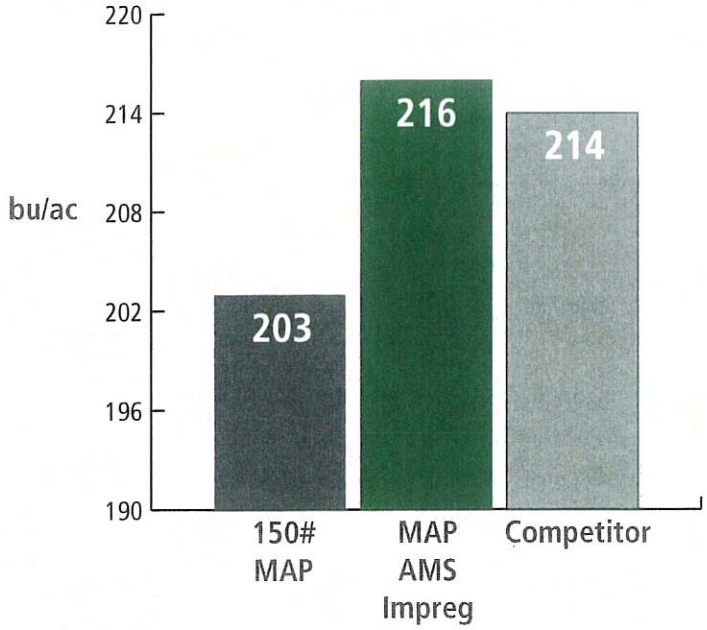
MAXIMIZE MICRONUTRIENTS WITH FERTILIZER IMPREGNATION

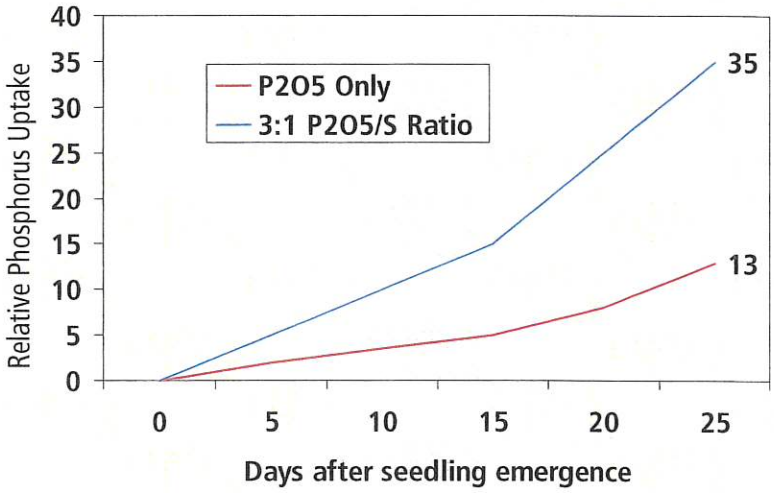
INCREASING YIELDS BY IMPREGNATING MICRONUTRIENTS

Continued

When B, Mn and Zn are impregnated onto ammonium sulfate (AMS) their crop availability increases by 5 times. The sulfur in the AMS also increases the phosphorous levels in tissue tests. Elemental sulfur breaks down slowly over time (up to two years) and doesn't increase nutrient availability right away. Four research trials in 2014 and 2015 showed that Zn impregnated onto 50 lbs of AMS and 150 lbs of MAP increased corn yields by 13 bu compared to 150 lbs of MAP applied by itself. Zn impregnated onto AMS also out-yielded a competitor's product with elemental sulfur in these trials.



Sulfur Increases P Uptake



ELE-MAX PRECISION NUTRITION

The diverse line of Ele-Max micronutrients provides complete nutrition with formulations to fit your unique production needs. They are manufactured from high-purity raw ingredients, with balanced crop nutrition and crop safety as the primary concern. For better coverage and performance, maximize your micronutrient application by impregnating it on fertilizer.

PRODUCT HIGHLIGHTS

- **Better soil coverage & application uniformity**
- **Fast root absorption of finely ground particles**
- **Improved results from less nutrients per acre**

ELE-MAX PRECISION NUTRITION	SUGGESTED APPLICATION RATES
Super Zn FL	4-12 oz/ac
Boron LC	6-12 oz/ac
Copper FL	6-12 oz/ac
Manganese FL	4-12 oz/ac
ManZinc FL	8-24 oz/ac

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ELE-MAX PRECISION NUTRITION

Contact your authorized dealer for more information

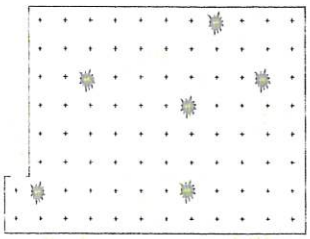
MAXIMIZE MICRONUTRIENTS WITH FERTILIZER IMPREGNATION

INCREASING YIELDS BY IMPREGNATING MICRONUTRIENTS

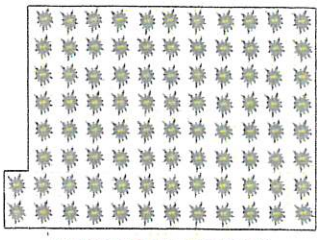
Bill Verbeten, AGRIntelligence Agronomist, Helena Chemical

The micronutrients boron (B), manganese (Mn) and zinc (Zn) are needed by many crops to reach their full yield potential. Most soils are limed to keep the pH between 6.5 and 7.0, but these micronutrients are most available to crops when the pH is lower. Fields east of the Mississippi River usually have lower B than soils out west because of higher rain and snowfall rates. Midwestern soils usually have low Zn levels because our glacial soils have not broken down (or weathered) enough to release Zn to the crops.

Impregnating B, Mn and Zn onto dry fertilizer increases the amount of soil covered by these nutrients by 13 times. The result is increased micronutrient tissue test levels and yields. Work at Purdue University showed that impregnated Mn raised Mn tissue test levels nearly 40 ppm compared to granular Mn application. Additional research showed that 10.5 oz of impregnated Zn increased corn yields by 14 bu while granular zinc only increased yields by 4 bu.



REGULAR BLEND
ZnSO4 @ 1 lb/acre blended
= 6.4 granules per sf



IMPREGNATION
Ele-Max =
86 granules per sf

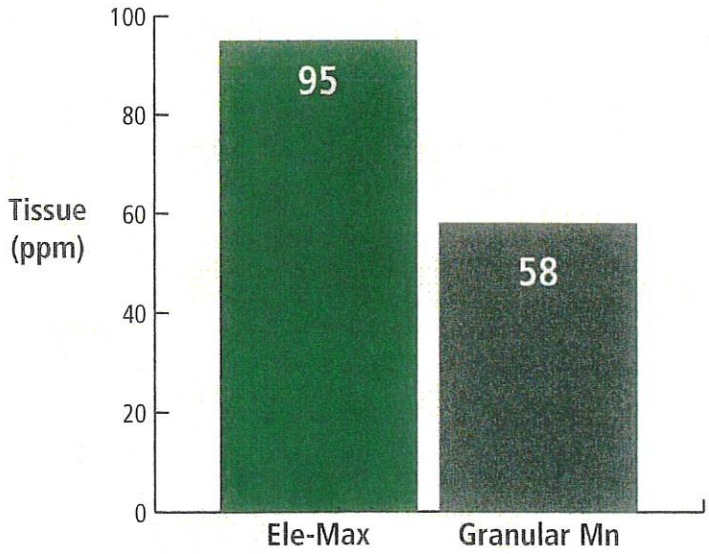
The illustration above shows the distribution of the micronutrients per sf when comparing impregnated Ele-Max micronutrients (right) and regular granular micronutrients blended (left) at a rate of 150 lb/acre of fertilizer. More particles carrying the micros mean better absorption by roots, therefore higher efficiency of the micronutrients.

Dry Blending (Zn)

Impregnated (Ele-Max Super Zinc FL)

The fertilizer on the left was blended with granular micronutrients, while fertilizer on the right was coated, or impregnated, with Ele-Max Super Zinc Fl for improved distribution and availability.

Impregnation vs Granular Application



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