



Retailer Bulletin

It's time to re-think corn and zinc

Seismic changes in world markets for corn - and similar changes in corn input technology- have converged in a way that should make growers zero in on one of the least expensive inputs for corn – zinc. With the world heading for 9.5 billion people, and American farmers already providing 70 percent of the planet's exportable corn, it's no wonder that many in the ag industry have geared up for a relatively bright future for this crop. That optimism has attracted more science and investment, resulting in year-after year leaps in yield. For many, the heretofore unthinkable 300 bu/acre yield is within sight.

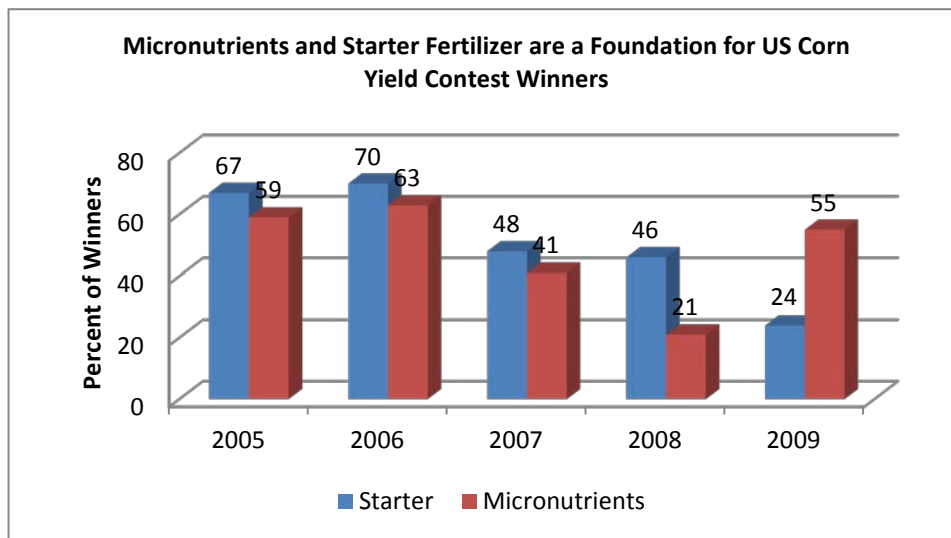
What does this all mean for you and your growers? Here are three "watch outs" for 2015 with respect to zinc specifically.

1. Watch out: a 250 to 300 bushel crop has a DIFFERENT need for zinc!

To get the "300 bushel crop", growers need to go bigger on inputs. We need to make sure that growers don't go big on high inputs like seed and high N rates – only to find that that the smaller cost inputs are leading to a "cap" on their yields. As growers head for the 250 to 300 bu/acre yields, the very practices that lead to higher yields also put them at risk for disappointment in getting that bumper crop – and zinc plays a key role in this issue. Need proof? Let's look at the last few years of National Yield Winners in the National Corn Growers Association (NCGA) Yield Contest. During the years 2002 to 2009, the best yields in the country arose from fields where one-fifth to two thirds of the nation's best growers applied micronutrients – mostly in the form of zinc. Many of these national champion growers applied zinc in

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fields that did not have zinc deficiencies. So why are these top growers paying attention to zinc nutrition? They are doing this in part because they know they have to seed early to get the big yields. When a grower seeds earlier, it often means seeding into cold soils, especially minimum till, high trash cover soils. Cold soils can be a recipe for depriving the crop of the rapid early root growth you need to forage for zinc in the soil. These champion growers compensated for the slow growth they anticipated in cold conditions by boosting fertility with micronutrients and starter. Using zinc (and starter) improves plant nutrition and plant health at a time when the crop would often have trouble generating the rapid root growth needed to access enough immobile nutrients like zinc – especially in high pH soils.



2. Watch out: make sure you bring your zinc level up in line with your OTHER nutrients – especially P!

With high corn prices, many producers will add additional N P and K to drive yield potential up. We need to remember the need to balance nutrients so that hundreds of extra dollars in nitrogen or phosphorus don't add up to big disappointment at harvest time because of a few missed pennies worth of zinc.

Growers are familiar with the concept that you need to ratio your N, P and K to a formula of 1.25 to 0.6 to 1.4 (pounds per acre nitrogen, phosphorus, and potash per bushel of corn). You must also make sure that zinc levels in corn tissue track upwards in ratio with P. According to the Ohio State Extension Service, research from many sources indicates that the Phosphorus to Zinc ratio in leaf tissue should be 100-150:1. Whenever the P content of a plant increases, the Zinc concentration must be increased in order that this ratio is maintained. (Because Zinc DDP is designed to coat each and every prill of phosphorus fertilizer, this concept is easy to implement in a VRT system: if you increase the rate of P, you will increase the rate of Zinc applied per acre as well).

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3. Watch out: check the regular rules of thumb with regards to zinc deficiency!

Regardless of your yield target, the following chart gives some rules of the road with respect to knowing when you have a real zinc deficiency.¹

| Indicator | Not deficient | Marginally deficient - May opt for a maintenance rate of zinc | Deficient – Should apply a higher rate of zinc |
|-----------------|--|---|--|
| Soil test | DTPA extractable Zn is >0.7 ppm | DTPA extractable Zn is 0.5 to 0.7 ppm | DTPA extractable Zn is < 0.5 ppm |
| Tissue test | >20 ppm in first 40 days >70 ppm in tissue at silking | If tissue tests fall to low end of the 20 to 60 ppm range | <20 ppm at any point up to silking |
| Visual symptoms | No deficiency symptoms have been visible in the fields | Watch for “hidden hunger” – poor yielding areas in the past, some areas showing visual symptoms | Zinc deficiencies significant and visible in the field |

The benefits of Wolf Trax Zinc DDP

Getting zinc to the plant as early as possible is key for a grower, regardless of whether he is using zinc to correct a deficiency or using zinc to reach a national-contest-winning yield. Wolf Trax DDP Nutrients coat each and every fertilizer **granule or prill** that is applied to the crop, ensuring hundreds of access points within the rooting zone.

When the root *does* find the micronutrient on the N, P or K fertilizer granule, the proprietary DUAL ACTION formulation means that the micro will be in a form that is *immediately* available to the root and plant, as well as providing extended feeding.

Note: PROTINUS™ Seed Nutrition is another solution for growers seeking a good, healthy start for their corn crop. PROTINUS is an innovative seed-applied fertilizer that improves early seedling growth by providing small amounts of important nutrients right after germination – before the plant can easily access soil nutrients on its own. By improving early plant growth, growers see the benefit in crop establishment, growth and yield potential. For more information, visit www.protinus.org.

Earlier nutrition for your customer’s crop means better plant health early in the growing season. And healthier crops can lead to better pest resistance, improved quality, yield and Return on Investment.

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.

¹ Rates of Wolf Trax Zinc DDP can be fine tuned for maximum efficiency. Refer to Wolf Trax rate charts for recommended rates for maintenance, moderately deficient and severely deficient conditions.

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