



How DDP Nutrients help growers apply the Right RATE

The 4R nutrient system, based on the best management principles of the Right RATE, Right SOURCE, Right TIME and Right PLACE is designed to “help every farmer execute an optimal strategy to preserve his land and create greater yields in an environmentally sensitive manner” (Fertilizer Insitute). You can help your customers engage these best use practices by recommending Wolf Trax DDP Nutrients.

Wolf Trax® recommended rates are designed to deliver nutrition based on crop requirements, and a sufficiency approach to fertilization – feeding the crop what it needs in an effort to optimize profitability in the year of application.

Delivering the Right Rate – Why it’s important

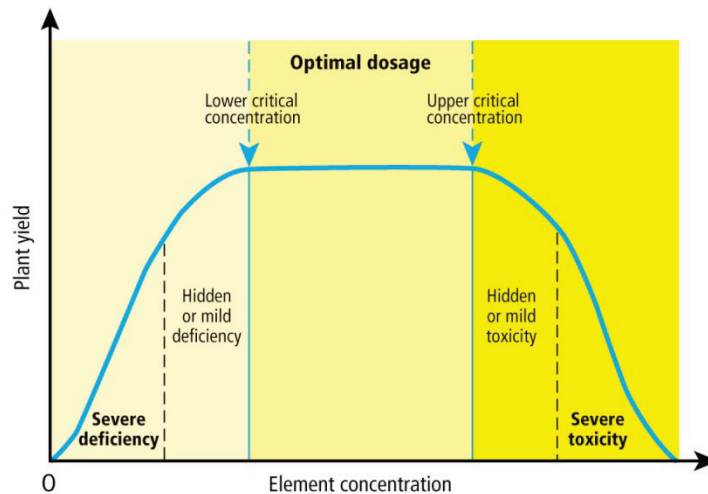


Figure 1. Typical dose-response curves for essential trace elements in crops (from: Micronutrients and Crop Production, An Introduction; Alloway, 2004)

For every nutrient, delivering the right rate means meeting the needs of the crop in that growing season. As the above chart shows, the amount of nutrient required depends on the level of nutrient within the soil, and the needs of the crop to reach its yield potential. With Wolf Trax brand fertilizer, we aim to deliver the Lower Critical Level within the “Optimal Dosage” element concentration with our rate recommendations, because this level best delivers agronomic *and* economic benefits.

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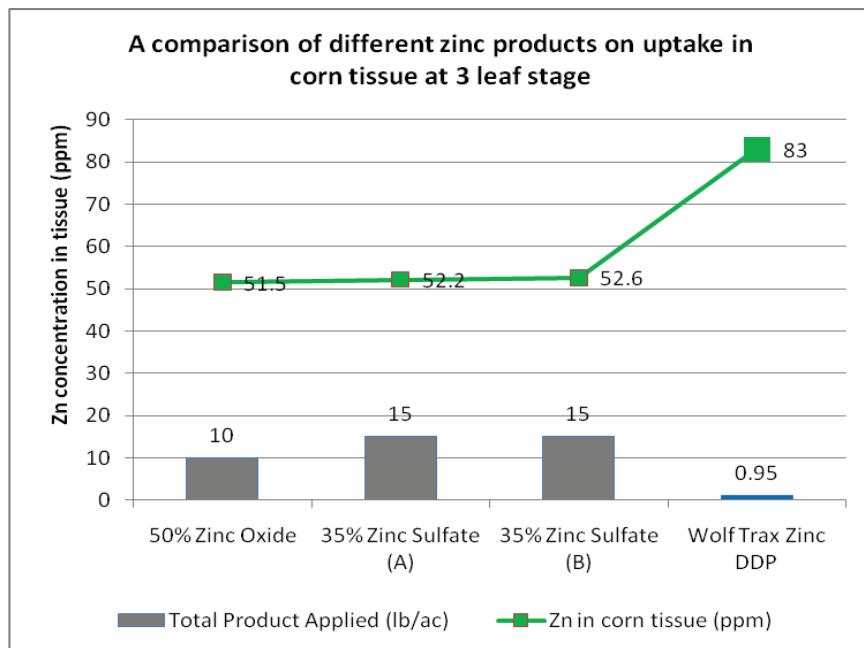
Delivering to this level requires some level of precision – precision that is possible because of the unique formulation of Wolf Trax DDP® Micronutrients. The amount of product applied per acre can be lower because DDP Micronutrients are a high analysis, high quality product, formulated using innovative and patented processes, (Right SOURCE), are delivered directly to the plant’s roots or leaves (Right PLACE), and deliver Dual Action™ Availability for early plant uptake (Right TIME).

For example, consider the table and chart below, which show the results of a replicated research trial measuring plant uptake of zinc from several different zinc granular products, to that of Zinc DDP applied as a fertilizer coating. Although Wolf Trax Zinc DDP was applied at a much lower rate, it was effective in delivering zinc to the plant.

A comparison of zinc levels in 3-leaf stage of corn in light textured soil

Treatment	Application Rate (product – lbs/ac)	Plant uptake (ppm)
Untreated	0	60.8 a
50% zinc oxide	10	51.5 a
35% zinc sulphate	15	52.2 a
35% zinc sulphate	15	52.6 a
62% Zinc DDP as a fertilizer coating	0.95	83.0 b

*Note plant uptake values followed by the same letter are not statistically significantly different.



Selecting the Right Rate for your Growers:

Based on agronomic work conducted by Wolf Trax, universities, and third party researchers, we have fine-tuned our micronutrient rate recommendations to target the optimal nutrient requirements of the crop,

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and developed a new way to communicate these rates to our customers. For each DDP Nutrient, Wolf Trax has created rate recommendations based on one of the following three categories:

- 1) **Severely Deficient:** Where symptoms are highly visible either field wide or in patches OR where soil test levels indicate soil as “deficient”
- 2) **Moderately Deficient :** Where “hidden hunger” is a concern OR where soil tests refer to micronutrient levels as being ‘marginal’
- 3) **Maintenance Rate:** For growers who prefer to routinely top up micronutrient level on an annual basis due to crop removal of nutrients.

The new rate recommendation charts also provide a guideline for use based soil test levels, as well as past granular and foliar application practices. Here’s an example for Zinc DDP at the Maintenance rate:

Zinc DDP Recommended Rate for Dry Blends	Maintenance Rate
	Recommend this rate for growers who prefer to routinely top up Zinc levels on an annual basis due to crop removal of nutrients.
Soil Test Indicators	Soil test reads >0.7 ppm DTPA-extractable Zinc
How you may have fertilized in the past for this problem	You may have applied <3 lbs per acre of actual Zn (formulated as granules), OR 0.1 to 0.5 lbs of Zn as a foliar
How to use Wolf Trax Zinc DDP as a fertilizer coating for this problem	Apply 0.4 to 0.5 lb/ac of Zinc DDP as a coating on a macro fertilizer blend.

To obtain a complete copy of Wolf Trax rate recommendations for dry blends, please contact your Wolf Trax representative, or call us at 204 237-9653.

Three things to Remember:

- Because Wolf Trax DDP rates are designed to target the crop’s needs for the growing season, they provide growers a highly effective and efficient micronutrient solution.
- Numerous studies have demonstrated that the DDP Nutrient rates recommended by Wolf Trax result in statistically similar or higher micronutrient levels in the plant compared to significantly higher applications of old-fashioned granular technology.
- Wolf Trax rates are guaranteed! If the recommended rate of Wolf Trax DDP does not correct a deficiency, your grower-customer is covered by the Growing Forward® Guarantee. This is the ONLY guarantee of its kind in the micronutrient industry.

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.

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