



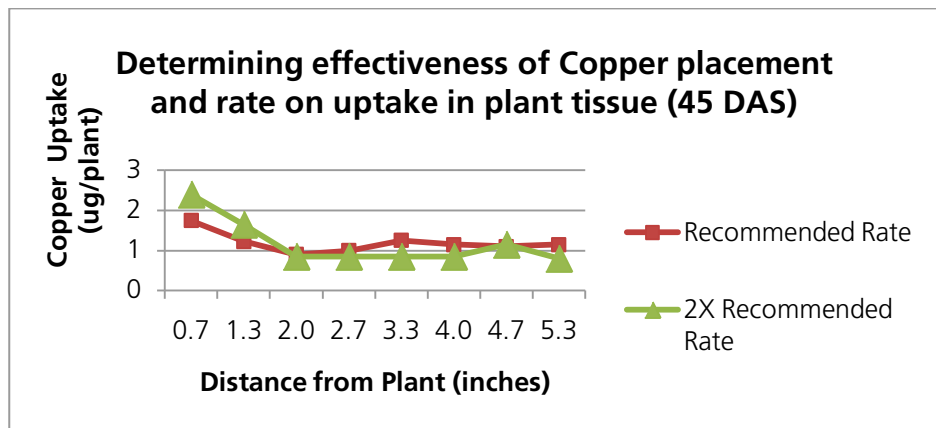
How DDP Nutrients help your growers achieve the Right PLACE

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 Institute). You can help your customers engage these best use practices by recommending Wolf Trax DDP Nutrients.

Wolf Trax Innovative DDP Nutrients Fertilizer Coating technology provides a more precise and effective way of delivering nutrition **directly to the plant’s roots** in an available form.

Why is Placement of Micronutrient Fertilizers Important?

Growers pay attention to nutrient placement in an effort to optimize nutrient-use efficiency. Simply put, placing nutrients where the crop can find them increases the efficiency of your growers’ fertilizer application. Incorrect placement of fertilizer can result in nutrient deficiencies within the crop. Increasing the rate alone cannot always overcome these deficiencies. For example, researchers in Western Australia¹ found that uptake of copper decreases dramatically as you move away from the granule. Doubling the recommended rate does not increase uptake if you are more than an inch away from the granule.



Accurate placement of granular micronutrients is very difficult to achieve because of a) inconsistent blends, b) uneven distribution across the field, c) scarcity, and d) immobility.

¹ Gilkes, R., & Sadleir, S. (1979). The Influence of Placement Geometry on the Effectiveness of Copper Superphosphate. *Australian Journal of Soil Research*, 17(1), 121-128.

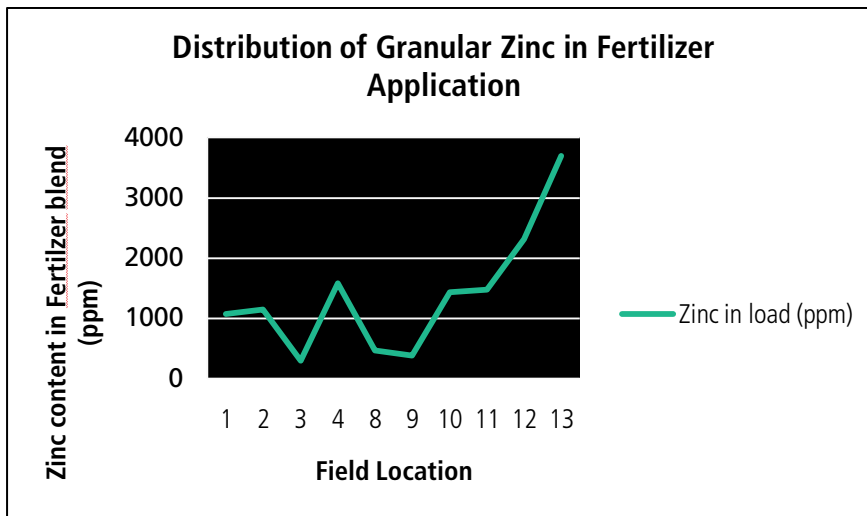
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Inconsistent blends

Segregation occurs in fertilizer blends that contain granular micronutrients because of differences in bulk density and particle size. Segregation leads to inconsistent blends.

Irregular distribution across the field

It makes sense that inconsistent blends would lead to uneven distribution across a field. But what does this look like? The following graph shows zinc levels delivered to different parts of a field as a floater applied fertilizer blend containing a 5 lb rate of granular zinc. Clearly some parts of the field would have been deficient, while others received more than recommended.



In this trial, a 35% granular zinc was commercially blended with a macro fertilizer blend. The blend was loaded into a floater for broadcast application. After travelling for 9 miles from the load site, the blend was applied. Tarps were randomly placed throughout the field; the fertilizer applied to the tarp was captured, and samples were measured for zinc content at a registered soil test lab. The adjacent graph shows the inconsistent application of zinc granules, despite being thoroughly blended at the retail facility.

This distribution pattern was similar for a 1 lb/ac boron application. This type of distribution pattern is not optimizing the grower's micronutrient investment!

Scarcity and Immobility

In addition, the relative rates of micronutrients are small compared to the volume of soil they are being applied to, resulting in a **"sparse" application of granular product**. For example, one granule of 35% zinc sulphate at a 3 lb/acre rate has to cover over 30 square inches of soil. Compounding this, **most micronutrients are relatively immobile within the soil.**

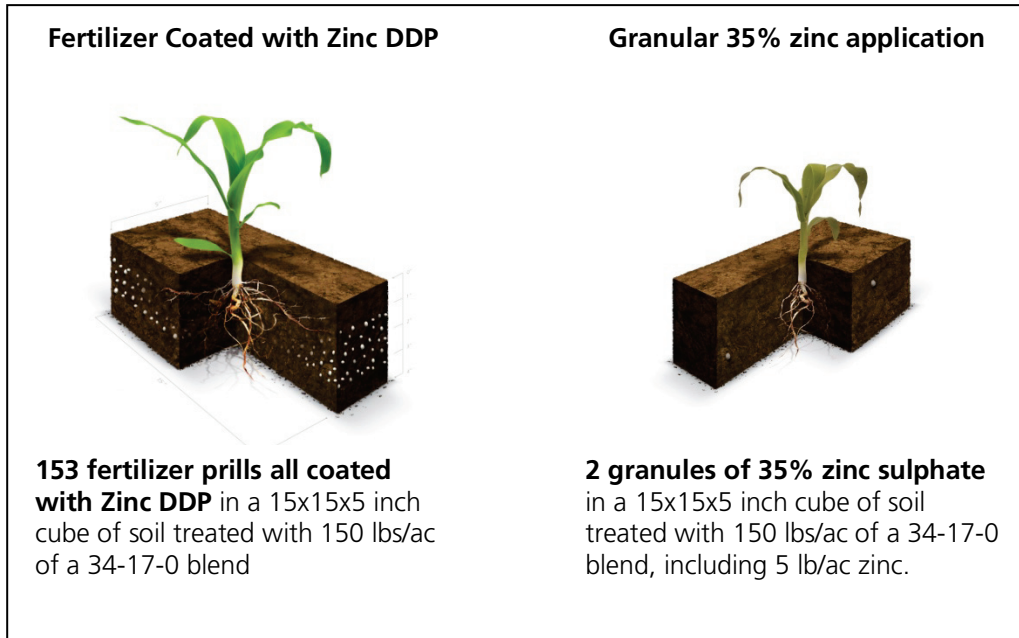
Wolf Trax DDP Nutrients solve the problem

When applied as a coating on granular, prilled fertilizer, Wolf Trax uniquely formulated Nutrients are designed to coat and adhere to each prill of dry N, P or K fertilizer. By coating the macronutrient components in the blend, the issues of bulk density, differences in particle size, blend inconsistency and uneven application disappear. DDP Micronutrients give your growers a better blend and significantly more consistent and even application across the field.

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Wolf Trax DDP Micronutrients Deliver Optimum Placement

Wolf Trax DDP Micronutrients are distributed throughout the root zone, providing up to 50 times the interception points for roots to access micronutrients compared to granular – overcoming the relatively “sparse” application of actual product.



And, Wolf Trax Dual Action™ Formulation makes the micronutrients more crop-available as soon as the root accesses the nitrogen, phosphorus and potassium fertilizer.

By providing better placement, Wolf Trax DDP micronutrients deliver the certainty of contact and uptake of the nutrient, keep nutrients where the crop can use them, enhance earlier uptake of the nutrient resulting in improved plant health and optimal yield potential.

With innovative coating technology, Wolf Trax DDP micronutrients overcome the common problems of sparse application, immobile nutrients and uneven distribution that are common with granular micronutrients. Recommending Wolf Trax DDP Micronutrients to your growers gives them one more tool to implement the best management practice of Right PLACE, and helps them to make the most of their micronutrient application.

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

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