



Research Bulletin

Measurement of movement of typical granular micronutrient in NPK blend shows inadequacies

Dealers have done their best trying to blend the traditional granular micronutrient formulations that have been available over the past 30 years.

Because of the patented fertilizer coating technology, Wolf Trax DDP[®] Micronutrients offer an excellent solution to the problem of poor granular distribution in a fertilizer load.

It's no secret that over the years, dealers have been doing their best to keep granular micronutrients mixed evenly throughout NPK blends. New data shows just why this has been such an uphill struggle.

In a recent study, scientists at Wolf Trax[®] blended a 5 lb (actual) rate of 25 percent zinc granules in with urea into sealed containers. The mix was stored for 11 days and then transported over 10 miles of gravel road and 10 miles of paved asphalt. The movement of the zinc granules through the blend profile was measured.

Observations and Results:

- Vibration and agitation due to transport caused the zinc granules to begin to move downwards through the NPK blend almost immediately.
- The zinc granules quickly "sorted" themselves – smaller particles fell rapidly to the bottom of the blend while larger granules fell less rapidly.
- At the end of the trial, four times as much zinc was found at the bottom of the profile as found at the top (See Table 1).
- None of the samples (top load, mid load or bottom load) contained the optimum amount of granular micronutrients to deliver the desired 5 lb/acre rate.

(continued)

Table 1. Research shows that the traditional granular micronutrients settle in an NPK blend, leading to uneven distribution.

Position in load	# of granular micronutrient particles/sample	Weight of micro particles/sample (g total)*	Ave size of granular micro particles/sample (g/particle)
Top of load	16	0.42	0.026
Mid load	52	0.73	0.014
Bottom of load	141	1.63	0.011

*An average weight of 0.625 g micronutrient/sample is needed to achieve the desired 5 lb application rate.

The implications of this are serious. Unevenness in the blend means that the granular micronutrient won't go on evenly in the field for the grower, and the grower won't get the micronutrient rate he was aiming for.

Wolf Trax DDP™ Micronutrients offer an excellent alternative to the traditional granular formulations that have been available to dealers in the past. Because DDP Micronutrients evenly coat each and every prill in the NPK mix, dealers can offer their customers a zinc component in a blend on every single square foot of the field. More even distribution throughout the soil profile leads to early and improved uptake and plant health.

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.