In 2015, a field study was conducted in South Dakota to evaluate the performance of Wolf Trax Zn, B and Mn DDP® as well as Nu-Trax™ P+, as part of an early season nutrition program for corn production. Under the conditions of this study, Wolf Trax products increased corn yields by more than 18 bushels per acre.

**BACKGROUND**

Wolf Trax DDP (Dry Dispersible Powder) Nutrients are micronutrient fertilizers. With patented Evencoat™ Technology, Wolf Trax DDP Nutrients coat onto dry fertilizer blends, offering improved nutrient distribution in the field and earlier plant availability compared to granular micronutrient fertilizer products. Nu-Trax P+, which includes 25% P, 20% Zn, and 5% Mn, features the CropStart Nutrient Package and has been designed to provide better early season nutrition to crops.

Wolf Trax DDP Nutrients feature three proprietary technologies that ensure effective delivery of nutrition:

- **EvenCoat™ Technology**
  Fertilizer coating technology allows for blanket-like distribution and more points of interception for young roots.

- **PlantActiv™ Formulation**
  Physically and chemically designed – the Wolf Trax DDP particle size is optimum for plant uptake.

- **DUAL ACTION™**
  Each DDP Nutrient is formulated with at least two forms of the mineral, providing immediate nutrient uptake as well as extended feeding over time.

Wolf Trax Innovative Nutrients are unique, research-tested and field-proven micronutrient and secondary nutrient fertilizers. By making nutrients more accessible to plants when they are needed most, Wolf Trax products simplify nutrient management, boost crop performance and enhance the return on farmers’ fertilizer investment.
METHODS
This side-by-side trial was conducted in cooperation with Hefty Seeds in Baltic, South Dakota on a soil with a pH of 8.2, 3.1% organic matter and CEC of 27.6 meq/100 g. Granular macronutrients, consisting of 125 lb/ac of 18-46-0 and 125 lb/ac of 0-0-60, were broadcast applied and incorporated prior to planting. The standard liquid fertilizer blend was applied in-furrow and consisted of 5 lb/ac of ProGerminator (9-24-3) and 5 lb/ac of Kalibrate (2-0-10-16). The grower standard also included TJ Micromix Technology applied at 1.5 quarts/ac. Wolf Trax products were applied to evenly coat the granular fertilizer blend at the following rates: 2 lb/ac Nu-Trax P+, 0.54 lb/ac Zn DDP, 0.61 lb/ac B DDP and 1.08 lb/ac Mn DDP.

RESULTS
Under the conditions of this study, Wolf Trax DDP Nutrients and Nu-Trax P+ all provided considerable yield benefits. Replacing the liquid micronutrient TJ Micromix included in the grower standard with a combination of Zn, B and Mn DDP resulted in yield increases of 7.6 bu/ac (Figure 1). Similar yield increases were observed when Nu-Trax P+ and B DDP were applied in addition to the standard farmer practice (Figure 1). The greatest yield benefit was realized when Zn, B and Mn DDPs are applied in addition to the standard farmer practice, as corn yields increased by 18.6 bu/ac (Figure 1).

Table 1. Starter Fertilizer and Micronutrient Treatments Applied to Corn

<table>
<thead>
<tr>
<th>Treatment #</th>
<th>Treatment Name</th>
<th>Dry Fertilizer</th>
<th>Liquid Fertilizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GS = Grower Standard</td>
<td>NPK</td>
<td>Standard + TJ Micromix</td>
</tr>
<tr>
<td>2</td>
<td>GS + DDPs (no TJ Micromix)</td>
<td>NPK + Zn, B and Mn DDP</td>
<td>Standard – TJ Micromix</td>
</tr>
<tr>
<td>3</td>
<td>GS + DDPs (TJ Micromix)</td>
<td>NPK + Zn, B and Mn DDP</td>
<td>Standard + TJ Micromix</td>
</tr>
<tr>
<td>4</td>
<td>GS + B DDP + Nu-Trax P+</td>
<td>NPK + B DDP + Nu-Trax P+</td>
<td>Standard + TJ Micromix</td>
</tr>
</tbody>
</table>

Figure 1. Corn yields (bu/ac) under varying fertilizer treatments.

SUMMARY
Wolf Trax products provided considerable yield increases as compared to the standard farmer practice, which included the liquid micronutrient TJ Micromix. This suggests that an in-furrow micronutrient treatment alone may not provide sufficient nutrition for season-long growth. The greatest yield benefits were observed when Wolf Trax DDPs were applied in addition to the standard farmer practice. The addition of Nu-Trax P+ to the blend also resulted in a considerable yield increase as compared to the grower standard.