

Evaluation of the Yield Benefits of Prudent-Presto Foliar Fertilizers on Field Corn

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Objective

To evaluate the yield response of field corn to two different Prudent-Presto foliar fertilizer formulations.

Background

| | | | |
|------------------|--|----------------|--|
| Crop Year: | 2008 | Herbicide: | |
| Cooperator: | Farm Focus/Marsh Foundation | PRE(May 25): | Radius 4SC at 21 oz/A + Atrazine 4L at 1 qt/A |
| County/Town: | Van Wert/Van Wert | Insecticide: | Lorsban 15G at 8 oz/1000 row ft T-banded (border only) Poncho 250 on seed (VT3 variety) |
| Drainage: | Nonsystematic tile | Hybrid: | Wellman 2709 VT3 (Borders: Wellman 2709 RR) |
| Soil Type: | Hoytville clay | Row Width: | 30 inches |
| Previous Crop: | Wheat | Planting Rate: | 32,000 seeds/A |
| Tillage: | Fall dug/land leveled, spring field cultivate (2X) | Planting Date: | May 24, 2008 |
| Soil Test(2005): | pH 6.6, P 21 ppm, K 128 ppm | Harvest Date: | October 22, 2008 |
| Fertilizer: | 320 lb/A 4-21-36 surface broadcast (November 2007) 290 lb/A 7-26-26 2x2 banded at planting 180 lb/A nitrogen sidedressed as 28% UAN | | |

Methods

This study was set up with three treatments replicated four times in a randomized complete block design. All treatments were sidedressed with 28% at 180 lb/A:

- 1) Nontreated check (no foliar fertilizer)
- 2) Prudent-Presto Gold Label 6-14-4 foliar fertilizer application rate of one gallon per acre
- 3) Prudent-Presto Green Label foliar fertilizer application rate of one gallon per acre (experimental, fertilizer analysis not available)

The Prudent-Presto foliar fertilizer treatments consisted of one gallon product (with water carrier) applied in 15 gallons per acre finished volume on June 20 at corn stage V5 per the manufacturer label recommendation. The broadcast application was made with a ground sprayer at 40 psi boom pressure using wide angle flat fan Turbo TeeJet nozzles (TT11002) on 15 inch spacing. Plot size was 45 feet wide (one sprayer pass) by 600 feet.

Harvest populations (October 14) were estimated by counting the number of plants on each side of a 17 feet 5 inch measured distance at three different locations within each plot. The average number of plants counted per 17 feet 5 inches was converted to plants per acre. Plot yields were

determined by harvesting one round (30 feet) out of the center of the plot with a John Deere 6620 combine equipped with a calibrated AgLeader PF3000 yield monitor. Plot grain weights were measured with a calibrated weigh wagon. Plot moisture averages were taken from the yield monitor. Yields were adjusted to 15% moisture.

Results

Table 1. Corn harvest population, moisture, and yield means for each treatment.

| Treatment | Harvest Population (plants/A) | Moisture (%) | Yield (bu/A) |
|----------------------------|----------------------------------|-----------------|-----------------|
| Untreated check | 31,100 | 17.9 | 149.1 |
| Prudent-Presto Gold Label | 31,200 | 18.1 | 153.3 |
| Prudent-Presto Green Label | 31,600 | 18.3 | 151.8 |
| | LSD(0.05) | NS | NS |
| | CV (%) | 1.7 | 2.9 |

NS= not significant

Summary

The results from this one year study indicate there was no statistical difference in harvest population, moisture, or yield among the treatments. Prudent-Presto trials conducted at Farm Focus in 2005 and 2007 on field corn provided similar results. These studies can be accessed on the Farm Focus website (<http://farmfocus.osu.edu>) under each year's research results. An additional 6 bushel/A (based on corn at \$3.50/bushel) would need to be realized in order to cover the cost of the Presto products (\$15.50/A) and application (\$6/A). The \$6 application cost could be offset if the Presto is applied at the same time as a postemergence herbicide application.

Presto is a foliar fertilizer product that according to the manufacturer, Agra Solutions, provides additional nutrient to the plant, helps to protect the plant from diseases and invasive organisms, and helps to promote increased root development. Prudent-Presto Gold Label is currently available for commercial use. Prudent-Presto Green Label is still in the development stages.

Acknowledgement

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