Pasteuria Biological Seed Treatment on Soybean Grain Yield

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Objective
To evaluate the effect of Pasteuria biological seed treatment on soybean yield.

Background
Crop Year: 2013
Location: Wauseon, OH
County: Fulton County
Soil Type: Mermill loam
Drainage: Systematic on 25 foot centers
  0-2% slope
Previous Crop: Corn
Tillage: Conventional
Planting Date: May 15, 2013
Fertilizer: 125 lbs 0-0-60 at planting
Seeding Rate: 165,000 seeds/acre, 15” rows
Herbicide: 8 oz Tricor pre-emerge; 1.5 pt glyphosate on June 22, 2013
Insecticide/Fungicide: none
Harvest Date: October 15, 2013

Methods
This study was designed with three treatments replicated three times in a randomized complete block design. The plot size was approximately 28 feet wide by 150 feet long. Treatments were planted with an eleven row planter (15” spacing) after light spring tillage. Seed used was NK 34-Z1 in all treatments. Plots were harvested with a commercial combine. Grain yield measurements were taken with a weigh wagon for increased accuracy.

Treatments
1) Untreated soybean seed (check)
2) Soybean with CruiserMaxx seed treatment
3) Soybean with CruiserMaxx plus Pasteuria biological (Clariva)

Results

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Yield (bu/ac)</th>
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</thead>
<tbody>
<tr>
<td>Soybean – Untreated check</td>
<td>78.3</td>
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<tr>
<td>Soybean with CruiserMaxx</td>
<td>77.2</td>
</tr>
<tr>
<td>Soybean with CruiserMaxx and Pasteuria</td>
<td>82.3</td>
</tr>
</tbody>
</table>

LSD (0.05) 13.6, CV 7.55 – No significant difference between treatments
Summary
There was not a significant difference in yield among the untreated check, CruiserMaxx soybean or soybean with CruiserMaxx and Pasteuria. However, Soybean Cyst Nematode (SCN) counts in all plots were considered low to very low (1880 eggs/100 cc soil). Further data in the form of multi-year replications will add to the validity of these results.

Acknowledgement
The author expresses appreciation to Larry Richer for his cooperation and aid in the planting and harvesting of this trial, Syngenta for seed, Ohio State Plant Pathology Lab for SCN counts and the Ohio Soybean Council for providing funding to conduct this research.

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