Control of Pink Root in Onions

Pink Root, caused by the soil borne fungus *Phoma terrestris*, can be a significant problem in most onion growing regions of the U.S. As the name suggests, infected roots of the onions initially turn pink in color. Then, the root tissue gradually becomes darker and eventually dies. Traditional control measures have only included pre-plant fumigation and long term crop rotation of infected fields, which is not always feasible for growers.

Seeing the need for alternative treatments for Pink Root, researchers from Colorado State University evaluated the efficacy of BioSafe Systems’ TerraClean 5.0 Soil Treatment Bactericide/Fungicide. This 2011 study found TerraClean 5.0 to significantly reduce disease incidence (results on back page).

Efficacy of TerraClean 5.0 for Pink Root Control in Onions

Researchers: Dr. Howard Schwartz, Kris Otto, & Mark McMillan ARDEC, Colorado State University

Crop: Seeded Yellow Onion (*Allium cepa* ‘Delgado’)
    Transplanted Yellow Onion (*Allium cepa* ‘Granero’)

Organism: Pink Root (*Phoma terrestris*)

Table 1. Treatments and Rates

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate/Acre</th>
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<tbody>
<tr>
<td>1. Untreated Control</td>
<td>N/A</td>
</tr>
<tr>
<td>2. Ridomil Gold Copper + Quadris FL</td>
<td>2 lbs./acre + 16 fl. oz./acre</td>
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<tr>
<td>3. TerraClean 5.0</td>
<td>1.0 gallon/acre</td>
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Features & Benefits

- Preventative and Curative Treatments
- Effective Against Pink Root, *Rhizoctonia, Pythium, & Fusarium*
- Powerful Oxidation Easily Penetrates Soil Profile, Oxygenates Root Zones, & Enhances Nutrient Uptake
- Prevents Cross Contamination from Soil to Crops
- Can Be Used in Conjunction with Other Soil Treatment Programs

Use TerraClean 5.0 broad spectrum soil bactericide/fungicide to kill soil pathogens on contact. TerraClean 5.0 is formulated specifically for soil treatment applications on root vegetables such as onions. TerraClean 5.0 can be easily chemigated into drip irrigation systems throughout all stages of plant growth.

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Study Details:

This study was conducted at ARDEC research farm of Colorado State University. Seeded yellow onions ‘Delgado’ and transplanted yellow onions ‘Granero’ were planted on April 4 and April 18 (2011) respectively. Treatments were applied at post-planting on June 6 and June 22. Pink Root evaluations were made during the first week of August and ‘Granero’ yield data was taken at the end of August. Only the seeded trial showed evidence of Pink Root.

Results:

Results from this study suggest that the application of TerraClean 5.0 can significantly reduce pink root incidence while also improving total and jumbo yield components of onions. In the seeded trial, TerraClean 5.0 looked promising for the management of Pink Root with nearly 50% less disease incidence. Furthermore, TerraClean 5.0 applications were found to increase the total and jumbo yield components by 6% and 24% respectively.

Summary:

Economically, a modest increase of total and especially of the desired jumbo yield component for a yellow onion variety will gross more profit. TerraClean 5.0 applications need to be applied on a timely basis when plant pathogens threaten onion crops.

For full results, please contact BioSafe Systems.