FIELD PEAS

Bacterial blight

MYCOSPHAERELLA (ASCOCHYTA) BLIGHT

BACTERIAL BLIGHT
FIELD PEAS

Bacterial blight

MYCOSPHAERELLA (ASCOCHYTA) BLIGHT

BACTERIAL BLIGHT
Bacterial blight is favored by rain and mechanical damage

- Hail
- Rain with strong winds
In dry weather, the bacterial blight pathogen **colonizes plant surfaces without causing disease**

- Facilitates rapid disease development when wet weather occurs
A seed-borne and seed-transmitted disease.

- Diseased pods produce diseased seeds
- Diseased seeds carry the pathogen *internally* and *externally*
Impact of planting seed with moderate levels of seed-borne *Pseudomonas psyringae*:

<table>
<thead>
<tr>
<th>Disease-free seed</th>
<th>Non-treated</th>
<th>16</th>
<th>ab</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS-50 0.91 oz/cwt</td>
<td>15</td>
<td></td>
<td>a</td>
</tr>
<tr>
<td>9:1 mix, disease-free to diseased seed</td>
<td>Non-treated</td>
<td>17</td>
<td>ab</td>
</tr>
<tr>
<td>AS-50 0.91 oz/cwt</td>
<td>15</td>
<td></td>
<td>a</td>
</tr>
<tr>
<td>Diseased seed</td>
<td>Non-treated</td>
<td>19</td>
<td>b</td>
</tr>
<tr>
<td>AS-50 0.91 oz/cwt</td>
<td>16</td>
<td></td>
<td>ab</td>
</tr>
</tbody>
</table>

CV: 9.8

AS-50 is not currently registered for use on field peas.

Combined analysis across four field trials (Carrington and Oakes, ND)
## Field Peas

### Bacterial blight

Impact of planting seed with moderate levels of seed-borne *Pseudomonas psyringae*:

<table>
<thead>
<tr>
<th>Disease-Free Seed</th>
<th>Treatment</th>
<th>Yield (bushels/ac)</th>
<th>CV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-treated</td>
<td>AS-50 0.91 oz/cwt</td>
<td>52</td>
<td>a</td>
</tr>
<tr>
<td>9:1 mix, disease-free to diseased seed</td>
<td>Non-treated</td>
<td>51</td>
<td>a</td>
</tr>
<tr>
<td>AS-50 0.91 oz/cwt</td>
<td>52</td>
<td>a</td>
<td></td>
</tr>
<tr>
<td>Diseased Seed</td>
<td>Non-treated</td>
<td>48</td>
<td>a</td>
</tr>
<tr>
<td>AS-50 0.91 oz/cwt</td>
<td>51</td>
<td>a</td>
<td></td>
</tr>
</tbody>
</table>

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FIELD PEAS
Bacterial blight

- Use clean seed.
  Do not save seed from fields with severe bacterial blight.

- Avoid tight crop rotations.
  Allow residues from previous pea crop to decay.

- Avoid spreading the disease with equipment.
  Allow plants to dry before entering fields with equipment.
Initial symptom expression: **Small patches of white powdery growth on upper surfaces of oldest leaves**
FIELD PEAS

Identification of powdery mildew

Early to mid-symptom expression:
White powdery layer above green tissue

Late symptom expression:
Patchy gray discoloration, underlying plant tissue
Identification of powdery mildew

Late symptom expression: **Plants have bluish color**
Impacts of powdery mildew:

- Reduced yield
- Significantly reduced seed size
- Premature crop maturity
- Severe “mildew dust” at harvest, resulting in breathing and allergy problems for machinery operators
FIELD PEAS

Conditions favoring disease

Warm, dry weather accompanied by cool nights with dew formation

Dry weather favors this disease.
- Spores germinate in absence of leaf wetness
- Rainfall reduces spore viability
Management of powdery mildew

- Resistant varieties confer immunity.
- For susceptible varieties, avoid late planting dates.
- Fungicides should be applied preventatively on the basis of perceived risk.
# Fungicide efficacy

**Powdery mildew of field peas**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Powdery M. (mid/late pod-fill % severity)</th>
<th>Yield (13.5% moisture bu/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-treated control</td>
<td>96</td>
<td>a</td>
</tr>
<tr>
<td>Headline 6 oz/ac</td>
<td>62</td>
<td>a</td>
</tr>
<tr>
<td>Proline 5.7 fl oz/ac</td>
<td>15</td>
<td>a</td>
</tr>
</tbody>
</table>

**Combined analysis across two field trials (Carrington, ND)**