Ascochyta Blight and Pythium Damping-off of Chickpea, and Their Management

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Ascochyta blight of chickpea

Identification and Management
Typical symptoms of Ascochyta blight
Markell
Evaluating foliar fungicides
Trial of New Fungicides
Pythium Damping-off of Chickpea

Identification and Management
Poor stand establishment
No Metalaxyl

With Metalaxyl

Sensitive

Resistant
## Isolation and characterization of Pythium isolates

<table>
<thead>
<tr>
<th>Location</th>
<th>Inside</th>
<th>Outside</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total #</td>
<td>Resistant#</td>
<td>Total#</td>
<td>Resistant#</td>
</tr>
<tr>
<td>Colton 1</td>
<td>23</td>
<td>18</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Colton 2</td>
<td>22</td>
<td>20</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>Kendrick 1</td>
<td>11</td>
<td>4</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Kendrick 2</td>
<td>23</td>
<td>15</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Juliaetta</td>
<td>16</td>
<td>10</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>Spillman</td>
<td>20</td>
<td>7</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Pullman</td>
<td>23</td>
<td>19</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Paterson (green pea)</td>
<td>24</td>
<td>22</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>162</strong></td>
<td><strong>115</strong></td>
<td><strong>123</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>

Resistant isolates are able to grow 3 cm or more in two days on 50 ppm Metalaxyl
Untreated seeds

Treated seeds

Met-Sensitive Pythium

Met-Resistant Pythium
Isolate 117

- 0 ppm
- 0.5 ppm Ethaboxam
- 1.0 ppm Ethaboxam
- 2.0 ppm Ethaboxam
- 5.0 ppm Ethaboxam
- 5.0 ppm Metalaxyl
Summery

• Metalaxyl-resistant *Pythium* has become a problem in pulse crop production in the Pacific Northwest of USA

• The metalaxyl-resistance trait is stable over ten generations, and resistant isolates showed no fitness cost.

• Fungicide exthaboxam is an effective alternative for managing metalaxyl-resistant *Pythium*.

• Additional fungicides could be become available soon.
Acknowledgements

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USA Dry Pea and Lentil Council
THANK YOU!