Fungicide performance for penthiopyrad

Results from HGCA fungicide project (RD-2011-3756)

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HGCA is the cereals and oilseeds division of the Agriculture and Horticulture Development Board.
Fungicide performance for penthiopyrad

Penthiopyrad, a new SDHI, was tested in the wheat HGCA Fungicide Performance trials in 2012. In its first year in HGCA trials, it was used in mixture with epoxiconazole (as Ignite). 2012 provided a stern test of fungicide efficacy and the comparisons between products refer only to data collected in 2012 even though the other products have been in trial for several years. Because the 2012 season was so challenging and unusual some caution must be exercised in interpretation of these results.

HGCA wheat Fungicide Performance trials test new and established benchmark products against the main foliar diseases of wheat. Products are tested at dose rates, ¼, ½, full and double the label recommended rate.

**Tank mix of penthiopyrad + epoxiconazole**

<table>
<thead>
<tr>
<th>Rate</th>
<th>penthiopyrad</th>
<th>epoxiconazole (as Ignite)</th>
<th>active ingredient rate of epoxiconazole</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25</td>
<td>0.3125 l/ha</td>
<td>0.3125 l/ha</td>
<td>25.94 g/ha</td>
</tr>
<tr>
<td>0.5</td>
<td>0.625 l/ha</td>
<td>0.625 l/ha</td>
<td>51.88 g/ha</td>
</tr>
<tr>
<td>1.0</td>
<td>1.25 l/ha</td>
<td>1.25 l/ha</td>
<td>103.75 g/ha</td>
</tr>
<tr>
<td>2.0</td>
<td>2.5 l/ha</td>
<td>2.5 l/ha</td>
<td>207.50 g/ha</td>
</tr>
</tbody>
</table>

Against septoria tritici in a protectant situation, the penthiopyrad/epoxiconazole mixture gave very similar levels of disease control to the established SDHI/azole co-formulated products, which all strongly outperformed their azole mixture partner used as straight products.

In an eradicant situation, the penthiopyrad/epoxiconazole mixture gave a solid performance in comparison with other products in the trial. These results emphasise the importance of spray timing to achieve good disease control, particularly under high disease pressure.

Against yellow rust, the penthiopyrad/epoxiconazole mixture gave very similar levels of disease control to Seguris, Adexar and straight epoxiconazole, while against brown rust all SDHI co-formulations, the penthiopyrad/epoxiconazole mixture and epoxiconazole gave similar levels of control.

In summary, the penthiopyrad/epoxiconazole mixture gave similar levels of control of the main wheat diseases to the established leading SDHI/azole co-formulated products.

Penthiopyrad is marketed under the trade name Vertisan by DuPont.
Septoria tritici in a protectant situation (N = 6)

% S. tritici

Dose (1 = full experimental 'label rate')
Septoria tritici in an eradicant situation (N = 4)

% S. tritici

Dose (1 = full experimental 'label rate')

- Proline
- Ignite
- AviatorXpro
- Seguris
- Adexar
- Pentiopyrad + Ignite
Yellow rust (N = 1)

Dose (1 = full experimental 'label rate')

% Yellow Rust

- Adexar
- Ignite
- Comet
- AviatorXpro
- Seguris
- Penthiopyrad + Ignite
- Proline

Yellow rust (N = 1)