Sunflower response to Headline fungicide, Carrington, 2007

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The trial had a randomized complete block design with three replicates. The dryland, conventional-till trial was established at the NDSU Carrington Research Extension Center on a Heimdal loam soil with 3.2% organic matter and 6.9 pH with wheat as the previous crop. Mycogen ‘8N386CL’ oil sunflower were planted in 30-inch rows on May 21. Fungicide treatments were applied to the center 6.67 ft of 10 by 30 ft plots with a CO₂ pressurized hand-held plot sprayer at 17 gal/A and 35 psi through 8002 flat fan nozzles. The V4 treatment was applied on June 16 with 63 F, 83% RH, 25% clear sky, and 8 mph wind; the R2 treatment was applied on July 18 with 82 F, 58% RH, 60% clear sky, and 7 mph wind; and the R3 treatment on July 31 with 74 F, 87% RH, clear sky, and 9 mph wind. The trial was harvested with a plot combine on November 19.

Sunflower rust was present in the trial when visually evaluated on August 31 and September 25, but severity at 0 to 0.1% among treatments (data not shown). Sunflower development, and seed yield and oil were similar among treatments (Table). Test weight with the early Headline treatment was greater than the untreated check.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>First Flower</th>
<th>Maturity</th>
<th>Seed Yield</th>
<th>Test Weight</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>Name</td>
<td>Rate</td>
<td>Unit</td>
<td>Stage</td>
<td>Jday</td>
</tr>
<tr>
<td>1</td>
<td>Headline</td>
<td>6 fl oz/a</td>
<td>V4</td>
<td>214</td>
<td>266</td>
</tr>
<tr>
<td></td>
<td>NIS 1</td>
<td>0.25</td>
<td>%v/v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Headline</td>
<td>6 fl oz/a</td>
<td>R2</td>
<td>215</td>
<td>266</td>
</tr>
<tr>
<td></td>
<td>NIS</td>
<td>0.25</td>
<td>%v/v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Headline</td>
<td>6 fl oz/a</td>
<td>R4</td>
<td>214</td>
<td>267</td>
</tr>
<tr>
<td></td>
<td>NIS</td>
<td>0.25</td>
<td>%v/v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Untreated check</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>214</td>
</tr>
</tbody>
</table>

Mean 214 266 951 28.2 40.7
CV (%) 0.1 0.2 20.6 0.9 2.4
LSD (P=0.05) NS NS NS 0.5 NS

1NIS=Induce.