XXIII. EVALUATION OF FUNGICIDES AND BIOLOGICAL MATERIALS FOR CONTROL OF SCLEROTINIA BLIGHT OF PEANUT (TAREC Research Farm, Hare Road)

A. PURPOSE: To compare the efficacy of registered and experimental materials for activity against *Sclerotinia minor*

B. EXPERIMENTAL DESIGN:
1. Four, randomized complete blocks
2. Blocks separated by 10-ft alleyways
3. Four, 35-ft rows/plot
4. Treatments applied to the two center rows of plots with an ATV-mounted sprayer

C. APPLICATION OF TREATMENTS: Leaf spot control treatments began at the R₃-stage (beginning pod) and continued according to leaf spot advisories until beginning maturity. Sprays for Sclerotinia blight control were applied according to Sclerotinia blight advisories in a volume of 15 gal/A with three, D₃23 nozzles/row

D. TREATMENT AND RATE/A
1. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
   QRD 286 2 qt + QRD 602 2.4 fl oz (1ˢᵗ, 2ⁿᵈ Scl. Adv.)
2. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
   QRD 143 4 qt + QRD 602 2.4 fl oz (1ˢᵗ, 2ⁿᵈ Scl. Adv.)
3. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
   Omega 500 1 pt (1ˢᵗ Scl. Adv.)
   QRD 286 2 qt + QRD 602 2.4 fl oz (2ⁿᵈ Scl. Adv.)
4. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
   QRD 143 4 qt + Champ DP 2 lb + QRD 602 2.4 fl oz (1ˢᵗ, 2ⁿᵈ Scl. Adv.)
5. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
   Omega 500 1 pt (1ˢᵗ, 2ⁿᵈ Scl. Adv.)
6. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
   Omega 500 1 pt (1ˢᵗ, 2ⁿᵈ Scl. Adv. spray)
7. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
   Endura 70WG 9 oz (1ˢᵗ, 2ⁿᵈ Scl. Adv.)
8. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
   Endura 70WG 9 oz (1ˢᵗ, 2ⁿᵈ Scl. Adv.)
9. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
   JRC 20WD 1.75 lb (1ˢᵗ, 2ⁿᵈ Scl. Adv.)
10. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
    JRC 20WD 2.70 lb (1ˢᵗ, 2ⁿᵈ Scl. Adv.)
11. Bravo 720 1.5 pt (1ˢᵗ, 2ⁿᵈ, 3ʳᵈ, 4ᵗʰ, 5ᵗʰ Leaf spot Adv.)
12. Untreated check

E. ADDITIONAL INFORMATION:
1. Location: Tidewater Res. Farm, Hare Rd., Suffolk
3. Planting date and cultivar: 14 May; NC 12C
4. Soil fertility report:
   pH..................... 6.2
   Ca..................... 205 ppm
   Mg..................... 23 ppm
   P...................... 33 ppm
   K...................... 53 ppm
   Zn..................... 2.1 ppm
   Mn..................... 1.6 ppm
   Soil type .......... Kenansville loamy sand

5. Herbicide:
   Pre-plant - Prowl 1 pt/A (24 Mar)
   Dual II Magnum 1 pt + Strongarm 0.23 fl oz/A (21 Apr)
   Pre-emergence - Dual II Magnum 1 pt + Strongarm 0.23 fl oz/A (17 May)

6. Insecticide: Temik 15G 7 lb/A in furrow (14 May)
   Orthene 97S 12 oz/A (4 Jun)
   Lorsban 15G 13 lb/A (22 Jun)
   Danitol 2.4EC 10 fl oz/A (6 Aug)

7. Cylindrocladium black rot control: Vapam 7.5 gal/A (17 Apr)

8. Additional crop management:
   a. Liquid boron 1 qt (24 Mar)
   b. Landplaster: Gypsum 420 1200 lb/A (9 Jun)
   c. Liquid Mn 2 qt/A (23 Jun, 9 Jul)
   d. Cultivation: 22 Jun

9. Harvest date: 17 Oct 2004
### Table 88. Incidence of sclerotinia blight in fungicide-treated plots.

<table>
<thead>
<tr>
<th>Treatment, rate/A, and application dates*</th>
<th>Sclerotinia blight**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jul 19</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/4, 8/19, 9/17)</td>
<td>0.3</td>
</tr>
<tr>
<td>QRD 286 2 qt + QRD 602 2.4 fl oz (Scl. Adv.-8/4, 8/30)</td>
<td>0.0</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/4, 8/19, 9/17)</td>
<td>0.0</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/4, 8/19, 9/17)</td>
<td>0.0</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/4, 8/19, 9/17)</td>
<td>0.3</td>
</tr>
<tr>
<td>Omega 500 1 pt (Scl. Adv.-8/4)</td>
<td>0.0</td>
</tr>
<tr>
<td>QRD 286 2 qt + QRD 602 2.4 fl oz (Scl. Adv.-8/30)</td>
<td>0.0</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/4, 8/19, 9/17)</td>
<td>0.5</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/4, 8/19, 9/17)</td>
<td>0.0</td>
</tr>
<tr>
<td>Untreated check</td>
<td>0.0</td>
</tr>
</tbody>
</table>

** Counts of infection centers in the two center rows of each plot or a total of 70 ft of row. An infection center was a point of active growth by *Sclerotinia minor* and included 6 in. on either side of that point.

Means followed by the same letter(s) are not significantly different (LSD, P=0.05).


LSD: 2.89 13.00
Table 89. Incidence of leaf spot, web blotch, and defoliation in plots, and the effect of treatments on yield of peanut.

<table>
<thead>
<tr>
<th>Treatment, rate/A, and application dates(^1)</th>
<th>% leaf spot(^2) (Oct 8)</th>
<th>% web blotch(^2) (Oct 8)</th>
<th>% defoliation(^3) (Oct 8)</th>
<th>Yield(^4) (lb/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/4, 8/19, 9/17)</td>
<td>63.8 b</td>
<td>13.3 bc</td>
<td>16.3 b</td>
<td>4733 bc</td>
</tr>
<tr>
<td>QRD 286 2 qt + QRD 602 2.4 fl oz (Scl. Adv.-8/4, 8/30)</td>
<td>61.3 bc</td>
<td>17.5 b</td>
<td>10.0 c</td>
<td>4539 c</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/19, 9/17)</td>
<td>61.3 bc</td>
<td>17.5 b</td>
<td>10.0 c</td>
<td>4539 c</td>
</tr>
<tr>
<td>Omega 500 1 pt (Sel. Adv.-8/4)</td>
<td>47.5 d-f</td>
<td>8.8 cd</td>
<td>4.8 c-f</td>
<td>4926 a-c</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/4, 8/19, 9/17)</td>
<td>36.3 fg</td>
<td>12.5 bc</td>
<td>7.5 c-e</td>
<td>5558 a</td>
</tr>
<tr>
<td>Omega 500 1 pt (Sel. Adv.-8/4, 8/30)</td>
<td>37.5 fg</td>
<td>10.0 c</td>
<td>4.0 d-f</td>
<td>5506 a</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/19, 9/17)</td>
<td>45.0 ef</td>
<td>8.8 cd</td>
<td>2.3 ef</td>
<td>5352 ab</td>
</tr>
<tr>
<td>Omega 500 1 pt (Sel. Adv.-8/4, 8/30)</td>
<td>43.8 ef</td>
<td>2.5 de</td>
<td>1.8 f</td>
<td>4952 a-c</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/19, 9/17)</td>
<td>30.0 g</td>
<td>1.3 e</td>
<td>2.3 ef</td>
<td>5029 a-c</td>
</tr>
<tr>
<td>Endura 70WG 9 oz (Scl. Adv.-8/4, 8/30)</td>
<td>43.8 ef</td>
<td>2.5 de</td>
<td>1.8 f</td>
<td>4952 a-c</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/19, 9/17)</td>
<td>65.0 b</td>
<td>17.5 b</td>
<td>8.5 cd</td>
<td>5094 a-c</td>
</tr>
<tr>
<td>JRC 20WD 1.75 lb (Sel. Adv.-8/4, 8/30)</td>
<td>58.8 b-d</td>
<td>13.8 bc</td>
<td>10.0 c</td>
<td>4707 bc</td>
</tr>
<tr>
<td>Bravo 720 1.5 pt (LS Adv.-7/9, 7/19, 8/19, 8/19, 9/17)</td>
<td>50.0 c-e</td>
<td>10.0 c</td>
<td>8.5 cd</td>
<td>4849 a-c</td>
</tr>
<tr>
<td>Untreated check</td>
<td>98.0 a</td>
<td>28.8 a</td>
<td>94.8 a</td>
<td>2811 d</td>
</tr>
</tbody>
</table>

LSD......................................................................................................... 12.50 6.58 4.77 752

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\(^2\) Leaf spot and web blotch rating scale: 0=None; 100=spots or blotches on all leaflets.

\(^3\) Defoliation rating scale: 0=None; 100=no leaves on plants.

\(^4\) Yields are weight of peanuts with 7% moisture. Peanuts were dug on 8 Oct and harvested on 17 Oct 2004. Means followed by the same letter(s) are not significantly different (LSD, P=0.05). Arcsine transformation of percentage data was made in analysis to determine statistical significance.