XXVIII. SUSCEPTIBILITY OF PEANUT CULTIVARS TO TOMATO SPOTTED WILT VIRUS
(Darden Farm, Bolling Green Road, Isle of Wight)

A. PURPOSE: To determine the value of TSWV resistance in NC-V 11, Gregory, and Georgia
   Green in comparison to other cultivars of peanut

B. EXPERIMENTAL DESIGN:
   1. Three, randomized complete blocks separated by 15-ft alleyways
   2. Four, 40-ft rows per plot
   3. Disease and yield data collected from two center rows of each plot

C. CULTIVARS:
   1. VA 98R
   2. VA-C 92R
   3. Wilson
   4. Perry
   5. VT-9506201-6 (Champ)
   6. Gregory
   7. Georgia-Green
   8. NC-V 11
   9. NC 12C

D. ADDITIONAL INFORMATION:
   1. Location: Darden Farm, Isle of Wight County
   3. Planting date: 10 May
   4. Soil fertility report:
      pH .....................  6.0
      Ca ..................... 519 ppm
      Mg ..................... 57 ppm
      P ........................ 76 ppm
      K ........................ 94 ppm
      Zn ...................... 1.1 ppm
      Mn ..................... 1.8 ppm
      Soil type ............ unknown sandy loam
   5. Herbicide:
      Pre-plant - Prowl 1 pt + Strongarm 0.23 oz/A (1 May)
      Pre-emergence – Gramoxone Max 11 fl oz + Pursuit 0.72 oz/A (12 May)
      Post-emergence – Cadre 1.44 oz + Butyrac 0.5 pt/A (28 May)
   6. Cylindrocladium black rot control: Metam 7.5 gal/A (16 Apr)
   7. Insecticide: Temik 15G 5 lb/A in furrow (10 May)
      Karate 1 oz/A (20 May, 5 Jun)
   8. Leaf spot control: Folicur 7.2 oz (10 Jul); Headline 9 oz (31 Jul),
      Bravo WS 1.5 pt/A (1 Sep)
   9. Additional crop management:
      a. Liquid boron 1 qt/A (10 Jul)
      b. Landplaster: Peanut Maker 1200 lb/A (12 Jun)
      c. Liquid Mn 2 qt/A (10 Jul)
      d. Cultivation: 12 Jun
   10. Harvest date: 5 Oct 2004
Table 102. Incidence and severity of tomato spotted wilt virus (TSWV) and the impact of disease on yield and value of peanut cultivars.

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>TSWV(^1)</th>
<th>Yield(^2) (lb/(\text{A}))</th>
<th>Value(^3) ($/(\text{A}))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jun 15</td>
<td>Jul 22</td>
<td>Aug 31</td>
</tr>
<tr>
<td>VA 98R</td>
<td>4.7 ab</td>
<td>24.0 cd</td>
<td>20.0 cd</td>
</tr>
<tr>
<td>VA-C 92R</td>
<td>5.3 ab</td>
<td>26.7 b-d</td>
<td>26.7 bc</td>
</tr>
<tr>
<td>Wilson</td>
<td>5.0 ab</td>
<td>36.7 a-c</td>
<td>36.7 ab</td>
</tr>
<tr>
<td>Perry</td>
<td>5.0 ab</td>
<td>29.3 b-d</td>
<td>30.7 a-c</td>
</tr>
<tr>
<td>VT-9506201-6</td>
<td>5.0 ab</td>
<td>28.7 b-d</td>
<td>19.3 cd</td>
</tr>
<tr>
<td>Gregory</td>
<td>7.0 a</td>
<td>44.3 a</td>
<td>34.3 ab</td>
</tr>
<tr>
<td>Georgia-Green</td>
<td>2.7 b</td>
<td>17.7 d</td>
<td>8.3 d</td>
</tr>
<tr>
<td>NC-V 11</td>
<td>5.0 ab</td>
<td>38.3 ab</td>
<td>28.3 bc</td>
</tr>
<tr>
<td>NC 12C</td>
<td>6.3 a</td>
<td>43.7 a</td>
<td>42.3 a</td>
</tr>
</tbody>
</table>

LSD ................... 2.9 14.2 13.97 646 116

1 Number of symptomatic plants per plot.
2 Yields are weight of peanuts with 7\% moisture. Peanuts were dug on 24 Sep and harvested on 5 Oct 2004.
3 Data are from composite samples from all reps.

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

Table 103. Grade characteristics of peanut cultivars.

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Fan</th>
<th>ELK</th>
<th>SS</th>
<th>OK</th>
<th>DK</th>
<th>SMK</th>
<th>$/lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA 98R</td>
<td>71</td>
<td>49</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>71</td>
<td>18.99</td>
</tr>
<tr>
<td>VA C 92R</td>
<td>89</td>
<td>51</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>70</td>
<td>18.53</td>
</tr>
<tr>
<td>Wilson</td>
<td>87</td>
<td>47</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>68</td>
<td>17.96</td>
</tr>
<tr>
<td>Perry</td>
<td>87</td>
<td>57</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>72</td>
<td>19.38</td>
</tr>
<tr>
<td>VT-9506201-6</td>
<td>87</td>
<td>55</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>73</td>
<td>19.34</td>
</tr>
<tr>
<td>Gregory</td>
<td>84</td>
<td>54</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>69</td>
<td>18.34</td>
</tr>
<tr>
<td>Georgia-Green**</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>2</td>
<td>0</td>
<td>72</td>
<td>19.18</td>
</tr>
<tr>
<td>NC-V 11</td>
<td>80</td>
<td>51</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>70</td>
<td>18.60</td>
</tr>
<tr>
<td>NC 12C</td>
<td>92</td>
<td>60</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>72</td>
<td>19.18</td>
</tr>
</tbody>
</table>

* FAN=fancy sized in-shell, ELK=extra large kernels, SS=sound splits, OK=other kernels, DK=damaged kernels, SMK=sound mature kernels.

** Samples of Georgia Green were not from the test site and may not be comparable to other cultivars at this site.

Data are from a composite sample of four reps from each variety.