

Effect of Cultivar and Plant Population on Spotted Wilt in Virginia Market-Type Peanut

C. A. Hurt^{1,*}, R. L. Brandenburg¹, D. L. Jordan², G. G. Kennedy¹, and J. E. Bailey³

¹ Former Grad. Res. Asst., Prof., and Prof., respectively, Dept. of Entomology, Box 7613, North Carolina State Univ., Raleigh, NC 27695–7613. Current address of Christie Hurt: USDA-APHIS, 1730 Varsity Drive, Suite 300, Raleigh, NC 27606.

² Assoc. Prof., Dept. of Crop Sci., Box 7620, North Carolina State Univ., Raleigh, NC 27695–7620.

³ Prof., Dept. of Plant Pathology, Box 7616, North Carolina State Univ., Raleigh, NC 27695–7616.

Field experiments were conducted in North Carolina during 2001 and 2002 to evaluate the impact of cultivar and plant population on the incidence of symptoms of tomato spotted wilt virus, which is transmitted primarily by tobacco thrips [*Frankliniella fusca* (Hinds) (Thysanoptera: Thripidae)]. Treatments included the Virginia market-type cultivars Gregory, NC-V 11, and Perry seeded at in-row plant populations of 7, 13, and 17 plants/m. In these experiments, there was a consistent trend for increased foliar injury from thrips as plant population decreased. Less thrips feeding injury was noted for Gregory and Perry than for NC-V 11. Incidence of visual symptoms of spotted wilt (SW) was recorded from mid-June through mid-September. A plant condition rating was recorded late in the season. Consistent with the results for thrips-induced injury, the percentage of plants infected with SW and the plant condition rating increased as plant population decreased. Gregory had the lowest SW incidence, while NC-V 11 was intermediate between Gregory and the most susceptible Perry. Establishing higher plant densities and planting Gregory rather than NC-V 11 or Perry reduced SW incidence and plant condition rating. Gregory had consistently the highest %ELK (extra large kernels) and %FP (fancy pods) across treatments and locations whereas no definitive trend in market grade characteristics were noted among treatments. In some cases, Perry had a higher incidence of SW, but still had higher pod yields than NC-V 11 with a lower incidence of SW. However, in most cases pod yield correlated with plant condition ratings, and as thrips injury increased, pod yield decreased.

Key Words *Frankliniella fusca*, tobacco thrips, tomato spotted wilt virus, TSWV.

*Corresponding author (email: Christie.A.Hurt@aphis.usda.gov).

Article Citation:

C. A. Hurt, R. L. Brandenburg, D. L. Jordan, G. G. Kennedy, and J. E. Bailey (2004) Effect of Cultivar and Plant Population on Spotted Wilt in Virginia Market-Type Peanut. *Peanut Science*: July 2004, Vol. 31, No. 2, pp. 101-107.

