

Valuing Disease Resistance: A Comparison of the Florunner and GA16HO Cultivars

A.R. SMITH* Department of Agricultural & Applied Economics, The University of Georgia, Tifton, GA 31793; A.K. CULBREATH and S. BAG, Department of Plant Pathology, The University of Georgia, Tifton, GA 31793.

The Florunner cultivar was released by the University of Florida in 1969 and became one of the most widely used runner-market type varieties for years; primarily known for producing high yields and excellent grades. However, more disease resistant cultivars eventually took over the runner-market. Fifty years after its initial release, a comparison of Florunner and Georgia-16HO was designed to come up with an estimate of the value of disease resistance with and without the use of pesticides to treat thrips. The study was conducted via a randomized complete block design with three treatments per cultivar (non-treated control, Thimet treated, and Admire Pro treated) and replicated six times. The study was conducted in 2019 and repeated in 2020. Disease ratings, yield and quality data were collected. The revenue was based on the loan rate and adjusted by grade. Treatment costs were also collected. A partial budget approach was used to determine the relative value of the disease resistant cultivar (Georgia 16HO) over Florunner by comparing the average adjusted revenue per acre. Average adjusted revenue is defined as revenue adjusted for yield, grade, seed and insecticide treatment costs. Results indicate the average difference in value of the Georgia 16HO was greater than Florunner by at least \$540/acre in 2019 across all treatments and by at least \$320/ac in 2020 across all treatments. It should be noted that disease pressure was higher in 2019. Disease resistance is even more valuable in a situation or environment where disease pressure is expected to be higher.