



Peanut 'Georgia-Val/HO' - TSWV Disease Resistance

Georgia Agricultural Experiment Station, USA

'Georgia-Val/HO' is a valencia-type peanut cultivar developed by the Georgia Agricultural Experiment Station and released in 2020. This cultivar was registered for increased resistance to the yield-reducing disease, Tomato spotted wilt virus (TSWV), derived from disease resistant genebank accessions. 'Georgia-Val/HO' has high yield, large pod and seed size, in addition to a high oleic/linoleic fatty acid ratio for longer shelf life and improved quality of kernel and kernel products.



Photo by Joseph Hill (CC BY-NC-SA 2.0)

Uprooted peanut plants

PROJECT GOALS

- ✓ Incorporate disease resistance from NPGS germplasm
- ✓ Improve yield and shelf life of peanut and peanut products

Problems Addressed

Since the late 1980s, widespread infestation of Tomato spotted wilt virus led to significant reduction in peanut yield and quality. While the U.S. National Plant Germplasm System (NPGS) acquired peanut germplasm with high resistance to TSWV in the 1950s, this was not yet incorporated into widely grown cultivars such as 'Georgia Valencia'. Disease susceptibility resulted in huge financial loss to peanut farmers and processors across the United States

Solutions Developed

'Georgia-Val/HO' was developed using conventional breeding methods. It can trace its pedigree back to two genebank accessions with excellent TSWV resistance, PI 203395 and PI 203396, both originally from Brazil. Due to the added resistance, 'Georgia-Val/HO' surpassed all six commercially grown cultivars in performance, combining high yield, grade, and dollar value with a high oleic/linoleic fatty acid ratio for longer shelf life and improved quality of peanut and peanut products. The use of 'Georgia-Val/HO' resulted in a 39% increase in dollars per hectare.



Written by: A. Mahama, S. Gray, W. Suza, K. Chen (editor)

To learn more about this and other success stories, visit colostate.pressbooks.pub/pgrsuccessstories