Response to Drought Stress in a Subset of the U.S. Peanut Mini-core Evaluated in Three States

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Climate change and limited water availability are significant challenges to the future of peanut production, and much work remains in developing drought- and heat-resistant cultivars. To this end, we evaluated 22 accessions from the U.S. peanut mini-core for three years (2017-2019) under drought conditions in Oklahoma, Texas, and Virginia. The accessions were selected to represent extremes in phenotypes for soil plant analysis development (SPAD) chlorophyll, wilting, paraheliotropism (leaf folding), flower production, normalized difference vegetation index (NDVI), canopy temperature, and yield. The replicated trials also included C7616, New Mexico Valencia, Tamrun OL-11, Tamspan 90, Tamval OL-14, Walton (08x09-3-14-1), and Wynne as reference genotypes. Preliminary analyses indicate significant differences among entries for most measurements in all locations. Drought responses of the entries and their associations with yield will be presented.