

## **Effects of POST Herbicide Application and Digging Date on Seed Development, Germination, and Vigor of Peanut Cultivars**

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As an indeterminate crop, peanut cultivar maturity can be influenced by multiple factors including herbicides that may cause delays. With various maturity among cultivars, timing of harvest can be a critical factor on influencing subsequent seed development, germination, and vigor. Experiments conducted in 2018 evaluated the genotype by herbicide treatment by digging date on seed germination and vigor of four peanut runner-type cultivars grown under similar production practices, for three digging dates over the course of time (120, 130, 140 days after planting). All cultivars exhibited yield increases for each harvest timing. After cleaning and processing, the medium seed were tested for germination and vigor by plot replication evaluated in Petri-dishes incubated over a thermal gradient ranging from 12 to 36 °C at approximately 1.0 °C increments, counted daily up to 7 consecutive days. Growing degree day (GDD) accumulation for each temperature increment was calculated based on daily mean temperature measured by thermocouples. Lorentzian distribution models were used to establish the temperature and time (hours) to maximum germination for each variable. Data indicated differences among the cultivars for each variable. These data will assist in determining phenotypic and genotypic variation between cultivars when grown under known environmental conditions with different planting dates. This information will assist growers with making cultivar seed selections based on vigor testing methods not previously used.