

Breeding Spanish Peanuts (*Arachis hypogaea* L.) for Organic Peanut Production In West Texas.

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Organic peanut production is centralized in West Texas, with estimates indicating as much as 98% of all organic peanuts in the U.S are produced in this region. Organic producers have limited options with regards to fungicides, herbicides, and seed treatments in order to control several key production issues. Without the use of commercial products, organic fields often have poor germination and stand establishment, as well as weed and disease control issues throughout the season. The Texas A&M AgriLife Research Peanut Breeding Program initiated an evaluation of current germplasm in 2020 in an on-farm trial in Terry Co. Texas. Twenty breeding lines and cultivars were evaluated. Each entry was replicated 3 times without any commercially available seed treatment. Plots were arranged in a randomized complete block and stand counts were taken by hand at 7, 14, 21 and 28 days. In addition, plot data was collected and evaluated for plant height, visual greenness, pod rot, yield, and grade. Visual differences were observed based on date of stand counts and plant height. Statistical differences were found in kg/ha, %TSMK and %DK. Of particular interest was that the location had heavy pod rot infestation with 2 entries showing statistically significantly reduced %DK. Data will be presented. This project will be replicated in 2021, and expanded on, in order to develop breeding lines specifically suited for the unique needs of organic peanut producers as an objective.