Effect of Plant Population and Replant Method on Peanut Production.

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The University of Georgia Extension recommendation for optimum plant stand in peanut (*Arachis hypogaea* L.) is 13.1 plants m$^{-1}$, although previous work has shown that yield potential can be maintained at lower plant stands. The unpredictable and often extreme weather and the ubiquity of pathogens in the region often contribute to poor emergence and poor plant stands. When plant stand is adversely affected, a point may be reached where replanting the field becomes a desirable option. The objectives of this study were to determine i) the effect of plant stand on yield, grade and disease incidence, ii) at what plant stand peanut gains an advantage from replanting and iii) the best method for replanting peanut when an adequate stand is not achieved. Field trials took place in Plains, GA in 2011, 2012, and 2013; and Tifton, GA in 2012 and 2013 to evaluate peanut production at six plant stands (3.3, 4.9, 6.6, 8.2, 9.8, and 11.5 plants m$^{-1}$) in combination with three replant practices (no replant, destroy the original stand and replant at a full seeding rate, and add a reduced rate of seed to supplement the original stand) in a randomized complete block design. A positive linear trend for yield and a negative linear trend for tomato spotted wilt virus incidence were discovered as plant stand increased. The only yield advantage from replanting occurred via supplemental seed addition to an initial stand of 3.3 plants m$^{-1}$. Completely replanting always resulted in lower yield than the other two replant practices.