## Peanut Response to Vegetative Injury Occurring at Different Intensities and Growth Stages.

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Physical injury of crops can occur from a variety of sources such as hail damage, foraging by animals, or other acts of nature. This damage may result in reduced production depending on the growth stage and intensity at which it occurs. This study was conducted in 2019 in Tifton, Georgia on peanut (*Arachis hypogaea* L.) to quantify vegetative response in Normalized Difference Vegetation Index (NDVI), digging losses, and yield reduction from physical vegetative injury. At approximately 30, 60, 90, and 120 days after planting (DAP), physical injury was administered to the vegetative canopy using a weed trimer with flexible rubber impact points at low RPM to simulate vegetative injury of 33%, 66%, and 99%. A non-treated control with 0% injury was maintained throughout the experiment. NDVI was recorded 11 days after each treatment. Regrowth for the 30 and 60 DAP treatments at 33% and 66% damage returned to normal by the next sample date, and by the end of the season at 99% injury. Injury at the 90 and 120 DAP treatments did not return to normal NDVI values for any of the injury intensities, and NDVI value was progressively less with increasing damage intensity for both late treatment dates at the end of the season. Undamaged plots had an average yield of 8,880 kg/ha. At the 99% damage level, yields were reduced by 56% at 30 DAP, 81% at 60 DAP, 97% at 90 DAP, and 84% at the 120 DAP treatments. Yields were also reduced with increasing injury intensity within any given injury timing. Yields were lowest when injury occurred at the 90 DAP timing. Physical damage resulted in the pegs being detached or weakened to the point that they were unable to be inverted and harvested. Digging losses were measured post-harvest by sifting through the inversion zone soil in a 1.83 m X 1.83 m area to a 15 cm depth. Treatments of 99% damage at 90 and 120 DAP had the most detached pods along with the most yield loss (7 and 14 times greater yield loss than the undamaged plants, respectively). All treatments at the 120 DAP timing had the greatest number of detached pods in comparison to the same intensity of damage at any of the previous timings. Physical damage to the vegetative canopy after flower initiation reduces yield compared to undamaged plants. Further analyses of additional year replicates and economic analysis will aid in determining whether continued crop management is feasible or not worth continued input costs depending on the severity and/or timing of injury sustained.