

[P1] Field Crop Production

Thu. Sep 9, 2021 12:15 PM - 2:00 PM Room 1 (Poster) (Field Crop Production)

12:15 PM - 1:00 PM

[P1-23] Investigation of the Albinism Derived from Sub-Species Hybridization in Peanuts

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Peanut (*Arachis hypogaea* L.) is a crop grown in the tropical and subtropical areas. It is classified as a grain legume. There are four market types in peanuts, including Runner, Virginia, Spanish and Valencia. Both Runner and Virginia belong to the subspecies (ssp), *hypogaea*; Spanish and Valencia belong to ssp. *fastigiata*. The albinism can be observed during sub-species hybridization. It is very common to utilize sub-species hybridization to deliver the desired traits from one subspecies to another in peanut breeding programs. In this study, we used 10 albino lines (F₄ generation), which came from a cross between PI599592 (Runner) and PI599345 (Spanish). They were planted using complete randomized design (CRD) with three replicates. Also, two parental lines, PI599592 and PI599345 plus two commercial cultivars, TN14 and TNS9 were included in this experiment. According to the results, we find the albino lines have significant lower plant height and fewer leaves compared to TN14, TNS9, PI599592 and PI599345. Since albino peanuts have slower growth rate, the flowering times are also delayed. The SPAD and spectrophotometer show chlorophyll contents in albino lines are lower than the normal peanuts. The results of albino lines are just a beginning. Future work will be focused on observing the parents' chromosome structure in pollens and the albino chloroplast structure by using microscope. The results will help researchers understand more about the albinos from subspecies hybridization, and how to avoid albinism in peanut breeding.