## Biochemical Characterization of *Arachis* Induced Allotetraploids and their Parent Wild Species

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Several diploid *Arachis* wild species have been identified as sources of resistance to diseases that commonly afflict cultivated peanut, *A. hypogaea* L. Successful introgression of resistance alleles into peanut cultivars may reduce yield losses. To do this, wild species are crossed, and their chromosome number is chemically doubled to generate allotetraploids that are fertile and compatible with cultivated peanut. Some biochemical data has been collected previously for various *Arachis* species, but no information is available for the allotetraploids. To characterize the effects of hybridization and tetraploidization on seed traits, we measured oil content, protein content, and fatty acid composition and compared them to their diploid parents as well as cultivated peanut references. There were significant differences in oil and protein between and among the wild species and allotetraploids, but the trends were mixed, with some allotetraploids showing increased oil and lower protein while others resulted in less oil and higher protein. Grain oleic acid content, an important dietary and oil stability trait, was slightly lower in the allotetraploids on average. But one specific hybrid, IpaDur2 from a cross between *A. ipaënsis* and *A. duranensis*, showed a wide range among the seeds tested from 34.7% to 59.0% indicating that there could be new genetic variation introduced during the hybridization process. Characterizing these important genetic resources is important for their use in peanut breeding programs to develop disease resistant, nutritionally desirable cultivars.