

Peanut Yield Gains Over the Past Fifty Years.

C. C. HOLBROOK, USDA-ARS, Tifton, GA 31793; **T. B. BRENNEMAN**, Univ. of Georgia, Tifton, GA 31793; **H.T. STALKER**, North Carolina State Univ., Raleigh, NC 27695; **W. C. JOHNSON III**, USDA-ARS, Tifton, GA 31793; and **P. OZIAS-AKINS**, **Y. CHU**, **G. VELLIDIS**, and **D. MCCLUSKY**, Univ. of Georgia, Tifton, GA 31793.

Average yields of peanut in the United States have greatly increased over the 50 year history of the American Peanut Research and Education Society. Before 1968 the average yield of peanut had never reached 2000 kg ha⁻¹. Average yields of peanut set an all-time record of 4695 kg ha⁻¹ in 2012. Favorable weather conditions undoubtedly contributed to the record yields in 2012; however, these record yields would not have been achievable without numerous technological advances that have been made in peanut production. The cumulative effect of these technologies caused U.S. yields to more than double from 1765 kg ha⁻¹ in 1967 to 4074 kg ha⁻¹ in 2017. During the first 50 years of APRES the average gain for peanut yields was 46.2 kg ha⁻¹ yr⁻¹. These yield gains are due to improved cultivars, advances in agronomic practices, improvement in practices and chemistries for control of weeds and diseases, and increased use of precision agriculture, particularly for the digging and harvesting of the crop. Modern peanut cultivars have much higher yield potential; however, because of the synergism between production systems and plant breeding, it is difficult to precisely quantify the amount of the yield gains that are due to improved cultivars. The American Peanut Research and Education Society has played a critical role in facilitating the multidisciplinary research and disseminating results of this research which has been critical in enhancing the U.S. peanut industry for the past 50 years.