Beyond the Peanut Genome

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The publication of the peanut genomes in 2016 and 2019 marked the successful completion of the Peanut Genome Project's foundational goals. These genome sequences now provide a common reference for genetics research all over the world, and the provide the locations of essentially all peanut genes. New research tools developed using the framework of the sequenced genome now allow the visualization of the genetic makeup of individual peanut plants and breeding progeny in unprecedented detail. This has allowed the genetic tagging of valuable agronomic traits, from both cultivated and wild species, and the deployment of DNA markers which add power to breeding programs. Genetic traits tagged with DNA markers include resistances to late leaf spot, nematodes, white mold and rust, and traits such as seed size and the high oleic trait. Increasingly the use of genomic tools is becoming standard in the production of improved cultivars making peanut more productive and sustainable. Genomic technologies continue to advance, creating new possibilities to select and create elite genetics