



Science
Societies

The Promise of Wild and Exotic Germplasm in Peanut

May 1, 2023



Co-authors John Cason (left) and Charles Simpson discuss wild species peanut in their greenhouses at Texas A&M AgriLife Research in Stephenville. Photo by Texas A&M AgriLife Multimedia.

As our population grows and the climate continues to change, plant breeders must look for new tolerance traits to help crops adapt to our changing world. Wild and exotic germplasm of common crops contain a vast reservoir of genetic traits that can be used in cultivar development. Although not always the easiest route to cultivar development, this approach can produce dramatic results.

Several good examples of this are found in peanut (*Arachis hypogaea* L.). Recently, a team from Texas A&M AgriLife Research highlighted some peanut-breeding success stories in the *Journal of Plant Registrations* and described some of the tools being used in the introgression of those traits.

As more wild and exotic species are sequenced and gene-editing of their traits becomes more commonplace, scientists look to the next major hurdle—phenotypic screening. Efficient screening will become a valuable new tool for breeders to both identify traits in the genus *Arachis* and move them into new cultivars. The examples found in peanut can serve as a blueprint for the identification and introgression of valuable traits into many crops.

Adapted from Cason, J.M., Simpson, C.E., Burow, M.D., Tallury, S., Pham, H., & Ravelombola, S.W. (2023). Use of wild and exotic germplasm for resistance in peanut. *Journal of Plant Registrations*, 17, 1– 25. <https://doi.org/10.1002/plr2.20261>

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