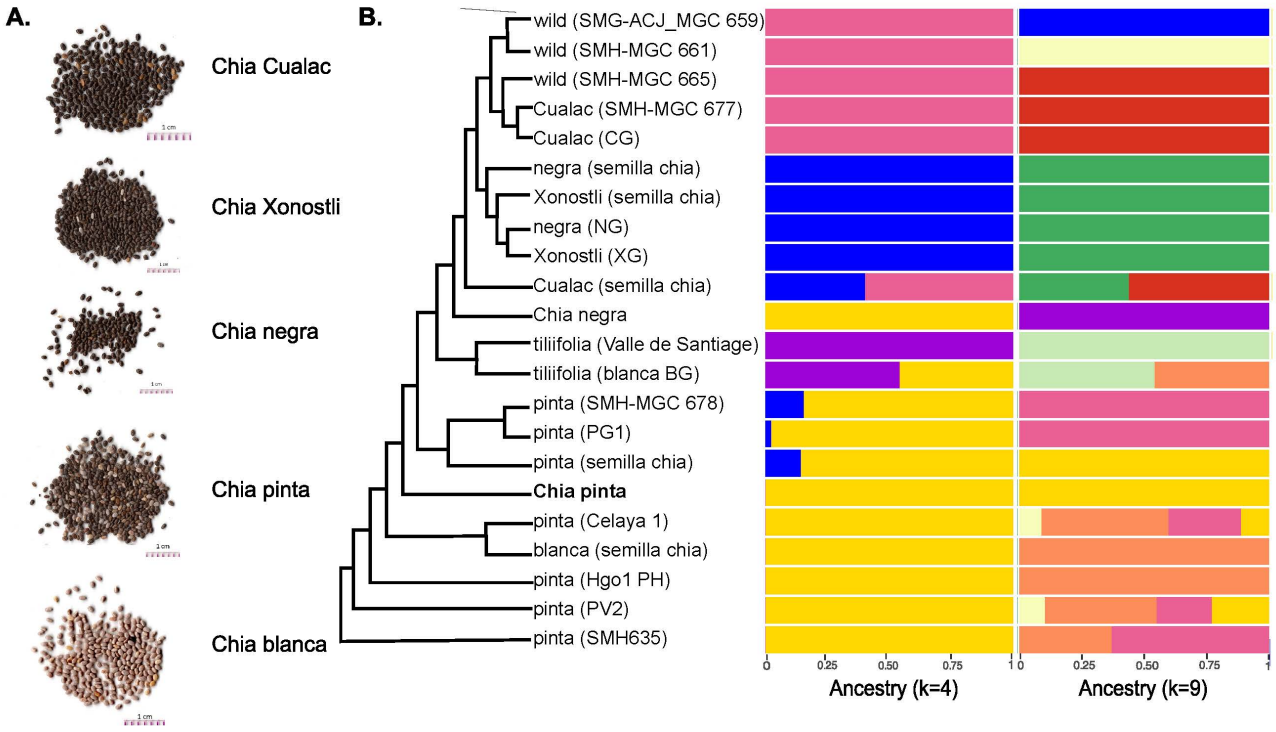
Science Societies

Genomic insights into the diversity of the superfood Chia

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Comparison of chia genomes reveals a history of interspecies hybridizations. Image by Julia Brose.

Chia (*Salvia hispanica* L.), an economically and nutritionally important crop in Mesoamerica, is considered a superfood due to the essential fatty acids present in its seed. There are multiple varieties of Chia characterized by seed color and origin. However, there is limited understanding of its evolutionary history and the genetic diversity within the species.

In a new study published in *The Plant Genome*, researchers report the genome sequence of Chia pinta, a chia variety that has mixed black and white seeds. Comparing the Chia pinta genome with 20 Chia accessions from diverse geographic origins, the team gleaned insights into Chia genetic diversity, including distinct populations of domesticated and wild Chia. They also observed variation in gene content between chia genomes, including genes involved in natural product biosynthesis that may influence metabolic diversity. Further complicating understanding of this crop's evolution, the researchers observed hybridization events between chia and the closely related species Salvia tiliifolia.

The implications of this work extend to breeding and conservation programs as the newly developed genomic resources and insights into Chia's evolutionary history provide a foundation for advancing the cultivation and genetic improvement of Chia as a globally valuable food crop.

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Brose, J., Hamilton, J. P., Schlecht, N., Zhao, D., Mejía-Ponce, P. M., Cruz-Pérez, A., ... & Buell, C. R. (2024). Chromosome-scale *Salvia hispanica* L. (Chia) genome assembly

reveals rampant Salvia interspecies introgression. *The Plant Genome*, 17, e20494. https://doi.org/10.1002/tpg2.20494

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