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Insights for more efficient use of the American oil palm

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Manoel Teixeira Souza Junior with oil palms in the greenhouse. Photo by Vania Souza.

Palm oil and palm kernel oil make up about one-third of all vegetable oils consumed in the world. There are two species of oil palm: African (Elaeis guineensis) and American (E. oleifera). The first is produced commercially in several countries while the second is not domesticated but has many desired agronomic traits. These traits are prime targets for incorporating into the first, domesticated species through plant breeding and/or biotechnology strategies. To improve the efficiency in the use of E. oleifera in breeding programs of oil palm, one must well characterize this species.

A new article in *Crop Science* characterizes the genetic diversity and population structure of a collection of E. oleifera from the Amazon rainforest. Only a small portion of this species' diversity turned out to be represented in the collection, most likely due to the strategy used to collect these plants—they're typically collected around the most important watercourses. Therefore, collection in the future should focus on areas away from the watercourses.

The team also designed a core collection (CC) for the American oil palm from Brazil, showing that it could be about 20% of its present size, which could lower the costs to maintain and characterize the collection.

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Pereira, V.M., Filho, J.A.F., Leão, A.P., Vargas, L.H.G., de Farias, M.P., Rios, S.A., … Souza, Jr., M.T. (2020). American oil palm from Brazil: Genetic diversity, population structure, and core collection. *Crop Science*, *60*.
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