

CRYBIOTECHNOLOGY OF CALIFORNIA AVOCADO

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Avocado propagation is very slow and labor intensive, which limits the availability of plants for growers and increases their final cost. Furthermore the avocado field collections are the conventional way to conserve genetic resources, but they are in danger due to climate change, natural disasters, new pests and diseases, which makes protection of these valuable collections imperative.

The Huntington Gardens holds an avocado field collection of different avocado cultivars, clones with importance in the history of the avocado industry in California. Various protocols have been developed to initiate and root some clones of interest, but the mass propagation of avocado has not been optimized for the majority of the commercial rootstocks and cultivars.

The introduction of adult trees in tissue culture has been initiated, and the establishment of shoot multiplication methods will allow for an establishment of an in vitro repository, apart from field collections. Thus the avocado genetic resources might be used as a source of avocado plants by the California avocado industry, including growers and breeders. Furthermore, the tissue-cultured material will be used for cryopreservation studies, which allow the long-term conservation of avocado genetic resources.