

US CITRUS GENETIC RESOURCES OUTSIDE CALIFORNIA

WHILE CALIFORNIA IS HOME to the largest and most diverse collection of citrus genetic resources in the US, there are several other collections of interest outside of California. None of the collections described below approach the CVC in size or breadth of genetic diversity, and none of them can supply virus-free budwood, as can CCPP and NCGRCD. Additionally, the majority of the collections are more vulnerable to pests, diseases, and adverse weather conditions such as freezes and hurricanes than are the California collections.

Florida. The largest collection of citrus genetic resources in Florida is the USDA-ARS A.H. Whitmore Foundation Farm Variety Collection (WFFVC). The WFFVC is administered by the USDA-ARS-USHRL. The collection was started in the late 1950s by consolidation of several other USDA collections (primarily in Florida, but also including Indio, California) to support citrus breeding programs at USHRL. The WFFVC, on its Groveland, Florida site, served as a field facility for USHRL breeders before being incorporated into the NPGS in 1987 as a repository. It was decommissioned in 1992 and reverted to its previous status of a breeding collection. There were approximately 250 accessions maintained at the WFFVC Groveland site, about half of which are not duplicated in any California collection. Yet the WFFVC has few representatives of genera related to *Citrus* and virus-free materials are unavailable.

The USHRL moved from Orlando to Fort Pierce, Florida in 1999. Accessions of the WFFVC testing negative or having only mild strains of CTV will be repropagated at Fort Pierce, but accessions testing positive for severe strains of CTV will not be. There are no plans for virus elimination via thermal therapy or shoot-tip grafting at this point. Therefore, virus-free materials will still not be available from this collection. The Fort Pierce WFFVC collection is thus initially smaller than the original Groveland WFFVC collection, but additional accessions will be added over time. The Fort Pierce site should be less subject to destructive freezes than the original Groveland site, but it is also subject to many endemic citrus diseases that may threaten the phytosanitary status of many accessions.

The USDA-ARS National Germplasm Repository–Miami, located at the Subtropical Horticulture Research Laboratory, maintains a limited number of accessions in the Aurantioideae. This collection is notable for the age and size of some of accessions of genera related to *Citrus*. There is also a small collection of *Citrus* and other Aurantioideae genetic resources maintained at the USDA-ARS Tropical Horticulture Laboratory in Mayagüez, Puerto Rico. Accessions maintained here are not available as virus-free materials.

The Florida State Dept. of Plant Industry maintains the Florida Citrus Arboretum at Winterhaven. This is a well-maintained and attractive collection of over 250 accessions, and includes a good representation of citrus relatives. However, most accessions are represented by only one tree; virus-free materials are not available; and the area is vulnerable to freezes and hurricanes.

Breeding collections are maintained by the citrus breeders at the University of Florida Citrus Research and Education Center in Lake Alfred. These collections contain some unique and valuable accessions such as recently described introduced species and polyploid accessions. However these collections are not generally accessible, cannot supply virus-free material, and are not always available for distribution or exchange. There is also a small collection of *Citrus* and other Aurantioideae genetic resources maintained without regard to virus status at the University of Florida Tropical Research and Education Center in Homestead.

Texas. The Texas A&M University, Kingsville Citrus Center (TAMUK) at Weslaco has a collection of over 200 accessions. Some of these accessions are not present in California, but overall this collection does not have the diversity present in California. There are few citrus relatives in this collection.

The Rio Farms Citrus Variety Collection is located approximately 10 miles from Weslaco in Monte Alto. This collection was originally established by the USDA in the 1960s and was taken over by Rio Farms, a private organization, when the USDA discontinued citrus research in Texas in the 1970s. There are over 100 accessions in the Rio Farms collection, some of which are not present in the California collections. This col-

lection has suffered more than the TAMUK collection from freezes, and was recently damaged by gummosis. Rio Farms is less interested in citrus production than in the past, and this collection will probably be lost. Some

of the more valuable accessions are in the process of being incorporated into the CVC, CCP, and NCGRCD collections.