Germplasm Program at the USNA

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The United States National Arboretum has established a germplasm repository for woody landscape plants It ıs part of the Natıonal Plant Germplasm System (NPGS) and shares its goals and objectives of collectıng, establishıng, maıntaınıng, dıstrıbutıng, evaluating, and preserving high levels of genetic dıversity inherent in its target species

Advisory Groups. This repository ıs unlike the other NPGS sites ın that it's responsıble for 175 genera of woody plants versus one to 40 for most collectıons. Because of thıs, we must conduct many of our activıties dıfferently; we rely heavıly on cooperators

Advısory groups are the first major cooperatıve effort common to all NPGS crops. These groups advise the NPGS on how to carry out its objectives with a particular crop. The Crop Advısory Committee for Woody Landscape Plants is a very strong group composed of representatıves from the nursery ındustry, the botanic commu-nıty, the unıversitıes, Forest Service and Amerıcan Associatıon of Nurseryman NPGS curators are ex-officıo members. But we also ınvolve cooperators through-out the system

Plant Exploration. The Woody Landscape Plant Crop Advısory Committee (WLP-CAC) gave very clear recommendations on areas of the world where plant collecting is required. The Unıted States and the People's Republıc of Chına are co-prıorıtıes. Japan, Korea, USSR, Turkey and Eastern Europe are also prıorıtıes In addıtion, we, at the repository, have formed a plant exploratıon committee to ımplement these recommendation usıng staff and resources of not only the USNA, but also ınterested cooperatıng ınstıtutıons.

Three members of the committee, Paul Meyer, Director of the Morris Arboretum ın Phıladelphıa, Pennsylvanıa, Peter Brıstol wıth the Holden Arboretum ın Mentor, Ohıo, and Lawrence Lee of the USNA, just returned from the People's Republıc of Chına where they visited a number of ınstitutıons and negotıated future plant-collecting trips. The group was well receıved, and over the next three to four months, we wıll be settıng up a long-term sıx-year cooperative plant exploratıon program wıth the People's Republic of China. We should be able to go back next year, fall 1992, for a six- or eight-week plant-collectıng trip. Each trıp we hope to ınclude some dıfferent U S. ınstıtutıons as cooperators

Plant Maintenance As I saıd earlıer, we are responsible for 175 genera of woody landscape plants. Over the next 5 to 6 years, the repository will gain access to about 50 acres of excellent land at Glenn Dale, Maryland. Even 10 tımes thıs amount of acreage would be insufficient. Resources for supplıes and labor are also ınsuffi-cıent. That leads us to our next cooperatıve venture Many botanıc gardens, the Forest Service, universities and others are ınterested ın developing and maıntaın-ing good collections of various plant groups Wıthın the Amerıcan Associatıon of

Botanic Gardens and Arboreta (AABGA), the Plant Collections Committee has developed a program where member institutions developed these North American collections. Cooperation with this group will greatly assist us in carrying out our objectives The Forest Service has established a number of provenance tests over the years which are excellent germplasm sources. They would like us to cooperate with them.

Plant Distribution. Using this germplasm is fundamental to our program It must be available to the nurserymen who get it to the U.S. citizen and to the researcher. All of our accessions are available except when the plants are too small or unhealthy or the demand is too great. An example is, *Cornus kousa var. angustata* collected on the 1980 Sino-American Botanical Expedition Trip. We are just now getting enough propagating wood to propagate it. We will propagate it and distribute the plants.

We do not have a catalog of our collections, but if you are looking for something, call our Plant Record Office. If we have it and it's not readily commercially available, we will be glad to send some cuttings or seeds if available.

Evaluation. We do not have the resources to do significant amounts of evaluation, but through cooperation with others, evaluations can be made. An example: The USNA has a fairly good collection of *Ilex* (holly). Harold Pellett at the University of Minnesota submitted a proposal to the NPGS to evaluate this collection for maximum winter cold hardiness. It was accepted and funded. We shipped to him large amounts of stem tissue for his tests When the research is complete, he will send us copies of the raw data, which we will record with the accessions.

Benefits.

1) This program should support the breeding programs of this country, those at the USNA as well as other institutions When a deficiency is noted for a plant, a collection will be available that the researcher can screen for the desired trait without going back to native populations, which may not still be available.

2) Nurserymen can screen these collections for new and desirable landscape plants.

3) Researchers can screen these collections for finding new chemicals for use in pest control, industrial, and medical compounds.

4) Botanists and others, through study of these collections, can learn more about plant life or life in general.

5) Fifty years from now or even 20 years from now when new landscape characteristics or other needs are identified, collections representing the genetic diversity of the species will be available to study.

Additional Requests for Cooperation. Many of you are excellent plantsmen and outdoorsmen and know of unique populations or individual plants of natives. I would very much like to know of them; and if you think they may be hardy to the USNA (7B), please, send me seeds or cuttings. I ask for as much information on the site and population as you can provide. This information and plant material would then be available to others. If the site looks protected or you can establish a collection at your place and would be willing to honor propagation requests, I could

use my resources elsewhere.

If you have the knowledge and resources to set up a good germplasm collection of a particular species, I'd be very glad to work with you to help you get additional plants or to publicize your collection. I will not support exclusiveness but I will ask you to distribute seeds or cuttings when requested and to maintain accurate inventory and accession records.

If you go on plant-collecting trips, either in the United States or abroad, and are collecting from native temperate populations of woody species, I may be very interested in getting seeds Again, information on the collection site, and characteristics of the plant are needed.

Good germplasm collections support all of our programs, and are important to all of us.