

Seed Collection Program for Redbay and Other *Persea* Bay Species

Instructions for Participation

Introduction

Laurel wilt is a new and devastating disease of redbay (*Persea borbonia*) trees in the Southeastern United States. The disease is caused by a fungus (*Raffaelea* sp.) that is vectored by an exotic wood-boring insect, the redbay ambrosia beetle (*Xyleborus glabratus*). The fungus colonizes the sapwood of host trees, causing them to wilt and die. The impact of this disease on mature redbays in South Carolina, Georgia, and Florida has been severe. Concern exists that populations of native *Persea* could be lost or greatly reduced and the genetic diversity of these species threatened.

Because of this disease, an effort to collect and preserve the seed of redbay (and closely related species) is being initiated, with the goal of conserving the genetic variability in populations of native *Persea* bay species. Similar seed conservation efforts are being conducted for other native tree genera threatened by non-native invasive pests (such as ash, threatened by emerald ash borer). Your participation in the collection and conservation of *Persea* seed is encouraged and greatly appreciated.

Procedure

- Identify a redbay (*Persea borbonia*), swampbay (*Persea palustris*) or silkbay (*Persea humilis*) in the forest or landscape. See the accompanying document **Identifying Characteristics of Redbay (*Persea borbonia*)** (Coder 2006) for assistance with identifying these species, or consult your preferred woody plant ID book. Record the lat/long or the STR of the location.
- Look for trees on which the fruits are mature or have just begun to mature. According to the USDA Woody Plant Seed Manual, fruits mature from September to October, but look to see if fruits in your area are maturing earlier. Fruit with viable seed may also remain on the trees into late fall or winter. Trees growing in the sun may be more likely to bear abundant fruit than shaded trees.

Description of Fruit: “The fruits are oblong, dark blue, single-seeded drupes that are covered with a thin, fleshy tissue; the endocarp is firm, but pliant. Average fruit size is 7 to 10 mm in diameter and 10 mm in length. Seed size is 0.5 to 1 mm less than fruits. The fruits, which are borne on yellow-orange peduncles 12 to 25 mm long, mature in September to October” (USDA Woody Plant Seed Manual).

- Choose fruits that have turned (or are beginning to turn) dark blue to purple on the fleshy exterior. Make sure the fruits are undamaged and intact. If possible, sample a few by cutting them open and looking to see that the seeds haven’t been eaten by insects.
- Carefully hand-collect the fruits, either by picking them off the peduncles (stems) or clipping the stems and leaving the fruits attached.

- Place the fruits in small paper bag (like a brown lunch-size bag). Use a different bag for each tree you collect from. If collecting from multiple trees, try to choose trees that are at least 100 feet apart, and take a new GPS point for each tree.
- For each bag, fill out a separate **Seed Collection Data Sheet**. If you do not have all of the information, just fill out as much as you know. Fold the top of the bag closed and staple the completed form to the folded section. Make sure the bag is fully closed and the form securely attached.
- After collection, mail the samples as soon as possible to the National Seed Laboratory at the address below. If needed, samples can be kept in paper bags for a few days in a controlled environment (indoors, office, etc. - not inside the cab of a truck) before mailing, but please send samples within one week of collection. If collecting over an extended period of time, collections can be assembled and mailed once a week. Secure the bags within a cardboard box or other study mailing container and mail the package to:

USDA Forest Service,
National Seed Laboratory
5675 Riggins Mill Road
Dry Branch GA 31020
478-751-6656

Attachments that Accompany this Document:

- **Seed Collection Data Sheet**
- **Identifying Characteristics of Redbay (*Persea borbonia*).** Dr. Kim D. Coder, 2006. University of Georgia, Warnell School of Forestry and Natural Resources, Outreach Publication SFNR06-4.

For more information about Laurel Wilt and *Persea* bay seed collection, visit:

<http://www.fs.fed.us/r8/foresthealth/laurelwilt/index.shtml>