



Mitigating Cultural Losses From Laurel Wilt

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Laurel Wilt & American Indians

- ❖ Miccosukee & Seminole tribes in south & central Florida
 - ❖ Mixture of northern tribes
 - ❖ FL presence since 18th century
 - ❖ Never surrendered!
 - ❖ Largely isolated until the 20th century



Laurel Wilt & American Indians

- ❖ Cultural & Medicinal Importance

- ❖ Redbay (*Persea borbonia*) and Swamp Bay (*Persea palustris*)
- ❖ Key ingredient in 90% of medicine
- ❖ Key element in cultural activities



Laurel Wilt & American Indians

- ❖ Ecologically Important....
 - ❖ Keystone canopy species in the Everglades
 - ❖ Composes 30% of tree canopy
 - ❖ Mortality rates of up to 100%
 - ❖ Wilt has spread rapidly since its introduction into the US in 2002, reaching south Florida in 2010



Research Objectives

- 1) Identify, propagate and preserve swamp bay trees in south Florida with the potential for resistance to laurel wilt
- 2) Establish pilot restoration projects in state, federal and tribal lands devastated by laurel wilt
- 3) Identify if coppicing is a viable prophylactic management technique for prevention of laurel wilt

1) Identify, Propagate & Preserve

- ❖ Identify
- ❖ Some trees more important?
- ❖ Representative samples from all tribal lands
- ❖ Trees with existing resistance?



1) Identify, Propagate & Preserve

- ❖ Propagate
- ❖ Traditionally difficult to propagate
- ❖ Expand on previous Hughes & Smith Redbay study, 2013:
 - ❖ New propagation techniques

REFEREED RESEARCH

Vegetative propagation of putatively laurel wilt-resistant redbay (*Persea borbonia*)

Marc A Hughes and Jason A Smith

1) Identify, Propagate & Preserve

- ✧ Hughes & Smith Redbay study, 2013:
 - ✧ 3:1 Vermiculite:Perlite Mix
 - ✧ Intermittent Mist
 - ✧ No bottom heat
 - ✧ 0.3% IBA gel
 - ✧ 20 - 37% rooting success in Redbay



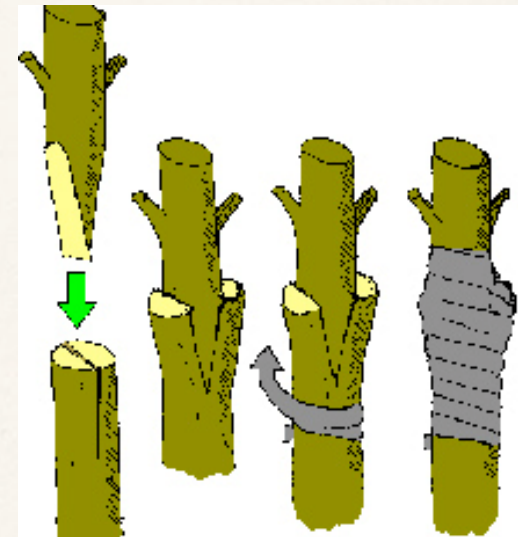
1) Identify, Propagate & Preserve

- ❖ New Ideas
 - ❖ Alternative rooting hormone and nutrients
 - ❖ Worm castings & tea
 - ❖ Traditional rooting hormones
 - ❖ IBA, NAA, IAA ~ Liquid/gel/powder
 - ❖ Softwood & semi-hardwood cuttings?
 - ❖ Time of year & cutting size
 - ❖ Mist? Or low-tech?

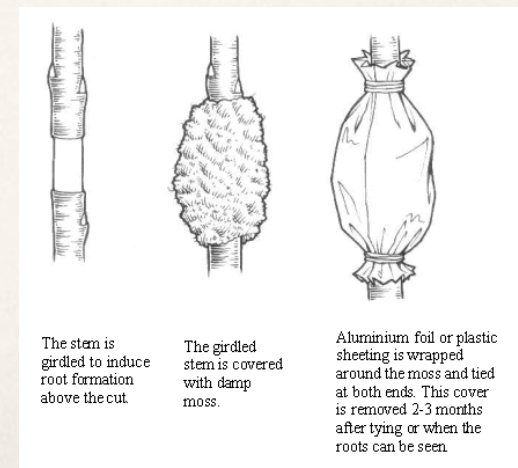


1) Identify, Propagate & Preserve

- * Apical wedge graft



- * Air layering



1) Identify, Propagate & Preserve

- ❖ Preserve

- ❖ Tree “banks”

- ❖ In-ground plantings in Citra, FL
- ❖ UF Greenhouse, Gainesville, FL
- ❖ Botanical Gardens
- ❖ Trees made available for re-planting or greenhouse storage on reservations



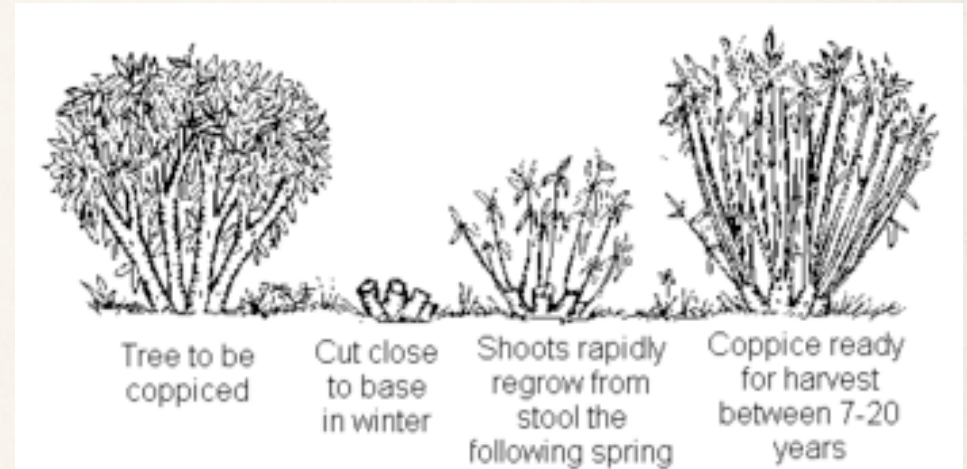
2) Establish Restoration Projects

- ❖ Replant in state, federal and tribal lands
- ❖ Putatively resistant trees
- ❖ Areas devastated by LW



3) Coppicing

- ❖ What is it?
- ❖ Why?
- ❖ Beetles attracted to trees with 3"+ diameters
- ❖ Trees may be able to “skip” epidemic



3) Coppicing

- ❖ Two Experiments; Eight Treatments
 - ❖ Seasonal effect? (Winter vs. summer)
 - ❖ 64 trees in Goethe State Forest, 8 - 25 cm dia
 - ❖ Cut surfaces covered with 1" soil or tanglefoot
 - ❖ Height: 1" below or 2" above ground
 - ❖ With and without fungicide
- ❖ Monitor beetle populations
- ❖ Possibly include a prescribed burn observational study



3) Coppicing

- ❖ Advantages
 - ❖ Non-chemical management technique
 - ❖ Ability to save diverse range of genetic material
 - ❖ Prescribed burns could be fast & economical



Where You Can Help

- ❖ Help us find “survivor” trees
- ❖ Provide location, or
- ❖ Provide cuttings and send

Laurel Wilt is a deadly tree disease that has been causing harm in tu 'lee trees (redbay, swamp bay and silk bay).



YOU CAN PARTICIPATE in a University of Florida study to find naturally resistant trees and help these survivor trees grow into future generations.



Help us reverse the damage from Laurel Wilt!

Find your GPS coordinates using your smart phone

GPS coordinates can be found by one of the following methods, depending on your device:

- Download an app, such as "Current GPS Location" for Android
- iPhone's built-in GPS - using Location Services and Compass
- If there is an address for the location, you can use Google Maps to look up the address and find the Latitude and Longitude.

Thank you for your help!

Questions? Comments?

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 **SFRC** FLORIDA STATE FOREST RESOURCES & CONSERVATION

You can help save Florida's Redbay from the deadly Laurel Wilt disease.



IT'S NOT TOO LATE FOR THE TU 'LEE!

 **UF/IFAS** UNIVERSITY OF FLORIDA

 **SFRC**

Thanks To Our Collaborators

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