



OHIA WILT RAPID OHIA DEATH

PLANT QUARANTINE BRANCH



RAPID OHIA DEATH (ROD) OR OHIA WILT

PATHOGEN

- A strain of *Ceratocystis fimbriata* is the causal agent for Ohia Wilt or ROD.
- Affects the vascular system and causes the xylem to fail to transport water to the leaves, causing the leaves and stems to wilt.



Photo by J.B. Friday, University of Hawaii

Fruiting bodies of *C. fimbriata* on a dead log.

SYMPTOMS OF ROD

- Crowns of affected Ohia trees turn yellow and will later turn brown.
- Symptoms occur within days to weeks.
- Leaves remain on the branches for some time.

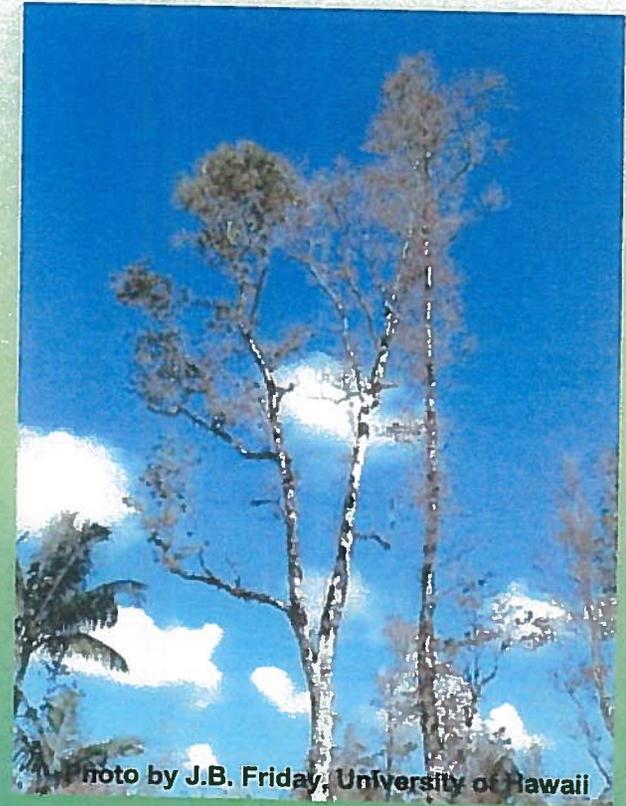
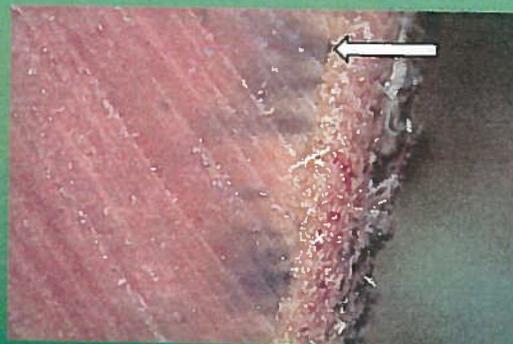


Photo by J.B. Friday, University of Hawaii

Ohia tree infected with *C. fimbriata*.

OHIA WILT PATHOGEN

- The fungus can survive on dead logs for more than a year and in soil under infected Ohia stands. It is also found in frass (i.e., sawdust) from wood boring beetles.
- *C. fimbriata* manifests itself as dark, nearly black staining in the sapwood along the outer margin of the trunks



WHY SHOULD YOU BE CONCERNED?

- Ohia trees make up more than 50% of all our native forest.
- Our watershed is dependent on these native Ohia forests.



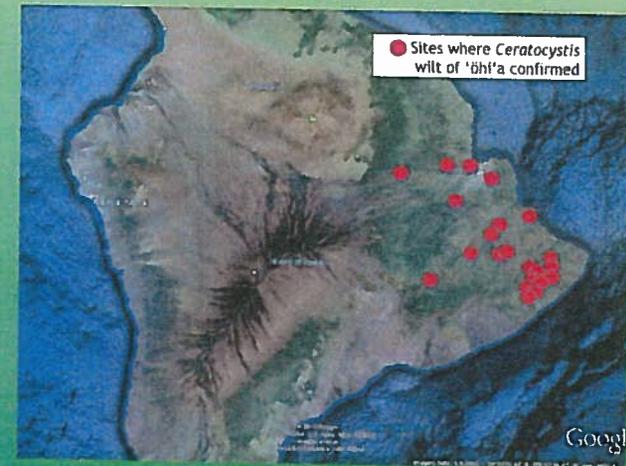
Photo: Pictometry International

Ohia forest affected by ROD.

- Depletion of the native Ohia forests will result in an invasion of non-native species, affecting native plants and animals.

WHY SHOULD YOU BE CONCERNED?

- More than 6,000 acres of Ohia trees have already died from Hilo to Kalapana.
- This disease has the potential to kill our native Ohia forests statewide.
- This disease is easily transmitted.



PLANT QUARANTINE INTERIM RULE 15-1

- Prohibits the intrastate movement of Ohia (*Metrosideros* – all species in genus) from the Island of Hawaii.
- EXCEPT by permit issued by the Hawaii Department of Agriculture.

PLANT QUARANTINE INTERIM RULE 15-1

- OHIA PLANTS

- OHIA PLANT PARTS:

- ✓ FLOWERS

- ✓ LEAVES

- ✓ SEEDS

- ✓ STEMS

- ✓ TWIGS

- ✓ CUTTINGS

- ✓ UNTREATED WOOD

- ✓ LOGS

- ✓ MULCH

- ✓ GREENWASTE

- ✓ SAWDUST

- ✓ FRASS – FROM WOOD BORING
INSECTS FEEDING ON OHIA

- ✓ SOIL – JANUARY 1, 2016

SOIL

- Soil to be added to Interim Rule 15-1 by January 1, 2016.
- PQ Intrastate Permit (PQ-7) needed if shipping and using soil
- “Soil” means that part of the upper layer of earth in which plants can grow; this material may or may not contain organic matter and includes such planting media as deteriorated peat.

SOIL

- Media not included in the Ohia Interim Rule:

- ✓ Volcanic cinder
- ✓ Coral
- ✓ Potting mix
- ✓ Fir bark
- ✓ Blue rock
- ✓ Peat moss
- ✓ Sphagnum moss
- ✓ Sand
- ✓ Pumice
- ✓ Vermiculite
- ✓ Coir
- ✓ Pottery
- ✓ Industrial clay
- ✓ Other similar soil-free material

- Any mixture of the media mentioned above with native earth soil will be subject to the Ohia Soil Rule and will need a permit to move intrastate.

SHIPPING OHIA PRODUCTS?



Photo from Maui Native Nursery

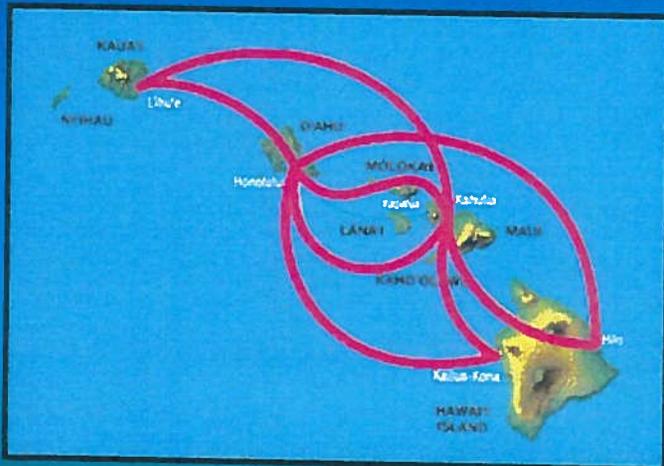
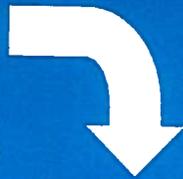


Photo from Hawaiian Airlines

YES

** Interim rule applies to Ohia shipped from Hawaii Island to any other Hawaiian Island.



1) Have IMPORTER apply for Instate Permit from HDOA (PQ-7 form).



2) Prepare shipment for inspection.

more →

SHIPPING OHIA PRODUCTS?

- 3) Schedule on-site inspection with HDOA Plant Quarantine.
*Fee involved.



- 4) Inspectors will go to your site for inspection and will collect samples for testing of ROD.



- 5) After sampling is complete (up to 4-6 weeks) and show negative results for ROD, Plant Quarantine Branch will issue Intrastate permit and Inspection Certificate.



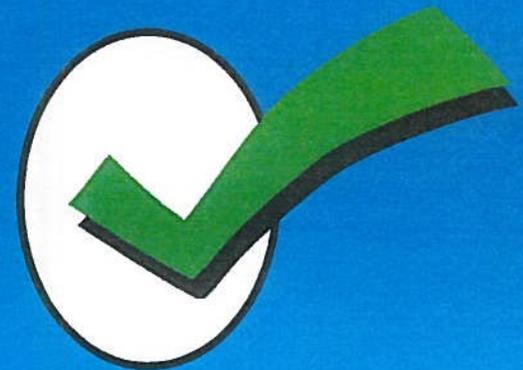
- 6) Ship Ohia product out of Hawaii Island.

** Shipper must be in Plant Quarantine Branch Compliance Program to maintain *C. fimbriata* free status.

COMPLIANCE PROGRAM

- Best Management Practices including treatments.
- Periodic Inspections by HDOA Plant Quarantine Branch.
- Periodic Sampling to ensure maintaining free of *C. fimbriata*.

ROD FREE



Other Information

- Any *Metrosideros* spp. plants, plant parts or other related items shipped to the U.S. mainland must be exported directly through a commercial carrier such as FedEx, UPS, USPS, etc.



KAUAI

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MOLOKAI**

**Plant Quarantine Branch
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hdoa.hawaii.gov

IT WILL TAKE ALL OF US TO PROTECT OUR
NATIVE OHIA FORESTS, NATIVE PLANTS &
ANIMALS, AND OUR WATERSHED.

