



***Plant Risk Evaluator -- PRE™
Evaluation Report***

Cinnamomum camphora -- Georgia

2017 Farm Bill PRE Project

PRE Score: 15 -- Evaluate this plant further

Confidence: 83 / 100

Questions answered: 19 of 20 -- Valid (80% or more questions answered)

Privacy: Public

Status: Submitted

Evaluation Date: August 26, 2017

This PDF was created on August 13, 2018



Plant Evaluated

Cinnamomum camphora



Image by Peripitus, Wikipedia user



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Cinnamomum camphora*) in an effort to understand the invasive history, reproductive strategies, and the impact, if any, on the region's native plants and animals. This research reflects the data available at the time this evaluation was conducted.

Summary

Camphor laurel has had a significant impact as an invasive in the south pacific, where it now dominates the landscape in several states in Australia. It's large fruit load, biotic dispersal methods and overall vigor make it an impressive invasive. Introduced across states that form the gulf coast here in America, it is invasive in many regions of concern, and is still being sold commercially. Given the serious nature of the potential of invasiveness of this plant and the PRE evaluation, it is not recommended that this plant be sold commercially in the region of concern.

General Information

Status: Submitted

Screener: Kylie Bucalo

Evaluation Date: August 26, 2017

Plant Information

Plant: *Cinnamomum camphora*

Regional Information

Region Name: Georgia



Climate Matching Map

To answer four of the PRE questions for a regional evaluation, a climate map with three climate data layers (Precipitation, UN EcoZones, and Plant Hardiness) is needed. These maps were built using a toolkit created in collaboration with GreenInfo Network, USDA, PlantRight, California-Invasive Plant Council, and The Information Center for the Environment at UC Davis.

Click [here](#) to see the generated climate matching map for this region. This climate match database is hosted by GreenInfo Network and publicly accessible.



Evaluation Questions

These questions are based in an original article published at the University of California, Davis, and can be found on the PLOS One website, here: <https://doi.org/10.1371/journal.pone.0121053>

Invasive History and Climate Matching (Questions 1 - 6)

1. Has the species (or cultivar or variety, if applicable; applies to subsequent "species" questions) become naturalized where it is not native?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Floridata resource. " *Cinnamomum camphora*, the camphor tree, comes from China, Japan, Korea, Taiwan, and adjacent parts of East Asia, where it grows in mesic forests and on well-drained sites along streambanks. Camphor has become widely naturalized in Australia. In the United States, it is grown along the Gulf Coast and in California, and has escaped cultivation and become naturalized in many areas. "

Reference(s):

- floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
-

2. Is the species (or cultivar or variety) noted as being naturalized in the US or world in a similar climate?

- Answer: **Yes**, which contributes **2** points to the total PRE score.
- The *screeener* has a **Very High** confidence in this answer based on the available literature.



Answer / Justification:

Floridata resource. " *Cinnamomum camphora*, the camphor tree, comes from China, Japan, Korea, Taiwan, and adjacent parts of East Asia, where it grows in mesic forests and on well-drained sites along streambanks. Camphor has become widely naturalized in Australia. In the United States, it is grown along the Gulf Coast and in California, and has escaped cultivation and become naturalized in many areas. " Gulf coast and other areas of Florida are a match for the region of concern. USDA profile shows Camphor trees have been introduced across the lower portion of the southeastern US.

Reference(s):

- floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
 - USDA Plants Database (0). Plants Profile for *Cinnamomum camphora* (camphortree).
-

3. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

- Answer: **Yes**, which contributes 2 points to the total PRE score.
- The *screeener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

IFAS " Camphor tree is not on the Federal or State Noxious Weed List; however it is listed as a Category I species on the Florida Exotic Pest Plant Council (FLEPPC) list of invasive species. FLEPPC considers Category I plants invasive exotic species that displace or disrupt native plant communities, alter the ecology of the environment, or hybridize with native species." Camphor laurel is also highly invasive in Australia.

Reference(s):

- CABI (0). *Cinnamomum camphora* (camphor laurel)_CABI.
 - UF/IFAS Center for Aquatic and Invasive Plants (0). *Cinnamomum camphora* – UF/IFAS Center for Aquatic and Invasive Plants.
-



4. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar climate?

- Answer: **Yes**, which contributes **3** points to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Invasive in Florida. "In Florida, camphor tree is able to rapidly displace native trees and infest forests and other natural areas. This invasive species displaces native plants due to its fast growth habit and the ability to produce large amounts of seed" "it is listed as a Category I species on the Florida Exotic Pest Plant Council (FLEPPC) list of invasive species. FLEPPC considers Category I plants invasive exotic species that displace or disrupt native plant communities, alter the ecology of the environment, or hybridize with native species." GAEPPC ranks it as a category 2 plant which is "Exotic plant that is a moderate problem in Georgia natural areas through invading native plant communities and displacing native species, but to a lesser degree than category 1 species."

Reference(s):

- CABI (0). *Cinnamomum camphora* (camphor laurel)_CABI.
- floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
- UF/IFAS Center for Aquatic and Invasive Plants (0). *Cinnamomum camphora* – UF/IFAS Center for Aquatic and Invasive Plants.
- TexasInvasives.org (0). Texas Invasives.
- Georgia Invasive Species Task Force (0). List of Non-native Invasive Plants in Georgia - Georgia Invasive Species Task Force- LIST.

5. Are other species of the same genus (or closely related genera) invasive in a similar climate?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Cinnamomum bumanii is invasive on the island of Oahu in Hawaii, which is not a climate match to the region of concern. *Cinnamomum verum* is invasive in the pacific islands, but none are a match for the region of concern.



Reference(s):

- Horcher, A. T. (2000). Stand dynamics of *Cinnamomum burmannii* an invasive tree on O 'ahu Hawaii.
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6. Is the species (or cultivar or variety) found predominately in a climate matching the region of concern?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Using GBIF occurrences. US clustered distribution of occurrences on the gulf coast, >50% match. New Zealand distribution > 50%. Australia

Impact on Native Plants and Animals (Questions 7 - 10)

7. Does this plant displace native plants and dominate (overtop or smother) the plant community in areas where it has established?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeners* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

"In Florida, camphor tree is able to rapidly displace native trees and infest forests and other natural areas. This invasive species displaces native plants due to its fast growth habit and the ability to produce large amounts of seed. "



Reference(s):

- CABI (0). *Cinnamomum camphora* (camphor laurel)_CABI.
 - GBIF (0). *Cinnamomum camphora* (L.) J. Presl.
 - floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
 - UF/IFAS Center for Aquatic and Invasive Plants (0). *Cinnamomum camphora* – UF/IFAS Center for Aquatic and Invasive Plants.
 - TexasInvasives.org (0). Texas Invasives.
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8. Is the plant noted as promoting fire and/or changing fire regimes?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

There is no evidence of this.

Reference(s):

- [Anonymous] .
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9. Is the plant a health risk to humans or animals/fish? Has the species been noted as impacting grazing systems?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

According to LCD (2000), *C. camphora* fruits, leaves, and roots are toxic to humans in large doses. They contain chemicals that stimulate the central nervous system and may affect respiration or cause convulsions.



Reference(s):

- TexasInvasives.org (0). Texas Invasives.
 - CABI (0). *Cinnamomum camphora* (camphor laurel)_CABI.
 - floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
 - UF/IFAS Center for Aquatic and Invasive Plants (0). *Cinnamomum camphora* – UF/IFAS Center for Aquatic and Invasive Plants.
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10. Does the plant produce impenetrable thickets, blocking or slowing movement of animals, livestock, or humans?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeners* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

There is no evidence of this. They grow quickly and will displace plants but they don't develop thickets.

Reference(s):

- [Anonymous] .
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Reproductive Strategies (Questions 11 - 17)

11. Does this species (or cultivar or variety) reproduce and spread vegetatively?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeners* has a **High** confidence in this answer based on the available literature.

Reference(s):

- [Anonymous] .
-



12. If naturally detached fragments from this plant are capable of producing new plants, is this a common method of reproduction for the plant?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Reference(s):

- [Anonymous] .
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13. Does the species (or cultivar or variety) commonly produce viable seed?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeener* has a **Very High** confidence in this answer based on the available literature.

Reference(s):

- CABI (0). *Cinnamomum camphora* (camphor laurel)_CABI.
 - floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
 - UF/IFAS Center for Aquatic and Invasive Plants (0). *Cinnamomum camphora* – UF/IFAS Center for Aquatic and Invasive Plants.
 - TexasInvasives.org (0). Texas Invasives.
-

14. Does this plant produce copious viable seeds each year (> 1000)?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

"large numbers of fruits (up to 100,000 in mature trees) "



Reference(s):

- CABI (0). *Cinnamomum camphora* (camphor laurel)_CABI.
 - floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
 - UF/IFAS Center for Aquatic and Invasive Plants (0). *Cinnamomum camphora* – UF/IFAS Center for Aquatic and Invasive Plants.
 - TexasInvasives.org (0). Texas Invasives.
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15. Is there significant germination (>25%) of seeds the next growing season, with no requirement of an infrequent environmental condition for seeds to germinate (i.e. fire) or long dormancy period?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Seeds of *C. camphora* have poor germination due to a hard seed coat.

Reference(s):

- CABI (0). *Cinnamomum camphora* (camphor laurel)_CABI.
 - GBIF (0). *Cinnamomum camphora* (L.) J. Presl.
 - floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
 - UF/IFAS Center for Aquatic and Invasive Plants (0). *Cinnamomum camphora* – UF/IFAS Center for Aquatic and Invasive Plants.
 - TexasInvasives.org (0). Texas Invasives.
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16. Does this plant produce viable seed within the first three years (for an herbaceous species) to five years (for a woody species) after germination?

Answer / Justification:

leave blank



Reference(s):

- [Anonymous] .
-

17. Does this plant continuously produce seed for >3 months each year or does seed production occur more than once a year?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeners* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

inferred from resources where fruits were on the tree for more than 1 season (in Florida during winter and spring months)

Reference(s):

- floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
 - UF/IFAS Center for Aquatic and Invasive Plants (0). *Cinnamomum camphora* – UF/IFAS Center for Aquatic and Invasive Plants.
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Dispersal (Questions 18 - 20)

18. Are the plant's propagules frequently dispersed long distance (>100 m) by mammals or birds or via domestic animals?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeners* has a **Very High** confidence in this answer based on the available literature.



Reference(s):

- CABI (0). *Cinnamomum camphora* (camphor laurel)_CABI.
 - floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
 - UF/IFAS Center for Aquatic and Invasive Plants (0). *Cinnamomum camphora* – UF/IFAS Center for Aquatic and Invasive Plants.
 - TexasInvasives.org (0). Texas Invasives.
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19. Are the plant's propagules frequently dispersed long distance (>100 m) by wind or water?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

"Water dispersal also occurs, fruits floating for up to 20 days in water with no effect on germination (Firth, 1979). "

Reference(s):

- CABI (0). *Cinnamomum camphora* (camphor laurel)_CABI.
 - floridata.com (0). *Cinnamomum camphora* Plant Profile_floridata.
 - UF/IFAS Center for Aquatic and Invasive Plants (0). *Cinnamomum camphora* – UF/IFAS Center for Aquatic and Invasive Plants.
 - TexasInvasives.org (0). Texas Invasives.
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20. Are the plant's propagules frequently dispersed via contaminated seed (agriculture or wildflower packets), equipment, vehicles, boats or clothing/shoes?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

no evidence of this.



Reference(s):

- [Anonymous] .
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Total PRE Score

PRE Score: 15 -- Evaluate this plant further

Confidence: 83 / 100

Questions answered: 19 of 20 -- Valid (80% or more questions answered)

PRE Score Legend

The PRE Score is calculated by adding the point totals for each (answered) question.

< 13 : accept (low risk of invasiveness)

13 - 15 : evaluate further

> 15 : reject (high risk of invasiveness)

Questions Answered Legend

It is important to answer at least 16 questions to consider a PRE Score as "valid".

>= 16 : valid (80% or more questions answered)

<= 15 : invalid (not enough questions answered)

Organization Ownership and Content Privacy

Organization: 2017 Farm Bill PRE Project

Content Privacy: Public



Evaluation Reviewers

The PRE approach is to base decisions on science and make decisions by consensus of diverse horticultural stakeholders. The literature review and process of answering PRE's questions are based on science; the decisions of which plants to prioritize are based on consensus. To ensure this process is in place and that PRE is collaborative, volunteer stakeholders are recruited from each region to review evaluations. The following experts in their profession (plant science, conservation, or horticultural trade) have participated as volunteer PRE reviewers for this evaluation:

This evaluation does not have any reviewers.



Evaluation Issues

The following section lists all public issues for this evaluation. Issues provide a way for stakeholder reviewers to communicate any concerns or suggestions they might have with the plant or evaluation. Please email PlantRight@suscon.org if additional action is required to resolve open issues.

There are currently no issues associated with this evaluation.



About PRE and this Plant Evaluation Report

The PlantRight Plant Risk Evaluator -- PRE is an online database and platform enabling those involved in non-native, terrestrial plant production to know before they grow if a plant poses a regional invasive risk. This tool offers many benefits, and we encourage you to visit the PRE website (<https://pre.ice.ucdavis.edu>) for more information.

If you are a nursery trade association, or involved in the research, development or distribution of horticultural plants we invite you to join the PRE community. If you are a plant scientist, affiliated with a horticultural college or botanic garden, and would like to learn more about becoming a PRE Screener, please drop us an email, PlantRight@suscon.org, requesting a PRE Account.

PRE beta funding is provided by Sustainable Conservation (<http://www.suscon.org/>) and a USDA Farm Bill grant.