



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

***Albizia julibrissin -- Georgia***

***2017 Farm Bill PRE Project***

**PRE Score:** 14 -- Evaluate this plant further

**Confidence:** 76 / 100

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

**Privacy:** Public

**Status:** Submitted

**Evaluation Date:** June 23, 2017

*This PDF was created on August 13, 2018*



## Plant Evaluated

*Albizia julibrissin*



Image by Wikimedia Commons



## Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Albizia julibrissin*) 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

The Mimosa tree is able to thrive in many different soil types and is a prolific seed producer making it a strong competitor for native species in the area of concern. Along with high seed numbers, the seed can be transported via both water and animals, increasing its possible range of spread outside of ornamental cultivation. The tree is currently ranked a category 1 by the Georgia Exotic Pest Plant Council indicating it is an "Exotic plant that is a serious problem in Georgia natural areas by extensively invading native plant communities and displacing native species." Considering it is also listed as invasive in at least 4 other southeastern states that are a climate match for the region of concern, it is suggested that this plant has a high risk of escaping ornamental horticulture, and increased plantings will likely increase the spread or, at the very least, increase the potential for spread of Mimosa tree. From the research presented here and from the PRE evaluation, *Albizia julibrissin* is not suggested as a suitable tree for planting in ornamental or urban horticulture settings in Georgia.

## General Information

**Status:** Submitted

**Screener:** Kylie Bucalo

**Evaluation Date:** June 23, 2017

## Plant Information

**Plant:** *Albizia julibrissin*

## 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:

*Albizia julibrissin* distribution is widespread, and has been introduced into many countries in Asia, Africa and Europe. It has also become naturalized in in many southeastern states of the USA.

#### Reference(s):

- CABI (0). *Albizia julibrissin* (silk tree)- CABI.
  - UF/IFAS Center for Aquatic and Invasive Plants (0). *Albizia julibrissin* – UF/IFAS Center for Aquatic and Invasive Plants.
- 

#### 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:

Mimosa tree has become naturalized and invasive in many states in the southeast USA which are a climate match for the region of concern.



**Reference(s):**

- CABI (0). *Albizia julibrissin* (silk tree)- CABI.
  - UF/IFAS Center for Aquatic and Invasive Plants (0). *Albizia julibrissin* – UF/IFAS Center for Aquatic and Invasive Plants.
- 

**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:**

Excerpt from CABI resource: "A. *julibrissin* is a weed mainly in the USA where it is being monitored in 13 southern states according to USFS policy. It is a category A weed (severe threat) in Tennessee, USA where it grows along many roadside slopes, disturbed areas and stream banks. It is also regarded as one of the top ten invasive plant species in Georgia, is a category 1 (altering plant community) species on the Florida Invasives list (SE-EPPC, 2002) and is listed as moderately invasive (with minor influence on ecosystem function and plant composition) in Virginia (Virginia Department of Conservation and Recreation, 2003). In South Africa it is proposed as a category 3 weed under the Conservation of Agricultural Resources Act 1983, subject to further investigation (Henderson, 2001)."

**Reference(s):**

- CABI (0). *Albizia julibrissin* (silk tree)- CABI.
  - UF/IFAS Center for Aquatic and Invasive Plants (0). *Albizia julibrissin* – UF/IFAS Center for Aquatic and Invasive Plants.
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**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 *screeener* has a **Very High** confidence in this answer based on the available literature.



**Answer / Justification:**

CABI resource lists the following states in the southeast where *Albizia julibrissin* is invasive: Florida, Georgia, Kentucky, Louisiana, Tennessee, and Virginia.

**Reference(s):**

- CABI (0). *Albizia julibrissin* (silk tree)- CABI.
- 

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

- 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:**

*Albizia lebbbeck* is invasive in Florida. Excerpt from IFAS resource. "Invading tropical hammocks in the Florida Keys and the somewhat disturbed pinelands of Everglades National Park. Also invading pine rocklands and canopy gaps in the rockland hammocks in Dade County. LEPPC Category I".

**Reference(s):**

- UF/IFAS Center for Aquatic and Invasive Plants (0). *Albizia lebbbeck* – UF/IFAS Center for Aquatic and Invasive Plants.
- 

**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 *screeener* has a **High** confidence in this answer based on the available literature.



**Answer / Justification:**

The species is very widely distributed. Using occurrences from GBIF resource. Southeastern USA is >50% match, New Zealand is >50% match, distribution in Europe is not >50%, Island of Japan is not >50%, Taiwan is not >50% match, South Korea is not >50% match, China is not a 50% match.

**Reference(s):**

- GBIF (0). *Albizia julibrissin* Durazz.- GBIF.
- 

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

**Answer / Justification:**

Mimosa is a strong competitor, and an opportunist, and can outcompete natives, however the growth habit is not really described as smothering or growing over plants such as forming a dense thicket, being hedge-like or scrambling through other plants such as a vine.

**Reference(s):**

- UF/IFAS Center for Aquatic and Invasive Plants (0). *Albizia julibrissin* – UF/IFAS Center for Aquatic and Invasive Plants.
- 

### **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 *screenener* has a **Very Low** confidence in this answer based on the available literature.





**Answer / Justification:**

Lack of evidence.

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

**Answer / Justification:**

no evidence of this

**Reference(s):**

- [Anonymous] .
- 

**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 *screeener* has a **Medium** confidence in this answer based on the available literature.

**Answer / Justification:**

No evidence of this.

**Reference(s):**

- [Anonymous] .



## Reproductive Strategies (Questions 11 - 17)

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

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

#### Reference(s):

- UF/IFAS Center for Aquatic and Invasive Plants (0). *Albizia julibrissin* – UF/IFAS Center for Aquatic and Invasive Plants.
- 

### 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 *screeners* has a **Low** confidence in this answer based on the available literature.

#### Answer / Justification:

no evidence of this, although the plant can reproduce vegetatively.

#### Reference(s):

- [Anonymous] .
- 

### 13. Does the species (or cultivar or variety) commonly produce viable seed?

- 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). *Albizia julibrissin* (silk tree)- CABI.
  - GBIF (0). *Albizia julibrissin* Durazz.- GBIF.
  - UF/IFAS Center for Aquatic and Invasive Plants (0). *Albizia julibrissin* – UF/IFAS Center for Aquatic and Invasive Plants.
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**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.

**Reference(s):**

- CABI (0). *Albizia julibrissin* (silk tree)- CABI.
  - UF/IFAS Center for Aquatic and Invasive Plants (0). *Albizia julibrissin* – UF/IFAS Center for Aquatic and Invasive Plants.
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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:**

*Albizia julibrissin* requires scarification for germination, and seeds can remain dormant for long periods of time.

**Reference(s):**

- UF/IFAS Center for Aquatic and Invasive Plants (0). *Albizia julibrissin* – UF/IFAS Center for Aquatic and Invasive Plants.
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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 answer blank. no info found.

**Reference(s):**

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

- 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:**

Fruits ripen September-November.

**Reference(s):**

- CABI (0). *Albizia julibrissin* (silk tree)- CABI.
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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 *screeener* has a **High** confidence in this answer based on the available literature.



**Answer / Justification:**

Although Mimosa will spread via seeds very closely to the parent tree, they are also spread via animals. Excerpt from IFAS resource. "Wildlife may also contribute to the spread of mimosa through the ingestion and excretion of the seeds."

**Reference(s):**

- UF/IFAS Center for Aquatic and Invasive Plants (0). *Albizia julibrissin* – UF/IFAS Center for Aquatic and Invasive Plants.
- 

**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 *screeners* has a **Very High** confidence in this answer based on the available literature.

**Answer / Justification:**

Although Mimosa will spread via seeds very closely to the parent tree, Seeds are also often transported by water along rivers, where Mimosa is found planted along riverbanks.

**Reference(s):**

- CABI (0). *Albizia julibrissin* (silk tree)- CABI.
- 

**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 *screeners* has a **Medium** confidence in this answer based on the available literature.

**Answer / Justification:**

Seeds may be accidentally spread by moving soil, but i am not sure that this warrants a yes given the information on how to answer this question.



**Reference(s):**

- CABI (0). *Albizia julibrissin* (silk tree)- CABI.
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**Total PRE Score**

**PRE Score:** 14 -- Evaluate this plant further

**Confidence:** 76 / 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:

- David Coyle February 21, 2018
- Brian Jernigan November 21, 2017

This evaluation has a total of 2 reviewer(s).



## 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](mailto:PlantRight@suscon.org) if additional action is required to resolve open issues.

### Issue ID # 5911

**Date Created:** November 21, 2017 - 6:39am

**Date Updated:** February 16, 2018 - 11:17am

**Submitted by:** Brian Jernigan

**Status:** Fixed

**Type:** Suggestion

**Severity:** Minor

**Scope:** Q06. Is the species found predominately in a climate matching the region of concern?

### Issue Description

Why is this no, it seems very adaptive to the climate in Georgia?

### Issue Resolution (Screener's Response to Issue)

It could be close to a >50% match, especially given the dominance of its distribution in the southeastern portion of USA, however its global distribution pattern is very broad, showing it can grow in areas that are not a climate match for Georgia such as South America, and many areas in Europe. Overall i scored this as a no because the overall distribution needs to be >50% to climate matching areas to score a "yes", and i do not think that it is >50%.

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## **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](mailto: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.