



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

***Firmiana simplex -- Georgia***

***2017 Farm Bill PRE Project***

**PRE Score:** 8 -- Accept (low risk of invasiveness)

**Confidence:** 64 / 100

**Questions answered:** 18 of 20 -- Valid (80% or more questions answered)

**Privacy:** Public

**Status:** Submitted

**Evaluation Date:** May 1, 2017

*This PDF was created on August 13, 2018*



## Plant Evaluated

*Firmiana simplex*



Image by Wikipedia



## Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Firmiana simplex*) 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

*Firmiana simplex*, does not appear to hold many "traditional" biological attributes that mark it as an invasive plant. It does not form thickets, produce copious amounts of seed, produce a threat to animals or humans, and it does not reproduce vegetatively. The main concern here is simply that the plant is a non native that thrived since escaping ornamental use, in areas that are a climate match for the region of concern. The only state in which *Firmiana simplex* is considered invasive (Texas) is not considered a climate match with the region of concern. The screener would also like to include comments from reviewers of this evaluation, which suggest that *Firmiana simplex* can readily reseed into the understory, however the species is rarely planted in Georgia.

## General Information

**Status:** Submitted

**Screener:** Kylie Bucalo

**Evaluation Date:** May 1, 2017

## Plant Information

**Plant:** *Firmiana simplex*

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

#### Reference(s):

- USDA Plants Database (0). Plants Profile for *Firmiana simplex* (Chinese parasol tree)- USDA.
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#### 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 *screeners* has a **High** confidence in this answer based on the available literature.

#### Reference(s):

- USDA Plants Database (0). Plants Profile for *Firmiana simplex* (Chinese parasol tree)- USDA.
- 

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



**Answer / Justification:**

*F. simplex* is denoted as a Category 4 plant in GA by the GAEPPC. Category 4 - Exotic plant that is naturalized in Georgia but generally does not pose a problem in Georgia natural areas or a potentially invasive plant in need of additional information to determine its true status. Its described as invasive in Texas see 2013 central texas invasive species guide

**Reference(s):**

- Georgia Exotic Pest Plant Council (0). List of Non-Native Invasive Plants in Georgia - Georgia Exotic Pest Plant Council.
  - Austin Invasive Management (0). Texas Invasives- *Firmiana simplex*.
- 

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

- 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:**

As the climate match map only highlights east Texas as a climate match for the region of concern, and the resource is for Central Texas, I do not define this as a match. Additionally I can not find any other resources that suggest it is invasive in any other parts of its US distribution.

**Reference(s):**

- Georgia Exotic Pest Plant Council (0). List of Non-Native Invasive Plants in Georgia - Georgia Exotic Pest Plant Council.
  - Austin Invasive Management (0). Texas Invasives- *Firmiana simplex*.
- 

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



**Answer / Justification:**

Global compendium of weeds was checked, and no other congeners found. Limited resources checked, thats why CL set to medium. Probably needs a revisit to check taxonomy and make sure.

**Reference(s):**

- Randall, R.P.. (0). Global compendium of weeds-PDF.
- 

**6. Is the species (or cultivar or variety) found predominately in a climate matching the region of concern?**

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

**Answer / Justification:**

The US distribution of *F.simplex* predominately falls within states that are a climate match to the region of concern. I have not been able to find any other sources of its global distribution beyond its native countries in Asia.

**Reference(s):**

- USDA Plants Database (0). Plants Profile for *Firmiana simplex* (Chinese parasoltree)- USDA.
- 

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



**Answer / Justification:**

Lack of evidence found in resources

**Reference(s):**

- [Anonymous] .
- 

**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:**

Lack of evidence found in resources

**Reference(s):**

- [Anonymous] .
- 

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

**Answer / Justification:**

Lack of evidence found in resources

**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:**

Lack of evidence found in resources

**Reference(s):**

- [Anonymous] .
- 

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

**Answer / Justification:**

Lack of evidence found in resources. Most resources comment only flower and fruits.

**Reference(s):**

- Gilman, E. F., & Watson D. G. (0). *Firmian simplex* - IFAS extention.
- 

**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.



**Answer / Justification:**

Lack of evidence found in resources

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

**Answer / Justification:**

Most references talk about the production of fruits and seed. and describe seeds as "small and round".

**Reference(s):**

- Gilman, E. F., & Watson D. G. (0). Firmian simplex - IFAS extention.
- 

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

- 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:**

Could not find information in resources that gave seed quantity data. Additionally resources did not botanically describe fruit or seed production as being large, or copious. Inferences couldn't be made from descriptions.

**Reference(s):**

- [Anonymous] .



**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 / Justification:**

No applicable information found. Leave blank

**Reference(s):**

- [Anonymous] .
- 

**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:**

No applicable information found.

**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: **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:**

Flowering phenology period is described in multiple resources by just the word summer or spring, and one indicates that flowering occurs during the month of June or July. From this information I am suggesting that the flowers do not appear on the tree for more than 3 months. None of the references indicate how long fruit stays on the tree. CL given as medium.

**Reference(s):**

- Gilman, E. F., & Watson D. G. (0). Firmian simplex - IFAS extention.
  - Center for Invasive Species and Ecosystem Health (0). Firmiana simplex for Invasive Species Most Unwanted.
  - Austin Invasive Management (0). Texas Invasives- Firmiana simplex.
- 

**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: **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:**

Resource says that fruits "do not attract wildlife". No alternative is given for method of dispersal.

**Reference(s):**

- Gilman, E. F., & Watson D. G. (0). Firmian simplex - IFAS extention.
- 

**19. Are the plant's propagules frequently dispersed long distance (>100 m) by wind or water?**

- 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:**

There is no evidence of dispersal long distance in any of the references.

**Reference(s):**

- [Anonymous] .
- 

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

**Answer / Justification:**

There is no evidence of this in the literature.

**Reference(s):**

- [Anonymous] .
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**Total PRE Score**

**PRE Score:** 8 -- Accept (low risk of invasiveness)

**Confidence:** 64 / 100

**Questions answered:** 18 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:

- John "Doc" Ruter January 9, 2018
- Timothy Daly January 2, 2018
- Eamonn Leonard December 7, 2017

This evaluation has a total of 3 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 # 6280

**Date Created:** January 9, 2018 - 12:04pm

**Date Updated:** February 16, 2018 - 11:46am

**Submitted by:** John "Doc" Ruter

**Status:** Fixed

**Type:** Suggestion

**Severity:** Minor

**Scope:** Evaluation as a whole

### Issue Description

Species is so rarely planted in GA that it is hard to evaluate. Where I have seen it though it readily reseeds into the understory, not out in the open like a pioneer species. Parent plants had to be removed from the UGA campus due to reseeding into shaded areas.

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

I have added reviewers comments to the evaluation summary

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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.