



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

***Ligustrum sinense 'Sunshine' -- Georgia***

***2017 Farm Bill PRE Project***

**PRE Score:** 1 -- Accept (low risk of invasiveness)

**Confidence:** 66 / 100

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

**Privacy:** Public

**Status:** Completed

**Evaluation Date:** May 7, 2017

*This PDF was created on July 06, 2018*



## Plant Evaluated

*Ligustrum sinense* 'Sunshine'



Image by Brighter Blooms



## Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Ligustrum sinense* 'Sunshine') 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

This PRE uses references that are specific to the 'Sunshine' cultivar and also references that are specific to the parent species. For every question answered in this PRE the screener has indicated in the "answer/justification" field which resources were used and why, and often times comments are made on what the answer would be for the parent species vs. the cultivar. It may be considered a difficult task to assess the invasive threat of a cultivar when the parent species has had such a negative impact in native ecosystems in the region of concern and also in other climate matching regions. *Ligustrum sinense* has been reported as causing large-scale ecosystem modification through displacement of native vegetation. However this cultivar still warrants serious evaluation and consideration even given the nature of the parent species, as the 'Sunshine' cultivar is sterile. The section of this evaluation that focuses on invasive history and climate matching is predominately answered using cultivar information ONLY. This decision was chosen by the screener because the cultivar is fairly new and therefore has had limited time to escape ornamental and landscaping propagation events, and the screener came across no evidence of naturalization or invasiveness of the cultivar across resources. Additionally it is stated in the patent that the cultivar is sterile, combating prolific seed production which is a key botanical feature that promotes the parent species spread and increases its threat as an invasive. The only question in this section that was answered using the parent species was Question 5. This is because the screener felt it was important to reflect the serious invasive nature of the parent species, and highlight the fact that it is invasive and naturalized in the region of concern and other climate matching areas. Question 5 seemed the most suitable to incorporate those characteristics into, and more information and justification is given under the actual question. Overall this cultivar scored well, because it is fairly new, has limited information particularly on ornamental escapes, and it is sterile and therefore combats spread, and allows for "no" answers to Q 13-17. Although it gained a very low score, The screener believes it is a fair assessment of the invasive potential of the cultivar, even given the serious threat the parent plant poses across the southeast because of the lowered fecundity of the cultivar. Introductions in the southeast should of course be monitored in trials to ascertain that the cultivar does infact not flower or fruit. Lastly it should be noted that the cultivar 'variegatum' can revert back to the parent species losing its cultivated leaf characteristics, setting seed and outgrowing the cultivar portions of the plant. The reviewer has not found evidence of this in 'sunshine', however it needs to be considered when addressing the production and sale of any Japanese privet cultivar.



## General Information

**Status:** Completed

**Screener:** Kylie Bucalo

**Evaluation Date:** May 7, 2017

## Plant Information

**Plant:** *Ligustrum sinense* 'Sunshine'

### **If the plant is a cultivar, how does its behavior differs from its parent's?**

Below find an excerpt taken directly from the patent for the cultivar which outlines the major differences in leaf color and fecundity. "The following characteristics of the new cultivar have been repeatedly observed and can be used to distinguish 'Sunshine' as a new and distinct cultivar of *Ligustrum* plant: 1. A mixture of yellow green and medium green-colored growing season foliage; 2. Lack of flower production; and 3. Compact growth habit. Plants of the new cultivar differ from plants of the parent primarily in foliage coloration and sterility. Of the many commercially available *Ligustrum sinense* known to the inventor, the most similar in comparison to the new cultivar is the unnamed parent *Ligustrum sinense*. However, in side by side comparisons, plants of the new cultivar differ from plants of *Ligustrum sinense* in the following characteristics: 1. Plants of the new cultivar have a mixture of yellow green and medium green-colored growing season foliage, while the plants of *Ligustrum sinense* have medium green-colored growing season foliage; and 2. Plants of the new cultivar are sterile, while plants of *Ligustrum sinense* bare flowers and fruit."

## 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: **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:

None of the references that were specific to the Sunshine cultivar gave information on recorded escapes. Additionally the publication date of the patent was 2009, indicating it is a recently introduced cultivar that has had limited time to escape ornamental cultivation. This is in contrast with the parent species which has been reported as being present and sold in nurseries as early as 1860's, and potentially escaped ornamental use in the 1930's. If the PRE Screener was to use the parent species for this question the answer would have been yes, as the parent species is naturalized across most of the southeast of the United States. CL set to medium as cultivar resources are not very detailed or numerous.

#### Reference(s):

- McCracken, T. P. (2009). *Ligustrum* plant named 'Sunshine'- PATENT.
- USDA Plants Database (0). *Ligustrum sinense* - Chinese Privet USDA.
- Dallas Arboretum Plant Trials (0). Plant of the Month: *Ligustrum*- Dallas Arboretum plant trials.
- USDA Plants Database (0). Plants Profile for *Ligustrum sinense* (Chinese privet)- 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: **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:**

This answer is for the cultivar only. The parent species has been naturalized in the southeast and in the region of concern. CL set to medium as cultivar resources are not very detailed or numerous.

**Reference(s):**

- USDA Plants Database (0). *Ligustrum sinense* - Chinese Privet USDA.
  - USDA Plants Database (0). Plants Profile for *Ligustrum sinense* (Chinese privet)- USDA.
- 

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

- 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:**

This answer is for the cultivar only. CL set to medium as cultivar resources are not very detailed or numerous. If the screener was to answer this question with the parent species information the answer would be a Yes, as it is listed as a Category 1 plant by the Georgia Exotic Pest Plant council which is described as "Category 1 - Exotic plant that is a serious problem in Georgia natural areas by extensively invading native plant communities and displacing native species".

**Reference(s):**

- Georgia Exotic Pest Plant Council (0). List of Non-Native Invasive Plants in Georgia - Georgia Exotic Pest Plant Council.
  - USDA Plants Database (0). *Ligustrum sinense* - Chinese Privet USDA.
  - USDA Plants Database (0). Plants Profile for *Ligustrum sinense* (Chinese privet)- USDA.
- 

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



**Answer / Justification:**

This answer is for the cultivar only. CL set to medium as cultivar resources are not very detailed or numerous. If the screener was to answer this question with the parent species information the answer would be a Yes, as it is listed as a Category 1 plant by the Georgia Exotic Pest Plant council which is described as "Category 1 - Exotic plant that is a serious problem in Georgia natural areas by extensively invading native plant communities and displacing native species".

**Reference(s):**

- Georgia Exotic Pest Plant Council (0). List of Non-Native Invasive Plants in Georgia - Georgia Exotic Pest Plant Council.
  - USDA Plants Database (0). *Ligustrum sinense* - Chinese Privet USDA.
  - USDA Plants Database (0). Plants Profile for *Ligustrum sinense* (Chinese privet)- USDA.
- 

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

**Answer / Justification:**

This answer reflects the parent species. Given that the parent species is naturalized across the southeast, and listed as a category 1 plant by the Georgia Exotic Pest Plant Council I thought it necessary for one of the climate match questions to reflect the parents species distribution and invasive nature. This question deemed the best fit as the question is not directly related to the cultivar or species of the PRE but any related species. In this case I have marked the confidence interval as Very high given that all resources on the parent species correlate and given the fact that it is considered a Category one plant in Georgia. It is my suggestion that this question remains as a yes, as i have marked all other climate match questions as directly related to the cultivar only, however i believe the PRE should in some way reflect the seriousness of the invasive nature of the parent species in the region of concern. Particularly as the cultivar is still new, and I could find one other resource (other than the patent) that gave information on plant trials showing no flower set (Dallas arboretum reference).

**Reference(s):**

- McCracken, T. P. (2009). *Ligustrum* plant named 'Sunshine'- PATENT.
- USDA Plants Database (0). *Ligustrum sinense* - Chinese Privet USDA.
- Dallas Arboretum Plant Trials (0). Plant of the Month: *Ligustrum*- Dallas Arboretum plant trials.
- USDA Plants Database (0). Plants Profile for *Ligustrum sinense* (Chinese privet)- USDA.



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

**Answer / Justification:**

This answer is for the cultivar only. CL set to medium as cultivar resources are not very detailed or numerous. None of the references list the cultivar as being naturalized or escaped.

**Reference(s):**

- [Anonymous] .
- 

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

**Answer / Justification:**

This answer is for the cultivar only. CL set to medium as cultivar resources are not very detailed or numerous. There is no evidence of this however many references mention it as a "dense" shrub which can be formed into a hedge.

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

### Answer / Justification:

This answer is for the cultivar only. CL set to medium as cultivar resources are not very detailed or numerous. No evidence of this.

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

### Answer / Justification:

This answer is for the cultivar only, the confidence level however has been lowered to reflect the fact that the parent species fruits are toxic to humans and large stands can often cause respiratory problems from floral odors. It is understood that the cultivar is sterile and doesn't set flowers or fruit and therefore negates these issues and is why "No" was selected so as not to gain a point on the PRE.

### Reference(s):

- McCracken, T. P. (2009). *Ligustrum* plant named 'Sunshine' - PATENT.
  - Dallas Arboretum Plant Trials (0). Plant of the Month: *Ligustrum*- Dallas Arboretum plant trials.
  - Southern Living Plant Collection (0). 'Sunshine' *Ligustrum*- Southern Living.
-



## 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:

This answer is for the cultivar only. CL set to medium as cultivar resources are not very detailed or numerous. No evidence of this as references mainly indicate it is used in ornamental horticulture and no data on escaped populations was found.

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

### Answer / Justification:

This answer is for the cultivar only. All resources including the patent report no reproduction via flower and fruit. However no mention is made about vegetative reproduction. The cultivar can be grown from cuttings as was done with the original sport, but this is not enough to warrant a yes on this question according to the PRE questions description. Additionally the parent species can reproduce via root suckers, but this is not suggested in cultivar resources. This may need more research, as the parent species also coppices, hard to distinguish here about terminology for the PRE, and the way the cultivar spreads as a woody species, particularly with such limited cv. resources, this may need to change to a YES.

### Reference(s):

- McCracken, T. P. (2009). *Ligustrum* plant named 'Sunshine'- PATENT.
- USDA Plants Database (0). *Ligustrum sinense* - Chinese Privet USDA.



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

**Answer / Justification:**

This answer is for the cultivar only. No evidence of this found CL set to medium as cultivar resources are not very detailed or numerous.

**Reference(s):**

- [Anonymous] .
- 

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

- 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:**

This answer is for the cultivar only. Cultivar is reported as sterile.

**Reference(s):**

- [Anonymous] .
- 

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



**Answer / Justification:**

This answer is for the cultivar only. Cultivar is reported as sterile.

**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: **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:**

This answer is for the cultivar only. Cultivar is reported as sterile.

**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: **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:**

This answer is for the cultivar only. Cultivar is reported as sterile.



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

**Answer / Justification:**

This answer is for the cultivar only. Cultivar is reported as sterile.

**Reference(s):**

- [Anonymous] .
- 

**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:**

This answer is for the cultivar only. Cultivar is reported as sterile, therefore fruits do not travel, however this is the main mode of dispersal for the parent species. CL set to medium because of parent species attribute.



**Reference(s):**

- [Anonymous] .
- 

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

**Answer / Justification:**

This answer is for the cultivar only. Cultivar is reported as sterile, therefore fruits do not travel, however this is the main mode of dispersal for the parent species.

**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:**

This answer is for the cultivar only. no evidence of this found in resources

**Reference(s):**

- [Anonymous] .
-



## Total PRE Score

**PRE Score:** 1 -- Accept (low risk of invasiveness)

**Confidence:** 66 / 100

**Questions answered:** 20 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 November 22, 2017
- 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 # 5901

**Date Created:** November 21, 2017 - 5:29am

**Date Updated:** March 26, 2018 - 3:12am

**Submitted by:** Brian Jernigan

**Status:** Fixed

**Type:** Comment

**Severity:** Minor

**Scope:** Evaluation as a whole

### Issue Description

Has any reversion been noted, what impact would that have

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

I have not noted this in any resources for sunshine cultivar.

This website below indicates this does happen to the cultivar variegata, and portions of the cultivar that revert grow faster and will produce fruits. This would be a serious concern for this cultivar if this has been reported, and more research is needed to see if this has been reported for this cultivar. I have added this to the plant summary.

<http://www.clemson.edu/extension/hgic/plants/landscape/shrubs/hgic1070.html>

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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.