



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

Lonicera fragrantissima -- Texas

2017 Farm Bill PRE Project

PRE Score: 16 -- Reject (high risk of invasiveness)

Confidence: 67 / 100

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

Privacy: Public

Status: Submitted

Evaluation Date: September 24, 2017

This PDF was created on August 13, 2018



Plant Evaluated

Lonicera fragrantissima



Image by Kurt Stüber



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Lonicera fragrantissima*) 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

Lonicera fragrantissima, like several other members of the genus, is naturalized across much of the continental U.S. and considered invasive throughout the South. Plants spread vegetatively and form dense thickets, where they crowd out native vegetation. Large amounts of fruit are produced and widely dispersed by birds, further spreading the species.

General Information

Status: Submitted

Screener: Kim Taylor

Evaluation Date: September 24, 2017

Plant Information

Plant: *Lonicera fragrantissima*

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

This evaluation is for the species, not a particular cultivar.

Regional Information

Region Name: Texas



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

Answer / Justification:

Kartesz indicates *L. fragrantissima* is naturalized from New York south to Georgia and west to Texas as well as in Utah.

Reference(s):

- Kartesz, J. T. (2015). The Biota of North America Program (BONAP).
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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 **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Kartesz indicates *L. fragrantissima* is naturalized from New York south to Georgia and west to Texas as well as in Utah. This includes several states with a similar climate to Texas.

Reference(s):

- Kartesz, J. T. (2015). The Biota of North America Program (BONAP).



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

Answer / Justification:

Lonicera fragrantissima is listed as an invasive in Tennessee by the Southeast Exotic Pest Plant Council. It is listed by the Global Compendium of Weeds as an "environmental weed, garden thug, naturalised, sleeper weed, weed". *L. fragrantissima* is ranked "occasionally invasive by the Virginia Department of Conservation and Recreation." U.S. Forest Service Region 8 (Southern Region) 1 lists it as a category 1 weed: "exotic plant species that are known to be invasive and persistent throughout all or most of their range within the Southern Region and that can spread into and persist in native plant communities and displace native plant species and therefore pose a demonstrable threat to the integrity of the natural plant communities in the Region." EDD Maps reports the species as invasive in Tennessee, Georgia, and South Carolina.

Reference(s):

- Munger, G. T. (2005). *Lonicera* spp. In: Fire Effects Information System.
 - Global Compendium of Weeds (GCW) (0). *Lonicera fragrantissima* information from the Global Compendium of Weeds (GCW).
 - Invasive Plant Atlas of the United States (0). sweet breath of spring: *Lonicera fragrantissima* (Dipsacales: Caprifoliaceae): Invasive Plant Atlas of the United States.
 - USDA, & NRCS (2017). The Plants Database.
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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 *screener* has a **Very High** confidence in this answer based on the available literature.



Answer / Justification:

Lonicera fragrantissima is listed as an invasive in Tennessee by the Southeast Exotic Pest Plant Council. *L. fragrantissima* is ranked "occasionally invasive" by the Virginia Department of Conservation and Recreation." U.S. Forest Service Region 8 (Southern Region) lists it as a category 1 weed: "exotic plant species that are known to be invasive and persistent throughout all or most of their range within the Southern Region and that can spread into and persist in native plant communities and displace native plant species and therefore pose a demonstrable threat to the integrity of the natural plant communities in the Region." EDD Maps reports the species as invasive in Tennessee, Georgia, and South Carolina. These regions share a climate with Texas.

Reference(s):

- Munger, G. T. (2005). *Lonicera* spp. In: Fire Effects Information System.
 - Global Compendium of Weeds (GCW) (0). *Lonicera fragrantissima* information from the Global Compendium of Weeds (GCW).
 - Invasive Plant Atlas of the United States (0). sweet breath of spring: *Lonicera fragrantissima* (Dipsacales: Caprifoliaceae): Invasive Plant Atlas of the United States.
 - USDA, & NRCS (2017). The Plants Database.
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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 **High** confidence in this answer based on the available literature.

Answer / Justification:

Several species of *Lonicera* are problematic in areas with similar climate to Texas including *L. xbella*, *L. japonica*, *L. maackii*, *L. morrowii*, and *L. tatarica*. 37 species of *Lonicera* are listed in the Global Compendium of Weeds.

Reference(s):

- Global Compendium of Weeds (0). Global Compendium of Weeds: species index.
 - Kartesz, J. T. (2015). The Biota of North America Program (BONAP).
-



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

Answer / Justification:

About half of the species range shares a similar climate to Texas. Particularly records in the southeastern U.S. and China share a similar climate.

Reference(s):

- GBIF (0). *Lonicera fragrantissima* Lindl. & J. Paxton (gbif).
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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 **High** confidence in this answer based on the available literature.

Answer / Justification:

"Exotic bush honeysuckles can rapidly invade and overtake a site, forming a dense shrub layer that crowds and shades out native plant species. They alter habitats by decreasing light availability, by depleting soil moisture and nutrients, and possibly by releasing toxic chemicals that prevent other plant species from growing in the vicinity. Exotic bush honeysuckles may compete with native bush honeysuckles for pollinators, resulting in reduced seed set for native species." "*Lonicera fragrantissima* readily invades open woodlands, old fields and other disturbed sites."

Reference(s):

- Invasive Plant Atlas of the United States (0). sweet breath of spring: *Lonicera fragrantissima* (Dipsacales: Caprifoliaceae): Invasive Plant Atlas of the United States.
- TexasInvasives.org (0). Texas Invasives *Lonicera fragrantissima*.



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

Answer / Justification:

No information was found, however it is likely that a dense shrub layer where it previously did not exist could alter the fire regime of the community. Since no evidence was found however, the answer was marked as no.

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

Answer / Justification:

There is no evidence that the species is harmful to animals.

Reference(s):

- [Anonymous] .
-



10. Does the plant produce impenetrable thickets, blocking or slowing movement of animals, livestock, or humans?

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

Answer / Justification:

"Often forms dense thickets in open forests, forest edges, abandoned fields, pastures, roadsides, and other open upland habitats." "It can form a dense understory thicket which can restrict native plant growth and tree seedling establishment."

Reference(s):

- Invasive Plant Atlas of the United States (0). sweet breath of spring: *Lonicera fragrantissima* (Dipsacales: Caprifoliaceae): Invasive Plant Atlas of the United States.
 - TexasInvasives.org (0). Texas Invasives *Lonicera fragrantissima*.
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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 *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

"In established populations, vegetative sprouting also aids in the persistence of these exotic shrubs." "Colonize by root sprouts." "Bush honeysuckles regenerate from seeds, as well as vegetatively following disturbance."

Reference(s):

- Munger, G. T. (2005). *Lonicera* spp. In: Fire Effects Information System.
 - TexasInvasives.org (0). Texas Invasives *Lonicera fragrantissima*.
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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:

While the species can spread vegetatively it is unclear if detached fragments can produce new plants.

Reference(s):

- TexasInvasives.org (0). Texas Invasives *Lonicera fragrantissima*.
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13. Does the species (or cultivar or variety) commonly produce viable seed?

Answer / Justification:

"Bush honeysuckles regenerate from seeds, as well as vegetatively following disturbance." "According to Welsh and others, sweet breath of spring fruits are "seldom formed", although no further explanation was provided."

Reference(s):

- Munger, G. T. (2005). *Lonicera* spp. In: Fire Effects Information System.
-

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

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



Answer / Justification:

"Open-grown exotic bush honeysuckles fruit prolifically." "According to Welsh and others, sweet breath of spring fruits are "seldom formed", although no further explanation was provided." "The abundant berries are 0.3 in. (8.5 mm) in diameter and ripen to orange or red in the mid-summer and often persist throughout winter." It is unclear how many seeds are produced but they are reported as "abundant".

Reference(s):

- Munger, G. T. (2005). *Lonicera* spp. In: Fire Effects Information System.
 - Invasive Plant Atlas of the United States (0). sweet breath of spring: *Lonicera fragrantissima* (Dipsacales: Caprifoliaceae): Invasive Plant Atlas of the United States.
 - TexasInvasives.org (0). Texas Invasives *Lonicera fragrantissima*.
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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 **Medium** confidence in this answer based on the available literature.

Answer / Justification:

"Seeds long-lived in the soil." Seeds apparently do not " have the potential to form persistent seed banks." "Sweet breath of spring seeds require warm plus cold stratification prior to breaking dormancy. Although seeds mature in late spring/early summer, they generally will not germinate until late winter/early spring of the following year. A greenhouse study by Hidayati and others indicated that sweet breath of spring seeds germinated while buried under 2 inches (5 cm) of leaf litter or 2.8 inches (7 cm) of soil."

Reference(s):

- Munger, G. T. (2005). *Lonicera* spp. In: Fire Effects Information System.
 - TexasInvasives.org (0). Texas Invasives *Lonicera fragrantissima*.
-

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 information was found on age at flowering.

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:

"Bloom Time: March to April" " Fl. Jan-Apr, fr. Apr-Jun." "The abundant berries are 0.3 in. (8.5 mm) in diameter and ripen to orange or red in the mid-summer and often persist throughout winter."

Reference(s):

- Missouri Botanical Garden PlantFinder (0). *Lonicera fragrantissima* - Plant Finder.
 - efloras.org (0). *Lonicera fragrantissima* in Flora of China @ efloras.org.
 - Invasive Plant Atlas of the United States (0). sweet breath of spring: *Lonicera fragrantissima* (Dipsacales: Caprifoliaceae): Invasive Plant Atlas of the United States.
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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 **High** confidence in this answer based on the available literature.



Answer / Justification:

"Open-grown exotic bush honeysuckles fruit prolifically and are highly attractive to birds. In the eastern United States, over twenty species of birds feed on the persistent fruits and widely disseminate seeds across the landscape." "spread by abundant bird- and other animal-dispersed seeds." " Several sources indicate bush honeysuckle seeds are dispersed primarily by frugivorous birds." " Its rapid spread is attributed to birds and mammals dispersing the seeds."

Reference(s):

- Munger, G. T. (2005). *Lonicera* spp. In: Fire Effects Information System.
 - Invasive Plant Atlas of the United States (0). sweet breath of spring: *Lonicera fragrantissima* (Dipsacales: Caprifoliaceae): Invasive Plant Atlas of the United States.
 - TexasInvasives.org (0). Texas Invasives *Lonicera fragrantissima*.
-

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 this.

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.

Reference(s):

- [Anonymous] .
-

Total PRE Score

PRE Score: 16 -- Reject (high risk of invasiveness)

Confidence: 67 / 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:

- Steve Moore

September 26, 2017

This evaluation has a total of 1 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 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.