Plant Risk Evaluator -- PRE™
Evaluation Report

Abelia xgrandiflora -- Texas

2017 Farm Bill PRE Project

PRE Score: 7 -- Accept (low risk of invasiveness)
Confidence: 67 / 100
Questions answered: 19 of 20 -- Valid (80% or more questions answered)

Privacy: Public
Status: Completed

Evaluation Date: May 22, 2017

This PDF was created on August 13, 2018

Plant Evaluated

Abelia xgrandiflora

Image by By Forest and Kim Starr

Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Abelia xgrandiflora*) 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 species is a hybrid cross between Abelia chinensis and A. uniflora. It does not occur naturally within the native ranges of the parent species. Overall, there is very little information available about the biology of this species. Records of naturalized populations in the Southeastern US suggest it has the potential to naturalize, but these records are few and vague as to the method of introduction and whether the plants are merely persisting or if they are reproducing and spreading. More information is needed.

General Information

Status: Completed
Screener: Kim Taylor
Evaluation Date: May 22, 2017

Plant Information

Plant: *Abelia xgrandiflora*

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

Answer / Justification:

Bonap shows naturalized populations scattered throughout the Southeastern US, Texas, and Arizona. GRIN however notes that the plant is only in cultivation. Poindexter notes that it is an "exotic escaped from cultivation" in Alleghany County, North Carolina. Hansen notes that it is "Introduced, perennial. Rare among construction debris, possibly a waif, not persisting" at Fort Hood, Texas. Dransfield and Woods note the plant is present in Dale County, Alabama. Gunn notes it is introduced or adventive to Bernheim Forest, Bullitt County, Kentucky. Crutchfield notes that the plant is present on Roanoke Island, North Carolina and says it is "probably first report out of cultivation; apparently persistent around old dwelling sites." The multiple references to the plant growing in natural areas suggests it is naturalizing in the Southeast.

Reference(s):

- Kartesz, J. T. (2015). The Biota of North America Program (BONAP).
- Gunn, C. R. (1959). A Flora of Bernheim Forest, Bullitt County, Kentucky. Castanea. 24, 61–98.
- Hansen, L. L. (2010). ANNOTATED CHECKLIST OF THE VASCULAR PLANTS OF FORT HOOD, TEXAS. Journal of the Botanical Research Institute of Texas. 4, 523–558.
- Crutchfield, P. J. (1964). Taxa Collected from Roanoke Island New to the Flora of North Carolina. Castanea. 29, 129–137.
- Dransfield, T. P., & Woods M. (2004). The Vascular Flora of Dale County, Alabama. Southeastern Naturalist. 3, 495–516.
- Poindexter, D. B. (2013). VASCULAR FLORA AND PLANT COMMUNITIES OF ALLEGHANY COUNTY, NORTH CAROLINA. Journal of the Botanical Research Institute of Texas. 7, 529–574.
- U.S. National Plant Germplasm Network (0). Taxonomy - GRIN-Global Web v 1.9.8.2.

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

Answer / Justification:

The hybrid appears to only exist in cultivation and as an escape in the Southeastern US. This region matches climate with Texas.

Reference(s):

- Gunn, C. R. (1959). A Flora of Bernheim Forest, Bullitt County, Kentucky. Castanea. 24, 61–98.
- Hansen, L. L. (2010). ANNOTATED CHECKLIST OF THE VASCULAR PLANTS OF FORT HOOD, TEXAS. Journal of the Botanical Research Institute of Texas. 4, 523–558.
- Crutchfield, P. J. (1964). Taxa Collected from Roanoke Island New to the Flora of North Carolina. Castanea. 29, 129–137.
- Dransfield, T. P., & Woods M. (2004). The Vascular Flora of Dale County, Alabama. Southeastern Naturalist. 3, 495–516.
- Poindexter, D. B. (2013). VASCULAR FLORA AND PLANT COMMUNITIES OF ALLEGHANY COUNTY, NORTH CAROLINA. Journal of the Botanical Research Institute of Texas. 7, 529–574.

---

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

Answer / Justification:

There is no record of the plant being invasive. The Georgia Exotic Pest Plant Council actually suggests this as an alternative to invasive species.

Reference(s):

- Georgia Exotic Pest Plant Council (0). Suggested Alternatives to Non-Native Invasive Plants - Georgia Exotic Pest Plant Council.

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

Answer / Justification:

no record of the plant being invasive.

Reference(s):

- [Anonymous] .

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:

no indication of other taxa in genus being invasive.

Reference(s):

- [Anonymous] .

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

Answer / Justification:

It appears most of the range of naturalized plants in the Southeastern US is within a similar climate to parts of Texas. The species does not occur naturally since it is a hybrid so the entire distribution consists of naturalized plants.

Reference(s):

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

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

Answer / Justification:

There is no evidence that this plant displaces native plants. I am giving this a Medium confidence level since there is virtually no information available about the growth of this plant in natural environments. The growth of the plant in controlled settings does not suggest that it will not overtop or smother other plants though so I am answering the question as a no.

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

Answer / Justification:

There is no evidence of this. Like question 7, there is no available information about impact on fire regimes but based on the growth habit in controlled settings, I do not expect it to change fire regimes.

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

Answer / Justification:

Garden Guides notes that the plant is not harmful to livestock. It is not known to be poisonous.

Reference(s):

- CrescentBloom.com (0). Abelia x grandiflora - Crescentbloom.
- Garden Guides (0). Glossy Abelia Plant Guide - Garden Guides.

---

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

Answer / Justification:

The plant does not appear to produce thickets. It does not spread vegetatively and apparently produces few seeds with low germination rates. There is no mention of thickets in the literature.

Reference(s):

- Garden Guides (0). Glossy Abelia Plant Guide - Garden Guides.
- Singleton, B. (0). Propagating Abelia X Grandiflora.

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

Answer / Justification:

There does not appear to be any vegetative spread.

Reference(s):

- Garden Guides (0). Glossy Abelia Plant Guide - Garden Guides.

---

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

Answer / Justification:

The plant is spread from softwood cuttings that are rooted in potting soil with a near 100% success rate. Rooting solution can be used but is not necessary for softwood cuttings. Because of this it is possible that naturally detached fragments could produce new plants, but there is no indication that it is a common method of reproduction.

Reference(s):

- Singleton, B. (0). Propagating Abelia X Grandiflora.

---

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

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

Answer / Justification:

Some sources note that this hybrid is apparently sterile. Others note that it produces few seeds and the germination rates are very low. Since the species is the parent to many cultivars produced through crossings and production of seed, it appears this is the normal means of reproduction. From the patent for Abelia MINDU01: "The new Abelia is a product of a planned breeding program conducted by the Inventor in La Menitre, Maine et Loire, France. The objective of the breeding program was to develop new compact and freely flowering Abelia plants with attractive flower coloration. The new Abelia plant originated from an open-pollination in July, 2005 of Abelia.times.grandiflora `Minfest`, not patented, as the female, or seed parent with an unknown selection of Abelia.times.grandiflora, not patented. The new Abelia plant was discovered and selected by the Inventor in July, 2007 as a single flowering plant within the progeny of the stated open-pollination in a controlled environment in La Menitre, Maine et Loire, France."

Reference(s):

- Parkey, M. (2011). Abelias: The best plant for Dallas that nobody uses \textbar Home.
- SoutheastGarden.com (0). Abelia.
- Singleton, B. (0). Propagating Abelia X Grandiflora.
- Nazeyrollas, O., & FR (2014). United States Patent: PP24445 - Abelia plant named `MINDUO1`.

---

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

- 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:

There does not appear to be any quantifiable data to answer this question, but the plant appears to produce few seeds, if any. Scheiber et al. note that "interspecific hybridization among Abelia x grandiflora, its cultivars, and other species in the genus Abelia offer the potential for new cultivars" suggesting the plants do indeed produce viable seed.

Reference(s):

- Scheiber, S.. M., Robacker C. D., & Dirr M.. A. (2000). 546 Seed Germination of Abelia × grandiflora (Andre) Rehd.. HortScience. 35, 489–489.
- Parkey, M. (2011). Abelias: The best plant for Dallas that nobody uses \textbar Home.
- SoutheastGarden.com (0). Abelia.
- Singleton, B. (0). Propagating Abelia X Grandiflora.

---

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

Answer / Justification:

I was unable to find data on germination rates, though an abstract by Scheiber et. al discusses this issue. The abstract does note that "seed germination within the genus has been described as slow and inconsistent". The only other reference to germination I found was that germination rates are "very low".

Reference(s):

- Scheiber, S.. M., Robacker C. D., & Dirr M.. A. (2000). 546 Seed Germination of Abelia × grandiflora (Andre) Rehd.. HortScience. 35, 489–489.
- Singleton, B. (0). Propagating Abelia X Grandiflora.

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:

I was not able to find any information on the age at flowering for this species. Some references noted that the plant has a fast growth rate while others noted it had a moderate growth rate. Garden Guides states that the plant has "a maximum height at 20 years of 6 feet."

Reference(s):

- University of Connecticut Plant Database (0). Abelia x grandiflora, Glossy Abelia - Plant Database - University of Connecticut.
- Monrovia (0). Glossy Abelia - Monrovia - Glossy Abelia.

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

Answer / Justification:

flowers from May to September. One source notes "fruit and seed production starting in the summer and continuing until fall".

Reference(s):

- Missouri Botanical Garden PlantFinder (0). Abelia × grandiflora - Plant Finder.
- Garden Guides (0). Glossy Abelia Plant Guide - Garden Guides.

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

Answer / Justification:

Fruits are a hard, dry achene and are unlikely to be palatable to most animals. There is no evidence that birds eat them.

Reference(s):

- Virginia Tech Dendrology (0). Abelia xgrandiflora Fact Sheet.

---

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

Answer / Justification:

Fruits in the genus Abelia are typically winged, which is an adaptation for wind dispersal. Abelia xgrandiflora fruits are only slightly winged and are unlikely to spread far by wind. There was no direct mention of mechanism of seed dispersal in the literature. While wind dispersal is likely the primary mechanism, the small wings on this species would not likely facilitate dispersal at long distances.

Reference(s):

- Manchester, S. R., & Donoghue M. J. (1995). Winged Fruits of Linnaeeae (Caprifoliaceae) in the Tertiary of Western North America: Diplodipelta gen. nov.. International Journal of Plant Sciences. 156, 709–722.
- Virginia Tech Dendrology (0). Abelia xgrandiflora Fact Sheet.

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 *screener* 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: 7 -- Accept (low risk of invasiveness)
Confidence: 67 / 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:

• Charlotte Reemts	November 13, 2017
• Steve Moore	August 30, 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 if additional action is required to resolve open issues.

Issue ID # 5825

Date Created: November 13, 2017 - 9:15am
Date Updated: January 2, 2018 - 1:28pm

Submitted by: Charlotte Reemts

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q02. Is the species (or cultivar or variety) noted as being naturalized elsewhere in the US or world in a similar climate?

Issue Description

Fix the typo of "Jansen" in third sentence to "Hansen".

Issue Resolution (Screener's Response to Issue)

Typo fixed.

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.