



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

***Loropetalum chinense* var. *rubrum* 'Sato's Dwarf
Red' -- Texas**

2017 Farm Bill PRE Project

PRE Score: 4 -- Accept (low risk of invasiveness)

Confidence: 60 / 100

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

Privacy: Public

Status: Submitted

Evaluation Date: October 1, 2017

This PDF was created on August 13, 2018



Plant Evaluated

Loropetalum chinense var. *rubrum* 'Sato's Dwarf Red'



Image by Joey Williamson



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Loropetalum chinense* var. *rubrum* 'Sato's Dwarf Red') 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

Loropetalum chinense var. *rubrum* 'Sato's Dwarf Red' is a low growing pink cultivar of the parent species. It differs from the parent species by flower color and the low growing growth habit. Very little information is available about the reproduction of *Loropetalum chinense*. Germination rates, dispersal mechanisms, and age to reproductive maturity are unknown. The parent species is beginning to naturalize in the Southeastern U.S. with young plants found in close proximity to mature planted adults. Since many invasive species begin their spread in this same manner, more information is needed on this species to ensure it is not a threat.

General Information

Status: Submitted

Screener: Kim Taylor

Evaluation Date: October 1, 2017

Plant Information

Plant: *Loropetalum chinense* var. *rubrum* 'Sato's Dwarf Red'

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

Variety *rubrum* differs from the parent species by flower color, with *rubrum* having pink to red flowers and the parent species having white flowers. 'Sato's Dwarf Red' is different from the parent species and variety by its prostrate, compact habit, reaching no more than 60 cm in height and 90 to 180 cm in width, and its year-round burgundy red foliage.

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:

Kartesz indicates *Loropetalum chinense* is naturalized in one county each in Alabama and Arkansas. Serviss and Peck note the species was "documented as spontaneous offspring in the immediate vicinity, or within a short (several meters) distance from the vicinity of cultivated and reproductive individuals" in Arkansas.

Reference(s):

- Peck, J. H., & Serviss B. E. (2006). NEW AND NOTEWORTHY COLLECTIONS FOR ARKANSAS. *SIDA, Contributions to Botany*. 22, 817–820.
- Kartesz, J. T. (2015). The Biota of North America Program (BONAP).

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:

Kartesz indicates *Loropetalum chinense* is naturalized in one county each in Alabama and Arkansas. Both of these areas share a climate with Texas.



Reference(s):

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

Answer / Justification:

Loropetalum chinense is listed as a "weed" by the Global Compendium of Weeds. It is listed as a good alternative to invasive species by the Georgia Exotic Pest Plant Council and the California Invasive Plant Council.

Reference(s):

- Cal-IPC (0). Don't Plant a Pest.
 - Global Compendium of Weeds (GCW) (0). *Loropetalum chinense* information from the Global Compendium of Weeds (GCW).
 - Georgia Exotic Pest Plant Council (0). Suggested Alternatives to Non-Native Invasive Plants - Georgia Exotic Pest Plant Council.
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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: **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:

Loropetalum chinense is not considered 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 *screeners* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Loropetalum chinense is not considered invasive.

Reference(s):

- [Anonymous] .
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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 *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Less than half of the range of the parent species has a similar climate to Texas.

Reference(s):

- GBIF (0). *Loropetalum chinense* (R. Br.) Oliv. - 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 *screeener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

There is no evidence of this.

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

Answer / Justification:

no information was found

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



Answer / Justification:

The species is not known to be toxic.

Reference(s):

- Plants for a Future (0). *Loropetalum chinense* Fringe Flower, Chinese Fringe Bush PFAF Plant Database.
-

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:

There is no evidence that the parent species or variety form thickets. The low growing habit of this cultivar would seem to make it less likely to produce thickets.

Reference(s):

- [Anonymous] .
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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 **Medium** confidence in this answer based on the available literature.

Answer / Justification:

The species does not appear to spread vegetatively on its own.



Reference(s):

- [Anonymous] .
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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 **Medium** confidence in this answer based on the available literature.

Answer / Justification:

There is no evidence of this.

Reference(s):

- [Anonymous] .
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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 **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Serviss and Peck note the parent species was "documented as spontaneous offspring in the immediate vicinity, or within a short (several meters) distance from the vicinity of cultivated and reproductive individuals" in Arkansas. They note that the species is reproducing by seed at the site. The species can be propagated by seed or cuttings. Since neither the variety *rubrum* or cultivar 'Sato's Dwarf Red' appear to differ from the parent species in regards to seed viability, it is likely they also produce viable seeds.



Reference(s):

- Peck, J. H., & Serviss B. E. (2006). NEW AND NOTEWORTHY COLLECTIONS FOR ARKANSAS. SIDA, Contributions to Botany. 22, 817–820.
 - Sunshine Seeds (0). *Loropetalum chinense* - Seeds A-Z, Seeds L.
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14. Does this plant produce copious viable seeds each year (> 1000)?

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

Answer / Justification:

"Fruit.--Type: Ovoid, woody, 2-horned capsule, one seed per each cell. Amount: About 75 to 100 per plant per year."

Reference(s):

- Sato, N., & JP (2007). United States Patent: PP17669 - Plant variety of *Loropetalum chinense* var. *rubrum* named `Sato's Dwarf Red`.
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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?

Reference(s):

- [Anonymous] .
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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:

The parent species is noted as fast growing but there is no indication of how long it takes to flower.

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

Answer / Justification:

Parent species: "Lightly aromatic, spidery flowers bloom in clusters in spring (late March-April)." " Fl. Mar–Apr, fr. May–Jul." "It is in flower from Feb to April, and the seeds ripen from May to July."

Reference(s):

- Missouri Botanical Garden PlantFinder (0). *Loropetalum chinense* - Plant Finder.
 - Plants for a Future (0). *Loropetalum chinense* Fringe Flower, Chinese Fringe Bush PFAF Plant Database.
 - efloras.org (0). *Loropetalum chinense* in Chinese Plant Names @ efloras.org.
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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: **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:

"Flowers are sometimes followed by a woody capsule that holds the seeds." Other members of the family have woody capsules that forcefully eject seeds into the air.

Reference(s):

- Harrison, M. (2010). *Loropetalum*, Saucy Cousin of Witchhazel (Daves Garden).
-

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:

"Flowers are sometimes followed by a woody capsule that holds the seeds." Other members of the family have woody capsules that forcefully eject seeds into the air.

Reference(s):

- Harrison, M. (2010). *Loropetalum*, Saucy Cousin of Witchhazel (Daves Garden).
-

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] .
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Total PRE Score

PRE Score: 4 -- Accept (low risk of invasiveness)

Confidence: 60 / 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

October 4, 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.