



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

Eragrostis curvula -- Texas

2017 Farm Bill PRE Project

PRE Score: 15 -- Evaluate this plant further

Confidence: 70 / 100

Questions answered: 19 of 20 -- Valid (80% or more questions answered)

Privacy: Public

Status: Completed

Evaluation Date: September 19, 2017

This PDF was created on August 13, 2018



Plant Evaluated

Eragrostis curvula



Image by Forest & Kim Starr



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Eragrostis curvula*) 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

Eragrostis curvula is naturalized across much of the southern U.S. and considered invasive in Florida, Georgia, and South Carolina. It is a densely tufted perennial which can become dominant and displace native vegetation, particularly in areas of low fertility. Plants have the potential to produce large amounts of seed which is spread by wind, water, and animals.

General Information

Status: Completed

Screener: Kim Taylor

Evaluation Date: September 19, 2017

Plant Information

Plant: *Eragrostis curvula*

If the plant is a cultivar, how does its behavior differ 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 *screeener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Kartesz indicates the species is naturalized across most of the southern half of the United States from Nebraska south, as well as a few occurrences in Washington, Oregon, Massachusetts, New York, and Michigan. The U.S. National Plant Germplasm System indicates it is naturalized in parts of Africa, Asia, Australia, New Zealand, Europe, Mexico, and South America as well.

Reference(s):

- U.S. National Plant Germplasm Network (0). Taxonomy - GRIN-Global Web v 1.9.8.2 *Eragrostis curvula*.
- Kartesz, J. T. (2015). The Biota of North America Program (BONAP).
- USDA, & NRCS (2017). The Plants Database.

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

Answer / Justification:

Eragrostis curvula is naturalized in parts of the southeastern U.S. which share a similar climate to Texas.



Reference(s):

- Kartesz, J. T. (2015). The Biota of North America Program (BONAP).
 - USDA, & NRCS (2017). The Plants Database.
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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 *screeener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Eragrostis curvula is designated an "agricultural weed, cultivation escape, environmental weed, garden thug, naturalised, noxious weed, sleeper weed, weed" by the Global Compendium of Weeds. The Invasive Plant Atlas indicates the species is invasive in Florida, Georgia, and South Carolina.

Reference(s):

- Global Compendium of Weeds (GCW) (0). *Eragrostis curvula* information from the Global Compendium of Weeds (GCW).
 - Invasive Plant Atlas of the United States (0). weeping lovegrass: *Eragrostis curvula* (Cyperales: Poaceae): Invasive Plant Atlas of the United States.
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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 *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

The Invasive Plant Atlas indicates the species is invasive in Florida, Georgia, and South Carolina. These regions share a similar climate to Texas.



Reference(s):

- Invasive Plant Atlas of the United States (0). weeping lovegrass: *Eragrostis curvula* (Cyperales: Poaceae): Invasive Plant Atlas of the United States.
-

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

Answer / Justification:

129 species of *Eragrostis* are listed in the Global Compendium of Weeds. *Eragrostis lehmanniana* is listed by TexasInvasives.org.

Reference(s):

- Global Compendium of Weeds (0). Global Compendium of Weeds: species index.
-

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 species range has a similar climate to Texas.

Reference(s):

- GBIF (0). *Eragrostis curvula* (Schrad.) Nees 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: **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:

Eragrostis curvula becomes dominant on low-fertility soils and the dense tussocks displace native vegetation.

Reference(s):

- Pacific Island Ecosystems at Risk (PIER) (0). *Eragrostis curvula* (PIER species info).
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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 *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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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:

There is no indication that *Eragrostis curvula* is toxic.

Reference(s):

- [Anonymous] .
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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:

Eragrostis curvula is a grass, therefore it does not form 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:

Eragrostis curvula is a densely tufted perennial lacking rhizomes. While the species could be propagated vegetatively by splitting clumps, this is unlikely to happen in natural conditions.

Reference(s):

- efloras.org (0). *Eragrostis curvula* in Flora of China @ efloras.org.
-

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

Answer / Justification:

Seeds are viable.



Reference(s):

- Invasive Plant Atlas of the United States (0). weeping lovegrass: *Eragrostis curvula* (Cyperales: Poaceae): Invasive Plant Atlas of the United States.
-

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

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

Answer / Justification:

"Flower spikelets are elongated, flattened, and have 4 to 13 small flowers." "Seed heads are panicles that contain many tiny seeds." It is likely that a large plant could produce more than 1000 seeds per year.

Reference(s):

- Invasive Plant Atlas of the United States (0). weeping lovegrass: *Eragrostis curvula* (Cyperales: Poaceae): Invasive Plant Atlas of the United States.
-

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:

The Seed Germination Database: "Sow at 20°C (68°F) in light, if no germ. in 3-4 wks, move to -4 to +4°C (24-39°F) for 2-4 wks" *Eragrostis curvula* does not appear to require a long dormancy period or special conditions to germinate.



Reference(s):

- Clothier, T. (0). Seed Germination Database - Perennials - D to N.
-

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

Answer / Justification:

"Flowering occurs during early summer and continues through fall." "It is in flower from Aug to October."

Reference(s):

- Plants For A Future (PFAF) (0). *Eragrostis curvula* Weeping Love Grass PFAF Plant Database.
 - Invasive Plant Atlas of the United States (0). weeping lovegrass: *Eragrostis curvula* (Cyperales: Poaceae): 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:

"Seed, dispersed by water, wind and animals"

Reference(s):

- Pacific Island Ecosystems at Risk (PIER) (0). *Eragrostis curvula* (PIER species info).
-

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

- 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:

"Seed, dispersed by water, wind and animals"

Reference(s):

- Pacific Island Ecosystems at Risk (PIER) (0). *Eragrostis curvula* (PIER species info).
-



20. Are the plant's propagules frequently dispersed via contaminated seed (agriculture or wildflower packets), equipment, vehicles, boats or clothing/shoes?

- 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:

The U.S. National Plant Germplasm System indicates the species is a "potential seed contaminant".

Reference(s):

- U.S. National Plant Germplasm Network (0). Taxonomy - GRIN-Global Web v 1.9.8.2 *Eragrostis curvula*.

Total PRE Score

PRE Score: 15 -- Evaluate this plant further

Confidence: 70 / 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:

- Hans Landel December 18, 2017
- Steve Moore September 26, 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.

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.