



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

Taxus cuspidata -- Minnesota

2017 Farm Bill PRE Project

PRE Score: 7 -- Accept (low risk of invasiveness)

Confidence: 82 / 100

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

Privacy: Public

Status: Completed

Evaluation Date: July 24, 2017

This PDF was created on June 15, 2018



Plant Evaluated

Taxus cuspidata



Image by Alpsdake



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Taxus cuspidata*) 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

With regard to its invasive potential, *Taxus cuspidata* appears to be very similar in growth, physiology, and reproduction to other species in the genus. While it is theoretically possible for stems that contact the ground to root, this does not appear to be the primary method of reproduction for this species. It does not appear to spread or grow rapidly. While nearly all parts of the plant are considered to be poisonous to humans, this characteristic does not appear to prevent *Taxus* spp from being browsed by deer. The seeds are attractive to birds, which likely aids in its distribution.

General Information

Status: Completed

Screener: Mike Monterusso

Evaluation Date: July 24, 2017

Plant Information

Plant: *Taxus cuspidata*

Regional Information

Region Name: Minnesota



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:

T. cuspidata has naturalized in multiple states in the Eastern US.

Reference(s):

- United States Department of Agriculture (2017). Plants Profile for *Taxus cuspidata* (Japanese yew).
-

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

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .



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

Answer / Justification:

It has been noted as being invasive in the US in New Jersey and Virginia.

Reference(s):

- USDA Forest Service, Forest Health Staff (2006). Japanese yew - japanese-yew.pdf.
-

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

Answer / Justification:

No evidence found.

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



Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-

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

Answer / Justification:

GBIF shows most occurrences are in Europe and far East Asia with some occurrences in the Eastern US.

Reference(s):

- GBIF (2017). *Taxus cuspidata* Siebold & Zucc. - Checklist View.
-

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

Answer / Justification:

No evidence found.



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

Answer / Justification:

No evidence 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: **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:

Taxus cuspidata, along with other members of the *Taxus* genus, is poisonous. All plant parts are poisonous except the flesh surrounding the seeds.

Reference(s):

- United States Department of Agriculture (2006). 2006 grazing fact sheet - Yews.
-



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

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-

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

Answer / Justification:

'Adventitious roots that form from stems that touch the ground form spreading thickets of stems... this is a common trait throughout the genus.'

Reference(s):

- Dhote, P. (2016). *Taxus: History, Reproduction and Embryogeny* \textbar Taxales.
-



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:

While it is theoretically possible for stems that contact the ground to root, this does not appear to be the primary method of reproduction for this species.

Reference(s):

- [Anonymous] .
-

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:

"Seed - can be very slow to germinate, often taking two or more years... high percentage"

Reference(s):

- Plants For A Future (PFAF) (2012). *Taxus cuspidata* Japanese Yew PFAF Plant Database.
-

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:

No evidence found.

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

Answer / Justification:

Taxus spp seeds have been reported to be challenging to germinate and can take 2 or more years (double dormancy).

Reference(s):

- Plants For A Future (PFAF) (2012). *Taxus cuspidata* Japanese Yew PFAF Plant Database.
-

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

Answer / Justification:

While no specific information regarding maturity rate for *T. cuspidata* was found, the plant has been reported to be a slow grower.



Reference(s):

- The Morton Arboretum (2017). Japanese yew - The Morton Arboretum.
-

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:

Taxus cuspidata flowers and sets seed in the spring.

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: **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:

"Cardinal, waxwing, thrushes and many other birds are attracted to the plant's fruit and use the plant as a nesting site and shelter."

Reference(s):

- The Morton Arboretum (2017). Japanese yew - The Morton Arboretum.



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:

No evidence found.

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

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-



Total PRE Score

PRE Score: 7 -- Accept (low risk of invasiveness)

Confidence: 82 / 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:

- Chel Anderson December 27, 2017
- Laura Van Riper November 27, 2017
- Tom Buechel November 10, 2017

This evaluation has a total of 3 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 # 6241

Date Created: December 27, 2017 - 8:46am

Date Updated: January 19, 2018 - 12:45pm

Submitted by: Chel Anderson

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q16. Does this plant produce viable seed within the first three years (for an herbaceous species) to five years (for a woody species) after germination?

Issue Description

Need to edit response by adding the **bold** for accuracy: While **no** specific information regarding maturity rate for *T. cuspidata* was found, the plant has been reported to be a slow grower.

Issue Resolution (Screener's Response to Issue)

Issue resolved by PRE Data Manager -- added 'no' to answer.



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.