



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

Syringa reticulata -- Illinois

2017 Farm Bill PRE Project

PRE Score: 9 -- Accept (low risk of invasiveness)

Confidence: 60 / 100

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

Privacy: Public

Status: Submitted

Evaluation Date: September 3, 2017

This PDF was created on February 19, 2018



Plant Evaluated

Syringa reticulata



Image by By Herman, D. E., et al. (1996). North Dakota tree handbook. - USDA NRCS [1]



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Syringa reticulata*) 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.

General Information

Status: Submitted

Screener: Emily Russell

Evaluation Date: September 3, 2017

Plant Information

Plant: *Syringa reticulata*

Regional Information

Region Name: Illinois

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

Answer / Justification:

Naturalized populations of *Syringa reticulata* have been reported in New York, New Hampshire, Massachusetts, Vermont, and Ontario. One occurrence has been reported in Michigan and Minnesota.

Reference(s):

- Springer, J. C., & Parfitt B. D. (2007). *Syringa reticulata* (Oleaceae) naturalized in northwestern Vermont. *Rhodora*. 109(938),
- Schimpf, D.J., Pomroy D.L., Gatske S.C., & Green J.C.. (2009). Noteworthy Collections; Minnesota. *The Michigan Botanist*. 48(2), 49-60.
- Teter, C. Daniel (2015). *Botany 2015 - Another naturalizing exotic tree; populations of Syringa reticulata* (Japanese Tree Lilac) in New York.
- The Long Island Invasive Species Management Area (2016). LIISMA horticulture watch list.
- New England Wildflower Society (2017). *Syringa reticulata* (Japanese tree lilac): Go Botany.
- Reznicek, A.. A., Voss E.. G., & Walters B.. S. (2011). *Syringa reticulata* - Michigan Flora.

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:

Areas of New York, Vermont, Ontario, Michigan, and Minnesota are a climate match for Illinois.

Reference(s):

- Schimpf, D.J., Pomroy D.L., Gatske S.C., & Green J.C.. (2009). Noteworthy Collections; Minnesota. *The Michigan Botanist*. 48(2), 49-60.
 - Teter, C. Daniel (2015). *Botany 2015 - Another naturalizing exotic tree; populations of Syringa reticulata (Japanese Tree Lilac) in New York.*
 - The Long Island Invasive Species Management Area (2016). LIISMA horticulture watch list.
 - Reznicek, A.. A., Voss E.. G., & Walters B.. S. (2011). *Syringa reticulata - Michigan Flora.*
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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 **Low** confidence in this answer based on the available literature.

Answer / Justification:

Naturalized populations of *Syringa reticulata* in the United States appear to be relatively recent discoveries. Significant damage has not been documented. *S. reticulata* appears on invasive lists as a species to watch.

Reference(s):

- Teter, C. Daniel (2015). *Botany 2015 - Another naturalizing exotic tree; populations of Syringa reticulata (Japanese Tree Lilac) in New York.*
 - East Central Illinois Master Naturalists, Champaign County Master Gardeners (2013). *Invasive Plants of East Central Illinois.*
 - The Long Island Invasive Species Management Area (2016). LIISMA horticulture watch list.
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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 **Low** confidence in this answer based on the available literature.



Answer / Justification:

Naturalized populations of *Syringa reticulata* in the United States appear to be relatively recent discoveries. Significant damage has not been documented. *S. reticulata* appears on invasive lists as a species to watch, including Illinois.

Reference(s):

- Teter, C. Daniel (2015). Botany 2015 - Another naturalizing exotic tree; populations of *Syringa reticulata* (Japanese Tree Lilac) in New York.
 - East Central Illinois Master Naturalists, Champaign County Master Gardeners (2013). Invasive Plants of East Central Illinois.
 - The Long Island Invasive Species Management Area (2016). LIISMA horticulture watch list.
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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:

"Recent molecular studies have revealed that *Ligustrum* and *Syringa* are closely related and exist in the subtribe Ligustrinae within the tribe Oleae (Wallander and Albert, 2000)." *Ligustrum* is a serious invasive threat in Illinois.

Reference(s):

- Ziller, D. Silvia (2015). *Ligustrum vulgare* (common privet) Datasheet In: Invasive Species Compendium.
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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 *screeener* has a **Medium** confidence in this answer based on the available literature.



Answer / Justification:

Parts of the native distribution in Korea, Japan, and China, and introduced occurrences shown in GBIF in Europe and the Midwestern and Eastern United States are a climate match for Illinois.

Reference(s):

- GBIF Secretariat (2017). GBIF Backbone Taxonomy: *Syringa reticulata* (Blume) H.Hara.
 - Germplasm Resources Information Network (2017). *Syringa reticulata* in: Taxonomy - GRIN-Global Web v 1.9.8.2.
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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: **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:

There are no reports of dominating the plant community where established.

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

Answer / Justification:

There are no reports of changing fire regimes.



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

Answer / Justification:

There are no reports of health risks to humans, animals, or grazing systems.

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

Answer / Justification:

There are no reports of impenetrable thickets in the literature.

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

Answer / Justification:

No evidence of vegetative reproduction was found in the literature. Some gardeners report rootstock suckers on grafted *Syringa* cultivars.



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

Answer / Justification:

Seed is the primary means of reproduction for *Syringa reticulata*.

Reference(s):

- West, T.P., DeMarais S.L., & Lee C.W.. (2014). Germination of Nonstratified Japanese Tree Lilac Seeds as Influenced by Seed Capsule Maturity and Moisture Content. HortTechnology. 24(2), 177 - 180.
 - Sheffield's Seed Co. (2017). *Syringa reticulata* - Tree Seeds - Japanese Tree Lilac.
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14. Does this plant produce copious viable seeds each year (> 1000)?

Answer / Justification:

No estimates of seed quantity could be found in the literature.



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: **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:

A 30 to 90 day stratification period is recommended and achieves high germination rates. According to the study below, fall planting of "green" seed can also produce germination > 25%.

Reference(s):

- West, T.P., DeMarais S.L., & Lee C.W.. (2014). Germination of Nonstratified Japanese Tree Lilac Seeds as Influenced by Seed Capsule Maturity and Moisture Content. HortTechnology. 24(2), 177 - 180.
 - Sheffield's Seed Co. (2017). *Syringa reticulata* - Tree Seeds - Japanese Tree Lilac.
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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: **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 a short juvenile period.

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



Answer / Justification:

Syringa reticulata flowers for about 2 weeks in early summer.

Reference(s):

- Dirr, M. A. (1998). Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses.
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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:

There is no evidence of dispersal by animals.

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

Answer / Justification:

The seeds are dispersed when capsules dry and split open. They are winged so wind may aid in dispersal, but long-distance dispersal by wind seems unlikely. However, in Vermont: "Less than 170 m away, along the roadside and spreading into a clearing, were large, flowering individuals, surrounded by numerous, smaller, immature individuals." Naturalized populations in New York state are in riparian areas, so long distance dispersal by water may be a factor.



Reference(s):

- Springer, J. C., & Parfitt B. D. (2007). *Syringa reticulata* (Oleaceae) naturalized in northwestern Vermont. *Rhodora*. 109(938),
 - Teter, C. Daniel (2015). *Botany 2015 - Another naturalizing exotic tree; populations of Syringa reticulata* (Japanese Tree Lilac) in New York.
 - Sheffield's Seed Co. (2017). *Syringa reticulata - Tree Seeds - Japanese Tree Lilac*.
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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 are no reports of accidental dispersal by people.

Total PRE Score

PRE Score: 9 -- Accept (low risk of invasiveness)

Confidence: 60 / 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 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 # 6221

Date Created: December 22, 2017 - 1:46pm

Date Updated: December 22, 2017 - 1:46pm

Submitted by: Steve Worth

Status: Not Fixed

Type: Comment

Severity: Minor

Scope: Q03. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

Issue Description

The reviewer claims that the plant has only been widely planted in recent years. I would disagree with that statement. We have been growing and shipping that plant throughout the upper midwest region for more than 20 years and this is the first time that I have heard of any concerns as to its invasiveness.

Issue Resolution

No resolution has been entered for this issue.



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.