



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

Lamium maculatum -- Minnesota

2017 Farm Bill PRE Project

PRE Score: 11 -- Accept (low risk of invasiveness)

Confidence: 73 / 100

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

Privacy: Public

Status: Submitted

Evaluation Date: July 11, 2017

This PDF was created on June 15, 2018



Plant Evaluated

Lamium maculatum



Image by Wikimedia



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Lamium maculatum*) 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

Lamium maculatum can be aggressive in garden beds. It has escaped cultivation to a relatively small degree, but seems to be limited to disturbed sites, i.e. it may not have the capacity to compete successfully with native plants in natural areas in Minnesota. As a nettle, and a member of the mint family, it can spread aggressively via vegetative propagation. Information regarding seed production and viability is very limited other than seeds are available for purchase. *Lamium maculatum* is not poisonous and is not dispersed by wind, water, or animals.

General Information

Status: Submitted

Screener: Mike Monterusso

Evaluation Date: July 11, 2017

Plant Information

Plant: *Lamium maculatum*

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:

Lamium maculatum has naturalized in many states and provinces in North America.

Reference(s):

- United States Department of Agriculture (2017). Plants Profile for *Lamium maculatum* (spotted henbit).
 - GBIF (2017). *Lamium maculatum* (L.) L..
-

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

Answer / Justification:

Lamium maculatum has naturalized in Wisconsin.



Reference(s):

- United States Department of Agriculture (2017). Plants Profile for *Lamium maculatum* (spotted henbit).
-

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

Answer / Justification:

Lamium maculatum was noted as being invasive in Antietam National Battlefield (Maryland).

Reference(s):

- Swearingen, J., & Barger C. (2015). spotted deadnettle: *Lamium maculatum* (Lamiales: Lamiaceae): Invasive Plant Atlas of the United States.
-

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

Answer / Justification:

While a few occurrences of *Lamium maculatum* have been noted worldwide (via GBIF) in a similar climate, it is difficult to determine if these occurrences are formally invasive or basic site observations. There is no evidence of *Lamium maculatum* as a listed or restricted plant. There is an occurrence reported on EDDMapS in MN, but this is the only observation available.



Reference(s):

- Gernes, C. (2016). EDDMapS Record ID: 4780395 - spotted deadnettle (*Lamium maculatum*).
 - GBIF (2017). *Lamium maculatum* (L.) L..
-

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

Answer / Justification:

Hemp nettle (*Galeopsis tetrahit*) is invasive in Wisconsin.

Reference(s):

- Wisconsin Department of Natural Resources (2010). Regulated Terrestrial Invasive Plants in WI.
-

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:

When comparing the climate matching tool to the GBIF species occurrences map, *Lamium maculatum* are concentrated in areas with climates different from Minnesota.

Reference(s):

- GBIF (2017). *Lamium maculatum* (L.) L..
-



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. It is a groundcover that is not found to displace or dominate the plant community, although it does form dense mounds. It matures at about 10 in. tall by 1.5 ft. wide.

Reference(s):

- Swearingen, J., & Barger C. (2015). spotted deadnettle: *Lamium maculatum* (Lamiales: Lamiaceae): Invasive Plant Atlas of the United States.
-

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

Answer / Justification:

No evidence found. Spotted dead nettle is a good ground cover for moist, shady areas.

Reference(s):

- NC State Extension (2017). *Lamium maculatum*.
-



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

Answer / Justification:

No evidence found. "The common name of "deadnettle" refers to the resemblance of the leaves to stinging nettles, but without the sting (therefore "dead") (Mahr).

Reference(s):

- NC State Extension (2017). *Lamium maculatum*.
 - Mahr, S. (2017). Spotted deadnettle, *Lamium maculatum*.
-

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:

It is a groundcover that matures at about 10 in. tall by 1.5 ft. wide. Commonly used as a ground cover in shade garden; shortbranched.

Reference(s):

- Swearingen, J., & Bargerion C. (2015). spotted deadnettle: *Lamium maculatum* (Lamiales: Lamiaceae): Invasive Plant Atlas of the United States.
 - Rudy, M. R. (2004). A Comparative Study of Ground Cover *Lamium*.
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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 *screeener* has a **High** confidence in this answer based on the available literature.

Reference(s):

- Washington State University Extension (2015). C101-Propagating-Perennials-15a.pdf.
 - Valleybrook International Ventures Inc. (2017). Plant Profile for *Lamium maculatum* 'Pink Pewter' - Creeping Lamium Perennial.
-

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: **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:

Stems will root into the ground where they touch

Reference(s):

- Washington State University Extension (2015). C101-Propagating-Perennials-15a.pdf.
 - Valleybrook International Ventures Inc. (2017). Plant Profile for *Lamium maculatum* 'Pink Pewter' - Creeping Lamium Perennial.
-

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

- 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:

Seeds are readily available for purchase

Reference(s):

- [Anonymous] .
-

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

Answer / Justification:

No evidence regarding the amount of seed produced could be 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?

Reference(s):

- [Anonymous] .
-

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: **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:

Lamium maculatum is a fast-growing herbaceous perennial that is capable of producing seed within three years of germination (personal observation).

Reference(s):

- NC State Extension (2017). *Lamium maculatum*.
 - Swearingen, J., & Barger C. (2015). spotted deadnettle: *Lamium maculatum* (Lamiales: Lamiaceae): Invasive Plant Atlas of the United States.
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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: **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:

"Flowering heavily in May and June and sporadically thereafter, sometimes with a minor flush in early Autumn."

Reference(s):

- The Ohio State University (2017). *Lamium maculatum*.
-

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



Answer / Justification:

No evidence of dispersal by mammals could be found.

Reference(s):

- [Anonymous] .
-

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 of dispersal by wind or water could be 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 of dispersal via contamination could be found.

Reference(s):

- [Anonymous] .



Total PRE Score

PRE Score: 11 -- Accept (low risk of invasiveness)

Confidence: 73 / 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:

- Tom Buechel

November 10, 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.

Issue ID # 6316

Date Created: January 22, 2018 - 6:05pm

Date Updated: January 24, 2018 - 3:00pm

Submitted by: Matthew Kaproth

Status: Fixed

Type: Suggestion

Severity: Major

Scope: Evaluation as a whole

Issue Description Multiple questions unanswered and/or without justification. **Issue Resolution (Screener's Response to Issue)**

Issue resolved by PRE Data Manager -- added multiple sources to evaluation and questions. Also added more info to questions lacking justifications. Q14 and Q15 left blank.

Issue ID # 6029

Date Created: November 30, 2017 - 9:01am

Date Updated: December 15, 2017 - 10:45am

Submitted by: Laura Van Riper

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Evaluation as a whole



Issue Description

There is an EDDMapS report of a population in Minnesota:

<https://www.eddmaps.org/distribution/point.cfm?id=4780395>

Issue Resolution (Screener's Response to Issue)

Issue resolved by PRE Data Manager -- EDDMapS occurrence added as a source to Q4. Did not update question answer from "No," as there is only the one occurrence.

Issue ID # 5808

Date Created: November 10, 2017 - 8:00am

Date Updated: November 28, 2017 - 10:13am

Submitted by: Tom Buechel

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Evaluation as a whole

Issue Description

The variegated form of *Lamium* is not very aggressive (lack of chlorophyll production most likely). I would pit the original plant as a potential watch or at least draw attention to Garden writers that the plant should not be planted near woodlands as it is the likely source of spread vegetatively. The original is more aggressive and could of fell into the watch category to alert the right parties of potential issues. This identifies that all plants are not created equal even in the same genus. That is why WI relegated plants as good or bad to the cultivar level. Regional performance may also play an important role. *Lamium* in the upper midwest does not perform like the east as our winters tend to set the plant back.

Issue Resolution (Screener's Response to Issue)

As the screener, I agree with the stakeholder's comments. If I understand the issue, the stakeholder suggest that the plant should be rated higher (i.e. "one to watch") because it has the tendency to spread



into woodlands. Looking over the initial summary, the screener's opinion is that this plant (straight species) has limited invasiveness in natural areas (in Minnesota). This is echoed by the stakeholder's observation regarding regionality. In other words, there would need to be evidence (sited references) of this species invading natural areas in a climate similar to Minnesota in order to consider an increase in score.



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.