Plant Risk Evaluator -- PRE™
Evaluation Report

Securigera varia -- Oregon

2022 Western IPM Grant Project

PRE Score: 14 -- Moderate Potential Risk
Confidence: 75 / 100
Questions answered: 20 of 20 -- Valid (80% or more questions answered)

Privacy: Private
Status: Completed

Evaluation Date: December 14, 2022

This PDF was created on May 22, 2025

This project was funded in part by the USDA National Institute of Food and Agriculture through the Western Integrated Pest Management Center, grant number 2018-70006-28881.

Plant Evaluated

Securigera varia

Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Securigera varia*) 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

Commonly known as crown vetch, Securigera varia (syn. Coronilla varia) is a perennial herb from the legume family. Native to the Mediterranean region, it was introduced and established in the United States between the 1950s and 1980s as ground cover and for soil erosion along roadways and in strip mining. It has been introduced and become established outside its native range in 14 other countries or islands including Europe, Australia, and New Zealand. Securigera varia is widespread throughout the US and Europe and can tolerate a diversity of climates. It's trailing stems can spread aggressively, reaching heights of one meter, and has been shown to crowd out native plant species. It primarily spreads vegetatively from small above ground stems with nodes and through rhizomes when provided with adequate moisture. Research has shown that seed viability is low, which indicates that vegetative reproduction is the primary form of reproduction. Due to its aggressive vegetative spread, it can be difficult to eradicate once it has established in an area. More research is needed to evaluate the seed germination timing and long-term seed viability. Also, there is lack of scientific evidence to suggest the plant's propagules spread by wind, water, or animals. However, considering its ability to spread aggressively from cut stems and rhizomes there is potential for it to be spread long distances by attaching to equipment and vehicles. Based on the results of this evaluation, Securigera varia received a total PRE score of 14, which puts it at moderate potential risk.

General Information

Status: Completed
Screener: Justine Casebolt
Evaluation Date: December 14, 2022

Plant Information

Plant: *Securigera varia*

Regional Information

Region Name: Oregon

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 on an article published by PLOS One, which can be found 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** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Securigera varia is a herbaceous perennial legume native to the Mediterranean region (Losure et al., 2009; Molano-Flores, 2014) and has been introduced and become established outside it's native range in 14 other countries or islands including the North America, Europe, Australia, and New Zealand. It was introduced to the US between the 1950s and 1980s as ground cover and to control soil erosion along roads and in strip mining (Gustine & Moyer, 1990; Losure et al., 2009).

Reference(s):

- Molano-Flores, B. (2014). An invasive plant species decreases native plant reproductive success. Natural Areas Journal. 34, 465–469.
- GBIF—the Global Biodiversity Information Facility (2022). Securigera varia (L.) Lassen in GBIF Secretariat. 2022,
- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Gustine, D. L., & Moyer B. G. (0). Crownvetch (Coronilla varia L.). Biotechnology in Agriculture and Forestry. 341–354.

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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** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Yes, it is found in areas with similar climate to Oregon (temperate mountain to temperate desert from USDA zones 4-11). It is well distributed throughout the US in areas with similar climate to Oregon such as Washington, Northern California, Idaho, Nevada, Utah, and areas of the eastern US. It is also found in other countries with similar climate such as Europe, Australia, and New Zealand.

Reference(s):

- GBIF—the Global Biodiversity Information Facility (2022). Securigera varia (L.) Lassen in GBIF Secretariat. 2022,

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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** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Yes, it is known as being invasive throughout the US (Molano-Flores, 2014; Losure et al., 2009) and it was found to be invasive in Nova Scotia, Canada (Flynn et al., 2013). According to the Climate Matching tool and GBIF, its has been reported across the US. It is known as a threat to natural areas due to it ability to spread aggressively forming thick monocultures that can crowd out native plant species (Losure et al., 2009; Symstad, 2004). Several states have listed it as invasive including Oregon, Alaska, Georgia, South Carolina, Wisconsin, Indiana, West Virginia, Kentucky, West Virginia, Virginia, and Maryland (Invasive Plant Atlas of the United States).

Reference(s):

- Molano-Flores, B. (2014). An invasive plant species decreases native plant reproductive success. Natural Areas Journal. 34, 465–469.
- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Flynn, A., Miller A. G., & Garbary D. J. (2013). Coronilla varia L. (Fabaceae): AN INVADER OF A COASTAL BARRIER BEACH IN NOVA SCOTIA, CANADA. Proceedings of the Nova Scotian Institute of Science (NSIS). 47,
- Symstad, A. J. (2004). Secondary invasion following the reduction of Coronilla varia (crownvetch) in sand prairie. The American Midland Naturalist. 152, 183–189.
- CABI (2019). Securigera securidaca. CABI Compendium. CABI Compendium, 117016.
- Invasive Plant Atlas of the United States (0). purple crown-vetch: Securigera varia (Fabales: Fabaceae): 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** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Yes, it is noted as being invasive in areas of similar climate to Oregon within the US (Molano-Flores, 2014; Losure et al., 2009) and Nova Scotia, Canada (Flynn et al., 2013). More specifically, it is noted as being invasive in West Virginia, Kentucky, Georgia, West Virginia, Virginia, and Maryland where the climate is similar to Oregon (Invasive Plant Atlas of the United States).

Reference(s):

- GBIF—the Global Biodiversity Information Facility (2022). Securigera varia (L.) Lassen in GBIF Secretariat. 2022,
- Molano-Flores, B. (2014). An invasive plant species decreases native plant reproductive success. Natural Areas Journal. 34, 465–469.
- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Flynn, A., Miller A. G., & Garbary D. J. (2013). Coronilla varia L. (Fabaceae): AN INVADER OF A COASTAL BARRIER BEACH IN NOVA SCOTIA, CANADA. Proceedings of the Nova Scotian Institute of Science (NSIS). 47,
- Invasive Plant Atlas of the United States (0). purple crown-vetch: Securigera varia (Fabales: Fabaceae): Invasive Plant Atlas of the United States.

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5. Are other species of the same genus (or closely related genera) invasive in a similar climate?

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

There is a lack of evidence that other species from the genus Securigena are invasive. Securigera securidaca was found in the Global Compendium of Weeds Digital Library and is not listed as invasive.

Reference(s):

- CABI (2019). Securigera securidaca. CABI Compendium. CABI Compendium, 117016.
- Randall, R.P. (2017). A Global Compendium of Weeds. Third Edition..

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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** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Based on the climate match results, this species is widespread and grows in a variety of different climates. It is found all throughout the US and Europe, which indicates it can tolerate a diversity of climates.

Reference(s):

- GBIF—the Global Biodiversity Information Facility (2022). Securigera varia (L.) Lassen in GBIF Secretariat. 2022,
- Molano-Flores, B. (2014). An invasive plant species decreases native plant reproductive success. Natural Areas Journal. 34, 465–469.
- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Symstad, A. J. (2004). Secondary invasion following the reduction of Coronilla varia (crownvetch) in sand prairie. The American Midland Naturalist. 152, 183–189.

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** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Yes, Securigera varia has been reported to have both direct and indirect impacts to native species (Molano-Flores, 2014). It's trailing stems can spread aggressively via seed and vegetatively, forming thick monocultures that can crowd out native plant species (Losure et al., 2009; Symstad, 2004). In both field and greenhouse studies, it has been shown to suppress growth and flowering of a rare native plant, Solidago shortii (Asteraceae), in northeastern Kentucky (Walck et al. 1999). It can also increase the availability of nitrogen in the soil, which alter the nutrient cycle and affect ecosystem dynamics (Symstad, 2004).

Reference(s):

- Molano-Flores, B. (2014). An invasive plant species decreases native plant reproductive success. Natural Areas Journal. 34, 465–469.
- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Symstad, A. J. (2004). Secondary invasion following the reduction of Coronilla varia (crownvetch) in sand prairie. The American Midland Naturalist. 152, 183–189.
- Walck, J. L., Baskin J. M., & Baskin C. C. (1999). Effects of competition from introduced plants on establishment, survival, growth and reproduction of the rare plant Solidago shortii (Asteraceae). Biological Conservation. 88, 213–219.

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8. Is the plant noted as promoting fire and/or changing fire regimes?

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Securigera varia is a herbaceous trailing legume that can grow up to a one meter in height (Molano-Flores, 2014) and primarily spreads vegetatively through rhizomes (Symstad, 2004). I could not find any evidence that Securigera varia promotes large-scale fires or alters the fire regime. There is a lack of research regarding this topic.

Reference(s):

- Molano-Flores, B. (2014). An invasive plant species decreases native plant reproductive success. Natural Areas Journal. 34, 465–469.
- Symstad, A. J. (2004). Secondary invasion following the reduction of Coronilla varia (crownvetch) in sand prairie. The American Midland Naturalist. 152, 183–189.

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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: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

It contains ?-nitropropionic acid, which is a neurotoxin (Campbell, 2006; Majak & Bose, 1976). This toxin inhibits succinate dehydrogenase, which is a key enzyme in the Kreb cycle and the electron transport chain resulting in neurotoxicity and even death in humans and livestock (Francis et al., 2013). This toxin can also affect birds, voles, chicks, horses and other non-ruminant animals (Campbell, 2006; Shenk et al., 1976; Yerlikaya et al., 2021). Symptoms can include reduced food intake, weight loss, and abnormal behavioral symptoms. Most reports of ?-nitropropionic acid poisoning in domestic animals were caused from the consumption of Astragalus species (from same family-Fabaceae) (Ludolph et al., 1991). Other than the studies provided, I could not find any other evidence that Securigera varia is specifically consumed in high doses resulting in toxicity or death in humans, fish, or other grazing animals.

Reference(s):

- Campbell, T. W. (2006). Crown vetch (Coronilla varia) poisoning in a budgerigar (Melopsittacus undulatus). Journal of Avian Medicine and Surgery. 20, 97–100.
- Shenk, J. S., Wangsness P. J., Leach R. M., Gustine D. L., Gobble J. L., & Barnes R. F. (1976). Relationship between ?-Nitropropionic Acid Content of Crownvetch and Toxicity in Nonruminant Animals. Journal of Animal Science. 42, 616–621.
- Majak, W., & Bose R. J. (1976). Nitropropanylglucopyranoses in Coronilla varia. Phytochemistry. 15, 415–417.
- Francis, K., Smitherman C., Nishino S. F., Spain J. C., & Gadda G. (2013). The biochemistry of the metabolic poison propionate 3-nitronate and its conjugate acid, 3-nitropropionate. IUBMB Life. 65, 759–768.
- Yerlikaya, S., Baloglu M. Cengiz, Altunoglu Y. Celik, Diuzheva A., Jek? J., Cziáky Z., et al. (2021). Exploring of Coronilla varia L. extracts as a source of high-value natural agents: Chemical profiles and biological connections. South African Journal of Botany. 143, 382–392.
- Ludolph, A. C., He F., Spencer P. S., Hammerstad J., & Sabri M. (1991). 3-Nitropropionic Acid - Exogenous Animal Neurotoxin and Possible Human Striatal Toxin. Canadian Journal of Neurological Sciences. 18, 492–498.

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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** point(s) to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

There is a lack of evidence that Securigera varia forms impenetrable thickets, blocking or slowing the movement of animals. This is a herbaceous legume that can grow up to a one meter in height (Molano-Flores, 2014) so it can be inferred that the chances of blocking animal movements is fairly low.

Reference(s):

- Molano-Flores, B. (2014). An invasive plant species decreases native plant reproductive success. Natural Areas Journal. 34, 465–469.

Reproductive Strategies (Questions 11 - 17)

11. Does this species (or cultivar or variety) reproduce and spread vegetatively?

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Yes, research suggests that even small fragments are capable of spreading vegetatively by rhizomes. Above ground stems with a node can also generate new plants with proper moisture. Scott and Mason (1992) characterize Securigera varia by it's ability to spread extensively by rhizomes and found that it had the greatest initial spread by it's third summer of growth when compared to other rhizomatous legumes.

Reference(s):

- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Scott, D., & Mason C. R. (1992). Potential for high country pasture improvement from planting of rhizome fragments of spreading legumes. Proceedings of the New Zealand Grassland Association. 127–129.

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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: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Yes, the research suggests that this is a common method of reproduction. In a controlled lab setting, Losure et al. (2009) documented Securigera varia ability to propagate from fragments of the above ground stem. They found that any above ground stem section with a node can generate a new plant suggesting that asexual reproduction is more common than sexual reproduction. Losure et al. (2009) also suggest that this could be the mechanism behind why mowing is shown to be an ineffective method of control for Securigera varia (Symstad, 2002).

Reference(s):

- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Scott, D., & Mason C. R. (1992). Potential for high country pasture improvement from planting of rhizome fragments of spreading legumes. Proceedings of the New Zealand Grassland Association. 127–129.
- Symstad, A. J. (2004). Secondary invasion following the reduction of Coronilla varia (crownvetch) in sand prairie. The American Midland Naturalist. 152, 183–189.

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

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

The evidence suggests that vegetative reproduction is the primary form of reproduction. Losure et al. (2009) failed to find viable seeds in the soil samples taken from two established patches of Securigera varia.

Reference(s):

- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Scott, D., & Mason C. R. (1992). Potential for high country pasture improvement from planting of rhizome fragments of spreading legumes. Proceedings of the New Zealand Grassland Association. 127–129.

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

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

The evidence suggests that seed viability is low each year.

Reference(s):

- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Scott, D., & Mason C. R. (1992). Potential for high country pasture improvement from planting of rhizome fragments of spreading legumes. Proceedings of the New Zealand Grassland Association. 127–129.

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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?

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Successful seed recruitment is rare, Losure et al. (2009) found no viable seeds in two established dense patches of Securigera varia. However, the seeds of Securigera varia can remain dormant and viable in the soil for over 15 years (Padureanu, 2011)

Reference(s):

- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- P?dureanu, S. (2011). Morphological characterization and the germinating potential of Coronilla varia L. pollen. Agronomy Series of Scientific Research/Lucrari Stiintifice Seria Agronomie. 54,

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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** point(s) to the total PRE score.
- The *screener* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

Plants are slow to establish, requiring 2-3 years for overall coverage (Gustine & Moyer, 1990), however, seed viability is shown to be low (Losure et al., 2009; Scott & Mason, 1992). Scott and Mason (1992) indicate that it can take 4 to 7 years for the species "to become apparent in a sward." More research is needed to examine when and if the plant will establish it's first viable seeds, which is why the confidence level is low.

Reference(s):

- Gustine, D. L., & Moyer B. G. (0). Crownvetch (Coronilla varia L.). Biotechnology in Agriculture and Forestry. 341–354.
- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Scott, D., & Mason C. R. (1992). Potential for high country pasture improvement from planting of rhizome fragments of spreading legumes. Proceedings of the New Zealand Grassland Association. 127–129.

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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** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Yes, it can flower and produce seed for an entire growing season and it is common to find new flowers and mature fruits within the same patch.

Reference(s):

- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.

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** point(s) to the total PRE score.
- The *screener* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

There is a lack of evidence to suggest that the propagules are frequently dispersed long distances by mammals, bird, or other domestic animals.

Reference(s):

- [Anonymous] .

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

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

There is a lack of evidence to suggest that the plant's propagules are frequently dispersed long distances by wind or water. It usually grows in dry and dry-mesic sand prairie upland habitat, so the chances of spreading by water are most likely low (Molano-Flores, 2014).

Reference(s):

- Molano-Flores, B. (2014). An invasive plant species decreases native plant reproductive success. Natural Areas Journal. 34, 465–469.

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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: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

There is a lack of scientific studies that show the plant's propagules are frequently dispersed from regular contact with humans, which is why the confidence is low. However, the evidence suggests that Securigera varia can propagate from fragments of the above ground stem and this could be the mechanism behind why mowing is shown to be an ineffective method of control (Losure et al., 2009; Symstad, 2002).

Reference(s):

- Losure, D. A., Moloney K. A., & Wilsey B. J. (2009). Modes of crown vetch invasion and persistence. The American Midland Naturalist. 161, 232–242.
- Symstad, A. J. (2004). Secondary invasion following the reduction of Coronilla varia (crownvetch) in sand prairie. The American Midland Naturalist. 152, 183–189.

Total PRE Score

PRE Score: 14 -- Moderate Potential Risk
Confidence: 75 / 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 : Low Potential Risk
13 - 15 : Moderate Potential Risk
> 15 : High Potential Risk

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: 2022 Western IPM Grant Project
Content Privacy: Private

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:

• Troy Abercrombie	February 14, 2023
• Jutta Burger	February 9, 2023
• Nicole Valentine	January 27, 2023
• Alex Simmons	December 29, 2022

This evaluation has a total of 4 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 info@plantright.org if additional action is required to resolve open issues.

Issue ID # 8795

Date Created: February 9, 2023 - 5:35pm
Date Updated: February 12, 2023 - 12:49pm

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q20. Are the plant’s propagules frequently dispersed via contaminated seed, equipment, vehicles, boats or clothing/shoes?

Issue Description

Given that there's little apparent dispersal by seed, it seems that either equipment or waterways are the major dispersal agents (unless all localities appear to be coming from conscious planting). Make sure that Q19 and Q20 are really "no". Jutta Burger

Issue Resolution (Screener's Response to Issue)

Added additional information to questions 19 and 20. Changed 20 to a yes with low confidence since the evidence to support this is lacking. Added "However, the evidence suggests that Securigera varia can propagate from fragments of the above ground stem and this could be the mechanism behind why mowing is shown to be an ineffective method of control (Losure et al., 2009; Symstad, 2002)."

Issue ID # 8794

Date Created: February 9, 2023 - 5:32pm
Date Updated: February 12, 2023 - 12:07pm

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q14. Does this plant produce copious viable seeds each year (>1000)?

Issue Description

Looks like you have ample evidence to have "very high" confidence here. - Jutta

Issue Resolution (Screener's Response to Issue)

Changed confidence to very high

Issue ID # 8793

Date Created: February 9, 2023 - 5:27pm
Date Updated: February 12, 2023 - 11:53am

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q12. If naturally detached fragments from this plant are capable of producing new plants, is this a common method of reproduction for the plant?

Issue Description

The answer makes it unclear whether asexual reproduction is common in the field, yet the answer for seed production implies that it's the primary mode. Clarify and/or reduce confidence to Medium. - Jutta

Issue Resolution (Screener's Response to Issue)

Made some adjustments to the wording and added more information, hope I made it more clear. Also, I reduced the confidence level to high instead of very high

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Issue ID # 8792

Date Created: February 9, 2023 - 5:24pm
Date Updated: February 12, 2023 - 11:22am

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q08. Is the plant noted as promoting fire and/or changing fire regimes?

Issue Description

Mention something about the species' growth habit/stature that could help justify the inference that it does not change fire frequency. - Jutta

Issue Resolution (Screener's Response to Issue)

Added growth habits and height

Issue ID # 8791

Date Created: February 9, 2023 - 5:19pm
Date Updated: February 12, 2023 - 11:06am

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q01. Has the species (or cultivar or variety, if applicable) become naturalized where it is not native?

Issue Description

Because the question asks about the species becoming naturalized, make mention of it having become

established after introduction. - Jutta

Issue Resolution (Screener's Response to Issue)

Added "established" to both the summary and Question 1.

Issue ID # 8742

Date Created: January 27, 2023 - 1:08pm
Date Updated: February 12, 2023 - 12:17pm

Submitted by: Nicole Valentine

Status: Fixed
Type: Comment
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

Just a note for scoring that a Yes with low confidence still counts towards the score. -NV

Issue Resolution (Screener's Response to Issue)

With the amount of evidence for vegetative reproduction and low seed viability, I changed the answer to no with low confidence.

Issue ID # 8741

Date Created: January 27, 2023 - 1:05pm
Date Updated: February 12, 2023 - 11:24am

Submitted by: Nicole Valentine

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q08. Is the plant noted as promoting fire and/or changing fire regimes?

Issue Description

You can mention its growth habit and if this supports a no answer to changing fire regime then you could make an inference with medium confidence. -NV

Issue Resolution (Screener's Response to Issue)

Added growth habits and height information. Also changed the confidence to medium level

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Issue ID # 8682

Date Created: December 29, 2022 - 11:09am
Date Updated: December 29, 2022 - 5:34pm

Submitted by: Alex Simmons

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q09. Is the plant a health risk to humans or animals/fish? Has the species been noted as impacting grazing systems?

Issue Description

Is there any risk to humans, fish or grazing systems? -Alex Simmons

Issue Resolution (Screener's Response to Issue)

Added more information on toxicity. From my research I could not find any cases (other than the ones provided) that Securigera varia specifically is consumed in high doses resulting in toxicity or death in humans, fish, or other grazing animals, but it certainly is possible. Most reports of ?-nitropropionic acid poisoning in domestic animals were caused from the consumption of Astragalus species (from same family-Fabaceae). Lowered confidence from very high to high.

Issue ID # 8680

Date Created: December 29, 2022 - 10:57am
Date Updated: December 29, 2022 - 4:11pm

Submitted by: Alex Simmons

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q04. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar climate?

Issue Description

Once again, please get more specific about where in the US there is matching climate and occurences.
-Alex Simmons

Issue Resolution (Screener's Response to Issue)

Added information on states that have similar climate to Oregon that list it as invasive according to the Invasive Plant Atlas of the United States.

Issue ID # 8679

Date Created: December 29, 2022 - 10:56am
Date Updated: December 29, 2022 - 4:10pm

Submitted by: Alex Simmons

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q03. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

Issue Description

Are there specific states that is considered invasive in in the US? Is it on notable lists or is there evidence of its economic or environmental damage? Tell us how you know. -Alex Simmons

Issue Resolution (Screener's Response to Issue)

Added information on it's threat to natural areas and the states that list it as invasive according to the Invasive Plant Atlas of the Unites States.

About PRE and this Plant Evaluation Report

The Plant Risk Evaluator (PRE) is an online database and platform designed to assess the risk of a plant becoming invasive in a given region.This tool offers many benefits, and we encourage you to visit the PRE website (https://pretool.org) for more information.

If you would like to learn more about PRE, please email us at info@plantright.org, requesting a PRE Account.

PRE beta funding was provided by Sustainable Conservation (https://www.suscon.org/) and a USDA Farm Bill grant. Additional funding has been provided by the Western Integrated Pest Management Center.