



***Plant Risk Evaluator -- PRETM
Evaluation Report***

Adonis aestivalis -- California

2022 Western IPM Grant Project

PRE Score: 15 -- Moderate Potential Risk

Confidence: 81 / 100

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

Privacy: Public

Status: Completed

Evaluation Date: June 30, 2022

This PDF was created on May 23, 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

Adonis aestivalis



Image by Richard Spellenberg



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Adonis aestivalis*) 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

Adonis aestivalis (pheasant's eye) is an herbaceous annual introduced to the US through horticulture that has since naturalized in the Western US (California, Idaho, Oregon, Montana, Utah, Washington). *Adonis aestivalis* is listed as a noxious weed in Oregon and was evaluated as "high risk" by USDA's Weed Risk Assessment. Most information about this species concerns it affecting cultivated areas. This plant is toxic to livestock, which is especially problematic as this plant is known to infest cereal crops and contaminate hay. Its dispersal is enabled by agriculture as a reported crop and wool contaminant. This plant only reproduces by seed and although it does not produce copious seeds, it may have viable seed banks for decades.

General Information

Status: Completed

Screener: Nicole Valentine

Evaluation Date: June 30, 2022

Plant Information

Plant: *Adonis aestivalis*

Regional Information

Region Name: California



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

Answer / Justification:

Adonis aestivalis is native to Europe and North Africa along the Mediterranean Basin, Western Asia, and temperate and tropical climates in Asia (Meyer 2015, GBIF). The exact boundaries of its native range are not clearly defined. *Adonis aestivalis* is on the GRIIS list of Introduced and Invasive Species for the following countries: US, Poland, Czechia, Germany, Croatia, Ukraine, Kyrgyzstan, Bosnia and Herzegovina, and Uzbekistan (GBIF, GRIIS).

Reference(s):

- GBIF(Global Biodiversity Information Facility) (2021). GBIF Occurrence Download.
- iNaturalist Network (0). iNaturalist.
- [Anonymous] (2020). Global Register of Introduced and Invasive Species (GRIIS).
- Meyer, S., Wesche K., Hans J., Leuschner C., & Albach DC. (2015). Landscape complexity has limited effects on the genetic structure of two arable plant species, *Adonis aestivalis* and *Consolida regalis*. *Weed Research*. 55(4), 406–415.

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



Answer / Justification:

Adonis aestivalis is native to Europe and North Africa along the Mediterranean Basin, Western Asia, and temperate and tropical climates in Asia (Meyer 2015, GBIF). The exact boundaries of its native range are not clearly defined. *Adonis aestivalis* has naturalized in areas with a similar climate to California in Czechia, Germany, Croatia, Kyrgyzstan, Bosnia and Herzegovina, and Uzbekistan (GBIF). *Adonis aestivalis* has naturalized in the US in areas with a similar climate to California along the northern Appalachians, Washington, Oregon, Northern California, Northern Utah, and Southern Idaho (GBIF, iNaturalist).

Reference(s):

- GBIF (2016). GBIF Backbone Taxonomy.
 - iNaturalist Network (0). iNaturalist.
 - Meyer, S., Wesche K., Hans J., Leuschner C., & Albach DC. (2015). Landscape complexity has limited effects on the genetic structure of two arable plant species, *Adonis aestivalis* and *Consolida regalis*. *Weed Research*. 55(4), 406–415.
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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 *screeener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Adonis aestivalis has become a weed in the northwestern US in cultivated areas, pastures, and roadsides (ODA 2013). *Adonis aestivalis* in Oregon is a Class B noxious weed, a weed of economic significance (ODA 2013). Alfalfa and grass hay contaminated by *A. aestivalis* can be of limited or reduced value as a commodity (ODA 2013). The species is considered invasive in Croatia and Bulgaria (USDA-APHIS). There was no evidence of *Adonis aestivalis* listed as invasive in Turkey, however this species has caused economic damage there by reducing lentil yields (Erman et al., 2004).

Reference(s):

- Oregon Department of Agriculture (ODA) (2013). Plant Pest Risk Assessment for Pheasant's eye, *Adonis aestivalis*.
- Erman, M., Tepe I., Yazlik A., Levent R., & Ipek K. (2004). Effect of weed control treatments on weeds, seed yield, yield components and nodulation in winter lentil. *Weed Research*. 44(4), 305-312.
- USDA-APHIS (2019). Weed Risk Assessment for *Adonis aestivalis* L. (Ranunculaceae) – Summer pheasant's-eye.



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

Answer / Justification:

Adonis aestivalis has become a weed in the northwestern US in cultivated areas, pastures, and roadsides (ODA 2013). *Adonis aestivalis* in Oregon is a Class B noxious weed, a weed of economic significance (ODA 2013). Alfalfa and grass hay contaminated by *A. aestivalis* can be of limited or reduced value as a commodity (ODA 2013). Croatia and Bulgaria partially match the climate of California, and the species is considered invasive in these countries (USDA-APHIS). There was no evidence of *Adonis aestivalis* listed as invasive in Turkey (which largely matches California's climate), however, this species has caused economic damage there by reducing lentil yields (Erman et al., 2004).

Reference(s):

- Oregon Department of Agriculture (ODA) (2013). Plant Pest Risk Assessment for Pheasant's eye, *Adonis aestivalis*.
 - USDA-APHIS (2019). Weed Risk Assessment for *Adonis aestivalis* L. (Ranunculaceae) – Summer pheasant's-eye.
 - Erman, M., Tepe I., Yazlik A., Levent R., & Ipek K. (2004). Effect of weed control treatments on weeds, seed yield, yield components and nodulation in winter lentil. *Weed Research*. 44(4), 305-312.
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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 *screeners* has a **High** confidence in this answer based on the available literature.



Answer / Justification:

Adonis microcarpa was declared a noxious weed in areas of Southern Australia in 1956 due to its unpalatability and toxicity, but it is no longer declared a noxious weed (Government of South Australia 2014). There is no evidence that other members of the tribe Adonideae were invasive in a similar climate.

Reference(s):

- Invasive Plant Atlas of the United States (0). Herbs/Forbs: Invasive Plant Atlas of the United States.
 - Government of South Australia (2014). Plant Policy small-fruited pheasant's eye (*Adonis microcarpa*).
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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** point(s) to the total PRE score.
- The *screeners* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Most occurrences of *Adonis aestivalis* are within the climate matching California: around the Mediterranean Sea (Portugal, Morocco, Tunisia, Israel, Lebanon, Turkey, Greece, Bulgaria, Albania, Italy, Spain, southern France, Germany, and eastern Belgium), across Asia (Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Afghanistan, Pakistan, Nepal, and southwestern China), and in the US (northern Appalachians, Washington, Oregon, northern California, northern Utah, and southern Idaho). *Adonis aestivalis* does occur in cooler climates than those that match California. There are some dense occurrences outside the climate matching California in northern France, western Belgium, and Germany. There are scattered occurrences outside the climate matching California in the UK, Sweden, Finland, Poland, Ukraine, and Russia.

Reference(s):

- GBIF (2016). GBIF Backbone Taxonomy.
 - iNaturalist Network (0). iNaturalist.
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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** point(s) to the total PRE score.
- The *screeners* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Adonis aestivalis is reported to occur in wildlands, but there are not many accounts of these occurrences, so there is little information on whether *Adonis aestivalis* displaces native plants. *Adonis aestivalis* is an herbaceous annual up to 70 cm tall, so as a smaller plant it would have to form stands to displace native plants (Jepson eFlora 2022). There are accounts of *Adonis aestivalis* forming thicker stands on farmlands, where it can displace crops. This species can form thick stands on roadsides and in irrigated alfalfa (ODA 2013). *Adonis aestivalis* in untreated lentil fields in Turkey had a density of 30 plants per square meter; however, it was initially overtopped by other weeds (Erman et al 2004). *Adonis aestivalis* may be capable of forming thick stands in specific cultivated settings, but because there are no accounts of *Adonis aestivalis* forming thick stands in wildlands, there is not enough evidence to support *Adonis aestivalis* displacing native plants.

Reference(s):

- Oregon Department of Agriculture (ODA) (2013). Plant Pest Risk Assessment for Pheasant's eye, *Adonis aestivalis*.
 - Erman, M., Tepe I., Yazlik A., Levent R., & Ipek K. (2004). Effect of weed control treatments on weeds, seed yield, yield components and nodulation in winter lentil. *Weed Research*. 44(4), 305-312.
 - Jepson Flora Project (2014). Jepson eFlora.
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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 *screeners* has a **Medium** confidence in this answer based on the available literature.



Answer / Justification:

There is no evidence *Adonis aestivalis* promotes fire or changes fire regimes. Most reports of *Adonis aestivalis* are in cultivated areas, pastures, and roadsides rather than wildlands (ODA 2013). *Adonis aestivalis* is an herbaceous annual up to 70 cm tall (Jepson eFlora).

Reference(s):

- Jepson Flora Project (2014). Jepson eFlora.
 - Oregon Department of Agriculture (ODA) (2013). Plant Pest Risk Assessment for Pheasant's eye, *Adonis aestivalis*.
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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 *screeener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

The leaves and flowers of *Adonis aestivalis* contain the potent cardenolides strophanthin and cymarin (Woods et al 2007). *Adonis aestivalis* is fatally toxic to several animals including pigs, horses, sheep, and rabbits (Stegelmeier et al 2007; Woods et al 2007). Cattle are less susceptible to *Adonis aestivalis* toxicity than horses, pigs, and sheep (Woods et al 2007). As little as 450 gms of plant material is fatal to sheep (Woods et al 2007). *Adonis aestivalis* is known to invade alfalfa fields and contaminate hay, which increases the likelihood of *A. aestivalis* toxicity affecting livestock. *Adonis aestivalis* can be toxic to humans and fish, but problems are less likely to occur considering that *Adonis aestivalis* is known as a weed of cultivated areas and pastures. *Adonis aestivalis* contains cardiac glycosides, which can be poisonous to humans, and should only be used medicinally under medical supervision (Maham and Sarrafzadeh-Rezaei 2014). Smaller-sized rainbow trout that were fed a diet containing *Adonis aestivalis* flowers had mortalities whereas fish on a diet containing *Adonis aestivalis* pigment extract did not experience mortalities (Kamata et al 1990).



Reference(s):

- Stegelmeier, B. L., Hall J. O., Lee S. T., James L. F., Gardner D. R., Panter K. E., et al. (2007). Pheasant's eye (*Adonis aestivalis*) toxicity in livestock and rodents. *Poisonous Plants: Global Research and Solutions*. 463-467.
 - Woods, L. W., George L. W., Anderson M. L., Woods D. M., Filigenzi M. S., & Puschner B. (2007). Evaluation of the toxicity of *Adonis aestivalis* in calves. *Journal of Veterinary Diagnostic Investigation*. 19(5), 581-585 .
 - Maham, M., & Sarrafzadeh-Rezaei F. (2014). Cardiovascular effects of *Adonis aestivalis* in anesthetized sheep. *Vet Res Forum*. 5(3),
 - Kamata, T., Neamtu G., Tanaka Y., Sameshima M., & Simpson K. L. (1990). Utilization of *Adonis aestivalis* as a Dietary Pigment Source for Rainbow Trout *Salmo gairdneri*. *J-Stage*. 56(5), 783-788.
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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 *screeener* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Adonis aestivalis is an herbaceous annual up to 70 cm tall that is unlikely to produce impenetrable thickets (Jepson eFlora). This species can form thick stands on roadsides and in irrigated alfalfa but given its growth habit, it is unlikely to produce impenetrable thickets (ODA 2013).

Reference(s):

- Jepson Flora Project (2014). Jepson eFlora.
 - Oregon Department of Agriculture (ODA) (2013). Plant Pest Risk Assessment for Pheasant's eye, *Adonis aestivalis*.
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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** point(s) to the total PRE score.
- The *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Adonis aestivalis is a taprooted herbaceous annual that reproduces by seed only (Jepson eFlora, ODA 2013). There is no reported evidence of *Adonis aestivalis* reproducing or spreading vegetatively.

Reference(s):

- Oregon Department of Agriculture (ODA) (2013). Plant Pest Risk Assessment for Pheasant's eye, *Adonis aestivalis*.
 - Jepson Flora Project (2014). Jepson eFlora.
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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: **No**, which contributes **0** point(s) to the total PRE score.
- The *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Adonis aestivalis is an herbaceous annual that reproduces by seed only (ODA 2013). There is no reported evidence of *Adonis aestivalis* reproducing by detaching fragments, so this could not be a common method of reproduction.

Reference(s):

- Oregon Department of Agriculture (ODA) (2013). Plant Pest Risk Assessment for Pheasant's eye, *Adonis aestivalis*.
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13. Does the species (or cultivar or variety) commonly produce viable seed?

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

Answer / Justification:

Adonis aestivalis is an herbaceous annual that reproduces by seed only (ODA 2013). I could not locate any studies on the percentage of viable seed for this species. However seeds of *A. aestivalis* may remain viable in the seedbank for up to 54 years (Wäldchen et al. 2005).

Reference(s):

- Oregon Department of Agriculture (ODA) (2013). Plant Pest Risk Assessment for Pheasant's eye, *Adonis aestivalis*.
 - Wäldchen, J., Pusch J., & Luthardt V. (2005). Germination capacity of weed seeds – investigations in the north of Thuringia. Beitr. Forstwirtschaft. u. Landsch.ökol.. 38(2),
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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 *screeners* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

A single plant can produce 114 seeds (Hussain et al., 1993 as cited in USDA-APHIS 2019).

Reference(s):

- Hussain, F., Ayaz M., Hayat S., & Saljoqi AR. (1993). Life form, leaf spectra, seed out-put and biomass of weeds in the wheat fields of Mayar-Jandool, district Dir [Pakistan]. Sarhad Journal of Agriculture. 9(6), 539-542.
 - USDA-APHIS (2019). Weed Risk Assessment for *Adonis aestivalis* L. (Ranunculaceae) – Summer pheasant's-eye.
-



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** point(s) 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 *Adonis aestivalis* requiring infrequent environmental conditions to germinate. *Adonis aestivalis* seeds are sold on several sites with no mention of requirements listed for germination (Everly 2022, Outside Pride, PFAF). There is little information on *Adonis aestivalis* germination rates. When *Adonis aestivalis* was sown in Hungary in late October, *Adonis aestivalis* did not germinate at all, but it did germinate in April (Ecseri et al 2015). Seeds of *A. aestivalis* may remain viable in the seedbank for up to 54 years (Wäldchen et al. 2005).

Reference(s):

- Everly, J. (0). ASTONISHING ADONIS AESTIVALIS: GROWING SUMMER PHEASANT'S EYE FROM SEED. 2022,
- Outsidepride.com Inc. (2015). Outside Pride.com Seed Sales.
- Plants For A Future (PFAF) (2012). Plants For A Future (PFAF).
- Ecseri, K., Mosnoyi I. Dániel, Mándy A. Tillyné, & Honfi P. (2015). DECORATION VALUE AND HERBICIDE SENSIBILITY OF SOME EPHEMERAL ANNUAL ORNAMENTAL PLANTS. Scientific Papers. Series B, Horticulture. LIX,
- Wäldchen, J., Pusch J., & Luthardt V. (2005). Germination capacity of weed seeds – investigations in the north of Thuringia. Beitr. Forstwirtsch. u. Landsch.ökol.. 38(2),

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

Answer / Justification:

Adonis aestivalis is an herbaceous annual that reproduces by seed only (Jepson eFlora 2022, ODA 2013).



Reference(s):

- Jepson Flora Project (2014). Jepson eFlora.
 - Oregon Department of Agriculture (ODA) (2013). Plant Pest Risk Assessment for Pheasant's eye, *Adonis aestivalis*.
-

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

Answer / Justification:

Adonis aestivalis is reported to flower for three months or less during the summer. *Adonis aestivalis* flowers in California from May to July (Calflora). Bloom time in Oregon is also mid-summer (ODA 2013).

Reference(s):

- Calflora (0). Calflora: Plant Search.
 - Oregon Department of Agriculture (ODA) (2013). Plant Pest Risk Assessment for Pheasant's eye, *Adonis aestivalis*.
-

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



Answer / Justification:

Adonis aestivalis was introduced to the British Isles in wool though it is unspecified whether wool is the product or on sheep (Clement and Foster 2000 as cited in USDA-APHIS 2019). However, there are no other accounts of this species spreading long distances by animals, so this does not seem to be a frequent occurrence.

Reference(s):

- USDA-APHIS (2019). Weed Risk Assessment for *Adonis aestivalis* L. (Ranunculaceae) – Summer pheasant's-eye.
 - Clement, E.J., & Foster MC. (2000). Alien Plants of the British Isles: A Provisional Catalogue of Vascular Plants (excluding grasses). 590.
-

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

Answer / Justification:

There is no evidence that *Adonis aestivalis* seeds are dispersed long distances by wind or water. *Adonis aestivalis* seeds are achenes with a terminal recurved or slightly curved beak (Meyer et al 2015). There is anecdotal evidence that the seeds are heavy and don't scatter far (Everly 2022).

Reference(s):

- Erman, M., Tepe I., Yazlik A., Levent R., & Ipek K. (2004). Effect of weed control treatments on weeds, seed yield, yield components and nodulation in winter lentil. *Weed Research*. 44(4), 305-312.
 - Everly, J. (0). ASTONISHING ADONIS AESTIVALIS: GROWING SUMMER PHEASANT'S EYE FROM SEED. 2022,
 - Meyer, S., Wesche K., Hans J., Leuschner C., & Albach DC. (2015). Landscape complexity has limited effects on the genetic structure of two arable plant species, *Adonis aestivalis* and *Consolida regalis*. *Weed Research*. 55(4), 406–415.
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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 *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

Adonis aestivalis has been dispersed through several agricultural means. The species is known as a contaminant of hay (Woods et al. 2007). *Adonis aestivalis* has been intercepted as a contaminant of grass seed from France and other seeds for propagation from Denmark (AQAS 2019 as cited in USDA-APHIS 2019). *Adonis aestivalis* was introduced to the British Isles (including the Channel Islands and Ireland) in wool (Clement and Foster 2000 as cited in USDA-APHIS 2019). The Canadian Food Inspection Agency Seed Laboratory has also identified this species in a sample of flower seed mixture from the Netherlands (USDA-APHIS 2019).

Reference(s):

- USDA-APHIS (2019). Weed Risk Assessment for *Adonis aestivalis* L. (Ranunculaceae) – Summer pheasant's-eye.
- Woods, L. W., George L. W., Anderson M. L., Woods D. M., Filigenzi M. S., & Puschner B. (2007). Evaluation of the toxicity of *Adonis aestivalis* in calves. *Journal of Veterinary Diagnostic Investigation*. 19(5), 581-585 .
- Clement, E.J., & Foster MC. (2000). *Alien Plants of the British Isles: A Provisional Catalogue of Vascular Plants (excluding grasses)*. 590.

Evaluation Notes

Calflora: <https://www.calflora.org/app/taxon?crn=104> Accessed: 07/21/2022 GBIF: <https://www.gbif.org/species/5371707> Accessed: 07/21/2022 iNaturalist: <https://www.inaturalist.org/taxa/57426-Adonis-aestivalis> Accessed: 07/21/2022 Jepson eFlora: https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=11986 Accessed: 07/21/2022 Outside Pride: <https://www.outsidepride.com/seed/flower-seed/adonis.html> Accessed: 07/21/2022 Plants for a Future (PFAF): <https://pfaf.org/User/Plant.aspx?LatinName=Adonis+aestivalis> Accessed: 07/21/2022



Total PRE Score

PRE Score: 15 -- Moderate Potential Risk

Confidence: 81 / 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: 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:

• Lauren Quon	December 14, 2022
• Scott Oneto	December 14, 2022
• Jutta Burger	October 3, 2022
• Alex Simmons	September 7, 2022
• Marie Jasieniuk	September 6, 2022

This evaluation has a total of 5 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 # 8136

Date Created: September 7, 2022 - 6:20pm

Date Updated: October 12, 2022 - 8:58am

Submitted by: Alex Simmons

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q15. 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?

Issue Description

Maybe add "Seeds of *A. aestivalis* may remain viable in the seedbank for up to 54 years" up to question 13 where it specifically looking at viability. -Alex Simmons

Issue Resolution (Screener's Response to Issue) Added in suggested sentence. -NV

Issue ID # 8135

Date Created: September 7, 2022 - 6:18pm

Date Updated: October 12, 2022 - 9:31am

Submitted by: Alex Simmons

Status: Fixed

Type: Comment



Severity: Minor

Scope: Q13. Does the species (or cultivar or variety) commonly produce viable seed?

Issue Description

Was there any more specific info about % viable seed? -Alex Simmons

Issue Resolution (Screener's Response to Issue) Added in a sentence addressing that I could not find any information on the percentage of viable seed. -NV

Issue ID # 8134

Date Created: September 7, 2022 - 6:09pm

Date Updated: October 12, 2022 - 8:57am

Submitted by: Alex Simmons

Status: Fixed

Type: Comment

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

Again, I find the part about Turkey to be a little unclear in the justification. Although there is strong evidence that it has negatively affected the lentil crop, does not mean it has been listed or considered invasive? I think a follow up sentence explaining how this shows or supports invasiveness would be helpful. -Alex Simmons

Issue Resolution (Screener's Response to Issue) I tried to clarify that I found the lentil reduction as evidence of economic damage, which fits PRE's definition of invasive. But I did not find this species listed as invasive for Turkey -NV



Issue ID # 8133

Date Created: September 7, 2022 - 6:05pm

Date Updated: October 12, 2022 - 8:56am

Submitted by: Alex Simmons

Status: 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

Does Turkey have *A. aestivalis* listed as invasive because of its affect on lentil crops? Please elaborate on this piece of information. -Alex Simmons

Issue Resolution (Screener's Response to Issue) I added in that the lentil reduction is economic damage, which fits PRE's definition of invasive. But I did not find this species listed as invasive for Turkey -NV

Issue ID # 8132

Date Created: September 7, 2022 - 6:00pm

Date Updated: October 12, 2022 - 9:35am

Submitted by: Alex Simmons

Status: Fixed

Type: Suggestion

Severity: Major

Scope: Q18. Are the plant's propagules dispersed long distance (>100 m) by mammals or birds or via domestic animals?

Issue Description

You state that *Adonis aestivalis* was introduced via sheep wool, however, do you have evidence to show that it is a FREQUENT occurrence? If you do have the supporting evidence, please reword to make clear that this is still something that is happening and not just a reference to history of introduction. -Alex



Simmons

Issue Resolution (Screener's Response to Issue)

Changed the answer to this question to "No" and addressed that there is not enough accounts to support this happening frequently. I did not describe the seed's morphological characteristics here because I wasn't sure it was enough to support a being dispersed by animals. The achenes of this plant are achenes have a terminal recurved or slightly curved beak. -NV

Issue ID # 8126

Date Created: September 6, 2022 - 2:50pm

Date Updated: October 12, 2022 - 8:25am

Submitted by: Marie Jasieniuk

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

It would be helpful if a webpage or reference would be listed for "GRIS". Also, note that GRIS refers to the Global Register of Invasive Species whereas GRIIS refers to the Global Register of Introduced and Invasive Species. It is unclear to which you refer since the acronym you used is not quite for the text that follows defining it. - Marie Jasieniuk

Issue Resolution (Screener's Response to Issue) Meant to be GRIIS- fixed. Added in the references. -NV

Issue ID # 8125



Date Created: September 6, 2022 - 2:46pm

Date Updated: October 12, 2022 - 9:00am

Submitted by: Marie Jasieniuk

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Regional Information

Issue Description

The name of the Climate Matching Map pdf for this species is misspelled. Please correct the spelling of "Adonis". - Marie Jasieniuk

Issue Resolution (Screener's Response to Issue)

Corrected spelling of Adonis!

Issue ID # 8117

Date Created: September 5, 2022 - 4:12pm

Date Updated: October 12, 2022 - 9:32am

Submitted by: Jutta Burger

Status: Fixed

Type: Comment

Severity: Minor

Scope: Plant Information

Issue Description

You could also mention in the summary that it's been evaluated as "high risk" by USDA's Weed Risk Assessment as well. - Jutta Burger

Issue Resolution (Screener's Response to Issue) Added this info into the general plant info. -NV



Issue ID # 8116

Date Created: September 5, 2022 - 4:02pm

Date Updated: October 12, 2022 - 8:40am

Submitted by: Jutta Burger

Status: Fixed

Type: Comment

Severity: Minor

Scope: Q02. Is the species (or cultivar or variety) noted as being naturalized elsewhere in the US or world in a similar climate?

Issue Description

Again, consider adding a primary reference that addresses native status. - Jutta Burger

Issue Resolution (Screener's Response to Issue) Added in information about its native range and added in Meyer 2015 as a primary reference. -NV

Issue ID # 8115

Date Created: September 5, 2022 - 3:58pm

Date Updated: October 12, 2022 - 8:39am

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

You may want to add a primary reference here that addresses its native status. - Jutta Burger



Issue Resolution (Screener's Response to Issue)

Added in Meyer 2015. -NV



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.

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