

Oregon Department of Agriculture
Plant Pest Risk Assessment for
Pheasant's eye, *Adonis aestivalis* L.
2013

Name: Pheasant's eye, summer pheasant's eye, *Adonis aestivalis* L.
Family: Buttercup, *Ranunculaceae*

Findings of This Review and Assessment: Pheasant's eye has been determined to be a potential watch list candidate noxious weed. This determination is based on a literature review and information provided by weed control cooperators. Using the ODA Noxious Weed Rating system, pheasant's eye scored **11** points, supporting the decision to include it on the **Weed Control Program Watch List**. Though not a significant invasive species at this time, pheasant's eye may continue to increase its range and begin to impact more livestock and hay producers.

Introduction: Pheasant's eye is native to Eurasia with a wide geographic range. It was introduced into the United States as an ornamental and in the herbal market. It can be found in several western states growing in grasslands, right-of-ways, waste areas, and in alfalfa or hay producing ground. The primary concern with this species is its toxicity to horses when fed contaminated hay. It is not reported to effect sheep and cattle. Populations throughout the west are reported to be increasing though associated reports of livestock poisoning are limited to a few cases.

Pheasant's eye is an annual with erect one-foot tall stems and terminal, solitary, red-orange and black flowers. It should not be confused with the perennial yellow-flowered *Adonis vernalis*, though both species are toxic to horses. The leaves are simple and alternate with blades two or three times pinnately dissected into linear segments. The plant was introduced into North America as a horticultural plant, escaped cultivation and is now abundant in some regions. In the Western US it can be found in Oregon, California, Idaho, Utah, Washington State and Montana. It prefers moist, well-drained soils but is adapted to seasonally dry soils also. Irrigated alfalfa fields are especially at risk from the plant. With millions of acres of suitable habitat in the western U.S., *Adonis* can be expected to increase significantly in the future.

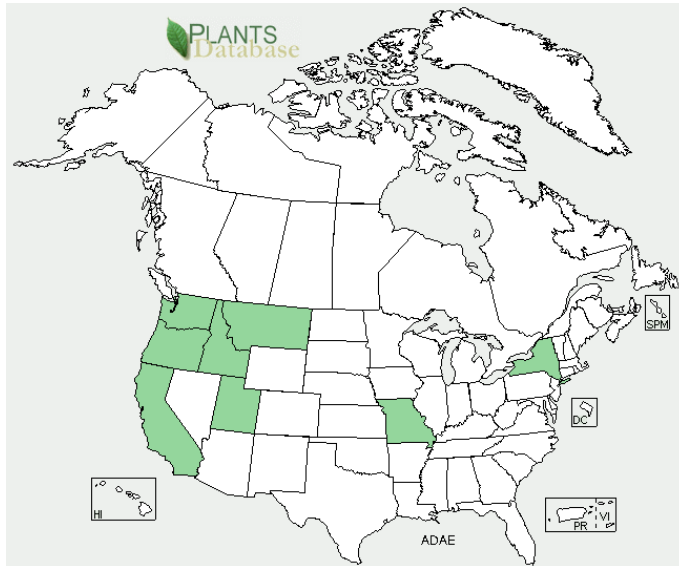


Pheasant's eye flower, photo by Todd Pfeifer, Klamath County

Reproduction: Plant reproduces by seed only.

Factors Effecting Establishment: Adequate spring moisture is necessary for establishment. Populations have been noted to be highly variable from year-to-year (Sharratt, Porter per. com. 2012). No herbivory has been observed on mature plants.

Probability of Detection: Flowers are showy and can form thick stands often on roadsides. Plant easy to identify by all observers.



Pheasant's eye distribution on Plants Database

Distribution in Oregon: Counties reporting wild populations of *Adonis* include: Klamath, Lake, Harney, Wallowa and Grant. (et. al. pers. com. 2012) In Northern California, two counties are infested including Modoc adjacent to the Oregon border.

Environmental Impacts: None reported.

Economic Impacts: Horses and pigs are very susceptible to Pheasant's eye poisoning. The dried plant material as found in hay is more toxic to grazing animals than green plant material. The plant contains cardenolides similar to those found in oleander and foxglove. Symptoms include difficulty in breathing, bloating, severe heart arrhythmia, intestinal lesions, and death. A few horse deaths have been recorded in Northern California (Woods et. al. 2004). Poisoning in sheep (Woods et. al. 2011) is minor at 1% bodyweight ingested and the effects temporary. The same can be said for cattle and calves (Wood et. al. 2007). Alfalfa and grass hay can also be contaminated rendering it of lower value or of no value.



Pheasant's eye infestation in Klamath County, photo by Todd Pfeifer

Control: Not much work has been done on *Adonis* control. On right-of-ways and many non-crop areas, herbicides are the most common form of control. Products tested include: 2,4-D ester at 1 or 2 qt / acre 2,4-D ester at 1 qt/acre + Banvel at 0.5 pt/acre Telar at 1 and 2 oz / acre (Modoc County Weed Control). Mowing would remove early flower production but plants can quickly reflower.



Flowering mats of pheasant's eye, photo by Todd Pfeifer, Klamath County

RA produced by: Glenn Miller, ODA

References:

Woods L.W., Puschner B., Filigenzi M.S., Woods B., George L.W. 2011 Evaluation of the Toxicity of *Adonis aestivalis* in Sheep. *Veterinary Record* 168:2 p. 49

Woods L.W., Puschner B., Filigenzi M.S., Woods B., George L.W. 2007. Evaluation of the Toxicity of *Adonis aestivalis* in Calves. *Journal of Veterinary Diagnostic Investigation*. Sept 19:5 pp. 581-585

Woods L.W., Filigenzi M.S., Booth M.C., Arnold J.S. 2004 Summer Pheasants Eye *Adonis aestivalis*, Poisoning in Three Horses. *Veterinary Pathology* May 41:3 pp 215-220

Growth habits found in Plants Database; at www.pfaf.org

U.S. distribution map found at: <http://plants.usda.gov/java/profile?symbol=ADAE>

Habitat information at: www.eFloras.org

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Personal communication: Alen Schnetzky Wallowa County Road Department. 2012

Personal communication: Bonny Rasmussen Oregon Department of Agriculture. 2012

Personal communication: Todd Pfeiffer, Klamath County Weed Control 2012

Personal communication: Grace Haskins, Lake County CWMA coordinator. 2012

Personal communication: Mark Porter, Wallowa Resources 2012

Personal communication: Carri Pirosko Oregon Department of Agriculture. 2012

Adonis aestivalis: A Newly Recognized Toxic Plant in Hay. In *Noxious Times*. Publication of the California Interagency Noxious Weed Coordinating Committee. Fall 2004 Vol 6:3 pp 12-15

Summer Pheasants Eye: *Adonis aestivalis*. Publication of the Modoc County Department of Agriculture

Oregon Department of Agriculture
Noxious Weed Rating System

Common Name: Pheasant's eye
Scientific Name: *Adonis aestivalis*

Point Total: 11 **Rating: B**

- 1) **2** **Detrimental Effects:** Circle all that apply, enter number of circles.
1. *Health:* causes poisoning or injury to humans or animals
2. *Competition:* strongly competitive with crops, forage, or native flora
3. *Host:* host of pathogens and/or pests of crops or forage
4. *Contamination:* causes economic loss as a contaminate in seeds and/or feeds
5. *Interference:* interferes with recreation, transportation, harvest, land value, or wildlife and livestock movement
- 2) **3** **Reproduction & Capacity for Spread:** Circle the number that best describes, enter that number.
1. Few seeds, not wind blown, spreads slowly
2. Many seeds, slow spread
3. Many seeds, spreads quickly by vehicles or animals
4. Windblown seed, or spreading rhizomes, or water borne
5. Many wind-blown seeds, high seed longevity, spreading rhizomes, perennials
- 3) **2** **Difficulty to Control:** Circle the number that best describes, enter that number.
1. Easily controlled with tillage or by competitive plants
2. Requires moderate control, tillage, competition or herbicides
3. Herbicides generally required, or intensive management practices
4. Intensive management generally gives marginal control
5. No management works well, spreading out of control
- 4) **2** **Distribution:** Circle the number that best describes, enter that number.
1. Widely distributed throughout the state in susceptible habitat
2. Regionally abundant, 5 or more counties, more than 1/2 of a county
3. Abundant throughout 1- 4 counties, or 1/4 of a county, or several watersheds
4. Contained in only 1 watershed, or less than 5 square miles gross infestation
5. Isolated infestation less than 640 acres, more than 10 acres
6. Occurs in less than 10 acres, or not present, but imminent from adjacent state
- 5) **2** **Ecological Impact:** Circle the number that best describes, enter that number.
1. Occurs in most disturbed habitats with little competition
2. Occurs in disturbed habitats with competition
3. Invades undisturbed habitats and crowds out native species
4. Invades restricted habitats (i.e. riparian) and crowds out native species

11 TOTAL POINTS

Note: Noxious weeds are non-native plants with scores of 11 points or higher. Any plants in 4.1, 4.2, and 4.3 should not be classified as "A" rated weeds. *Ratings:* 16+ = A, 15 – 11 = B
ODA Weed Rating System 8/30/2012 v.3.2