

Moth mullein

Colorado Department of
Agriculture

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Key ID Points

1. Yellow to white flowers with purple centers.
2. The cotyledons are spatula-shaped

Moth mullein Identification and Management



Identification and Impacts

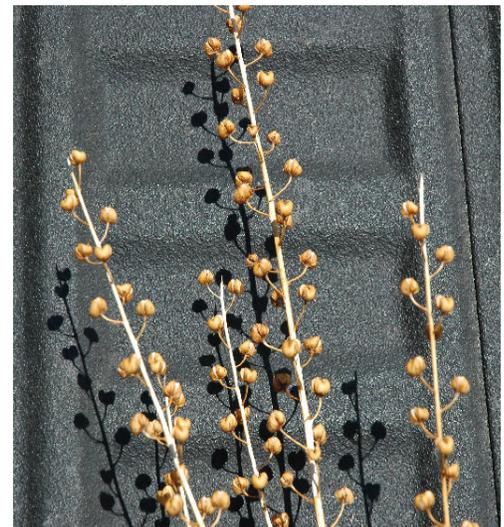
Moth mullein (*Verbascum blattaria*) is a biennial forb that is native to Europe. The seed is a round capsule about 8.5 mm in diameter. Upon maturity, it splits into 2 cells filled with seeds that are dark brown. The surface of the seeds are marked with many ridges and grooves. The cotyledons are spatula-shaped. The flowers occur on the ends of erect stems that are produced during the second year of growth. The flowers are yellow to white in color with 5 petals that have purple centers and are 2 to 3 cm in diameter. Leaves initially develop as a basal rosette. Leaves in the first year of growth are oval in outline with slightly wavy margins. The second year of growth they alternate along the flowering stem. Mature leaves are not hairy, oblong in shape, and have toothed margins. They are also 8 to 45 cm long and 3 to 15 cm wide. Stems are erect and stout reaching 0.61 to 1.5 m tall.

Habitats for Moth mullein include pastures, hay fields, right-of-ways, rangelands, disturbed and abandoned areas. Moth mullein prefers rich soils but will tolerate dry, sandy, or gravelly soils. The invasiveness of Moth mullein affects forage quality and quantity of pastures and rangelands.

Additionally, it can be problematic in perennial cropping systems. Moth mullein produces seeds that hold 1,000 capsules with a seed viability of 90 years.

The key to effective control of Moth mullein, like with most biennials, is preventing the plants seed production. Mechanical control practices should focus on preventing seed production or collecting viable seed. Chemical control methods are possible when the plant is in the rosette stage. Managing native plant communities in such ways that limits disturbance or opens niches for Moth mullein to establish is an effective control. Details on the back of this sheet can help to create a management plan compatible with your site ecology.

Moth mullein is designated as a "List B" species in the Colorado Noxious Weed Act. It is required to be either eradicated, contained, or suppressed depending on the local infestations. For more information visit www.colorado.gov/ag/csd and click on the Noxious Weed Management Program. Or call the State Weed Coordinator at the Colorado Department of Agriculture, Conservation Services Division, 303-239-4100.



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Verbascum blattaria

**CULTURAL**

Planting desirable native species can decrease the amount of open niches that Moth mullein likes to establish in. Contact your local Natural Resources Conservation Service for seed mix recommendations. Maintain healthy pastures and prevent bare spots caused by overgrazing. Bare ground is prime habitat for weed invasions.

**BIOLOGICAL**

Gymnetron tetrum, a seed eating weevil, biological control has been found in eastern Washington State and is currently working on populations there. The weevil has not yet been approved for use in Colorado. For more information, contact the Palisade Insectary of the Colorado Department of Agriculture at 970-464-7916.

**MECHANICAL**

Hand pull or dig when soil is moist, making sure to get the roots to prevent resprouting. Removing flowers before the plant sets seed will also be effective. Bag specimens carefully so scattering of seeds does not occur.

Integrated Weed Management:

Mechanical control practices should focus on preventing seed production or collecting viable seed. Chemical control options are effective if applied while plants are in the rosette stage. Managing existing desirable plant communities in such a way that limits disturbance or opens niches for Moth mullein.

Moth mullein

HERBICIDES

NOTE: The following are recommendations for herbicides that can be applied to range and pasturelands. Rates are approximate and based on equipment with an output of 30 gal/acre. Please read label for exact rates. **Always read, understand, and follow the label directions. The herbicide label is the LAW!**

Herbicide	Rate	Application Timing
Aminopyralid (Milestone)	7 oz./acre + 0.25-0.5% v/v non-ionic surfactant	Apply when plant is in rosette to early bolting growth stages. (Spring to summer, and fall rosettes)
Metsulfuron (Escort XP)	1-2 oz. product/acre + 1% v/v methylated seed oil	Spot spray only. Apply when plant is in rosette to early bolting growth stages. (Spring to summer, and fall rosettes)
Chlorsulfuron* (Telar)	1-2 oz. product/acre + 1% v/v methylated seed oil	Spot spray only. Apply when plant is in rosette to early bolting growth stages. (Late Spring to Summer)

Note: *This herbicide has residual soil activity that will affect all broadleaf seedlings germinating after application has occurred.

Additional herbicide recommendations for other species can be found at:
www.colorado.gov/agconservation/CSUHerbicideRecommendations.pdf

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