

Black Medic (*Medicago lupulina*) Identification and Control in Residential Landscapes

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Summary

Black medic:

- Colonizes dry, infertile soils.
- Fixes nitrogen through symbiotic bacteria.
- Propagates primarily by seed in summer and fall.
- Has non-herbicide control options, including improving lawn health and soil fertility.
- Can be controlled by many available herbicides.



Figure 1. Example of Black Medic Flowers and Foliage



Figure 2. Black Medic Stem With a Flower and Developing Seeds

Description

Black medic (*Medicago lupulina*) is an herbaceous winter or summer annual broadleaf landscape weed. Black medic is a member of the legume family (Fabaceae), which includes familiar garden plants such as beans, peas, alfalfa, and clover. Black medic often goes unnoticed until the small 1/8-inch bright yellow flowers appear (Figure 1). Flowers produce small, dark, kidney-shaped pods that contain one seed (Figure 2). It flowers and produces seeds continuously from April to September. Leaves are divided into three leaflets and resemble clover leaves. The middle leaflet is on a short stalk; all leaflets are finely-toothed with prominent veins (Figure 3). Black medic has a deep taproot and horizontal stems spreading from the plant crown at the soil surface (Figure 3). Black medic does not form roots along its stems but reproduces by seed, germinating in the spring and occasionally in winter.

Black medic colonizes dry, thin turfgrass stands, gravel areas, and other dry, disturbed areas with low soil nitrogen levels (Figure 4). As a legume, it forms a symbiotic relationship with nitrogen-fixing *Rhizobium* bacteria, which form root nodules to convert atmospheric nitrogen gas into biologically usable forms of nitrogen that the plants can use. Because it produces its own nitrogen, black medic can easily outcompete turf and other plants in low-fertility soils.



Figure 3. Horizontal Stem of Black Medic



Figure 4. *Black Medic*

Overtaking a Lawn Area

Suppression and Control Options

Cultural Control

The most effective preventive method for black medic in lawns is maintaining a healthy lawn through proper fertilization, core aeration, increasing mowing height, and effective irrigation management. Since black medic thrives in poor soils, regular fertilization is necessary to maintain healthy and competitive lawns. On lawns and crops in sandy soils, using a slow-release nitrogen fertilizer such as polymer-coated urea (PCU) or sulfur-coated urea (SCU) helps prevent nutrient leaching and maintain consistent plant growth. Also, since black medic grows primarily horizontally, raising the mower height to 3 inches or more can help suppress black medic and other lawn weeds. Overseeding a thin lawn in the spring or fall can also improve the lawn's competitiveness and discourage new weed growth. Applying a layer of bark or leaf mulch at least 3 inches thick around garden beds can suppress weed growth, including black medic.

Mechanical Control

Pulling out plants by hand (including their roots) can be an adequate method for small infestations, especially when the soil is moist. This method is easiest when the plants are young. Tilling garden beds and other landscaped areas can be practical for controlling black medic, but it will also bring new weed seeds to the surface. Additional tillage, hand hoeing, or hand pulling may be required to keep areas clear.

Chemical Control

Many registered postemergence broadleaf herbicides can selectively control black medic in turf. Products containing 2,4-D, dicamba, MCPP, fluroxypyr, sulfentrazone, quinclorac, and triclopyr, as well as products containing a combination of two or more of these active ingredients, are available to control black medic in lawns and other

landscape areas. Do not use products containing dicamba in areas near or under trees, as roots can absorb it, potentially damaging the plants.

Nonselective postemergence herbicides can be used to control black medic in non-turn areas. Glyphosate is a systemic nonselective herbicide that controls black medic in non-turn areas. Additionally, some reduced-risk nonselective herbicides that suppress black medic include acetic acid at 5% or higher concentration and pelargonic acid. These products burn back the shoots, but black medic usually resprouts from the crown.

Preemergence herbicides can also control or suppress black medic in established lawns, shrubs, perennial beds, and bare areas. Products containing dithiopyr, oxyflurofen, oryzalin, and isoxaben have been shown to prevent black medic growth. Always read the label for specific application sites, precautions, and mix rates.

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