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Fact Sheet-04-06

WEED ALERT!

Virginia Buttonweed

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Virginia buttonweed (*Diodia virginiana* L.) is a problem weed of lawns and turfgrass throughout the southeastern United States. It has been discovered in states surrounding Nevada. It may become a weedy nuisance in the state if sod or containered plants contaminated with it are sold here. This perennial weed spreads low to the ground, making it very difficult to control.

Identification

Virginia buttonweed, native to North America, is a member of the Rubiaceae (Madder) family. Its seed leaves (cotyledons) are elliptical, thick, and rounded at the apex. Young leaves grow opposite and sessile with short hairs on the margin. They are connected across the stem by a membrane that has one to three bristly stipules (bracts near their bases).

The smooth stems of mature plants are six to eight inches long and usually trail along the ground, but can be ascending. The opposite, stemless leaves are about 1¼ to 2½ inches long and ½ to 1 inch wide. They are green on the upper surface and a lighter green underneath, elliptic to lance-shaped, and lack stalks (petioles). Leaves may display a yellow mottling as a result of a virus.

White, star-shaped flowers with four petals occur in the leaf axils from June to August (Fig. 1). They are ½ inch long and do not have a stem (sessile). The sepals and the petals are hairy. The hairy, green fruit is an oval to elliptic, leathery capsule containing two seeds. The capsule does not split open at maturity. Virginia buttonweed reproduces by seed, roots, and stem fragments.

Figure 1. Virginia buttonweed flowers are white and star-shaped.

Habitat

Virginia buttonweed typically occupies moist or wet areas, but it survives under drought conditions. Occurring mostly in the eastern United States, the troublesome weed can be found in lawns, wetlands, river bottoms, pond margins, and pinelands. In

parts of the United States it has also become a problem in turf, pastures, and alfalfa.

Impact

Virginia buttonweed has an extensive root system and also develops underground rhizomes (stems) that can produce new plants, especially if they are chopped, cut, or the mother plant is severely stressed or dies. This plant spreads quickly by producing new roots and shoots from stem fragments and by seed. The buoyancy of the seeds helps spread them by water. This weed could become troublesome in Nevada's home lawns, sod farms, golf courses, flower beds, and alfalfa fields.

Weed Management Options

The easiest control method for individual plants or small infestations is hand removal. Be sure to remove as much of the root as possible and properly dispose of all plant fragments by drying and burning them. Continually examine the area during the summer and remove any newly emerged plants. Diligence can ensure complete eradication. Check the area again the next summer too.

Mowing does not control this weed because it can grow and produce very low to the ground. Even when the mower is set at the lowest blade height, this plant will prosper. This is why the weed is able to spread so easily in lawns and turfgrass farms. It prefers moist, wet conditions, so reduce the spread of the weed by avoiding excessive irrigation.

Virginia buttonweed is very difficult to control with herbicides. Spot treatment with Roundup® is effective, but will damage the turf or other nearby plants and may create a dead spot for other weeds to emerge. A selective broadleaf herbicide such as 2,4-D, dicamba, and MCPA or MCPP may also be used to control Virginia buttonweed. Repeated applications may be necessary. Be sure to read the label and follow the directions carefully.

References:

1. Swinford, Rachel. *Fact Sheet on Virginia Buttonweed*. Cobb County Extension Service. 7 Oct. 2003. <www.griffin.peachnet.edu/ga/cobb/Horticulture/Weeds/VirgButton/virgbutt.htm>.
2. *Virginia Buttonweed: Diodia virginiana*. Virginia Tech Weed Identification Guide. 7 Oct. 2003. <www.ppws.vt.edu/scott/weed_id/diqvi.htm>.
3. *Virginia Buttonweed*. University of Kentucky. 7 Oct. 2003. <www.uky.edu/Ag/Agronomy/Weeds/virginia_buttonweed.htm>.
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Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA SCS. 1989. *Midwest wetland flora: Field office illustrated guide to plant species*. Midwest National Technical Center, Lincoln, NE.