

# Buttonweed, Virginia

[*Diodia virginiana* L.]

## DESCRIPTION

Virginia buttonweed is an herbaceous perennial with prostrate or spreading branches. The stems are longitudinally ridged, especially below the nodes, with hairs along the ridges. The leaves are opposite without petioles and rough along the margins. The leaves are slightly thickened, green on the upper surface and light green on the lower surface with both surfaces smooth and slightly folded. The leaves of Virginia buttonweed often take on a mottled-yellow mosaic look due to a virus. The white flowers sometimes have pink streaks in the center and are borne in the leaf axil. Petals are united into a tube.



Characteristic	Description
Growth Season	perennial weed
Growth Habit	prostrate, spreading
Leaflet Number	one
Leaf Margin	smooth
Leaf Hairs	upper/lower surface
Leaf/Leaflet Shape	oval/egg-shaped/elliptical
Leaf Width	1/2 - 1 inch
Leaf Venation	pinnate
Leaf Arrangement	opposite
Root Type	fibrous
Flower Color	white



Virginia buttonweed (L) with virus, (R) without virus



Virginia buttonweed leaf venation

Note: Still not sure this is the right weed? [The Turf & Weed Identification Decision Aid](#) may help. Check the TurfFiles [glossary](#) for definitions of unfamiliar terms.

## CULTURAL CONTROL

Perennial broadleaf turf weeds are capable of living more than two years. They thrive in weak, thin turf; golf fairways and roughs; home lawns; playfields; and industrial grounds. Proper turf maintenance is the key to control of this weed. First, select adapted turfgrass cultivars for your area and then properly fertilize, mow, and water to encourage dense growth.

## CHEMICAL CONTROL

Virginia buttonweed is a difficult-to-control broadleaf weed. Best results have occurred with repeat applications of products containing 2,4-D, clopyralid, dicamba (Millennium Ultra) or fluroxypyr (Spotlight), or combinations of these chemicals. Apply in spring and repeat when regrowth occurs, usually in 4 to 6 weeks.

### *Postemergence herbicides:*

Herbicide	Tolerant Turfs <sup>(1)</sup>	Average Efficacy Rating <sup>(2)</sup>	Range of Trial Efficacy Values, %	Number of Trials	Products <sup>(3)</sup>
2,4-D & dicamba & fluroxypyr & sulfosulfuron	ba, be, sa, z	E	88 - 98	3	Certainty & Escalade
2,4-D & dicamba & fluroxypyr	ba, bc, be, bk, f, r, sa, z	E	95	1	Escalade
2,4-D & dicamba & mecoprop & MSMA & sulfosulfuron***	be, z	E	93	1	Certainty & Trimec Plus
fluroxypyr	ba, bk, c, f, r, sa, z	E	100	1	Spotlight
fluroxypyr & sulfosulfuron	ba, c, sa, z	E	98	1	Certainty & Spotlight
clopyralid & sulfosulfuron & triclopyr**	be, c, z	G	89	1	Certainty & Confront
glyphosate		G		0	Glyphosate Original, Roundup, Touchdown Pro**
clopyralid & triclopyr**	be, bk, c, f, r, z	F	39 - 94	7	Confront
2,4-D & dicamba & mecoprop & MSMA***	be, bk, f, r, z	F	78	1	Trimec Plus
dicamba	ba, be, bk, f, r, z	F		0	Banvel, Clarity, Vanquish

\*\* Not for application to residential lawns.

\*\*\* MSMA will be phased out in 2009.

### **Footnotes:**

#### (1) **Turfgrass Codes:**

- ba bahiagrass
- bc bentgrass, creeping
- be bermudagrass
- bk bluegrass, Kentucky
- c centipedegrass

f	fescue, tall
r	ryegrass, perennial
sa	St. Augustinegrass
z	zoysiagrass
blank	No turfgrass in the database is completely tolerant. Check label to see if chemical can be used at a reduced rate or during the dormant season on your turfgrass.

(2) **Efficacy Ratings:**

E	excellent control (90 to 100%)
G	good control (80 to 90%)
F	fair control (70 to 80%)

Efficacy ratings are based on herbicide trials performed by weed scientists at North Carolina State University between 1997 and 2007. The number of trials included in the efficacy ratings is displayed in the next-to-last column. The higher this number, the more confidence can be placed in the efficacy values. Trials may have involved sequential applications of one or more chemical. Details of individual trials (herbicide rates, dates of application, environmental conditions at time of application, etc) can be viewed on the TurfFiles web site, through the [Turf Weed Management Decision Aid](#).

Efficacy ratings for chemicals lacking trial data are from "[Pest Management Strategic Plan for Turfgrass in the Southern United States](#)," a summary of a workshop for turf experts from multiple universities held in Griffin, GA in October, 2004. The workshop was sponsored by the Southern Region Integrated Pest Management Center.

- (3) Recommendations of specific chemicals are based upon information on the manufacturer's label and performance in a limited number of trials. Because environmental conditions and methods of application may vary widely, performance of the chemical will not always conform to the safety and pest control standards indicated by experimental data. The order in which brand names are given is not an indication of a recommendation or criticism.

Recommendations for the use of agricultural chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services does not imply endorsement by North Carolina State University or discrimination against similar products or services not mentioned. Other brand names may be labeled for use on turfgrasses. Individuals who use agricultural chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage regulations and examine a current product label before applying any chemical. For assistance, contact your county's Cooperative Extension agent.

**Links contained in this document:**

Glossary: <http://www.turffiles.ncsu.edu/Glossary.aspx>

Pest Management Strategic Plan: <http://www.ipmcenters.org/pmsp/pdf/SouthernTurfgrass.pdf>

Turf & Weed Identification Decision Aid: <http://www.turffiles.ncsu.edu/turfid/>

Turf Weed Management Decision Aid: <http://www.turffiles.ncsu.edu/turfweedmgmt/>

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