

This WEED REPORT does not constitute a formal recommendation. When using herbicides always read the label, and when in doubt consult your farm advisor or county agent.

This WEED REPORT is an excerpt from the book *Weed Control in Natural Areas in the Western United States* and is available wholesale through the UC Weed Research & Information Center (wric.ucdavis.edu) or retail through the Western Society of Weed Science (wsweedsociety.org) or the California Invasive Species Council (cal-ipc.org).

Cynodon dactylon (L.) Pers.

Bermudagrass

Family: Poaceae

Range: Most western states, except Wyoming, North and South Dakota.

Habitat: Disturbed sites, gardens, agronomic crops, orchards, turf, landscaped and forestry areas, on most soil types. Typically in areas that are irrigated or receive some warm-season moisture. Tolerates acidic, alkaline, or saline conditions or limited flooding. Aboveground growth does not tolerate freezing temperatures (below -1°C). Optimum growth occurs when daytime temperatures are 35 to 38°C. Grows poorly in shaded conditions.

Origin: Native to Africa.

Impact: Because of its vigorous creeping habit bermudagrass is a noxious weed in many areas where some moisture is available in the warm season. In wildland areas, it is particularly a problem in riparian sites.

Western states listed as Noxious Weed: California, Utah

California Invasive Plant Council (Cal-IPC) Inventory: Moderate Invasiveness



Bermudagrass is a warm-climate perennial with an extensive system of creeping rhizomes and stolons. Although it typically grows prostrate to the soil, it can grow to 1.5 ft tall, particularly under somewhat shady conditions. Bermudagrass is commonly grown as a turf or forage in tropical to warm temperate regions. Because of its vigorous creeping habit, it is a noxious weed in many situations where warm-season moisture is ample. Contact with plants can cause dermatitis in sensitive individuals, and the pollen is a common allergen.

Bermudagrass rhizomes and stolons are slender, tough, and scaly, producing roots at the nodes. Most rhizomes grow in the upper 2 inches of soil, but some may extend to depths of over a foot. Rhizomes survive considerable dehydration and drought, but not prolonged periods of freezing temperatures or exposure to sun. Small rhizome and stolon fragments readily generate new plants. Plants go dormant and foliage turns brown when nighttime temperatures dip below freezing, when average daytime temperature is below 10°C (50°F), or when day lengths shorten. Rhizomes and roots go dormant at soil temperatures below 18°C.

Aboveground stems are more or less erect, thin, and can be branched. Leaf blades are flat and flexible, usually less than 2.5 inches long. Usually there are long hairs around the collar region, particularly at the margins. Its inflorescence is umbel-like, with usually 4 to 8 spike-like branches mostly 1.5 to 3 inches long. Bermudagrass reproduces vegetatively from its rhizomes and stolons, and by seed. Rhizome and stolon fragments disperse with soil movement. Seeds disperse with water, soil movement, agricultural and landscape machinery, as a commercial seed impurity, in livestock feeds and bedding, and with other human activities. Seeds germinate spring through fall when temperature and moisture conditions are favorable. Some seeds survive 3 to 4 years under field conditions, but most germinate within two years.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Persistent manual removal of rhizomes and stolons can eliminate bermudagrass from small areas. A high mower setting (2 to 3 in) can suppress bermudagrass relative to other turfgrasses. Cleaning mowers and agricultural machinery after use in infested areas can prevent dispersal of rhizomes, stolons, and seeds. Tilling or disking as needed to expose rhizomes to sun-drying or freezing temperatures can be effective. If water (or rain) is applied during the drying process bermudagrass will regrow. Do not cultivate
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	bermudagrass if the soil is moist, because rhizome fragments will begin to grow. Cultivating and drying will not kill seeds.
Cultural	Shading by other plants, mulches, or cloth can help to suppress bermudagrass growth. Using plastic to solarize moist soil for 6 weeks in summer can control small infestations.
Biological	Due to its importance as a turfgrass, there are no efforts to develop a biological control program for bermudagrass.

CHEMICAL CONTROL

The following specific use information is based on published papers and reports by researchers and land managers. Other trade names may be available, and other compounds also are labeled for this weed. Directions for use may vary between brands; see label before use. Herbicides are listed by mode of action and then alphabetically. The order of herbicide listing is not reflective of the order of efficacy or preference.

LIPID SYNTHESIS INHIBITORS

Clethodim <i>Select, Envoy</i>	Rate: 12 to 32 oz product (<i>Envoy</i>)/acre (1.5 to 4 oz a.i./acre) Timing: Postemergence in early spring when new growth is less than 6 inches. Reapply when regrowth is less than 6 inches and repeat as necessary. Remarks: Clethodim is a grass-selective herbicide and will not harm broadleaf species Include crop oil concentrate surfactant. Do not apply directly to water. It has no soil activity. Note that <i>Envoy</i> formulation is 1 lb a.i./gallon, <i>Select</i> is 2 lb a.i./gallon.
Fluazifop <i>Fusilade</i>	Rate: 1 to 1.5 lb product/acre (4 to 6 oz a.i./acre) Timing: Postemergence to rapidly growing bermudagrass with 4- to 8-inch runners. Remarks: Fluazifop is a grass-selective herbicide and will not harm broadleaf species (will suppress filaree, <i>Erodium</i> spp.). Apply with 1% v/v crop oil concentrate or 0.25% v/v non-ionic surfactant. Fluazifop acts very slowly, taking at least 2 weeks and often 4 weeks to show effectiveness. Do not apply to stressed grasses. If weeds regrow, reapply at 3 to 6 oz a.i./acre. Fluazifop has no soil activity.
Sethoxydim <i>Poast</i>	Rate: 1.5 to 2.5 pt product/acre (4.5 to 7.5 oz a.i./acre) Timing: Postemergence in early spring when new growth is less than 6 inches. Reapply when regrowth is less than 6 inches and repeat as necessary. Remarks: Sethoxydim is a grass-selective herbicide and will not harm broadleaf species Include crop oil concentrate surfactant. It has no soil activity.

AROMATIC AMINO ACID INHIBITORS

Glyphosate <i>Roundup, Accord XRT II, and others</i>	Rate: Broadcast foliar treatment: 1 to 2 qt (<i>Roundup ProMax</i>)/acre (1.125 to 2.25 lb a.e./acre). Spot treatment: 2% v/v solution Timing: Postemergence from late spring to summer when bermudagrass is growing rapidly. Some researchers recommend fall, after flowering and before dormancy. Remarks: Glyphosate is a nonselective herbicide. It has no soil activity. Efficacy is best when bermudagrass is not water stressed. Control can be improved by avoiding mowing for 2 to 3 weeks before application, and by cultivating 7 days after application. Effectiveness may be increased by addition of ammonium sulfate as a water conditioner, particular when water has high pH.
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BRANCHED-CHAIN AMINO ACID INHIBITORS

Imazapyr <i>Arsenal, Habitat, Stalker, Chopper, Polaris</i>	Rate: 4 to 6 pt product (<i>Habitat</i>)/acre (1 to 1.5 lb a.e./acre) Timing: Postemergence from late spring to summer when bermudagrass is growing rapidly. Remarks: For treatment volume, use a minimum of 75 gal/acre. Control of established stands may require repeat applications. Imazapyr is a broad-spectrum herbicide with fairly long soil residual activity. It is not the most common option for the control of bermudagrass.
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RECOMMENDED CITATION: DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center, University of California. 544 pp.