
CATCHWEED BEDSTRAW

Integrated Pest Management for Home Gardeners and Landscape Professionals

Catchweed bedstraw, *Galium aparine*, (Fig. 1), an annual weed belonging to the Madder (Rubiaceae) family, can be found throughout most of the world. The species name “*aparine*” comes from a Latin word meaning “to seize,” which is very appropriate considering the clinging nature of this weed. Catchweed bedstraw is known by many names around the world including cleavers, bedstraw, stickywilly, and “velcro plant.” Bedstraw is native to North America and can be found throughout California, particularly in moist, shady areas. Bedstraw often is an early colonizer of waste places, roadsides, and other disturbed sites; however, it also can be a major weed of crops such as cereals, hay, rapeseed, and sugarbeet as well as home landscapes and vegetable gardens.

IDENTIFICATION

The cotyledons (seed leaves) of bedstraw are oblong to egg shaped, with slightly notched tips. The cotyledons are smooth, lack hairs, and range in length from 1/2 to one inch. Mature catchweed bedstraw has stems up to 6 feet long that are square in profile, especially near the tips (Fig. 2). Bedstraw often forms dense, tangled mats that sprawl on the ground or over other vegetation. Leaves are whorled (usually with six or eight leaves in a whorl), and small, downward-curved prickles cover both the stem and leaves. These hairlike structures are responsible for the characteristic tangled growth habit and attachment of plant parts to clothing and animals; they also aid in dispersal of the species. Small, four-parted, white or greenish-white flowers are borne on short branches originating in the leaf axils on upper parts of the plant (Fig. 3).

LIFE CYCLE

Bedstraw is a winter or summer annual in California with peak germination in mid- to late December and secondary germination in February or March when soil is still cool and moist. Seedlings (Fig. 4) can emerge even if they are buried up to 3 inches deep in loose soil. However, the seed will not sprout on the soil surface, as exposure to light inhibits germination.

Bedstraw has a slender taproot and sprawling stems, and can tolerate freezing temperatures while in the vegetative growth stage. This fast growing weed can flower in as little as eight weeks after germination; the flowers are self-pollinated and usually set seed in late spring to mid-summer months. Two-lobed, spherical or slightly kidney-shaped fruit separate into two nutlets in the summer and fall after the plant senesces (i.e., its leaves dry up and fall off). Individual plants typically produce 100 to 400 seeds, with occasional plants producing 3,000 or more seeds. Bedstraw seeds, which have hooked hairs to aid dispersal, can remain viable in the soil for up to three years.

Catchweed bedstraw is most productive in clay and loamy soils with high nitrogen and phosphorus. Although germination and growth are best in cool, moist soil, bedstraw can tolerate dry soil once established.

IMPACT

Bedstraw is a troublesome agricultural weed as well as an important weed problem in landscapes and home gardens. In agricultural situations, it can reduce yields of cereals by 30 to 60% and become tangled in harvest and tillage equipment; its seeds are extremely



Figure 1. Catchweed bedstraw.



Figure 2. Catchweed bedstraw stem showing whorled leaves.



Figure 3. Catchweed bedstraw flowers and fruit.



Figure 4. Catchweed bedstraw seedling.

PEST NOTES

Publication 74154

University of California
Statewide Integrated Pest Management Program
Agriculture and Natural Resources

November 2010

difficult to remove from harvested grain, vegetable seeds, and oilseed crops. Bedstraw also can host several nematode, insect, and disease pests.

The weed also impacts animal agriculture, as its seed or vegetative material can contaminate and reduce the value of wool or fur. If livestock ingest bedstraw forage, it can reduce their productivity, since the weed can inflame the animal's digestive tract or act as a diuretic.

In landscapes and home gardens, bedstraw competes for nutrients, water, and light with desirable plants. Aside from competition, bedstraw can reduce aesthetic quality of the landscape and can be a serious nuisance in some cases by smothering desirable vegetation and causing physical injury to small plants. It makes the harvesting of fruits and vegetables difficult, as the tangled stems weave throughout the garden. For pet owners, bedstraw seed or vegetation often gets caught in the fur of pets and can be difficult to remove.

MANAGEMENT

Cultural Control

Long-term control of catchweed bedstraw in home landscapes relies on removing existing plants before they flower and produce viable seed. Hand hoeing or weed pulling can be very effective, especially in the early spring when soil is damp. Installing and maintaining mulch (e.g. bark, wood chips, leaf litter, gravel, weed tarps, etc.) can reduce seedling emergence and eases the removal of plants that do become

established. Cutting catchweed bedstraw to 2 to 3 inches usually is not effective and has been reported to actually increase biomass production up to 30% compared to uncut plants. The growth of bedstraw can be suppressed by sowing a competitive crop such as a grass and wildflower mixture in some parks or other nonagricultural areas.

Biological Control

No insects or other biological agents are known to control catchweed bedstraw. Although some insects might feed on the plant, bedstraw does not cause enough economic loss to agriculture to warrant the search of a biological control agent.

Chemical Control

Preemergent herbicides containing the active ingredient oryzalin can provide fair control of bedstraw. Once established, bedstraw can be controlled with several postemergent herbicides. Oxyfluorfen, glyphosate, quinclorac, dichlobenil, or carfentrazone (available to professional applicators) can control small bedstraw plants, while products containing dicamba, 2,4-D, or MCPA can provide partial control. Organic clove oil-based herbicides such as Matratec or BurnOut will kill young plants if applied early in the season.

REFERENCES

Defelice, M. S. 2002. Catchweed bedstraw or cleavers, *Galium aparine* L.—A very “sticky” subject. *Weed Technology*. 16:467–472.

HERBAL VALUE

Historically, catchweed bedstraw has had several beneficial uses. The roasted seeds make a good coffee substitute (coffee also is a member of the Madder family), and the young leaves can be used as a substitute for tea or steamed with butter and eaten.

As an herbal remedy, it is said to be a diuretic, an anti-inflammatory, and an antispasmodic and was used to treat psoriasis and eczema.

The name itself, bedstraw, comes from use of the plant as a mattress filling; the clinging characteristic of the prickly plants minimizes matting and compaction of the mattress filling.

A filter made of bedstraw leaves and stems has been used to strain cow's hair out of milk, and the plant also has been used as feed for geese and other birds. The roots can be used to make a red dye.

DiTomaso, J. M., and E. A. Healy. 2006. *Weeds of California and Other Western States*. Oakland: Univ. Calif. Agric. Nat. Res. Publ. 3488.

Guertin, P. 2003. *Factsheet for: Galium aparine L.* Tuscon: U.S. Geological Survey.

Malik, N., and W. H. Vanden Born. 1988. The biology of Canadian weeds. 86. *Galium aparine* L. and *Galium spurium* L. *Can. J. Plant Sci.* 68:481–499.

Taylor, K. 1999. *Galium aparine* L. *J. Ecol.* 87:713–730. ♦

AUTHORS: W. T. Lanini, Plant Sciences, UC Davis; and B. Hanson, Plant Sciences, UC Davis.

TECHNICAL EDITOR: M. L. Flint

EDITOR: M. L. Fayard

ILLUSTRATIONS: Fig. 1, W. T. Lanini; and Figs. 2-4, J. M. DiTomaso.

University of California scientists and other qualified professionals have anonymously peer reviewed this publication for technical accuracy. The ANR Associate Editor for Urban Pest Management managed this review process.

To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned.

This material is partially based upon work supported by the Extension Service, U.S. Department of Agriculture, under special project Section 3(d), Integrated Pest Management.

Produced by **UC Statewide Integrated Pest Management Program**
University of California, Davis, CA 95616

This and other Pest Notes are available at www.ipm.ucdavis.edu.

For more information, contact the University of California Cooperative Extension office in your county. See your telephone directory for addresses and phone numbers, or visit <http://ucanr.org/ce.cfm>.



**University of California
Agriculture and Natural Resources Program**

WARNING ON THE USE OF CHEMICALS

Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in the original, labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, unauthorized persons, pets, and livestock.

Pesticides applied in your home and landscape can move and contaminate creeks, rivers, and oceans. Confine chemicals to the property being treated. Avoid drift onto neighboring properties, especially gardens containing fruits or vegetables ready to be picked.

Do not place containers containing pesticide in the trash or pour pesticides down the sink or toilet. Either use the pesticide according to the label, or take unwanted pesticides to a Household Hazardous Waste Collection site. Contact your county agricultural commissioner for additional information on safe container disposal and for the location of the Household Hazardous Waste Collection site nearest you. Dispose of empty containers by following label directions. Never reuse or burn the containers or dispose of them in such a manner that they may contaminate water supplies or natural waterways.

NONDISCRIMINATION STATEMENT

The University of California prohibits discrimination or harassment of any person on the basis of race, color, national origin, religion, sex, gender identity, pregnancy (including childbirth and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994: service in the uniformed services includes membership, application for membership, performance of service, application for service, or obligation for service in the uniformed services) in any of its programs or activities.

University policy also prohibits reprisal or retaliation against any person in any of its programs or activities for making a complaint of discrimination or sexual harassment or for using or participating in the investigation or resolution process of any such complaint.

University policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Equal Opportunity Director, University of California, Agriculture and Natural Resources, 1111 Franklin Street, 6th Floor, Oakland, CA 94607, (510) 987-0096.