

BUFFALOBUR: Options for control

Buffalobur, a class - A noxious weed in Ferry County, Washington (*Solanum rostratum*) is an annual that reproduces solely by seed. Buffalobur, also called Kansas thistle, is a native of Central Mexico and the Great Plains of the United States. The name “Buffalobur” dates back to the time of settlement of the Great Plains when the plant grew abundantly in the disturbed soil of buffalo wallows. Buffalo carried the burs great distances in their shaggy coats.

Buffalobur is drought tolerant and can be found in meadows, dry rangeland, pastures, lawns, cultivated fields, roadsides, and waste areas and survives in disturbed, dry areas. It can grow in a wide variety of environmental conditions and serves as a host for the Colorado potato beetle. A single plant can produce 8,500 seeds.



Close-up of leaves covered with long stiff yellow prickles.



Buffalobur leaves are deeply lobed, resembling a watermelon leaf.



The stout spines are sharp, and covered with a substance that can cause intense, lingering pain in anyone stabbed by them.

summer and into the fall. The stems, leaves, and even flowers sport many sharp spines. Leaves are deeply lobed and grow up to 5 inches long. Yellow flowers are one inch across with five petals. A dry berry covered with sharp spines contains numerous black, wrinkled and flattened seeds. Seeds mature shortly after flowering. It has fibrous roots with erect heavily branched stems. Mature plants grow 1 to 2 feet tall and are covered by straight yellow spines.



This noxious weed may be found as a contaminant in birdseed. These plants often break off at the soil and tumble in the wind, scattering seed. It can be found in some row crops, however, it is not a great competitor. The burs may cause damage and considerable loss in wool and fiber value for sheep and goats. The stiff spines of this weed can cause injury as well as contain alkaloids that can be poisonous to livestock.



Close-up of bur fruiting structure covered with long stiff yellow prickles.



Flowers have five yellow petals that are fused, giving the appearance of being a solid skirt with irregular margins.



Occasionally been found under bird feeders and in gardens here in Lincoln County. All have been quickly eradicated.

Since Buffalobur can self-fertilize, a single plant can start an infestation. It flowers throughout the

Key identifying traits

- Deeply lobed watermelon type **leaves**.
- Yellow, 5-lobed **flowers** throughout summer.
- **Stems** erect, branched in upper portion, 6 to 24 in. tall, hairy, densely covered with long stiff yellow **prickles** on all parts of the plant.
- **Leaves** 2–5 in. long, alternate, petioled, density hairy, cut into deep rounded lobes: veins, midribs, and petioles very prickly.

Biology and ecology

- An **annual** with a tap root, grows up to 2 feet tall.
- **Blooms** in late June to early August.
- **Reproduces** by **seeds** from July to October.
- Can be a contaminant of **garden seeds** and **bird seeds**, so occasionally found in gardens or under bird feeders.
- Common in some western wastelands and prairies.
- Serves as a **host** for Colorado potato beetle.
- Common on sandy **soils**, but grows on most soils.

CONTROL MEASURES:

For this and other publications, see our website at: www.co.lincoln.wa.us/weedboard

Prevention:

- Be aware of unusual or unintended plants in gardens and around bird feeders. **Early detection** is vital to prevent invasion.

Biological:

- None contemplated for this U.S. native; should have natural enemies already in native areas.

Cultural:

A good competitive vegetative cover helps.

Mechanical:

- Small infestations or solitary plants can be hand dug or pulled (wear sturdy gloves).
- Frequent mowing can also be used to prevent flowering.

Chemical:

- 2,4-D plus Banvel, can control Buffalobur.
- Buffalobur is moderately susceptible to 2,4-D when seedlings are immature. It becomes very resistant to 2,4-D after flowering. A combination of 2,4-D plus Banvel usually provides more complete control than either herbicide alone.

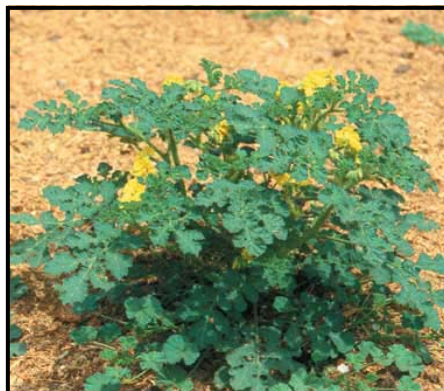


! Buffalobur can **poison** horses, sheep, goats and cattle. However, sheep and goats are more resistant than cattle, and in controlled experiments, goats were not poisoned at all. Its **toxic agent** is the **glycoalkaloid solanine**. The leaves and fruit contain solanine **at all stages of growth**. In some instances, as little as 0.1 to 0.3 percent of an animal's weight in buffalobur is enough to be toxic. Species within the genus *Solanum* can also accumulate excess nitrates in soils that are high in nitrogen. Effects of gastrointestinal irritation include: nausea, abdominal pain, vomiting, diarrhea, and sometimes with blood.

Typical nitrate signs may also be exhibited but are much less common. Plant material may be identified in the rumen content of dead animals.



To identify Buffalobur, look for the tomato-like yellow flowers and the unique, extremely prickly leaves, stems and fruits.



Since this plant is an annual, any method that prevents seed production will eventually eradicate an infestation.



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Photos and references courtesy of: Washington State Noxious Weed Control Boards, written findings; Oklahoma State University; Charles T. Bryson, USDA Agricultural Research Service, photo; Whatcom County Noxious Weed Control Board; Pierce County Noxious weed Control Board.