Hyoscyamus niger L.

Black henbane

Family: Solanaceae
Range: Most western states with the exception of Arizona and California.
Habitat: Disturbed open sites, roadsides, fields, waste places, abandoned gardens and other non-crop areas. Grows best in sandy or well-drained loam soils with moderate fertility.
Origin: Native to Eurasia and introduced to eastern North America in the early 1600s as a medicinal herb.
Impacts: All plant parts contain the tropane alkaloids hyoscyamine, scopolamine, and atropine and are toxic to humans and animals when ingested. Seeds have the highest concentration of alkaloids. Livestock rarely consume foliage because of the unpleasant odor and bitter taste. Most toxicity problems occur in humans that ingest seeds, particularly children and people who abuse black henbane for its neurological effects.
Western states listed as Noxious Weed: California, Colorado, Idaho, Nevada, New Mexico, Utah, Washington

Black henbane is an erect summer annual or biennial generally to about 3 ft, but it can grow to 6 ft tall under some conditions. The coarse foliage has sticky glandular hairs and a foul odor. The leaves are alternate, gray-green, oblong to lanceolate, 2 to 8 inches long, with coarsely toothed to acutely pinnate-lobed margins.

The inflorescence is a terminal raceme that is one-sided and somewhat coiled at the tip. Petals are fused and funnel-shaped with five unequal lobes. Flowers are 1 to 1.5 inches long and pale yellow to greenish with conspicuous purple veins and a purple throat. The calyx is persistent and urn-shaped, five-lobed and densely covered with long glandular hairs at the base. The fruit are capsules from 0.5 to 0.75 inch long and contain numerous seeds. Plants reproduce by seed only. Seeds disperse by falling at the base of the parent plants. Under field conditions, seeds appear to remain viable for up to about 4 years.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Hand removal has been shown to offer some level of control, as has mowing and cultivation. Gloves should be worn for any hand removal as the plant is poisonous. Taproots must be removed to 2 inches below ground to ensure that resprouting does not occur. Mechanical methods should be repeated annually to exhaust the soil seed reserve.
Cultural	Plants with mature fruits can be burned to kill seed. Plants are poisonous, thus they are not recommended in a grazing control program.
Biological	There are no biological control agents available for black henbane.

CHEMICAL CONTROL

The following specific use information is based on published papers or 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.

GROWTH REGULATORS	
2,4-D Several names	**Rate:** 2 to 4 pt product/acre (0.95 to 1.9 lb a.e./acre) **Timing:** Postemergence before flowering to prevent seed production and dispersal. Best applied to young plants.

	Remarks: 2,4-D is a restricted use herbicide in some areas. It will damage most broadleaf species.
Dicamba *Banvel, Clarity*	**Rate:** 1 to 2 pt product/acre (8 to 16 oz a.e./acre) **Timing:** Postemergence before flowering to prevent seed production and dispersal. Best applied to young plants from rosette to bolting stage. **Remarks:** Dicamba is a broadleaf herbicide with little soil activity.
Fluroxypyr *Vista XRT*	**Rate:** 15 to 22 oz product/acre (5.3 to 7.7 oz a.e./acre) **Timing:** Postemergence before flowering to prevent seed production and dispersal. Best applied to young plants from rosette to bolting stage. **Remarks:** Fluroxypyr is a broadleaf herbicide with little soil activity.
Picloram *Tordon 22K*	**Rate:** 1 to 2 pt product/acre (4 to 8 oz a.e./acre) **Timing:** Preemergence or postemergence in spring when plants are growing rapidly, but before bloom. Treatments can also be made in late summer for preemergence activity. Picloram can be used in a premix with 2,4-D (*Grazon P+D*) or tank mixed with 2,4-D at 1 lb a.e./acre. **Remarks:** Picloram is a restricted use herbicide. It is not registered for use in California.
AROMATIC AMINO ACID INHIBITORS	
Glyphosate *Roundup, Accord XRT II*, and others	**Rate:** 2 to 4 qt product (*Roundup ProMax*)/acre (2.25 to 4.5 lb a.e./acre) **Timing:** Postemergence before flowering to prevent seed production and dispersal. Best applied to young plants. **Remarks:** Glyphosate provides effective control. It is nonselective and has no soil activity. Wiper applications for small patches can provide selectivity.
BRANCHED-CHAIN AMINO ACID INHIBITORS	
Chlorsulfuron *Telar*	**Rate:** 0.5 to 1 oz product/acre (0.375 to 0.75 oz a.i./acre) **Timing:** Postemergence to rapidly growing plants from bolting to early flowering stage. **Remarks:** Chlorsulfuron is a very effective control option, but has a broad spectrum of susceptible species. Its residual soil activity gives effective control one year later. Chlorsulfuron can be applied in combination with metsulfuron in the premix trade name *Cimarron Plus*. This combination is not registered for use in California.
Metsulfuron *Escort*	**Rate:** 1 to 2 oz product/acre (0.6 to 1.2 oz a.i./acre) **Timing:** Postemergence to rapidly growing plants from bolting to early flowering stage. **Remarks:** Metsulfuron has some residual control activity. Use with a non-ionic or silicone-based surfactant. It can be applied in combination with chlorsulfuron in the premix trade name *Cimarron X-tra*. Metsulfuron is not registered for use in California.

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.