Nicotiana glauca Graham

Tree tobacco

Family: Solanaceae
Range: Much of the southwestern United States, including California, Nevada, Arizona, and New Mexico.
Habitat: Disturbed places, roadsides, urban waste areas, gravel quarries, landscaped sites, and many natural communities, including riparian areas, grassland, and woodland. Drought-tolerant and can survive under a wide range of growing conditions, but is most commonly found in sandy or gravelly soils along riparian areas, near cultivated areas, around old dwellings and ditch banks.
Origin: Native to South America and introduced to the United States in the early 1800s as a landscape ornamental.
Impacts: Tree tobacco grows rapidly and forms dense stands. It displaces native vegetation used by wildlife and contributes to bank erosion and flooding. Large infestations can decrease water flow and reduce recreational uses. Tree tobacco is toxic to humans and animals. Unlike other members of the *Nicotiana* genus, tree tobacco does not contain the alkaloid nicotine. However, it produces a similar compound called anabasine, which is highly toxic to humans and animals. Anabasine is more toxic than nicotine and can cause fetal deformities in livestock when the mother ingests small amounts of plant material during early pregnancy.
California Invasive Plant Council (Cal-IPC) Inventory: Moderate Invasiveness

Tree tobacco is a slender, erect, straggling shrub or small tree growing 6 to 20 ft tall. It has ovate, bluish-grey leaves, 2 to 8 inches long, with entire margins. The plants lack hairs on the foliage.

Tree tobacco produces sprays of nodding, tubular bright yellow flowers and is a prolific seed producer. Plants reproduce only by seed. An individual tree can produce 10,000 to 1,000,000 seeds per year with viability approaching 100%. The fruit are capsules about 7 to 15 mm long. The minute seeds (0.6 mm long) are chiefly spread by water movement; however, animals also serve as dispersal agents. The reproductive biology of this species is poorly documented, but the small size of the seed suggests that they do not survive more than a year or two in the soil.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Hand pulling can remove seedlings and small saplings. For larger established shrubs, a weed wrench or other woody weed extractor can be used. Care must be taken to extract the entire root or stump sprouting will occur. Best results are achieved when soil is moist. Cutting tree tobacco off before it flowers will reduce seed production and deplete the plant's energy reserves. Resprouts are common after treatment. Cutting at the end of the dry season can help reduce resprouting from the root crown. Cutting should be combined with an herbicide treatment or with multiple cuttings over a period of years. Cut trees at ground level with power or manual saws.
Cultural	Grazing is not considered an effective control option. Foliage contains anabasine and can be toxic to livestock when ingested. Burning is also not considered to be an effective control method, as plants will resprout from the base.
Biological	No biological control agents have been released for the control of tree tobacco. Tree tobacco is susceptible to tobacco mosaic virus, but this only has a minor effect on its population.

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.

GROWTH REGULATORS	
Triclopyr *Garlon 3A*, *Garlon 4 Ultra*, *Pathfinder II*	**Rate:** Spot treatment: 0.5 to 2% v/v solution of *Garlon 4 Ultra*, or 1 to 1.5% *Garlon 3A* and water plus 0.25 to 0.5% surfactant to thoroughly wet all leaves. Low volume/thinline treatment: 20% v/v solution of *Garlon 4 Ultra* plus a 20% v/v basal oil in water. Cut stump treatment: 50% v/v *Garlon 4 Ultra* in 20% v/v ethylated crop oil and water, undiluted *Garlon 3A* or 50% *Garlon 3A* in water. Basal bark treatment: 20% v/v *Garlon 4 Ultra* in 20% v/v basal oil and water, or *Pathfinder II* as a ready-to-use formulation. **Timing:** Postemergence when plants are growing rapidly. Cut stump and basal bark treatments can be applied anytime, except when the soil is saturated or frozen. **Remarks:** Triclopyr is a selective herbicide for broadleaf species. In areas where desirable grasses are growing under or around tree tobacco, triclopyr can be used without non-target damage. For cut stump treatments, cut stems horizontally at or near ground level. Apply herbicide solution immediately after the stump is cut. For basal bark treatment, spray the lower trunk, including the root collar, to a height of 12 to 15 inches from the ground; the spray should thoroughly wet the lower stem but not to the point of runoff. Plants should not be cut for at least 1 month after basal bark treatments.
AROMATIC AMINO ACID INHIBITORS	
Glyphosate *Roundup*, *Accord XRT II*, and others	**Rate:** Spot treatment: 1 to 2% v/v solution of *Roundup ProMax* (or other trade name with a similar concentration of glyphosate) in water to thoroughly wet all leaves. Low volume/thinline treatment: 10% v/v solution of *Roundup* (or other trade name) in water. Cut stump treatment: 50% v/v *Roundup* (or other trade name) in water. **Timing:** Postemergence when plants are growing rapidly. **Remarks:** Glyphosate is a nonselective systemic herbicide with no soil activity. Plants should not be cut for at least 4 months after foliar treatments.
BRANCHED-CHAIN AMINO ACID INHIBITORS	
Imazapyr *Arsenal*, *Habitat*, *Stalker*, *Chopper*, *Polaris*	**Rate:** Spot treatment: 0.5 to 1.5% v/v solution of *Stalker* plus 0.25 to 0.5% surfactant v/v to thoroughly wet all leaves. Low volume/thinline treatment: 10% v/v solution of *Stalker* plus a 20% v/v ethylated crop oil in water. Cut stump treatment: 50% v/v solution of *Stalker* in 20% v/v ethylated crop oil and water. Basal bark treatment: 20% v/v *Stalker* in 20% v/v ethylated crop oil and water. **Timing:** Postemergence when plants are growing rapidly. For both foliar and stem treatments, best results when used in late summer to early fall. **Remarks:** Imazapyr is a soil residual herbicide and may result in bare ground around trees for some time after treatment. Cut stump and basal bark applications are made as described for triclopyr. Trees should not be cut for at least 4 months after basal bark treatments.

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.