Genista monspessulana (L.) L.A.S. Johnson

French broom

Family: Fabaceae
Range: Along the Pacific coast from southern British Columbia to southern California.
Habitat: Grasslands, shrublands, oak woodlands, forest margins, coastal habitats, riparian corridors and disturbed sites such as roadsides, pasture, burned areas, or cleared forests. Grows under varied soil moisture conditions but seems to prefer siliceous soils. Unlike other brooms in California, it grows reasonably well on alkaline soils.
Origin: Native to the Mediterranean region and Azores. Introduced to the U.S. in the 1850s as an ornamental.
Impacts: Grows rapidly and forms dense stands that most wildlife find impenetrable and unpalatable. Dense stems inhibit regeneration of most other plant species, and the accumulation of woody biomass creates a fire hazard. Broom can fix nitrogen, enabling the plant to colonize and dominate areas with poor soil. Increased soil fertility gives a competitive advantage to other non-native weeds that thrive on high nitrogen levels.
Western states listed as Noxious Weed: California, Oregon, Washington (proposed)
California Invasive Plant Council (Cal-IPC) Inventory: High Invasiveness

French broom is an upright, evergreen shrub, commonly less than 10 ft tall. Stems are green, erect, dense, and covered with silky, silvery hairs. French broom is typically leafy as compared with Scotch or Spanish broom, which have few leaves. The leaves are composed of three leaflets 0.4 to 0.8 inch long, oblong to obovate, with length about twice the width, and upper and lower surfaces sparsely to densely covered with silky, silvery hairs.

French broom produces yellow, pea-shaped flowers in dense clusters of 4 to 10 flowers on short axillary shoots. Reproduction is by seed and plants begin flowering from 18 months to 3 years of age. The seeds are produced in small, flattened pods 0.5 to 1 inch long. Pods are dark brown when mature, contain 5 to 8 seeds, and are densely covered with appressed, long silky hairs. When mature, pods eject the seeds several feet from the plant. Seeds can remain viable in the soil for up to 30 years. Large soil seedbanks often accumulate, making long term control difficult. Shrubs may live for up to 30 years.

NON-CHEMICAL CONTROL

Mechanical (pulling, cutting, disking)	Hand pulling can remove seedlings and small shrubs, but this technique is generally not effective on established shrubs. 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. Disturbing the soil can stimulate the seedbank. Cutting broom to the ground in spring before it flowers will reduce the number of seeds and will deplete the plant's energy reserves. Resprouts are common after treatment, but can be reduced by cutting broom at the end of the dry season. Cutting should be combined with an herbicide treatment or with multiple cuttings over a period of years. Cut shrubs at ground level with power or manual saws. Heavy equipment can be effectively used to control broom in areas where soil disturbance and nonselective species removal are not important considerations. Stumps remaining following such treatment will require herbicide application to prevent regrowth.
Cultural	Flowers and seeds of brooms contain quinolizidine alkaloids and can be toxic to humans and livestock when ingested. Foliage may be mildly toxic and is unpalatable to most livestock, except goats. Goats confined to a small area can help control resprouting stands after a cutting or burn treatment. Goats can be trained to be quite selective at least within the vegetation structure, for example they can effectively strip flowers.

	Burning alone is not an effective method for controlling broom. Although burning can remove debris, in many cases it can increase the population as it removes competitive vegetation, releases nutrients into the soil, and stimulates the germination of broom seeds in the soil. Burning is more effective when followed by herbicide application, subsequent burnings, and/or revegetation with desirable species. It is important to employ a control strategy following a burn; otherwise the broom population in subsequent years may become worse than before.
Biological	There are no USDA-approved biocontrol agents for French broom. The native pyralid moth, *Uresiphita reversalis*, defoliates some French broom, but plants grow new leaves after the larvae metamorphose. An insect introduced for control of Scotch broom, the Scotch broom bruchid (*Bruchidius villosus*), also attacks French broom.

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 REGULATOR	
Picloram *Tordon 22K*	**Rate:** Broadcast foliar treatment: 2 qt product/acre (non-cropland) or 1 qt product per acre (rangeland) plus 0.25 to 0.5% v/v surfactant to thoroughly wet all leaves. **Timing:** Postemergence foliar treatments are best when plants are growing rapidly at or beyond early to full bloom stage. **Remarks:** High levels of picloram can give long-term soil activity for broadleaves. Picloram is a restricted use herbicide. It is not registered for use in California.
Triclopyr *Garlon 3A*, *Garlon 4 Ultra*, *Pathfinder II* Aminopyralid + triclopyr *Capstone*	**Rate:** Foliar treatment: 0.75 to 1.5% v/v solution of *Garlon 4 Ultra*, or 1 to 1.5% *Garlon 3A* and water plus 0.25 to 0.5% surfactant v/v to thoroughly wet all leaves. Low volume/thinline treatment: 10% v/v solution of *Garlon 4 Ultra* plus a 20% v/v seed oil in water. Basal cut stump treatment: 20% *Garlon 4 Ultra* v/v in water. Cut stump treatment: undiluted *Garlon 3A* or 50% *Garlon 3A* in water. Basal bark treatment: 20% v/v *Garlon 4 Ultra* in 20% v/v ethylated crop oil and water, or *Pathfinder II* as a ready-to-use formulation. Use *Capstone* at 8 to 9 pints per acre. **Timing:** Postemergence when plants are growing rapidly. Cut stump and basal bark treatments can be applied anytime although they are optimal if not applied when sap is rising in the early spring. **Remarks:** Triclopyr is a selective herbicide for broadleaf species and will not damage desirable grasses growing nearby. For cut stump treatments, cut stems horizontally at or near ground level and immediately apply *Garlon 3A* solution. Suckering from the roots typically occurs after cutting, but the treatment should control most resprouts. For basal bark treatment, spray the lower trunk, including the root collar, to a height of 12-15 inches from the ground; the spray should wet the lower stem but not to the point of runoff. Plants should not be cut for at least one month after basal bark treatments.
Triclopyr + 2,4-D *Crossbow*	**Rate:** For foliar treatment: 0.5 to 1.5% v/v solution of *Crossbow* and water to thoroughly wet all leaves. **Timing:** Apply when plants are growing rapidly. **Remarks:** *Crossbow* in water forms an emulsion (not a solution).
AROMATIC AMINO ACID INHIBITORS	
Glyphosate *Roundup*, *Accord XRT II*, and others	**Rate:** Spot treatment: 1.5 to 2% v/v solution of *Roundup ProMax* (or other trade name with 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: 25% v/v *Roundup* (or other trade name) in water; 50% can reduce resprouting but may exceed label rate if stands are dense. **Timing:** Postemergence when plants are growing rapidly. Foliar treatments should be made in late summer or early fall. For cut stump treatment, application in late summer, early fall or dormant season provides best control. Stumps should be treated immediately after cutting. **Remarks:** Glyphosate is a nonselective systemic herbicide. It gives good control with some resprouts. Plants should not be cut for at least 4 months after foliar treatments. Cut stump applications are made as described for triclopyr.

BRANCHED-CHAIN AMINO ACID INHIBITORS	
Imazapyr *Arsenal*, *Habitat*, *Stalker*, *Chopper*, *Polaris*	**Rate:** Cut stump treatment: 20% v/v solution of *Stalker* plus a 20% v/v ethylated crop oil in water or 20% *Habitat* v/v in 80% water carrier. Basal bark treatment: 20% v/v solution of *Stalker* plus a 20% v/v ethylated crop oil in water. **Timing:** Best when applied in late summer to early fall, but before leaf drop. **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. Plants should not be cut for at least 4 months after basal bark treatment. Other ALS inhibitors, including metsulfuron, have been used effectively to control French broom in Australia.

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.