

Scotch and French broom (*Cytisus scoparius* & *Genista monspessulana*)

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The literature on scotch and french brooms states that they both grow best in dry, disturbed soils with plenty of sunlight, such as those created with new partial cutting timber harvest techniques (Raj 2002). The literature continues on that line saying that the brooms rapidly invade following logging and land clearing (CDFA Encycloweedia website, Huckins and Soll 2004, Hoshovsky 1986). The brooms do not do well in heavily forested areas and don't tolerate heavy shade (CDFA Encycloweedia website, Huckins and Soll 2004, Hoshovsky 1986).

The literature states that because of extremely long-lived seeds broom control requires long-term management to exhaust the seed bank and prevent rapid recolonization of treated areas (CDFA Encycloweedia website, Huckins and Soll 2004, Raj 2002, Hoshovsky 1986). Many non-herbicide methods are recommended in the scientific literature for effective scotch and french broom control/removal. An integrated approach, requiring several years of treatments is accepted as the most effective, economical, and environmentally sound strategy (Huckins and Stoll 2004, Hoshovsky 1986). Established broom infestations will require persistence and retreatments each year for ten years or more, regardless of methods chosen (Huckins and Stoll 2004, Parker, Miller and Burrill 1998).

Manual hand methods are highly selective and can remove broom without impacts to desirable vegetation (Huckins and Soll 2004, Raj 2002, Hoshovsky 1986). Experts suggest hand pulling as a good and preferable manual broom removal method. It should be done in moist soils (Huckins and Soll 2004, Hoshovsky 1986). Also there are several hand tools for pulling broom plants including: weed wrenches, root jacks, pulaskis, and more (Huckins and Soll 2004). The weed wrench is mentioned as one of the most effective techniques for complete broom removal (CDFA Encycloweedia website). Hand hoeing and grubbing out crowns effectively control large plants (Parker, Miller and Burrill 1998, Hoshovsky 1986). Hand digging is a sure way of removing broom plants (Hoshovsky 1986). Well timed (before seeds mature) and executed cutting, especially effective manual cutting methods (at ground surface level) which can nearly eliminate re-sprouting, are recommended as an important first step in an integrated broom management plan (CDFA Encycloweedia website, Huckins and Soll 2004, Raj 2002). Experts conclude that the key to long-term broom control is prevention of seed set after the initial clearing takes place (Huckins and Soll 2004).

Mechanical control has shown to be practicle in some instances, using tractor mounted mowers or scythes, depending on terrain (CDFA Encycloweedia website, Huckins and Soll 2004, Raj 2002, Hoshovsky 1986). Repeated mowing/cutting can exhaust broom plant food supplies (Hoshovsky 1986). The literature contains examples of grazing, using goats (Angora and Spanish) as shown to be effective in controlling broom (CDFA Encycloweedia website, Parker, Miller and Burrill 1998, Hoshovsky 1986). Some expert sources suggest that goats are the most effective for controlling regrowth as a follow up control method after burning or cutting (CDFA Encycloweedia website, Huckins and Stoll 2004). Goats can be less costly, can negotiate steeper slopes, and don't pose the environmental dangers inherent with herbicides (Huckins and Stoll 2004, Hoshovsky 1986)).

Experts support the use of torching (flame thrower or weed burner) to heat-girdle the lower stems as spot treatments (Huckins and Stoll 2004, Hoshovsky 1986). This technique is reported to be less costly than herbicide treatments (Hoshovsky 1986). Large infestations can be removed using prescribed fire, but follow up methods are needed as fire can stimulate broom seed germination (CDFA Encycloweedia website, Huckins and Stoll 2004, Raj 2002, Hoshovsky 1986). This can be preferable for reducing the remaining seed bank far more quickly (Huckins and Stoll 2004). The literature states that burning of broom should be followed by re-burning, manual seedling removal, and re-vegetation with competitive native species (Huckins and Stoll 2004). Re-vegetating with, at first, native perennial grasses and forbes, and later with native broadleaf plants will be necessary for long-term control (CDFA Encycloweedia website, Huckins and Stoll 2004, Hoshovsky 1986).

For large infestations, the Bradley method is recommended as a sensible approach for manually controlling weeds (Fuller and Barbe 1985). This method consists of hand weeding small areas of the infestation, starting with the best stands of native vegetation (those with the least weeds) and working towards those stands with the worst weeds. Initially, single and small groups of weeds should be removed from the edges of the infestation. Next, work on areas with at least two natives to every weed. The native populations will be stabilized in each cleared area, and then one should progressively work deeper into the center of the most dense weed patches. This method has great promise for sensitive natural areas with low budgets.

References

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