CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Profile for

Genista monspessulana (L.) L. A. S. Johnson: French broom, Family Fabaceae

Pest Rating: C

Synonyms: *Cytisus monspessulanus* L., *Teline monspessulana* (L.) K. Koch

Other common names: Montpellier broom, Cape broom, soft broom

Comment Period: 04/16/2020 through 05/31/2020

Initiating Event:

This species is on the CCR 4500 List of noxious weed species and has not previously undergone the pest rating proposal process.

History & Status:

Background: French broom, *Genista monspessulana*, is an erect-stemmed unarmed evergreen shrub growing up to 3 meters in height (DiTomaso and Healy, 2007; Gibbs, 1968; Talavera and Gibbs, 2006). The greenish twigs are angular in cross section and usually silky-hairy. The leaves are short-stalked and trifoliate. The obovate to oblanceolate leaflets are approximately 10-15 mm in length and hairy, especially on the lower surface. The inflorescences are borne on short shoots in the leaf axils and consist of dense clusters of 3 to 10 flowers. The silky-hairy calyx is approximately 5-7 mm in length, with the lower lip longer than the upper. The pea-like flowers are yellow, with a broadly ovate banner petal approximately 10-17 mm in length. The narrowly oblong legume fruit is approximately 15 to 25 mm long and silky-hairy. The ovoid seeds are approximately 2.6 to 3.3 mm in length and yellowish-green, brownish, or black in color.

Worldwide Distribution: French broom is native to scrub and open woodland habitats in the Mediterranean region of Europe, including the islands of Sardinia, Sicily, and Corsica, and parts of southwestern Asia and north coastal Africa (USDA GRIN database; Gibbs, 1968). It is native or

naturalized in the Azores, and naturalized in portions of South Africa, Australia, New Zealand, and in Pacific coastal areas of the United States (particularly in California and Oregon).

Official Control: The species is listed in Australia as a noxious weed in South Australia and Victoria and as a secondary weed in Tasmania (CABI, 2020). It is listed as a noxious weed in California, Oregon (Class B and quarantine weed), and Hawaii (USDA PLANTS database).

California Distribution: French broom has a wide naturalized distribution in California. It is reported from vouchered specimens in at least 32 counties in California, including San Diego, Los Angeles, Ventura, Santa Barbara, San Luis Obispo, Monterey, Santa Cruz, San Mateo, San Francisco, Alameda, Contra Costa, Marin, Sonoma, Napa, Solano, Lake, Mendocino, Humboldt, and Del Norte along the length of coastal or near-coastal California, and inland in Kern, Madera, Tuolumne, Amador, El Dorado, Placer, Yuba, Butte, Plumas, and Shasta counties (Calflora; Consortium of California Herbaria).

California Interceptions: French broom is occasionally submitted to CDFA for identification or confirmation. These plants originate from throughout the introduced range of the species in California. In addition, horticultural plants of putative hybrid origin known as sweet broom have been submitted on a number of occasions from commercial nurseries in California as potential specimens of French broom. These plants are hybrids of two species of *Genista* broom from the Canary Islands, with some possible admixture of French broom genes (ref). Such horticultural plants are generally treated as a distinct entity (CDFA PDR database), although they are documented to interbreed with French broom when planted near adventive populations of the latter species (ref).

The risk French broom would pose to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** 1) Climate/Host Interaction: Naturalized plants identified as this species are established in many counties of California. Therefore, French broom has an established widespread distribution in the state and receives a **High (3)** in this category.

   Evaluate if the pest would have suitable hosts and climate to establish in California.
   Score: **3**
   - Low (1) Not likely to establish in California; or likely to establish in very limited areas.
   - Medium (2) may be able to establish in a larger but limited part of California.
   - High (3) likely to establish a widespread distribution in California.

2) **Known Pest Host Range:** Risk is **High (3)** as French broom does not require any one host, but grows wherever ecological conditions are favorable.

Evaluate the host range of the pest.

Score: 3

- Low (1) has a very limited host range.
- Medium (2) has a moderate host range.
- **High (3) has a wide host range.**

3) **Pest Dispersal Potential:** French broom produces abundant fruits and thus has high reproductive capacity but limited dispersal potential by seed. Longer distance dispersal appears most likely to occur by vehicular movement of plants or soil or shipment of plants, or as seed or seedling contaminants in potted plants of other species. Therefore, French broom receives a **Medium (2)** in this category.

Evaluate the natural and artificial dispersal potential of the pest.

Score: 2

- Low (1) does not have high reproductive or dispersal potential.
- **Medium (2) has either high reproductive or dispersal potential.**
- High (3) has both high reproduction and dispersal potential.

4) **Economic Impact:** French broom has sometimes been planted in various parts of the world as an ornamental shrub, but this is now strongly discouraged since the plant is invasive in coastal areas with suitable climate regimes (CABI, 2020; DiTomaso and Healy, 2007). The foliage of the plant is toxic to sheep and cattle due to alkaloid compounds, but amounts of leaves large enough to cause poisoning are not often eaten due to their unpalatable taste (CABI, 2020; DiTomaso and Healy, 2007; Everist, 1981). French broom receives a **Medium (2)** in this category.

Evaluate the economic impact of the pest to California using the criteria below.

Economic Impact: D, F

A. The pest could lower crop yield**.**
B. The pest could lower crop value (includes increasing crop production costs).
C. The pest could trigger the loss of markets (includes quarantines).
D. The pest could negatively change normal cultural practices.
E. The pest can vector, or is vectored, by another pestiferous organism.
F. The organism is injurious or poisonous to agriculturally important animals.
G. The organism can interfere with the delivery or supply of water for agricultural uses.

Economic Impact Score: **2**

- Low (1) causes 0 or 1 of these impacts.
- **Medium (2) causes 2 of these impacts.**
- High (3) causes 3 or more of these impacts.

Environmental Impact: French broom is invasive in both natural and disturbed habitats in the coastal states of California and in many of the counties in the foothills of the Sierra Nevada, and is already widely established in

the state. It contributes to fire risk during the dry season in the state and can displace native plant species in the Coast Ranges and Sierra foothills. It can shade out and prevent regeneration of native species including endangered species such as Santa Cruz tarplant (*Holocarpha macradenia*) and Monterey spineflower (*Chorizanthe pungens*).Therefore, it receives a **High (3)** in this category.

Environmental Impact: ABCD

A. The pest could have a significant environmental impact such as lowering biodiversity, disrupting natural communities, or changing ecosystem processes.
B. The pest could directly affect threatened or endangered species.
C. The pest could impact threatened or endangered species by disrupting critical habitats.
D. The pest could trigger additional official or private treatment programs.
E. The pest significantly impacts cultural practices, home/urban gardening or ornamental plantings.

Environmental Impact Score:
- Low (1) causes none of the above to occur.
- Medium (2) causes one of the above to occur.
- High (3) causes two or more of the above to occur.

Consequences of Introduction to California for French broom*:* High (13)

Add up the total score and include it here.
-Low = 5-8 points
-Medium = 9-12 points
-High = 13-15 points

1) **Post Entry Distribution and Survey Information**: This plant is widely established in California. It receives a score of **High (3)** in this category.

Score: 3
-Not established (0) Pest never detected in California or known only from incursions.
-Low (-1) Pest has a localized distribution in California or is established in one suitable climate/host area (region).
-Medium (-2) Pest is widespread in California but not fully established in the endangered area, or pest established in two contiguous suitable climate/host areas.
-High (-3) Pest has fully established in the endangered area, or pest is reported in more than two contiguous or non-contiguous suitable climate/host areas.

7) **The final score is** the consequences of introduction score minus the post entry distribution and survey information score:

Final Score: *Score of Consequences of Introduction – Score of Post Entry Distribution and Survey Information* ***= Medium (10)***

Uncertainty:

It is unclear to what degree this species as naturalized in California includes hybrid germplasm from other species in the genus.

Conclusion and Rating Justification:

French broom is a shrub native to coastal areas of the Mediterranean region of Eurasia and North Africa. It has in the past been cultivated as an ornamental shrub, but it is has been replaced in horticulture by showier hybrids. French broom badly invades coastal and foothill habits in the Pacific states of the U.S. as well as Australia, New Zealand, and South Africa. The species is toxic, but unpalatable to livestock. Because it is already very widespread in California, regulation of this weedy species will have little or no affect; a rating of "C" is justified.

References:

CABI Datasheet. *Genista monspessulana* (Montpellier broom). Accessed March 13, 2020.

https://www.cabi.org/isc/datasheet/25059

California Department of Food and Agriculture. Pest and Damage Record database (PDR). Accessed March 13, 2020:

https://pdr.cdfa.ca.gov/PDR/pdrmainmenu.aspx

Calflora. 2020. Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals. Accessed March 13, 2020.

https://www.calflora.org//

Consortium of California Herbaria. Accessed March 13, 2020:

http://ucjeps.berkeley.edu/consortium

DiTomaso, J. M., and E. A. Healy. 2007. Weeds of California and Other Western States, Vol. 1. Aizoaceae-Fabaceae. University of California Agriculture and Natural Resources Publication 3488. University of California Press, Berkeley, CA.

Everist, S. L. 1981. Poisonous Plants of Australia, ed. 2. Angus and Robertson, Sydney, Australia.

Gibbs, P. E. 1968. *Teline* Medicus. Pp. 93-94 in T. G. Tutin et al., eds. Flora Europaea, Vol. 2. Rosaceae to Umbelliferae. Cambridge University Press, Cambridge, United Kingdom.

California Invasive Plant Council. IPCW Plant Report 52. *Genista monspessulana*. Accessed March 13, 2020.

https://www.cal-ipc.org/resources/library/publications/ipcw/report52/

Talavera, S., and P. E. Gibbs. *Teline*. Pp. 141-146 in Flora Iberica. Accessed March 13, 2020.

http://www.floraiberica.es/floraiberica/texto/pdfs/07_12 Teline

USDA Agricultural Research Service. National Plant Germplasm System. Germplasm Resources Information Network (GRIN). Accessed March 13, 2020.

https://npgsweb.ars-grin.gov/gringlobal/taxonomydetail.aspx?id=311106

USDA Natural Resources Conservation Service. PLANTS database. Accessed March 13, 2020:

https://plants.sc.egov.usda.gov

Responsible Party:

Robert Price, Primary Botanist, California Department of Food and Agriculture, 3294 Meadowview Rd., Sacramento, CA 95832. Phone: 916-738-6700, permits[@]cdfa.ca.gov.

***Comment Period: 04/16/2020 through 05/31/2020**

***NOTE:**

You must be registered and logged in to post a comment. If you have registered and have not received the registration confirmation, please contact us at plant.health[@]cdfa.ca.gov.

Comment Format:

- Comments should refer to the appropriate California Pest Rating Proposal Form subsection(s) being commented on, as shown below.

  Example Comment:

  Consequences of Introduction: 1. Climate/Host Interaction: [Your comment that relates to "Climate/Host Interaction" here.]

- Posted comments will not be able to be viewed immediately.

- Comments may not be posted if they:

  Contain inappropriate language which is not germane to the pest rating proposal;

  Contains defamatory, false, inaccurate, abusive, obscene, pornographic, sexually oriented, threatening, racially offensive, discriminatory or illegal material;

  Violates agency regulations prohibiting sexual harassment or other forms of discrimination;

  Violates agency regulations prohibiting workplace violence, including threats.

- Comments may be edited prior to posting to ensure they are entirely germane.

- Posted comments shall be those which have been approved in content and posted to the website to be viewed, not just submitted.

Pest Rating: C