Weed Risk Assessment: *Festuca gautieri*

1. Plant Details


**Common names:** bear-skin fescue, spiky fescue.

**Origins:** south west France and north eastern Spain (Groves et al., 2005).

**Distribution:** naturalised in the United Kingdom and the United States of America (Fletcher and Stace, 2000, Spafford – Jacob et al., 2004).

**Description:** *F. gautieri* is a showy, perennial, tussock-forming, pin-cushion-like grass that grows to around 25cm. Leaves are needle-like, sharp, bright green stiff, curved and 5-15cm long. Form dense, tightly packed mats.

**Biology and ecology:**

**Habitat.** *F. gautieri* grows at a range of altitudes in its native range and is found from coastal areas into the Pyrenees mountains. It has a degree of frost tolerance (Spafford – Jacob et al., 2004). It is also dominant in xeric subalpine calcareous grasslands (Sebastia, 2004) where it grows in dry, rocky, less fertile conditions but well-drained, sunny positions. Habitats in which this plant occurs in its native distribution include:

- Cantabrian thrift swards- chionophilous grasslands of deep soils,
- Pyrenean grasslands- open, xeric, stepped, species rich grasslands on calcareous soils in subalpine areas.
- Pyrenean bearberry mountain pine forests – *Pinus uncinata* forests on deeper calcareous soils with a diverse understorey and herb ground layer.
- Pasqueflower mountain pine forests – *Pinus uncinata* forests on steep, shallow, calcareous soils with a grassy herb understorey.
- Pyrenean calicicolous mesophile Scots pine forests – *Pinus sylvestris* forests (European Environment Agency – EUNIS database)

**Life cycle.** Summer flowering perennial.

**Reproduction and dispersal.** *F. gautieri* reproduces by seed. Studies indicate a high rate of germination in both mesic and xeric conditions (Mola and Sebastia, undated).

**Hybridisation.** There is limited information about hybridisation of *F. gautieri*. However one study suggests it hybridises with *Festuca eskia* to produce *F. x picoeuropeana* Nava (Gutierres Villarias et al, 1992).
**Potential distribution of Festuca gautieri in Australia using CLIMATE (Pheloung, 1995)**

**Competition.** *F. gautieri* is unpalatable to stock, a character that helps it achieve dominance in its native habitat. It is also drought and frost tolerant.

**Harmful properties:**

**Economic benefit:** *F. gautieri* is of limited economic benefit but is being sold for ornamental purposes in many temperate countries. Used for bonsai. Hobbit cultivar popular.

**2. Weed Risk**

**World weed status**

*F. gautieri* is naturalised in the United Kingdom and the United States of America. In the United Kingdom, *F. gautieri* sub species *scoparia* is described as ‘well naturalised’ in a limestone quarry in north east Yorkshire, where it has been known for around 70 years. It is also recorded from a roadside in Devon (Fletcher and Stace, 2000).

**Australian weed status**

*F. gautieri* is not naturalised in Australia but is known to have been legally imported in 2003 as an ornamental plant. This has generated some concern and calls for the plant to be prohibited entry on the basis of the threat it poses to south eastern Australia (Groves et al., 2005). It is prohibited entry to Western Australia and its national importation status is being reviewed.

**Weed potential in Tasmania.**

*F. gautieri* is not naturalised in Tasmania.

Climate matching indicates the plant is may grow in a range of warmer Tasmanian environments, especially in the north east of the state. The following analyses indicate the weed potential of *F. gautieri* in Tasmania.

**Weed risk assessment**

Weed risk assessment undertaken by DPIWE involves use of a point scoring system devised by Pheloung (1996). *F. gautieri* scores 10 on a scale that is positively correlated to weediness. The nominal score for rejection of a plant on this scale is 7 or greater (see Appendix 1 for risk assessment scoring).
3. Weed Impact Assessment

Weed impact assessment is based on the DPIWE scoring system designed for that *F. gautieri* scores 4 points on a scale where 4 points or more indicates a plant has significant potential impact. The impact scoring system requires that questions be answered with a particular land use in mind. *F. gautieri* was assessed for its potential impacts upon agriculture.

**Economic impact.** The potential economic impact of *F. gautieri* in Tasmania is relevant to agricultural grazing situations where establishment of the unpalatable species could lead to lower livestock weights and hence reduced productivity.

**Environmental impact:** *F. gautieri* is not described as a weed of natural areas however it may have the capacity to displace native grassland species in drier areas.

**Social impact.** *F. gautieri* is unlikely to have significant social impacts in Tasmania.


Since this plant is not naturalised in Tasmania at this time, management feasibility is not an issue. However, maintaining freedom from *F. gautieri* is highly dependent upon effective import prohibition, early detection and reporting of any occurrences and, community and industry education.

5. Declaration Recommendation.

*F. gautieri* appears to have potential to establish, reach moderate densities and cause harm in to agriculture in Tasmania. It may also become a weed of native grasslands. Therefore it should be nominated for declaration under the *Weed Management Act 1999*. This will support removal of the plant from trade and eradication of any infestations that are detected.

6. References.


Mola, B. and Sebastia, M., (undated), Germination dynamics and survival in two subalpine grassland communities with differentiated microenvironments. Located at http://abstracts.co.allenpress.com

Pheloung, P.C., 1995, *Determining the weed potential of new plant introductions to Australia.* A report commissioned by the Australian Weeds Committee. Agriculture Western Australia.


Plants for a Future Database: [www.scs.leeds.ac.uk](http://www.scs.leeds.ac.uk)

UK Species Checklist for Poaceae from [www.mapmate.co.uk/checklist](http://www.mapmate.co.uk/checklist)