



Declared Plant Policy

This policy relates to natural resources management under section 9(1)(d) of the Landscape South Australia Act 2019 (the Act), enabling co-ordinated implementation and promotion of sound management programs and practices for the use, development or protection of natural resources of the State. Specifically, this policy provides guidance on the use and management of natural resources relating to the prevention or control of impacts caused by pest species of plants that may have an adverse effect on the environment, primary production or the community, as per object s7(1)(f) of the Act.

field garlic (*Allium vineale*)

Field garlic (*Allium vineale*) is a perennial bulb weed of pastures and crops, formerly common and with the potential to taint flour and meat.

Management Plan for Field Garlic

Outcomes

- Minimise economic losses from contamination of agricultural produce by field garlic.

Objectives

- Eradicate any high-priority incursions found in generally uninfested regions.
- Prevent movement of propagules in produce.

Best Practice Implementation

- Regional Landscape boards and Green Adelaide to monitor the movement of produce to prevent dispersal of field garlic
- Regional Landscape boards and Green Adelaide to ensure high priority outbreaks are controlled when detected.
- In the event of significant infestations occurring, regional landscape boards and Green Adelaide to help landowners to develop action plans to minimise the contamination of produce.

Regional Implementation

Refer to regional management plans for further details.

Region	Actions
Alinytjara Wilurara	Limited action
Eyre Peninsula	Limited action
Green Adelaide	Protect sites
Hills and Fleurieu	Protect sites
Kangaroo Island	Protect sites
Limestone Coast	Destroy infestations – regional alert
Murraylands and Riverland	Limited action
Northern and Yorke	Monitor
South Australian Arid Lands	Limited action

field garlic policy

Declaration

To implement this policy, field garlic is declared under the *Landscape South Australia Act 2019* throughout the whole of the State of South Australia. Its movement or transport on a public road by itself or as a contaminant, or sale by itself or as a contaminant, are prohibited.

The Eyre Peninsula, Hills and Fleurieu, Kangaroo Island, Limestone Coast, Murraylands and Riverland, and Northern and Yorke Landscape Boards, and Green Adelaide, may require land owners to control field garlic plants growing on their land. These authorities are required to control plants on road reserves in their regions, and may recover costs from the adjoining land owners.

Field garlic is declared in category 2 under the Act for the purpose of setting maximum penalties and for other purposes. Any permit to allow its road transport or sale can only be issued by the Chief Executive of the Department for Environment and Water or their delegate pursuant to section 197.

Under the *Landscape South Australia (General) Regulations 2020*, Regulation 27 specifies the conditions under which a person is exempt from the operation of section 186 and may transport wool, grain or other produce or goods carrying field garlic on public roads. Regulation 28 specifies conditions under which a person is exempt from the operation of section 188(2) and may sell wool, grain or other produce or goods carrying field garlic. Note that certain produce or goods may be excluded from these general movement and sale exemptions by Gazettal Notice of the Chief Executive, DEW.

The following sections of the Act apply to field garlic throughout each of the regions noted below:

Sections of Act	Region								
	AW	EP	GA	HF	KI	LC	MR	NY	SAAL
186(1) Prohibiting entry to area									
186(2) Prohibiting movement on public roads	X	X	X	X	X	X	X	X	X
188(1) Prohibiting sale of the plant	X	X	X	X	X	X	X	X	X
188(2) Prohibiting sale of contaminated goods	X	X	X	X	X	X	X	X	X
190 Requiring notification of presence									
192(1) Landowners to destroy the plant on their properties									
192(2) Landowners to control the plant on their properties		X	X	X	X	X	X	X	
194 Recovery of control costs on adjoining road reserves		X	X	X	X	X	X	X	

Review

This policy is to be reviewed by 2025 or in the event of a change in one or more regional management plans for field garlic

Weed Risk

Invasiveness

Field garlic produces a stalked inflorescence containing flowers, bulbils or a mixture of both. In its native range, there is a balance between sexual reproduction by flowers that form seeds

field garlic policy

and inflorescence bulbils that each replace a flower. However, seed is rarely produced in South Australia as natural selection in crops has favoured production of bulbils that are dispersed in grain.

The seeds, bulbs and bulbils are all spread by movement of agricultural produce, vehicles, animals, mud and water.

Impacts

Field garlic gives a strong garlic odour and flavour to agricultural produce, particularly cereal grain, grain products, milk and meat. The bulbils are difficult to remove from grain after harvest and contaminated grain is rejected at grain silos, but may be sold as stockfeed at a reduced price. The plant has the potential to have a significant impact on quality of produce due to contamination.

It is not an invader of native vegetation. There have been cases of poisoning caused by the consumption of field garlic, in large quantities and by some mammals. Dogs seem to be particularly susceptible.

Potential distribution

Field garlic prefers open sites in warm temperate regions. It occurs on a range of soils but prefers heavy fertile loams. Field garlic is cold hardy, tolerant of wet soils and often occurs on poorly drained, heavy soils of pastures and stream banks.

The potential distribution of field garlic is wide, encompassing the majority of the cereal/sheep zone of South Australia and the southern pastoral zone.

Field garlic is scattered throughout its potential habitat in the higher rainfall part of the cereal growing regions. It has not reached its ecological limits, due to its poor means of dispersal, relying on movement in fodder, soil and seed.

Feasibility of Containment

Control costs

A number of cheap herbicides routinely used in cereal cropping are effective against field garlic in South Australia. It has disappeared from some areas since the introduction of sulfonylurea herbicides in the 1980s.

Persistence

Although a heavy infestation of field garlic may contain as many as 50-100 bulbs per metre square, seeds are short-lived. It does not form a dormant propagule bank that can persist after the infestation is destroyed.

There is a strong economic incentive for cereal growers to control field garlic on their properties as its presence reduces the saleability of produce.

Current distribution

Field garlic is scattered throughout its potential habitat in the higher rainfall part of the cereal growing regions, due to its poor means of dispersal, relying on movement in fodder, soil and

seed. A survey in 2004 found the largest proportion of infested properties on southern Yorke Peninsula and the eastern slopes of the Mount Lofty Ranges, with lower densities in the Mid-North, southern Eyre Peninsula, Kangaroo Island and the lower Limestone Coast. Many areas within these regions are free of field garlic.

State Level Risk Assessment

Assessment using the Biosecurity SA Weed Risk Management System gave the following comparative weed risk and feasibility of containment scores by land use:

Land use	Weed Risk	Feasibility of control	Response at State Level
Crop/pasture rotation	low 29	very high 10	monitor
Grazing - southern	low 29	very high 1	monitor

Considerations

Field garlic was introduced in the late 19th century as a grain contaminant. As its bulbils taint milk and flour and are difficult to remove from cereals, it was proclaimed for the whole state in 1939 and retained under subsequent legislation.

Due to its rarity and low impacts under current farming systems, field garlic now falls into the category of weeds to be monitored at State level. Control is generally left to the judgement of individual land owners. While sale and movement are prohibited uniformly across the State, regional actions vary according to the land uses in each region.

In the Limestone Coast region field garlic is treated as a regional alert weed and infestations are destroyed when found. The Green Adelaide, Hills and Fleurieu, and Kangaroo Island regions aim to protect sites. In the Northern and Yorke region any infestations are monitored.

Only limited action is required in the Eyre Peninsula and Murraylands and Riverland regions where field garlic is widespread but not a significant issue, and in the Alinytjara Wilurara and South Australian Arid Lands where there are no suitable habitats for it to infest.

Synonymy

Allium vineale L., Sp. Pl. 1: 299 (1753)

Nomenclatural synonym:

Porrum vineale (L.) Schur, Verh. Mitth. Siebenbürg. Vereins Naturwiss. Hermannstadt 4: 76 (1853)

Taxonomic synonyms:

Allium assimile Halácsy, Consp. Fl. Graec. 3: 249 (1904)

Allium compactum Thuill., Fl. Env. Paris ed. 2:167 (1799)

Allium laxiflorum Tausch, Flora 12(1): 46 (1829)

Allium littoreum Bertol., Amoen. Ital. 241 (1819)

Allium sphaerocephalum Crome ex Schldl., Fl. Berol. 2:249 (1824)

Allium subvineale Wendelbo, Fl. Iran. 76:53 (1971).

Other common names include crow garlic, false garlic, stags garlic, wild garlic and wild onion.

Hon David Speirs MP

Minister for Environment and Water

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