



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.

Chilean dodder (*Cuscuta suaveolens*)

Dodders are annual parasitic weeds that grow attached to a wide range of host plants. They have thread-like leafless stems that twine around the host, attaching by haustoria through which the dodder draws all its water and organic nutrients. Chilean dodder is established in native vegetation in the Limestone Coast region of South Australia.

Management Plan for Chilean Dodder

Outcomes

- No Chilean dodder contamination of vegetable or forage seed produced in South Australia.
- No further establishment of Chilean dodder on uninfested lands.

Objectives

- No movement of Chilean dodder from the currently infested areas to new sites.

Best Practice Implementation

- Prohibitions on sale and movement of contaminated produce enforced by regional landscape boards and Green Adelaide.
- Containment and destruction of any new infestations threatening agricultural production.

Regional Implementation

Refer to regional management plans for further details.

Region	Actions
Alinytjara Wilurara	Prevent entry; destroy if detected
Eyre Peninsula	Prevent entry; destroy if detected
Green Adelaide	Prevent entry; destroy if detected
Hills and Fleurieu	Prevent entry; destroy if detected
Kangaroo Island	Prevent entry; destroy if detected
Limestone Coast	Monitor existing infestations
Murraylands and Riverland	Prevent entry; destroy if detected

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Northern and Yorke	Prevent entry; destroy if detected
South Australian Arid Lands	Prevent entry; destroy if detected

Declaration

To implement this policy, Chilean dodder is declared under the *Landscape South Australia Act 2019* throughout the whole of the State of South Australia. Its entry to the State, movement or transport on a public road by itself or as a contaminant, or sale by itself or as a contaminant are prohibited. Notification of infestations is necessary to ensure these are destroyed. Land owners are required to destroy any Chilean dodder growing on their land. Landscape boards and Green Adelaide are required to destroy plants on road reserves in their regions, and may recover costs from the adjoining land owners.

Chilean dodder is declared in category 1 under the Act, for the purpose of setting maximum penalties and for other purposes. Any permit to allow its entry, road transport or sale can only be issued by the Chief Executive of DEW 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 Chilean dodder on public roads, or bring them into the State. 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 Chilean dodder. Note that certain produce or goods may be excluded from these general movement and sale exemptions by Gazettal Notice of the Chief Executive of DEW.

The following sections of the Act apply to Chilean dodder 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	X	X	X	X	X	X	X	X	X
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	X	X	X	X	X	X	X	X	X
192(1) Land owners to destroy the plant on their properties	X	X	X	X	X	X	X	X	X
192(2) Land owners to control the plant on their properties									
194 Recovery of control costs on adjoining road reserves	X	X	X	X	X	X	X	X	X

Review

Success of the program will be measured by its effectiveness in preventing any new outbreaks of Chilean dodder in South Australia. This policy is to be reviewed by 2025 or in the event of significant new Chilean dodder incursions being discovered outside its known range.

Weed Risk

Invasiveness

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Chilean dodder has high seed production but the seed is not well adapted for long distance dispersal. Some can be transported by birds or by floodwaters, but the dispersal has been chiefly by human activity in transporting contaminated hay, livestock, seed for sowing and vehicles.

As dodder depends on the habitat provided by host plants, it has a high ability to establish within this specialised habitat. The host range of Chilean dodder includes legumes and native saltmarsh plants. Grasses and woody plants are not potential hosts.

Impacts

Chilean dodder poses a threat to some forage crops such as lucerne and clovers, lucerne grown for hay or seed production, and several other small seed crops. The parasite directly reduces the productivity of infested crops, growing vigorously at the expense of its hosts during the summer growing season.

Seed of Chilean dodder is similar in size to lucerne and some clovers, and therefore requires special techniques to grade out. The reduced yield and increased cost of cleaning may make legume seed production uneconomic. The presence of dodder seed reduces the saleability of seed crops and access to export markets. For example, the USA has a nil tolerance on any dodder seed in imports to exclude any additional dodder species.

Potential distribution

As Chilean dodder is a holoparasite, its habitat is created by the host plants. Its distribution is therefore determined by the availability of suitable hosts.

Feasibility of Containment

Control costs

Management of Chilean dodder on productive land is expensive because it affects production and control must be continued for years to exhaust the seed bank. It may mean taking land out of cultivation and using the land for grass pasture. On the other hand, dodder may be controlled in forage lucerne by effective control of dicot weeds that provide intermediate hosts from which the dodder seedlings climb on to the lucerne.

Locating and eradicating scattered Chilean dodder plants is labour-intensive because they are only distinctive as cream or yellow threads on top of the hosts for a few months or less, but can form seed in a few weeks.

Persistence

Hard seed can persist in the soil under former infestations for at least 50 years. However, these seed banks are not mobile and dispersal can be prevented if infestation sites are kept free of host plants and left undisturbed.

Current distribution

Chilean dodder is scattered in Victoria and New South Wales, also occurring in Tasmania. In South Australia it is confined to near-coastal seasonal swamps in the south-east where it parasitises native vegetation.

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
Irrigated pastures	high 135	very high 3	destroy infestations
Vegetables	medium 84	very high 2	contain spread

Considerations

Chilean dodder is native to temperate South America, where it is a pest of lucerne. It has been introduced to all other continents with lucerne seed, and is widespread in the USA and Europe. It grows mainly on legumes, but is also recorded on carrot, onion and *Solanum* species.

It is recorded from the Limestone Coast region, but its distribution is difficult to delimit because it may be confused with *Cuscuta tasmanica*, which is native to this region growing on similar hosts and has a conservation status of Vulnerable in South Australia.

Risk assessment indicates destruction of infestations as the management action. This will be implemented by preventing further spread, and containing the existing infestations in the Limestone Coast region.

Synonymy

Cuscuta suaveolens Ser., Ann. Sc. Phys. Nat. Agric. et Indust. 3: 519 (1840)

Nomenclatural synonyms:

Engelmannia suaveolens (Ser.) Pfeiff., Bot. Zeitung (Berlin) 4: 21 (1846)

Grammica suaveolens (Ser.) Des Moul., Bull. Soc. Bot. France 1: 298 (1854)

Taxonomic synonyms:

Cuscuta floribunda Kunth, Nov. Gen. Sp. [H.B.K.] 3: 123 (1819)

Cuscuta medicaginis C.H. Wright, Fl. Cap. (Harvey) 4(2.1): 86 (1904)

Other common names include fringed dodder, lucerne dodder.

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Minister for Environment and Water

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