

# Declared Plant Policy

## under the Natural Resources Management Act 2004



Government  
of South Australia

### khaki weed (*Alternanthera pungens*)

Khaki weed is a prostrate summer-growing perennial with spiny burrs. It is a notifiable alert weed with incursions targeted for destruction, and remains limited to isolated patches in SA.

### Management Plan for Khaki weed

#### Outcomes

No losses to the amenity value of recreational land or pasture production due to khaki weed.

#### Objectives

- Detect and destroy all khaki weed infestations.
- Prevent further spread and establishment in SA.

#### Implementation

- Biosecurity SA and NRM authorities to promote awareness of alert weeds including khaki weed.
- Landowners to report infestations to NRM authorities.
- NRM authorities to inspect camping grounds, ovals, roadhouses and roadside reserves for khaki weed.
- Landholders to destroy infestations growing on land they occupy.
- NRM authorities to ensure all infestations on public or private land are destroyed.
- NRM authorities to destroy infestations on road reserves as detected.

#### Regional Implementation

Refer to regional management plans for further details.

NRM Region	Actions
Adelaide and Mount Lofty Ranges	destroy infestations
Alinytjara Wilurara	destroy infestations
Eyre Peninsula	destroy infestations
Kangaroo Island	destroy infestations
Northern and Yorke	destroy infestations
South Australian Arid Lands	destroy infestations
South Australian Murray Darling Basin	destroy infestations
South East	destroy infestations

## Declaration

To implement this policy, khaki weed is declared under the *Natural Resources Management Act, 2004* throughout the whole of the State of South Australia so that movement of contaminated material can be prevented. The movement or transport of the plant on a public road by itself or as a contaminant, its entry to the State, or the sale by itself or as a contaminant are prohibited.

In all regions, land owners are required to destroy khaki weed plants growing on their land. Notification of infestations is necessary to ensure these are destroyed. NRM authorities are required to destroy plants growing on road reserves, and may recover costs from the adjoining land owners.

Khaki weed is declared in category 1 under the Act for the purpose of setting maximum penalties and for other purposes. Any permit to allow its movement or sale can only be issued by the Chief Officer pursuant to section 188. Under the *Natural Resources Management (General) Regulations 2005*, the transport or movement of grain for milling or wool for cleaning is exempt from the operation of sections 175 and the sale of wool or grain is exempt from section 177(2) if at the time of the sale the person believes on reasonable grounds that the purchaser will remove the plant from the wool or grain before any re-sale.

The following sections of the Act apply to khaki weed throughout each of the NRM regions noted below:

Sections of Act	Region							
	AMLR	AW	EP	KI	NY	SAAL	SAMDB	SE
175(1) Prohibiting entry to area	X	X	X	X	X	X	X	X
175(2) Prohibiting movement on public roads	X	X	X	X	X	X	X	X
177(1) Prohibiting sale of the plant	X	X	X	X	X	X	X	X
177(2) Prohibiting sale of contaminated goods	X	X	X	X	X	X	X	X
180 Requiring notification of infestations	X	X	X	X	X	X	X	X
182(1) Landowners to destroy the plant on their properties	X	X	X	X	X	X	X	X
182(2) Landowners to control the plant on their properties								
185 Recovery of control costs on adjoining road reserves	X	X	X	X	X	X	X	X

## Review

This policy is to be reviewed by 2020 or in the event of a change in one or more regional management plans for khaki weed.

## Weed Risk

### Invasiveness

Khaki weed has high seed production. Seed is carried in prickly burrs that attach to livestock, clothing, machinery and vehicle tyres. Seeds may also spread by water and as a contaminant in wool, hay and grain.

This weed colonises bare or disturbed areas and occasionally establishes in unsown dryland pastures. Infestations also increase in size through the long prostrate stems rooting at the nodes.

### Impacts

The major problems currently caused by khaki weed are due to its spiny burrs. It establishes in parks, lawns and ovals especially if these are watered in summer, reducing their amenity value. The burrs cause mechanical damage to the feet and mouths of stock; they are recorded as vegetable fault in wool and have been associated with dermatitis in humans.

However, the land use at greatest risk is irrigated pasture. Khaki weed is a competitor in pasture, and has the potential to become a more significant weed under irrigation than in dryland permanent pasture. It is suspected of poisoning livestock and causing a skin ailment in cattle.

### Potential distribution

Khaki weed is native to tropical and subtropical regions of Central and South America. In Australia it is recorded as a weed in similar climates and mainly on light soils in areas. Although growth is proportional to summer rainfall, experience shows khaki weed can establish anywhere across the agricultural zone of SA and in the Adelaide area.

## **Feasibility of Containment**

### Control costs

Small infestations can be successfully controlled by hand-hoeing ensuring the entire tap root is removed. The plants, and any seeds that have formed, must be disposed of by burning. Larger infestations are sprayed with an appropriate herbicide.

Cultivation can be an effective control technique if it is deep enough to destroy the tap root, but may also spread root fragments, which produce new plants requiring follow-up treatments.

In pasture, replacement of khaki weed with competitive pasture species will prevent reinfestation.

### Persistence

Khaki weed is a difficult plant to control as it is deep-rooted, the tap root also allowing it to survive periods of drought. It also forms a soil seedbank under infestations, with seed surviving for more than 5 years.

### Current distribution

Records of khaki weed infestations are scattered in the Eyre Peninsula, Northern and Yorke, Kangaroo Island, SA Murray Darling Basin and South East regions, extending as far north as Marla in the pastoral zone. Many of these have been eradicated but its distribution is maintained by annual incursions on vehicles. It is well-established elsewhere in Australia, notably in Queensland, New South Wales and the Northern Territory.

## **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:

## khaki weed policy

Land use	Weed Risk	Feasibility of control	Response at State Level
Irrigated pasture	medium 98	very high 1	contain spread
Grazing - southern	medium 51	very high 3	contain spread
Urban	low 25	very high 2	monitor
Perennial horticulture	low 34	very high 2	monitor
Vegetables	low 13	very high 11	monitor

### Considerations

Khaki weed was first recorded in SA in 1957. Risk assessment indicates containment as the action at State level to protect pastures from khaki weed. As it is still scattered and localised, destruction of new infestations is the most effective approach to containment.

### Synonymy

*Alternanthera pungens* Kunth, Nov. Gen. Sp. 2(7): 206 (1818)

Nomenclatural synonyms:

*Illecebrum pungens* (Kunth) Spreng., Syst. Veg. 1: 820 (1824)

*Telanthera pungens* (Kunth) Moq., Prodr. 13(2): 371 (1849)

Taxonomic synonyms:

*Achyranthes nivea* Aiton, Hort. Kew. 1: 286 (1789)

*Achyranthes repens* L., Sp. Pl. 1:205 (1753)

*Alternanthera repens* (L.) Kuntze, Revis. Gen. Pl. 2: 536, 540 (1891)

*Alternanthera achyrantha* R.Br., Prodr. 417 (1810).

*Alternanthera echinata* Sm. in Rees, Cyclop. Suppl. n.10. (1818)

Other common names include creeping chaffweed, khaki burr, mat chaff-flower and washerwoman.

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Conservation

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