

# Sicklepods

Sicklepod (*Senna obtusifolia*), foetid senna (*Senna tora*) and hairy senna (*Senna hirsuta*)



These species can invade and completely dominate pastures and other disturbed areas such as roadsides, fence lines, creek banks and disturbed areas. They have the potential to become major weeds of many crops within a matter of two or three growing seasons.

Sicklepod and sennas are unpalatable to domestic stock. However, cattle and horses will eat mature seed, which can pass through the animal and germinate in dung. This is the most common manner of seed spread from one property to another.

Seed reserves of 2000 seeds/m<sup>2</sup> of soil have been recorded in dense stands of sicklepod. These large reserves may germinate at any time of the year under favourable conditions. Once a seed population develops in the soil, sicklepod can remain a problem for many years. Seed can remain viable for up to 10 years.

## Declaration details

All three sicklepods are declared Class 2 pest plants under the *Land Protection (Pest and Stock Route Management) Act 2002*. Declaration requires landholders to control declared pests on the land and waters under their control. A local government may serve a notice upon a landholder requiring control of declared pests.

It is an offence to introduce, keep or supply Class 2 pests without a permit issued by Biosecurity Queensland and penalties apply.

## Description and general information

Sicklepod (*Senna obtusifolia*) and foetid senna (*Senna tora*) are closely related annual weeds. Sicklepod is a vigorously growing, very competitive woody shrub which grows 1.5–2.5 m tall and 1 m wide. It is normally an annual, but plants which have been slashed or have survived chemical treatment often reshoot, flower and last for another year. Leaves are divided into three opposite pairs about 4 cm long and 2 cm wide, rounded at the end and wedge-shaped at the base.

Flowers are yellow, small, about 1 cm across and have five petals. The seed pod is long (10–15 cm), slender (3–5 mm wide) and sickle-shaped. When ripe, the pods burst open, shedding their shiny, flattened, dark brown seeds.

If you have noticed a shorter form of sicklepod that flowers and matures three to four weeks earlier than the main infestation of sicklepod, it could be foetid senna (*Senna tora*).

Foetid senna possibly originated from a sicklepod-like ancestor in the Asia–Pacific region; however, it has been recorded from Darwin, Mackay, Innisfail and Cairns. It is often found mixed in with sicklepod.

Hairy senna (*Senna hirsuta*) is a soft woody perennial shrub with hairy leaves and pods. Hairy senna can be distinguished from sicklepod and foetid senna by its hairiness and leaflets. Sicklepod and foetid senna leaflets are rounded in shape whereas hairy senna leaflets are pointed at the tips. A prominent conical gland is found at the base of each leaf stalk.

Flowers are larger and borne in clusters of two to eight in the upper branches of the plant. Seed pods are hairy, slightly curved and also occur in clusters. Seeds are dark and round in shape, whereas sicklepod and foetid senna seeds are rhomboid in shape.

## Habitat and distribution

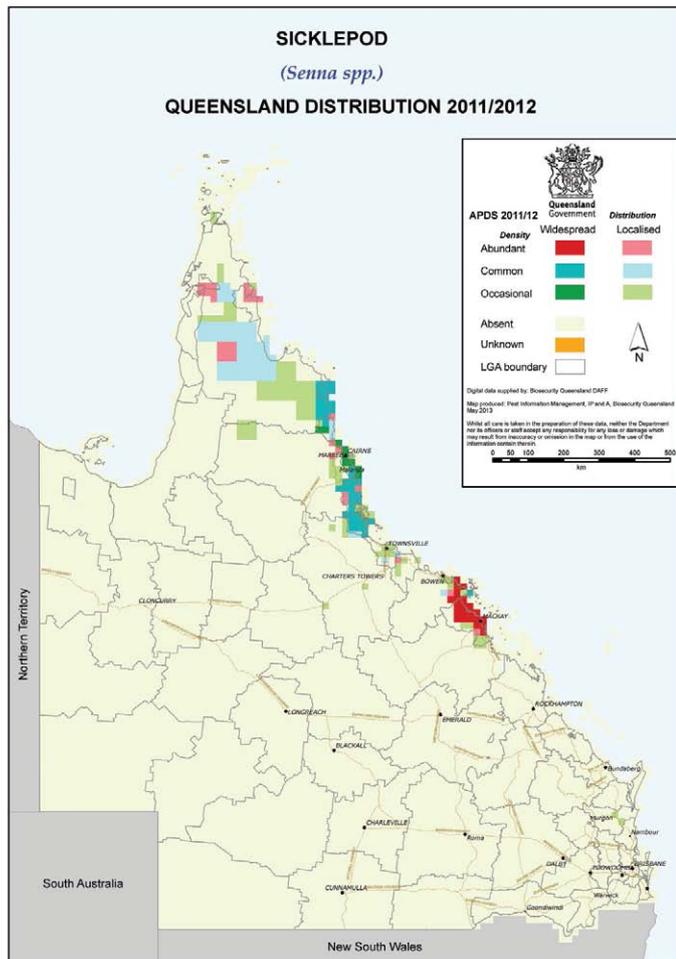
Sicklepod and sennas are weedy in many tropical countries around the world and are thought to be native to America. Sicklepod and foetid senna occur predominantly in pasture and sugarcane along the tropical east coast of Queensland (from Sarina to the tip of Cape York) and the top end of the Northern Territory. Hairy senna is a perennial weed of pastures and rainforests along coastal Queensland and northern New South Wales.

Sicklepod prefers well drained, fertile soils and is well suited to open coastal forest country.

**Table 1** Characteristics of sicklepod, foetid senna and hairy senna

Situation	Sicklepod <i>Senna obtusifolia</i>	Foetid senna <i>Senna tora</i>	Hairy senna <i>Senna hirsuta</i>
Flower anthers	Beaked (narrow at apex)	Rounded at apex	Beaked (narrow at apex)
Flower pedicel (stalk)	15–20 mm long	10 mm long	12–20 mm long
Seed areole	Narrow (<1 mm) and oblique	Wide (1.5–2 mm) and longitudinal	No areole
Leaf petiole (stalk)	15–20 mm long	20–45 mm long	40–65 mm long
Leaf glands	1–2 glands on lowest pairs of leaflets	2 glands on lowest two pairs of leaflets	1 conical gland at base of leaf petiole (stalk)
Pod pedicel	15–20 mm long	10 mm long	15–20 mm long
Odour of crushed foliage	No unpleasant odour	Foetid, unpleasant odour	No unpleasant odour
Height	Up to 2 m tall	Up to 0.5 m tall	Up to 2.5 m tall

**Map 1. Distribution of sicklepod in Queensland**



## Control

### Prevention

The best form of weed control is prevention. Treat weed infestations when they are small – do not allow weeds to establish.

Steps for weed prevention:

- Clean your equipment, clothing, shoes, vehicles and machinery when leaving natural habitats and camping areas.
- Use a cleandown facility to blow, vacuum or wash dirt and seeds from vehicles, machinery and tools.
- Request a weed hygiene declaration from your suppliers. This will ensure vehicles and machinery are clean before entering your property.

The most important aim of control should be to prevent further seed production. Then aim to replace sicklepod with a competitive pasture or crop. Pasture or crop management should thereafter include spot spraying of any sicklepod seedlings that establish.

As hairy senna is not as widely distributed, landholders need to be on the lookout for it. Early detection and treatment is the most economical approach to control.

### Pasture management

Do not allow stock to graze paddocks containing sicklepod or senna, especially when mature seed is present. Stock introduced from infested areas should be confined to a small paddock or yard for a week to be sure all ingested seeds have been passed. Germinating seedlings will be easily seen and can then be treated.

The effectiveness of herbicides will be optimised if used in conjunction with sound pasture management practices. Maintenance of a vigorous pasture ensures maximum annual production as well as out-competing sicklepod and senna.

A constant, dense sward of grass will exclude sunlight and help to maintain soil moisture. This combination will limit seed germination and hasten the decomposition of seed reserves in the ground. Both signal grass (*Brachiaria decumbens*) and pangola grass (*Digitaria decumbens*) offer good suppression and respond well to regular applications of nitrogen fertiliser.

Stock should be excluded at least until a dense sward of grass is obtained. Spot spraying of sicklepod and senna seedlings will need to be continued for some time.

### Mechanical control

Slashing can be undertaken to reduce old plants to a manageable size.

Sharp slasher blade cuts will encourage the plant to reshoot so blunt blades must be used to shatter the stems of the plant. Slashing should always be done prior to seed set, preferably when plants are flowering.

Rotary hoeing or discing infested areas and immediately sowing with improved pastures can be effective, provided that the grasses are well managed. All machinery should be cleaned on site following mechanical control in order to reduce possible seed spread into clean areas.

### Herbicide control

Using a power spray or knapsack, thoroughly wet all of the leaves and stems to the point of run-off with one of the spray mixtures outlined in Table 2. Currently no herbicide is registered for the control of hairy senna. Remember to read the label before using any herbicide.

### Non-crop areas

Sicklepod is not difficult to control in the seedling stage; however, control rapidly becomes more difficult with increasing plant age, requiring higher herbicide application rates.

## Crop areas

Advice should be obtained from Biosecurity Queensland or the regional Sugarcane Industry Productivity Services if these weeds are found in your crop. Herbicides used and application rates will depend on the crop to be planted.

## Further information

Further information is available from your local government office, or by contacting Biosecurity Queensland (call 13 25 23 or visit our website at [www.biosecurity.qld.gov.au](http://www.biosecurity.qld.gov.au)).

**Table 2 Herbicides registered for the control of sicklepod**

Situation	Herbicide active ingredient	Rate	Comments
Forests – timber production	triclopyr as butotyl (300 g/L) + picloram as hopa (100 g/L)	3 L/ha or 0.2 L/100 L + wetter (see label)	Spray from early seedling stage until well before flowering
Land – commercial/ industrial/ public	2,4-D as tipa (300 g/L) + picloram as tipa (75 g/L)	0.7–1.5 L/ha + 2,4-D (see label) or 0.3 L/100 L	
	triclopyr as butotyl (300 g/L) + picloram as hopa (100 g/L)	3 L/ha or 0.2 L/100 L + wetter (see label)	
Land – non-agricultural	dichlorprop as K salt (600 g/L)	1 L/200L	
	triclopyr as butotyl (300 g/L) + picloram as hopa (100 g/L)	3 L/ha or 0.2 L/100L + wetter (see label)	
Land – rights of way	2,4-D as tipa (300 g/L) + picloram as tipa (75 g/L)	0.7–1.5 L/ha + 2,4-D (see label) or 0.3 L/100 L	
	dichlorprop as K salt (600 g/L)	1 L/200 L	
	triclopyr as butotyl (300 g/L) + picloram as hopa (100 g/L)	3 L/ha or 0.2 L/100 L + wetter (see label)	
Pastures	2,4-D as tipa (300 g/L) + picloram as tipa (75 g/L) <sup>1</sup>	0.7–1.5 L/ha + 2,4-D (see label) or 0.3 L/100 L	
	triclopyr as butotyl (300 g/L) + picloram as hopa (100 g/L)	3 L/ha or 0.2 L/100 L + wetter (see label)	
Sugarcane	2,4-D as tipa (300 g/L) + picloram as tipa (75 g/L) <sup>2</sup>	0.7–1.5 L/ha + 2,4-D amine (see label)	
	dicamba as Na salt (700 g/kg) <sup>1</sup>	0.56–0.74 kg/ha + atrazine (see label)	
	diuron (468 g/kg) + hexazinone (132 g/kg)	0.6–1.2 kg/ha + paraquat (see label)	
	paraquat as dichloride (135 g/L) + diquat as dibromide (115 g/L) <sup>3</sup>	1.2–1.6 L/ha + wetter (see label)	

### Notes:

<sup>1</sup> There is a seven day withholding period before grazing or cutting for stock food.

<sup>2</sup> There is a 56 day withholding period before harvest and a 56 day withholding period before grazing or cutting for stock food.

<sup>3</sup> See label for withholding period required before grazing or cutting for stock food.

**Read the label carefully before use. Always use the herbicide in accordance with the directions on the label.**



This fact sheet is developed with funding support from the Land Protection Fund.

Fact sheets are available from Department of Agriculture, Fisheries and Forestry (DAFF) service centres and our Customer Service Centre (telephone 13 25 23). Check our website at [www.biosecurity.qld.gov.au](http://www.biosecurity.qld.gov.au) to ensure you have the latest version of this fact sheet. The control methods referred to in this fact sheet should be used in accordance with the restrictions (federal and state legislation, and local government laws) directly or indirectly related to each control method. These restrictions may prevent the use of one or more of the methods referred to, depending on individual circumstances. While every care is taken to ensure the accuracy of this information, DAFF does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.