



Sicklepods

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

DECLARED CLASS 2



Description

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 survive 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 senesces 3–4 weeks earlier than the main infestation of sicklepod, it could be foetid senna. Foetid senna possibly originated from a sicklepod-like ancestor in the Asia-Pacific region,

however 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 2–8 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.

The table below outlines the differences between sicklepod, foetid senna and hairy senna

	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) & 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 2 pairs of leaflets	1 conical gland at base of leaf petiole (stalk)
Pod pedicel	15-20 mm long	10 mm long	15-20mm 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 2.5m tall

Habitat and distribution

Sicklepod and senna's 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 sugar cane 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. Dense infestations occur north of Mackay and southwest of Ingham as well as some parts of the Atherton tableland.

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

The problem

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

Sicklepod and senna's 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 per m² 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 species are declared Class 2 under *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.

Management strategies

Weed prevention is better than weed cure. Be aware of these weeds and prevent them from establishing on 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 any sicklepod seedlings that establish.

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

Mechanical control

Slashing can be undertaken to reduce old plants to a manageable size, and/or to obtain a fair percentage kill if certain conditions are met. Under most conditions slashing will not kill sicklepod.

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.

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 yards 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/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/senna seedlings will need to be continued for some time.

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 the table below. Currently no chemical is registered for the control of hairy senna.

Remember to read the label before using any chemical.

TABLE 1 – SOME HERBICIDES REGISTERED FOR THE CONTROL OF SICKLEPOD

Active chemical constituent	Herbicide	Application rate	Comments
2,4-D (300 g/L)+ picloram (75 g/L)	Tordon 75-d	0.7-1.5 L/ha + 1.0 L/ha 2,4-D amine (500 g/L)	Spray from early seedling stage until well before flowering stage
dicamba (700 g/kg)	Cadence WG	0.56-0.74 kg/ha	Spray from early seedling stage until well before flowering stage
dichlorprop (600 g/L)	Lantana DP-600 Agricrop Lantana 600	500 mL/100 L	Spray from early seedling stage until well before flowering stage
paraquat (135 g/L) + diquat (115 g/L)	Spray.Seed 250 Premier 250 Scorcher 250	1.2-1.6 L/ha + wetter	Spray from early seedling stage until well before flowering stage
triclopyr (300 g/L)+ picloram (100 g/L)	Grazon DS 4Farmers Tri-Pick Generex Trichloram Picker Grass-Up Kenso Agcare Ken-Zon Farmoz Fightback Nufarm Conqueror Halley Triclozon	3 L/ha (boom) or 0.2 L/100L + wetter	Spray from early seedling stage until well before flowering stage

Non-crop areas

Sicklepods are not difficult to control in the seedling stage; however, control rapidly becomes more difficult with increasing plant age, requiring higher chemical application rates.

Crop areas

Advice should be obtained from the Department of Primary Industries or the Bureau of Sugar Experiment Stations 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 the vegetation management/weed control/environmental staff at your local government.

Distinguishing features of sicklepod, foetid senna and hairy senna (respectively)



Sicklepod (*Senna obtusifolia*)



Senna hirtusa seeds



Senna obtusifolia seeds



Senna tora seeds

