

# Tobacco weed

*Elephantopus mollis*



Tobacco weed is a vigorous and aggressive weed and is regarded as a serious weed of agriculture in many wet tropical/subtropical countries.

It seeds prolifically and dense masses of broad-leaved seedlings can grow through and smother healthy, thick pastures. The plant is not a nutritious feed for cattle and reduces pasture productivity within a few years.

Preferring fertile soils and needing moderate to high rainfall, tobacco weed is a major threat to the beef and dairy industries of north Queensland.

Animals and machinery primarily spread seeds, so farm hygiene is very important in preventing spread. Running water is also a major dispersal agent of this weed.



## Declaration details

Tobacco weed is a declared Class 2 plant 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.

## Description and general information

### Size

Tobacco weed is a slender, fast-growing herb. Mature plants generally grow 30–150 cm high.

### Appearance

The stem is more or less erect and sparsely branched, becoming woody at the base when mature. Covered with fine white hairs, it may cause skin irritation when brushed against.

Tobacco weed does not produce a taproot—fibrous roots extend from the crown of the plant. No tubers or rhizomes or below-ground buds are produced.

A closely related species, *Elephantopus scaber*, is found in far north Queensland from the northern Tableland to Cape York and coastal areas. Its flowers are usually blue and leaves on the stem are either absent or few and much reduced in size. Currently *E. scaber* is not considered as great a threat to production as tobacco weed.

### Leaves

Leaves (oblong or oval in shape, 10–20 cm long and 2–5 cm wide) are scattered alternately along the stems and occur mostly at the base of the plant.

The upper surfaces are rough and thinly covered in fine hairs. The undersurfaces are densely haired and resinous, especially on veins.

### Flowers

The small, inconspicuous white flowers (rarely pink) form in multi-headed clusters at the tips of the stems and side shoots.

Three small leaf-like bracts cup each cluster. Individual flowers are tubular with five lobes at the apex and are about 4 mm long. The style is extended and surrounded by the stamens.

## Seeds

After flowering, a large number of 3 mm long, brown to greyish-black seeds are released, each with five fine, straight, white, bristle-like hairs on the top.

Wind can only blow the seeds a few hundred metres, so tobacco weed is predominantly spread by water, in the coats of animals, and on machinery.

## Seedlings

Seedlings grow as a rosette of leaves, which at high plant densities can smother useful species.



Seedling



Seedlings smothering native vegetation

## Life cycle

Given sufficient moisture, seeds can germinate any time of the year. Flowering may also occur all year, but generally occurs in May. In other tropical regions, flowering is reduced or stopped by prolonged dry spells.

Germination to reproduction time and the time ungerminated seeds remain viable is not known; however, field observations have noted seed banks building up in the soil.

## Habitat and distribution

A native of the tropical Americas, tobacco weed grows in fertile soil and in moderate to high rainfall areas of more than 1400 mm per year. Tobacco weed has spread to most tropical regions of the world.

Tropical areas are considered most at risk in Queensland. Currently, the weed is found in the Millaa Millaa area on the southern Atherton Tableland, at Cape Tribulation in far north Queensland, in the Koumala district south of Sarina, and around Teemburra Dam to the west of Mackay.

However it may be possible for tobacco weed to establish and spread in the south-eastern corner of Queensland, particularly in water run-on areas.

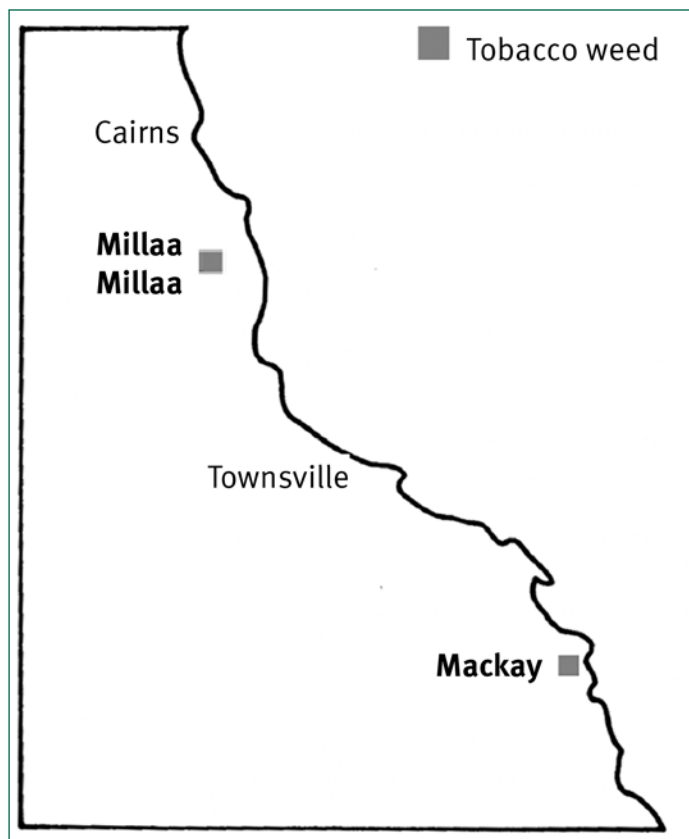


Figure 1 Distribution of tobacco weed in Queensland

## Control

Tobacco weed is extremely competitive, with seeds capable of germinating under and growing through a thick healthy *Brachiaria* pasture. Young plants produce a thick cover over the ground smothering grasses.

Control is difficult because the plant is a prolific seeder and seed banks develop in the soil. Therefore, control must be repeated a number of times to exhaust soil-borne seeds.

Tobacco weed is readily controlled by cultivation and so is unlikely to become a problem in cropping areas; however, it readily becomes a pest in permanent pastures.



Pasture dominated by seeding tobacco weed

### Fire

As no underground buds are produced, fire could kill a significant number of plants and may be a useful tool during the dry season.

### Mechanical control

Slashing has been used to switch reproductive plants back to the vegetative mode, to allow treatment with herbicide.

Property hygiene will be a major factor in controlling the spread of tobacco weed. Care should be taken in moving machinery and stock between paddocks, and extreme care taken between properties.

## Herbicide control

Herbicide recommendations for tobacco weed are shown in Table 1. It is critical for seedlings to be sprayed before they develop the flowering stem. Careful follow-up monitoring is needed as tobacco weed shows a pronounced ability to regrow after treatment.

Aerial spraying is an option when plants are inaccessible, but every care needs to be taken to prevent drift onto remnant and regenerating rainforest in the margins of the paddocks.

Tobacco weed becomes increasingly difficult to kill with herbicides once the plant has begun to flower (and possibly as early as at the beginning of stem growth). In the far north, the wet season may limit access to pastures and not provide opportunities for control until after seed production has occurred.

## Further information

Further information is available from your local government office, or from your local primary industries and fisheries biosecurity officer: contact details are available through 13 25 23.

**Table 1** Herbicides registered for the control of tobacco weed

Situation	Herbicide	Rate	Comments
Pastures	Grazon DS	300 ml/100 L 45 ml/15 L knapsack	Spray actively growing plants to point of run-off. Add wetting agent as per label recommendations.

Fact sheets are available from Queensland Primary Industries and Fisheries service centres and the Queensland Primary Industries and Fisheries Business Information Centre (telephone 13 25 23). Check our website at [www.dpi.qld.gov.au](http://www.dpi.qld.gov.au) to ensure you have the latest version of this fact sheet. The control methods referred to in this pest fact 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, Queensland Primary Industries and Fisheries does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.