



# Tobacco weed

*Elephantopus mollis*

## DECLARED CLASS 2



1. Flower seed head



3. Mature plant



2. Plants in pasture near creek allowing seed to spread beyond the present infestation

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

It seeds prolifically and dense masses of broadleaved seedlings can grow through and smother healthy thick pastures. It is not readily eaten by cattle.

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.

## Description

### Habit/form

Tobacco weed is a slender, fast growing herb. Mature plants generally reach 30 to 150 cm high (see Photo 2).

The stem is more or less erect, sparsely branched and 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.

### 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.

### Seeds

After flowering, a large number of 3 mm long brown to greyish-black seeds are released, each with 5 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 animal, and on machinery.

### Seedling

Seedlings grow as a rosette of leaves (see Photo 6) which at high plant densities, can smother useful species (see Photo 4).

## Life cycle

Given sufficient moisture seeds can germinate any time of the year. Flowering also may 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.

### Flowers

The small, inconspicuous white flowers (rarely pink) are in many-headed clusters at the tips of the stems and side shoots. Three small leaf-like bracts cup each cluster (see Photo 1). 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.

## Similar plants

A closely related species, *Elephantopus scaber*, is found in far north Queensland from the northern Tableland to Cape York and coastal area. 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.

## The problem

Being controlled by cultivation, Tobacco weed is unlikely to become a problem in cropping areas, however it readily becomes a pest of permanent pastures (see Photo 5).

It 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 (see Photo 4).

The plant is not a nutritious feed for cattle and reduces pasture productivity within a few years.

Control is difficult because the plant is a prolific seeder and seed banks develop in the soil.

Control must be repeated a number of times to exhaust soil borne seeds.

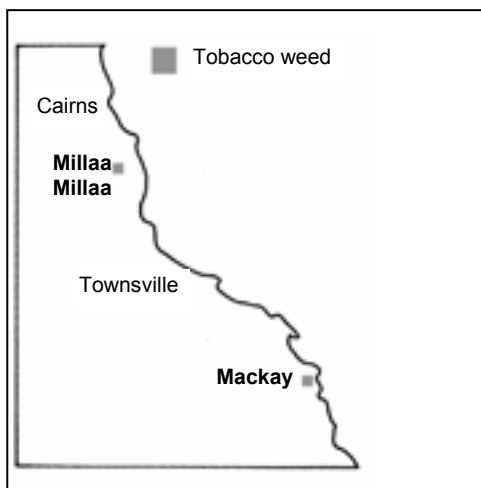
Tobacco weed becomes increasingly difficult to kill with herbicides once the plant has begun to flower (and possibly as early as at the beginning of stem growth). In the Far North, the wet season may limit access to pastures and not provide opportunities for control until after seed production has occurred.

## Distribution

A native of the tropical Americas, Tobacco weed grows in fertile soil and in moderate to high rainfall areas >1,400 mm/yr. Tobacco weed has spread to most tropical regions of the world.

The areas considered most at risk in Queensland are the tropical areas. Currently it 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 Teemurra 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.



**MAP 1 – DISTRIBUTION OF TOBACCO WEED IN QUEENSLAND**

## Declaration details

Tobacco weed is a declared plant 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.

## Control

Tobacco weed is readily controlled by cultivation. Herbicide recommendations for Tobacco weed are shown in table below. It is critical for seedlings to be sprayed before they develop the flowering stem. Careful follow-up monitoring is needed as Tobacco weed show a pronounced ability to regrow after treatment.

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

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.

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

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.

## Your help is essential

It is critical that the distribution of tobacco weed in Queensland be determined. If you are aware of this plant on your property or elsewhere, please contact the vegetation management/weed control/environmental staff at your local government.

**TABLE 1 – HERBICIDES REGISTERED FOR THE CONTROL OF TOBACCO WEED**

Situation	Herbicide	Rate	Comments
Pastures	Grazon DS	300 mL per 100 L 45 mL per 15 L knapsack	Spray actively growing plants to point of runoff Add wetting agent per its label recommendations



4. Seedlings smothering native vegetation



5. Pasture dominated by seeding tobacco weed



6. Seedling

