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Tar vine and its management

Department of Primary Industries and Regional Development, Western Australia

Tar vine and its management

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Tar vine (*Boerhavia coccinea*) is a common summer weed species that depletes soil moisture and nutrients, reducing the yield potential of the subsequent crop. It also acts as a green bridge for crop pests and disease.

Tar vine is difficult to control, as the stressed, dusty plants are poorly responsive to herbicides.

It can be a beneficial and highly palatable pasture species. However, tar vine has sticky seeds, which may contaminate wool.

Identification and attributes

- Tar vine is also known as tah vine, scarlet spiderling, common spiderling, giotcho, red Boerhavia, and hogweed.
- An annual or perennial species, which usually grows as a summer weed in Australia.
- Low-lying, sprawling plant with stems that can exceed a metre in length.
- The plants can be 2 m across and 1 m high but are usually prostrate and about 10 cm high (growing as a vine).
- Stems may be prostrate or bend upwards near the end, and usually densely branched, hairy, and covered in glands that make the plant sticky. As a result, it is common to have sand grains sticking to the leaves, stems, and seeds.
- The leaves are oval-shaped (ranging from egg-shaped to lance-shaped), held on short stems. They can be wavy along the edges and may have reddish margins. The leaves are in opposite pairs, one smaller than the other.
- The inflorescence may have 3 or many tiny, frilly flowers, each just a few millimetres long. Flowers can be white, pink, red, purple, or yellow.
- The non-fleshy fruits are pear shaped and about 3 mm long. Each fruit contains one seed.
- Plants develop a stout taproot with a well-developed root system.

Image 1: A young tar vine plant. Photo – Abul Hashem, Department of Primary Industries and Regional Development

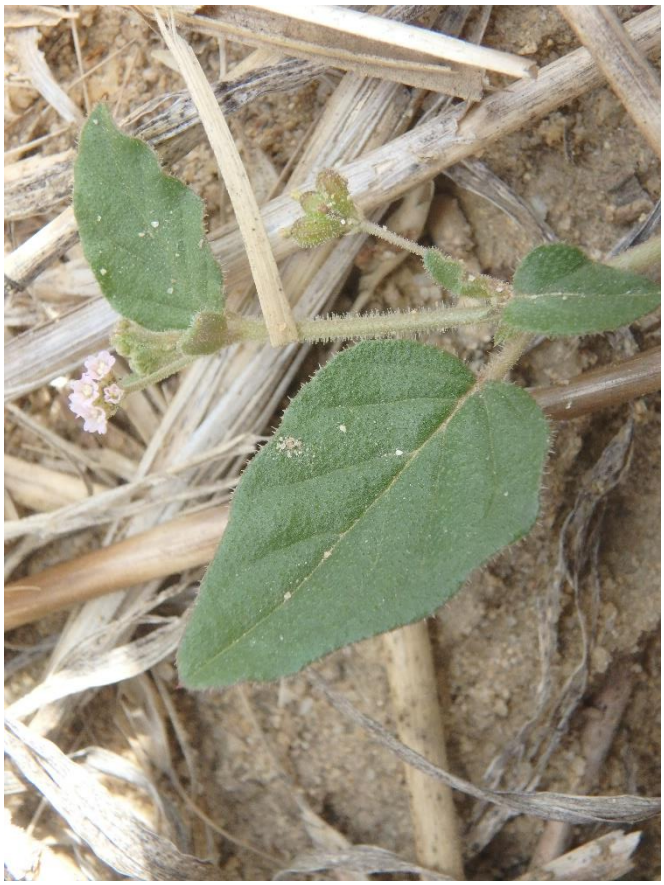

Image 2: Close up of tar vine plant showing leaves, flowers, and green fruit. Photo - Catherine Borger, Department of Primary Industries and Regional Development

Image 3: Mature tar vine growing in a summer fallow. Photo - Catherine Borger, Department of Primary Industries and Regional Development

Image 4: Tar vine seeds, noting the ruler for scale. Photo - Catherine Borger, Department of Primary Industries and Regional Development

Biology

The optimal temperature for germination is 25°C. Tar vine is generally considered a spring/summer plant, but germination may occur throughout the year, depending on location.

Tar vine seed has initial dormancy. Seed buried at a depth of 2 cm may only have a germination of about 10%, and seeds on the soil surface have germination of 1%. Following removal of dormancy, about 70% of the seed germinate.

Seed may remain dormant for over a year or germinate in the year following seed production, depending on environmental conditions

Following germination, the plants can grow as annuals or perennials. If plants germinate after summer rainfall and run out of moisture, they can produce flowers and set seed 2 to 3 weeks after emergence. If sufficient moisture is available, plants grow vigorously over spring and summer, but die back to the base in response to cold autumn/winter conditions.

Tar vine grows in a wide variety of habitats, and is found in tropical, subtropical, semi-arid, and temperature regions of Australia. It is most prolific in disturbed sites.

This species disperses via seed movement. As the seeds are frequently sticky, they can attach to livestock, clothing, and machinery.

Why is tar vine a weed?

The origin of this species is unknown, but it may be native to the Kimberley, Pilbara, and desert regions of Western Australia.

There are 12 species of *Boerhavia* in Australia, but *B. coccinea* is the most common in disturbed areas like agricultural fields or roadsides.

It is a common summer weed species, and, like most summer weeds, it depletes soil moisture and nutrients, reducing the yield potential of the subsequent crop.

This weed also acts as a green bridge for crop pests and disease, including scab disease, melon viruses, and plague locusts.

It can be a beneficial and highly palatable pasture species. While tar vine contains oxalates, the levels are unlikely to be high enough to be toxic to livestock. However, livestock should be removed if toxicity is suspected.

Tar vine has sticky seeds, which may contaminate wool.

This weed is difficult to control, as the stressed, dusty plants are poorly responsive to herbicides.

Some species of *Boerhavia* are consumed by people, but *B. coccinea* should not be harvested for human consumption.

Herbicide resistance

Tar vine is not herbicide resistant, but glyphosate is commonly overused for management over the summer fallow, so resistance may develop.

Tactics for integrated weed management

Knockdown control

Tar vine is difficult to control over summer. A single application of non-selective herbicide is ineffective when used against mature, stressed plants. Glyphosate alone or as tank mix with phenoxy herbicides, followed by paraquat+diquat, effectively controls this weed. Alternatively, glyphosate followed by paraquat+amitrole gives good control.

Grazing

Graze infested areas heavily and continuously during spring, summer, and autumn. It is unlikely the oxalate levels in tar vine could cause toxicity, but it may be an issue if stock are in poor condition when introduced to the field. Remove stock if toxicity is suspected.

Burning residue

Tar vine seeds can be destroyed by burning, but sufficient crop residues are needed to achieve a uniform burn.

Cultivation

Strategic cultivation (for example, mouldboard ploughing) to bury seed is effective. However, buried seed may remain dormant, so it is important to ensure buried seeds are not immediately returned to the surface in subsequent years.

Table 1 Tactics to consider when developing an integrated plan to manage tar vine

Tactic name	Likely % control (range)	Comments on use
Burning residues	70 (60 to 80)	Sufficient crop residues are needed
Knockdown (non-selective) herbicides for fallow control	80 (30 to 99)	If possible, spray on a cooler day over the summer fallow, to minimise heat stress in plants
Grazing - actively managing weeds in pastures	50 (20 to 80)	Graze infested areas heavily and continuously during spring and summer
Mouldboard ploughing	95 (90 to 99)	Ensure seeds are not immediately returned to the soil surface

Contact us

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Tar vine | Herbiguide (herbiguide.com.au)

Refer to the department website at dpird.wa.gov.au for more information about the following:

- Crop weeds
- Integrated weed management tactics to manage crop weeds
- Summer weeds
- Herbicides

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dpird.wa.gov.au