

CONTROL OF COMMON HELIOTROPE

Common heliotrope (*Heliotropium europaeum*) is a weed which was introduced to Australia from the Mediterranean region. It is a widespread and troublesome weed in New South Wales, South Australia and Victoria and is found in scattered outbreaks in the wheatbelt and some pastoral regions of Western Australia.

Heliotrope is very dependent on summer rainfall; in dry summers there is no heliotrope problem because no seeds germinate. However some plants can usually be found on roadsides where run-off water occurs.

It is a summer-growing annual plant which is well adapted to dry environments.

Heliotrope is very drought tolerant; the seeds can remain dormant in the soil for many years. After late spring or summer rain it rapidly germinates, quickly forming viable seeds, and when sufficient

moisture is present growth continues through summer and autumn with numerous seeds being formed.

It is an erect plant with branched stems covered with downy hairs. The leaves are large (about 5 cm) and oval with prominent veins on the under and short hairs on the upper surface. It forms small white flowers on a slender coiled spike. Each flower develops into four nutlets each about 2 mm long with a rough surface.

Heliotrope can be poisonous to stock because it contains the alkaloid pyrrolizidine which causes liver damage. Few animals die of heliotrope poisoning in WA but there have been severe losses in the eastern states.

Stock are most likely to be affected when they have already suffered sub-clinical liver damage by grazing Paterson's curse during winter and spring and where heliotrope is the only green feed available in summer.

Since most infestations in WA are small it is better to eradicate them now than to let the problem develop. This is especially true where the infestation might spread to other properties.

Heliotrope is sometimes controlled by pasture management in those parts of the state, such as the south coast, where summer-growing pasture plants may be grown to compete with heliotrope seedlings.

A heliotrope rust fungus has been released as a biological control agent. At present it is not known how effective this will be. Biological control has the disadvantage that it does not eradicate a weed, it merely reduces vigour, so farmers who wish to eliminate heliotrope will still have to take other control measures.

One problem frequently encountered is that incomplete control allows surviving plants to grow bigger and to form more seeds. This is due to reduced competition by the other weeds. Therefore follow-up treatment is essential to ensure that all plants have been killed.

Eradication takes several years because the seed bank in the soil will last for some time, however if started now it will prevent the problem of heliotrope becoming more serious in the future.



(Continued overleaf)

Control

Cultivation and grubbing

Apply grazing pressure shortly after heliotrope germinates. Sheep will readily eat the weed in summer if nothing else is green. If possible graze merinos rather than British breed sheep, because they are less susceptible to the poison.

Cultivation shortly after germination is effective in destroying seedlings. This may have to be repeated as further germination occurs. However on many soils summer cultivation causes an erosion hazard.

Chemical control

2,4-D ester
(800 g/litre)

KNAPSACK: 3 ml per litre
BOOMSPRAY OR HANDLANCE: 3 litres per ha
Wetting agent 1:400 (one part to 400 parts of spray mix) plus summer spraying oil at 1:400 may be useful.

Avoid spraying in very hot conditions. Use high water volume - at least 100 litres per ha, for boomspraying.

2,4-D amine
(500 g/litre)

KNAPSACK: 4 ml per litre
BOOMSPRAY OR HANDLANCE: 4 litres per ha.
Wetting agent 1:400 (one part to 400 parts of spray mix) plus summer spraying oil at 1:400 may be useful.

Reglone* (diquat) or Gramoxone* (paraquat)

KNAPSACK: 1.5 ml per litre in a knapsack sprayer.
BOOMSPRAY OR HANDLANCE: 1.5 litres/ha

Best for older and larger heliotrope plants

Ally* or Brushoff* + glyphosate or 2,4-D amine

BOOMSPRAY OR HANDLANCE: 5-10g + 0.5 litres of glyphosate or 0.5-1.0 litres 2,4-D amine

These chemicals have also given good control in trials.

Further Information

For advice in drawing up a common heliotrope control programme for your property contact your nearest Agriculture Protection Board district officer.
