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COMMON HELIOTROPE

(Heliotropium europaeum L.)

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THE Borage family, to which common heliotrope belongs, includes several other plants which are troublesome weeds in Australia. Patersons curse is widespread in several States, yellow burr-weed is a problem in wheat growing areas, particularly in Victoria, and corn gromwell also causes concern to some wheat farmers.

Although there are a number of native species of Heliotropium, common heliotrope (H. europaeum) was introduced, probably from the Mediterranean region.

It thrives in low rainfall areas, persisting under drought conditions with an annual rainfall as low as eight inches, and now infests wide areas of south-eastern Australia. It frequently encroaches on native grassland after perennial grasses have been replaced by winter annuals due to overstocking. Summer fallows where moisture is conserved are often badly infested.

In Western Australia, heliotrope has been recorded from the Metropolitan Area and scattered localities in the agricultural districts extending into the pastoral areas.

In 1966 a large infestation was located at Bodallin, indicating that it could prove an aggressive weed. Bearing in mind the severe stock losses experienced in areas where it has become established, it was declared a primary noxious weed by the Agriculture Protection Board in February, 1967.

Description

Common heliotrope is an erect annual with a strong rooting system, and grows to a height of about one foot.

The stalked, oval-shaped leaves borne alternately along the stems are grey-green in colour, somewhat darker above than below. The stems and leaves are clothed with coarse, white hairs.

The numerous small white flowers are arranged in a long, slender, curved spike. The calyx is divided almost to the base while the short, tubular five-lobed corolla is usually swollen below the middle with rounded and spreading lobes. Each flower produces four small nutlets.

Common heliotrope is favoured by warm conditions and germination frequently occurs after summer rains.

The Agriculture Protection Board declared common heliotrope a primary noxious weed in February, 1967, after a large infestation found at Bodallin in 1966 indicated that this could prove an aggressive weed in Western Australia. The weed has also been recorded in the Metropolitan area and in scattered localities in the agricultural districts, extending into the pastoral areas.

Heliotrope can cause heavy stock losses in areas where it becomes established.

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Common Heliotrope

(*Heliotropium europaeum* L.)

Although other species occur naturally, common heliotrope is an introduction, probably from the Mediterranean region. It contains toxic alkaloids and has been responsible for heavy losses of stock in New South Wales, Victoria and South Australia.
Significance

Common heliotrope reduces the carrying capacity of pastures, but its toxic properties are of greater significance. Heavy losses of sheep have occurred in the main infested areas of New South Wales, Victoria and South Australia due to direct poisoning by toxic alkaloids which cause liver damage and, indirectly, chronic copper poisoning associated with an increased release of copper by injured liver cells.

Losses are usually low or not evident during the first year that sheep are exposed to common heliotrope but heavy losses, often exceeding 50 per cent., have occurred during the second season of grazing.

British breeds and crossbreds are more likely to be affected than Merinos as they are less discriminating in their grazing.

Experience in South Australia has shown that heliotrope is particularly dangerous in stubble paddocks, where it often provides a green bite amongst otherwise dry herbage. The risk is reduced by feeding a hay or grain supplement as the stubble feed declines. There is no known cure, the liver becoming permanently damaged. The owner of the Bodallin property where the weed occurs has experienced sheep losses which he attributes to common heliotrope.

In 1960 an outbreak of *Heliotropium* poisoning occurred among cattle in the Riverina district of New South Wales; both steers and heifers were affected. There are indications that cattle react much more rapidly than sheep.

Control

Common heliotrope is typically a summer-growing annual and its incidence is largely controlled by summer rains. Dormant seeds in the soil will remain in a viable condition for a number of years. As mentioned above, this weed tends to invade areas from which perennial grasses have disappeared because of overgrazing. Management is therefore an important control factor where such grasses occur or can be established.

Isolated plants can be handled by pulling or hoeing before seeds have matured. Cultivation to prevent seed formation is also an effective control measure but is often undesirable or impracticable during the summer period.

Common heliotrope is not readily destroyed by chemicals, 2,4-D at 2 lb. acid equivalent per acre of ester or amine, has proved effective against young plants but resistance increases with larger plants and results become less reliable. Trials with chemicals are being continued.
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