Hoary cress (Cardaria draba (L.) Desv.)

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HOARY CRESS

(Cardaria draba (L.) Desv.)

Hoary cress belongs to the same family as wild turnip and wild radish but, while they are annuals, it is a vigorous perennial. Native to the Mediterranean region and Western Asia, it has become a serious weed in many other countries including Britain, North America, New Zealand and Australia.
HOARY CRESS
(Cardaria draba (L.) Desv.)

HOARY CRESS, known also as Hoary Pepperwort or White Weed, is a perennial plant native to the Mediterranean region and Western Asia. It has spread as a weed to northern Europe including Britain, as well as to other temperate countries among which are North America, New Zealand and Australia.

In Australia, apparently the plant first became established in Victoria, although there are few details concerning the history and manner of introduction. A survey carried out in that State in 1940 showed that 94,000 acres were affected, representing one twenty-sixth of the area annually sown to wheat. It is of greatest economic importance in the central Wimmera district and is considered to be Victoria's worst weed.

Hoary Cress occurs to a lesser extent in Queensland, New South Wales, Tasmania and South Australia, and has been recorded from one locality, Merredin, in this State. There is evidence to indicate that it was introduced to Western Australia as an impurity in a line of agricultural seed.

DESCRIPTION

The term "hoary" applies equally well to the masses of white flowers and the whitish leaves. Cress is quite appropriate as the plant belongs to a genus or group closely related to the garden cress, Lepidium sativum.

Hoary Cress is a perennial herb with a branched creeping cord-like rooting system which extends horizontally over a large area and gives rise at intervals to leafy stems. The roots store food reserves which provide energy for subsequent growth, and broken fragments soon produce new plants. The leafy stems are 12-18 inches high and bear leaves from ground level to where the flowers commence. The lowest leaves, forming a basal rosette, are oblong or broad lance-shaped, up to four inches long and tapering into a distinct stalk. The upper leaves are smaller without stalks and encircling the stem at the base. The leaves are usually white-hairy, but the shape, size and hairiness are very variable. The flowers are arranged in racemes usually massed into a terminal inflorescence with crowded buds at the apex and more distant flowers and buds at the base. The small white flowers are similar in shape to those of the related cruciferous weeds such as wild turnip and mustard, which, however, are yellow in colour.

The pod is reverse heart-shaped, each of the lobes containing usually a single pendulous compressed-egg-shaped seed about 1-12 inch in diameter and with a dull dark brown surface.

Hoary Cress is a declared primary noxious weed for the entire State.

SIGNIFICANCE

Stock may eat Hoary Cress to a slight extent, but it has no value in this direction and must be regarded as one of Australia's
HOARY CRESS (Cardaria draba)
(F, G, and I from Bulletin 108, Ministry of Agriculture and Fisheries.)
most serious weeds. It spreads rapidly, establishes itself quickly and is extremely difficult to eradicate. Although a free seeder, the problem of eradication is mainly associated with the extensive development and vigour of the underground parts. The main roots extend downwards to a depth of six feet or more and give rise to a labyrinth of lateral branches at various levels. Spasmodic cultivation only serves to break the rooting system and carry it further afield. Hoary Cress is a strong competitor in the plant world and, being more hardy than most cultivated plants, causes appreciable reduction in yield of both pastures and crops. As already stated, the Victorian survey made in 1940 revealed that 94,000 acres were infested. At the time of the survey Wimmera farmers considered that land valued at £12-£17 per acre for wheat cultivation, had depreciated with Hoary Cress infestation to £5-£7 per acre as grazing land unsuitable for wheat.

**CONTROL**

Hoary Cress is far more widely established in Victoria than elsewhere in Australia and most of the control investigations have been carried out in that State. As already mentioned, it is of greatest consequence under cultivation associated with wheat farming, especially on areas showing signs of depletion following repeated cropping. Under such conditions, altering the system of farming to include a period under pasture has helped to reduce the intensity of Hoary Cress, but cannot be regarded as a method of eradication.

A wide range of chemicals have been tried but Hoary Cress has a high degree of resistance. When the small area was located at Merredin a number of years ago, drastic attention was called for without consideration of cost. As various treatments, including the repeated application of arsenic pentoxide, did not prove successful, heavy applications of crude salt were tried, ultimately the whole area being covered at a rate of 30 tons per acre. The tenacious nature of Hoary Cress can be gauged by the fact that some shoots emerged following this heavy dressing.

The chemical approach has been simplified by the advent of the growth regulating herbicides but, even with 2,4-D ester, several applications of 1-2 lb. acid equivalent per acre are necessary. The plants are regarded as being most vulnerable at the early flowering stage. Although this treatment is practical and economical for small areas where eradication is the objective, it does not provide the complete answer for thousands of acres, particularly when the effect of the chemical on pastures and crops must be taken into account.

To the best of our knowledge, Hoary Cress is not now established anywhere in Western Australia and it is very important that any occurrences should be detected early in order that measures may be taken before it becomes widespread. The colour plate and drawing will help farmers to recognise this very serious weed.
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Journal of Agriculture, Vol 2 No 4, 1961