New danger for Hoary cress

G R W Meadly

Follow this and additional works at: http://researchlibrary.agric.wa.gov.au/journal_agriculture4

Recommended Citation

IMPORTANT DISCLAIMER

This document has been obtained from DAFWA's research library website (researchlibrary.agric.wa.gov.au) which hosts DAFWA's archival research publications. Although reasonable care was taken to make the information in the document accurate at the time it was first published, DAFWA does not make any representations or warranties about its accuracy, reliability, currency, completeness or suitability for any particular purpose. It may be out of date, inaccurate or misleading or conflict with current laws, polices or practices. DAFWA has not reviewed or revised the information before making the document available from its research library website. Before using the information, you should carefully evaluate its accuracy, currency, completeness and relevance for your purposes. We recommend you also search for more recent information on DAFWA's research library website, DAFWA's main website (https://www.agric.wa.gov.au) and other appropriate websites and sources.

Information in, or referred to in, documents on DAFWA's research library website is not tailored to the circumstances of individual farms, people or businesses, and does not constitute legal, business, scientific, agricultural or farm management advice. We recommend before making any significant decisions, you obtain advice from appropriate professionals who have taken into account your individual circumstances and objectives.

The Chief Executive Officer of the Department of Agriculture and Food and the State of Western Australia and their employees and agents (collectively and individually referred to below as DAFWA) accept no liability whatsoever, by reason of negligence or otherwise, arising from any use or release of information in, or referred to in, this document, or any error, inaccuracy or omission in the information.
NEW DANGER FROM HOARY CRESS

G. R. W. Meadly, Officer-in-Charge of the Weeds and Seeds Branch, and R. D. Royce, Officer-in-Charge of the Botany Branch, report on two recently found infestations of hoary cress in the Great Southern, and one at Jerramongup. An intensive eradication programme is under way.

HOARY CRESS is undoubtedly one of the worst weeds introduced into Australia. It is a vigorous deep rooted perennial which competes strongly with crop plants and seriously decreases yields. The importance of three recent discoveries of this weed in Western Australia therefore need hardly be stressed.

The first infestation was discovered by the Weed Control Officer for the Katanning district, who collected specimens of an unknown plant from Pootenup in November, 1961. Considering the plant a potential weed, he forwarded the specimens to the Botany Branch for identification.

The specimens were small leafy shoots about two inches long, without flowers. Although they were immature, their similarity to hoary cress was noted.

A farmer in the Katanning district sent in specimens of a similar plant—again without flowers—a few weeks later. He reported that the plant apparently originated in the home garden, but over the years had spread into an adjacent cultivated paddock and had resisted all attempts at eradication.

The nature of the leaves of this specimen, together with the history of the plant, suggested that this might also be hoary cress.

We visited the Great Southern to examine the areas from which the two sets of specimens had been received, and on the Katanning property found the green shoots of the weed among the standing wheat crop for some distance from the fence adjoining the garden.

An immediate survey was made, and plants were found over an area of 50 acres. Some of the mature shoots carried fruit and seeds, and from these the plant was definitely identified as hoary cress, *Cardaria draba* (Linn.) Desv.

At Pootenup the area had been recently burned and few shoots of the plant were visible, but close examination of the shoots and the underground plant parts from which they originated showed that these were also hoary cress.

How long these infestations had existed in the Great Southern is not known, although it appears that the weed had been on one property for many years. The climate in this area is not highly favourable to the spread of hoary cress, so it had not become a serious nuisance here, and by good luck had not spread to more favoured districts.

More significant is the latest discovery at Jerramongup, which was made only recently by a War Service Land Settlement inspector who recognised it from an illustration in the Journal of Agriculture.

This infestation is more serious because the area is more suited to the growth and spread of hoary cress than the other two localities. It is likely that once hoary cress became established as a result of such infestations in more favoured areas, it could spread rapidly and soon become a major weed.
A detailed survey of this latest infestation is now being made and eradication measures will be started as soon as the extent of the infestation is known.

Hoary cress has only once before been recorded in Western Australia, when a small area of less than an acre at Merredin was effectively controlled.

The following description is reprinted from an earlier issue of the Journal to help recognition of any other infestations which may exist in Western Australia.

**Description**

The name hoary cress is appropriate, since the plant belongs to a group which is closely related to the garden cress, and in which most of the plants are known as “cress”. The term “hoary” applies equally well to the masses of white flowers and the whitish leaves.

Young plants, especially those developing after summer cultivations, usually grow in the form of a rosette. The numerous leaves develop from the short stem and grow more or less parallel with the ground, radiating in all directions from the centre. These radical leaves forming the rosette are three or four inches long, shallowly toothed and tapering into a distinct leaf stalk.

During winter the older plants develop erect stems 12 to 18 inches high. The leaves of the stem differ from the basal ones in being shorter and without a stalk, the base instead having a pair of lobes which clasp the stem at the node. They resemble the radical leaves in being oblong-lance shaped or oblong-ovate with irregularly serrated margins.

Flowering branchlets arise from the upper leaf-axils of the stems, and these in turn branch several times to form the usual spreading type of inflorescence bearing the small white flowers.

**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 worst weeds. It spreads rapidly, establishes itself quickly and is extremely difficult to eradicate.

Although it is a free seeder, the extensive development and vigour of the underground parts are the main problems in eradication. The main roots extend downwards for 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 it causes appreciable reduction in yield of both pastures and crops.

*It is of the utmost importance that this plant should be identified as soon as it appears in a new area.*

Generally it can be readily recognised when in flower, but it has been shown in Victoria that flowers are not usually formed until the second year of growth. At this stage the root system is sufficiently well developed to present a serious problem in eradication. Thus it frequently happens that new infestations are not recognised until the plants are already well established with extensive root systems.

**Control**

Hoary Cress is of greatest consequence under cultivation associated with wheat farming, especially on areas showing signs of depletion after 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 this cannot be regarded as a method of eradication.

A wide range of chemicals has been tried, but hoary cress has a high degree of resistance. On the small area eradicated at Merredin some 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 was covered at a rate of 30 tons an acre. The tenacity of hoary cress is shown by the fact that some shoots emerged even after 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 to 2 lb. acid equivalent per acre are necessary.
HOARY CRESS (Cardaria draba)


(F, G, and I from Bulletin 108, Ministry of Agriculture and Fisheries.)
The plants are considered 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.

These new records of hoary cress—a weed menace not established elsewhere in this State—are due to the vigilance of a farmer and two field officers. It is this ability to recognise new plants and their potential dangers soon after their introduction that, in the long run, will protect us from new weeds.

Although a number of serious weeds are naturalised in Western Australia many more occur in other States and overseas which could easily become established here. The fast services provided by modern transport make such new introductions almost inevitable, and the result is a continuing threat to agriculture.

New south coastal areas to which settlers from Eastern States have brought seed and implements by road from their home States are danger spots for the introduction of weeds such as hoary cress. Farmers in these areas may help avoid heavy losses to themselves—and the State as a whole—by keeping an eye open for possible new weed introductions.

The surest means of preventing new weeds from becoming established is for farmers to have all strange and unfamiliar plants identified. This will allow unwelcome weed introductions to be dealt with before they become firmly established.

THE FOOD VALUE OF CHEESE

Cheese contains more animal protein than the other main body-building foods. So in a high protein diet, the importance of cheese must not be forgotten. As far as quantity is concerned, cheese is the best source of protein. This is not surprising when you remember that it contains most of the nutrients of cow's milk in a very concentrated form. It takes about a gallon of full cream milk to make a pound of Cheddar cheese.

Few people realise that there is almost twice as much first-class animal protein in 2 ozs. of Cheddar cheese as there is in 2 ozs. of prime raw beef. And the protein you get from cheese contains all the essential amino acids that are needed to form flesh. So far as growth is concerned, the distribution of these amino acids may be even better in Cheddar cheese than in meat. Egg protein is also extremely good in quality, but, of course, it's not such a concentrated food as a hard-pressed cheese such as Cheddar.

Cheese is, moreover, one of our richest sources of calcium, so it's invaluable for building strong healthy bones. Cheddar cheese, for example, contains 230 mg. of calcium per ounce—more than almost any other food. It is important to remember that babies and growing children need much more calcium, relative to their weight, than adults.

—The Australian Dairy Produce Board.
MURESK AGRICULTURAL COLLEGE
(Department of Agriculture)

Parents are reminded that applications for 1964 admission to Muresk Agricultural College close on December 31 of this year. A preliminary selection of 1964 entrants is made after the Junior results are available early in 1963.

The successful applicants then continue with Sub-Leaving, or higher studies, in 1963.

Before the course can be commenced applicants must have studied:—

Junior.—
(a) English; Maths A; Maths B.
(b) Physics and Chemistry (or Science A and Science B), or General Science.
(c) Book-keeping.
(d) Others such as Geography.

Sub-Leaving.—English; Maths A; Physics; Chemistry and others.

Those who take General Science need extra Chemistry and Physics in the following year. Some prefer to take Junior Book-keeping in the same year.

Should places still exist for 1964 commencement after the preliminary selection early in 1963, they are filled in order of application during 1963, by qualified applicants.

Duration of Course.—Two years.

Fees.—Approximately £190 per annum covering full residential charges.

Scholarships.—Department of Agriculture (3), the "Countryman" and J. J. Poynton Memorial (2).

Boarding Allowance.—Most Muresk students are eligible for the Education Department Boarding Allowance (£50 per annum).

Full details of the College are obtainable from the Principal, Muresk Agricultural College, Muresk, W.A., or the Department of Agriculture, Perth.
more bushels . . . to the acre!

Whether it be wheat, barley or oats you are sowing, the one pickle that gives you the greatest disease control is ICI 'CERESAN'.

'CERESAN' is a must for pickling barley and oats . . . you must use a mercurial dressing to control diseases of these crops. 'CERESAN' — the only pickle for barley and oats!

FOLLOW DEPARTMENTAL RECOMMENDATIONS!

'Ceresan'
MERCURIAL DRY-SEED PICKLE

Available from your local ICI Supplier

IMPERIAL CHEMICAL INDUSTRIES OF AUSTRALIA & NEW ZEALAND LTD.

Please mention the "Journal of Agriculture of W.A.," when writing to advertisers