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A CHEAPER HERBICIDE FOR WILD OATS

By G. A. PEARCE, Adviser, Biological Services Division

A NEW herbicide, *NEOBAN, will reduce the cost of chemical for the control of wild oats in wheat and barley to $2.50 per acre.

Because of the cost of herbicides for wild oats during the past two years, the acreage treated has been declining steadily. Farmers who thought that spending about $4 per acre was worth while will be delighted with Neoban.

The herbicide is closely related to Carbyne, which has been available for a number of years, but the production of a new formulation has doubled the effectiveness of the chemical.

How it works

Neoban stops the growth of the wild oats, allowing the crop to outgrow the weed and smother it. Competition from the wheat or barley is essential for successful control. The new formulation is more active than the old, because a special surfactant present ensures greater penetration of the chemical into the leaf.

When to apply

The wild oats must be sprayed when they have from 1 to 2½ leaves. This period only lasts for about 7 days, any time from 2½ to 5 weeks after planting. Spraying outside this growth stage will give poor results.

Rate of application

Neoban can be applied either by ground boom spray or from the air.

Ground application

Ten fluid ounces (half a pint) of Neoban should be applied in 5 to 15 gallons of water per acre. A high pressure of 50 lb. per square inch will increase the effectiveness. An efficient boom with nozzles giving a fine spray will give the best results. Where an exceptionally good spray unit is available or where the infestation is only about 50 plants per square yard, the rate can be reduced to 8 fluid ounces per acre.

Aerial application

With Neoban, aerial application is generally more effective than application from the ground, so the rate can be reduced. Eight fluid ounces should be applied in not less than three gallons of water per acre.

* Registered trade name of Fisons (Aust.) Pty. Ltd.

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**Table:**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seedling</td>
<td>Do not spray — too early</td>
</tr>
<tr>
<td>1 Leaf stage</td>
<td>Spray</td>
</tr>
<tr>
<td>2 Leaf stage</td>
<td>Spray</td>
</tr>
<tr>
<td>2½ Leaf stage</td>
<td>Spray</td>
</tr>
<tr>
<td>3 Leaf stage</td>
<td>Do not spray — too late</td>
</tr>
</tbody>
</table>

*The correct growth stages of wild oats for the application of Neoban. Most plants should have 1 to 2½ leaves.*
Crop tolerance

Wheat and barley can be treated with Neoban providing the spraying is carried out before the crop reaches the four-leaf stage.

The barley variety Clipper is easily damaged and should not be sprayed.

Profitability

Wheat:

A yield increase of 4 to 8 bushels an acre can be expected when Neoban is used to control wild oats in wheat, so that a smaller area can be sown to produce the same wheat quota. To make the operation as profitable as possible the land freed from wheat should be sown to the next most valuable crop. If feed barley is grown, any increase in the yield of wheat above three bushels per acre will be profit.

Barley:

In a barley crop, control of wild oats gives greater production from the same area, so the cost of the chemical must be met from the increase in yield. An extra yield of 4 bushels an acre of feed barley is required to repay the chemical cost of $2.50 an acre.

In malting barley, where the value of grain is higher, an additional 3 bushels an acre will cover the cost of the chemical.

Significance of wild oats

Wild oats can set an enormous number of viable seeds—about 250 to 500 per plant. A medium infestation of some 50 plants per square yard would yield a potential population for the next year of some 6 million plants per acre. This is at least ten times the number of wheat plants in an average crop.

The significance of wild oats appears to depend mainly on the ability of the wheat plants to compete with the weeds. This in turn is controlled by external factors such as climate, soil type and availability of nutrients.

The greatest benefit from removal of wild oats is seen in high yielding crops. In a crop with a potential yield of 40 bushels, infestations of wild oats as low as 50 plants per square yard become significant, causing the wheat yield to be reduced by about 7 bushels per acre.

Where there are more than 400 wild oat plants per square yard the yield of wheat is unlikely to be much further reduced by an increase in the wild oat density.

A HERBICIDE FOR NATIVE POISON PLANTS

By G. A. PEARCE

The usual method of killing poison plants is by a programme of ploughing, cropping and burning. The burning destroys a proportion of the plants and stimulates the germination of dormant seeds, which otherwise would survive in the soil for many years.

Following the initial burning and ploughing, a cereal crop will provide straw for a second fire.

With heavily infested areas it is usual to plough and sow two cereal crops in succession. Pasture species can be sown with the second crop and in this way no time is lost in developing the land.

Areas which cannot be handled by cropping and burning, such as rocky outcrops and along fence lines, can be controlled by spraying with a solution containing 2,4,5-T.

A difficulty with this type of spraying is to be able to distinguish which plants have been treated. This can be overcome by adding diesel fuel oil to the spray solution. A suitable mixture is made by adding 2 fluid ounces of 80 per cent. 2,4,5-T to 5 fluid ounces of fuel oil. To this mixture 3 gallons of water should be added and stirred to form an emulsion.

For spraying a large area, the required quantities would be 14 pints 80 per cent. 2,4,5-T plus 4 pints diesel fuel oil to which should be added 50 gallons of water.

Best results are obtained if the plants are sprayed just before the flowering stage, which is usually towards the end of August.

Although 2,4,5-T is not harmful to animals it should be remembered that the poison plants remain toxic after they are killed. The addition of the oil to the solution discourages stock from eating the sprayed foliage.

2,4,5-T is available from firms which distribute agricultural chemicals.