



Department of  
Primary Industries and  
Regional Development

## Journal of the Department of Agriculture, Western Australia, Series 3

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Volume 3  
Number 6 *November-December, 1954*

Article 22

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11-1954

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#### Recommended Citation

Tomlinson, A R.; Marshall, C; and Gooding, C D. (1954) "Rabbit control with "1080"," *Journal of the Department of Agriculture, Western Australia, Series 3: Vol. 3: No. 6, Article 22.*

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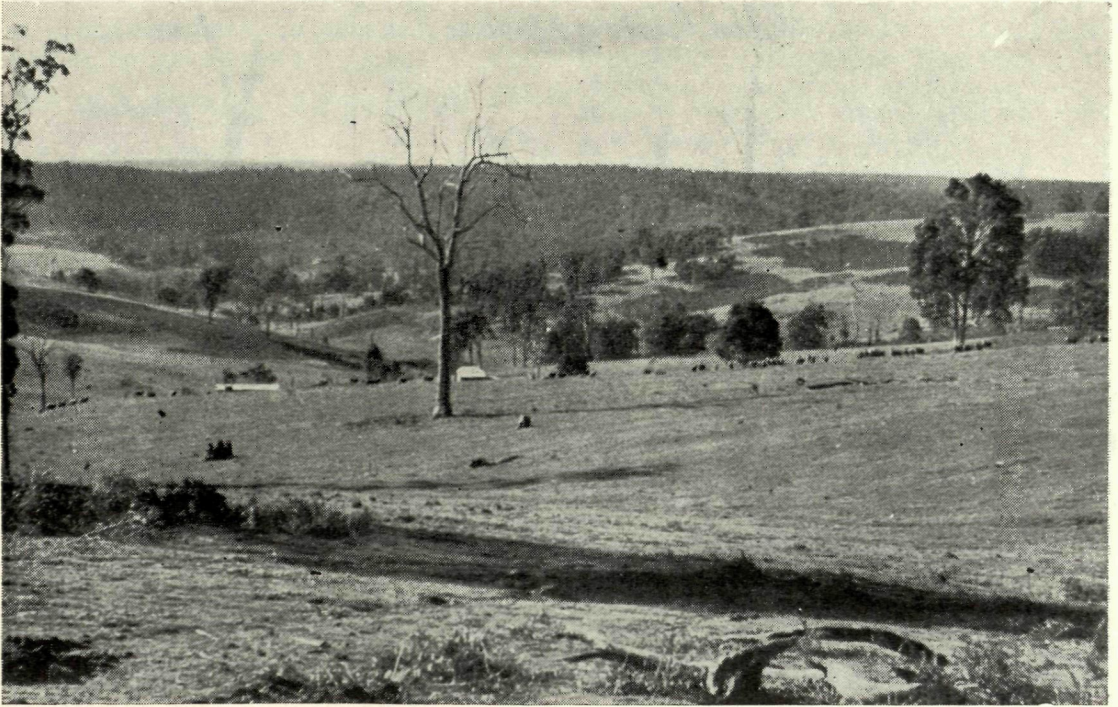


Fig. 1.—Topography such as this is typical of the lower South-West. Note the bracken on the distant hill-slopes.

## RABBIT CONTROL WITH "1080"

### Experiments at Manjimup, January-July, 1954

By A. R. TOMLINSON, Chief Vermin Control Officer; C. MARSHALL, Senior Vermin Control Officer; and C. D. GOODING, Vermin Control Research Officer

**T**HE lower South-West areas have for some time past been regarded as perhaps the most difficult areas in Western Australia from the point of view of rabbit control. The farmer here has to contend with several factors, peculiar to this area, which make his work more difficult. Such obstacles as bracken fern, falling timber, good burrowing soil and a long breeding season combined with small holdings, lack of rabbit control experience, partial use of the cleared areas (tobacco and potato growers) and a low income potential, have rendered the task of rabbit control exceedingly difficult for the average farmer, especially in the Manjimup-Pemberton areas.

It was with all these difficulties in mind that Manjimup was chosen as the site for our initial experiments and also for the start of an organised drive by Government trained teams in the coming year.

#### WHAT IS "1080"?

"Ten Eighty" (Sodium fluoroacetate) is a poison developed in America principally for use against rats and mice, but which proved remarkably effective against the coyote, an animal whose depredations are somewhat similar to those of our dingo or wild dog. So successful was the use of

1080 in this sphere that talk is now afoot to have the coyote protected in some areas, lest it should die out completely.

It was with this experience as a background that initial supplies of this poison were obtained from America for testing as a rabbit poison. Some initial tests were conducted by C.S.I.R.O. in the Eastern States followed by a wholesale scheme instituted in Tasmania in 1952.

The outstanding features of "1080" are these: It is tasteless, odourless, does not oxidise or form harmless substances, but



Fig. 2.—Paddock like this are common around Manjimup. Note dead timber and stony ground.

dissolves readily in water. This means that it is an ideal poison for vermin control purposes for the following reasons:—

- (a) Animals cannot taste the poison (unlike strychnine or arsenic, for example.)
- (b) Animals will not build up any bait shyness or become “educated” to it.
- (c) It is very easily prepared and handled in water solutions.
- (d) It is exceptionally deadly and once symptoms have set in, there is no possible chance of recovery.
- (e) It is slow in its initial action so that animals will take baits and move away before dying. This means that late arrivals will not be frightened away from the furrow.

These characteristics also make it very dangerous from man’s point of view. The makers have recognised this, and will only sell to responsible Government authorities who in turn are under strict rules, imposed by the manufacturers and the Health Department, for its control and use.

### ORTHODOX METHODS

A group of farms in the West Manjimup area was chosen and subjected to orthodox methods of rabbit control. These consisted of either phosphorus poisoning, or the use of strychnine and oats. Results from both these methods were poor compared with those from “1080,” but would constitute results a little better than those usually obtained by landholders.

However the important point is that on each of these properties a good residual nucleus would normally have been left to start another infestation as soon as breeding commenced in the winter months. In these cases this was avoided, as a later poisoning with “1080” reduced the population on all these properties to negligible proportions. Later inspections have shown that these properties are still free of rabbits.

A test was designed with the object of comparing the relative palatability of “1080” and phosphorus. The latter is thought to have some attraction during the dry summer months, but 54.4 per cent. of the “1080” baits were consumed compared with only 25.4 per cent. of those containing

phosphorus. Thus baits containing this new poison are twice as attractive as those containing phosphorus.

### "1080" TESTS AND RESULTS

The outstanding fact emerging from all the work at Manjimup is that results with "1080" can be consistently above 90 per cent. and near to 100 per cent. Both apples and oats can be used with equal effectiveness during the autumn and early winter months. Oats however gave better results in the late winter and early spring. In the winter months the poisoned oats not consumed by rabbits will germinate within a few days (if unboiled) and this renders them non-toxic, making the paddocks safe for stock. The green shoots were tested and shown to be harmless to rabbits and stock. In the hotter weather, apple is a much safer bait material since it withers away in the hot sun within a few days.

It has been shown that it is still necessary to "free feed" at least three times.

This is a bare minimum, and where it is suspected that all rabbits are not yet feeding at the trail, the feeding should be continued until this is reached. In one area in Tasmania the consumption had been increasing until the ninth day while in others it was shown that seven days was the optimum. These figures could well apply in areas such as Manjimup, but are not recommended, as rabbits might become weary of the furrows by that time.

We have shown that it makes little difference whether oats are placed in the furrow or on the top of the ground, adjacent to the furrow. In both cases the results were the same, but results might be achieved a little sooner if the oats were placed in the furrow.

The width of the furrow was also tested as a lure factor. It was shown that no difference in consumption occurred from furrows varying in width from  $3\frac{1}{2}$  to  $7\frac{1}{2}$  inches which are the only sizes within the realms of practicability for a disc plough.

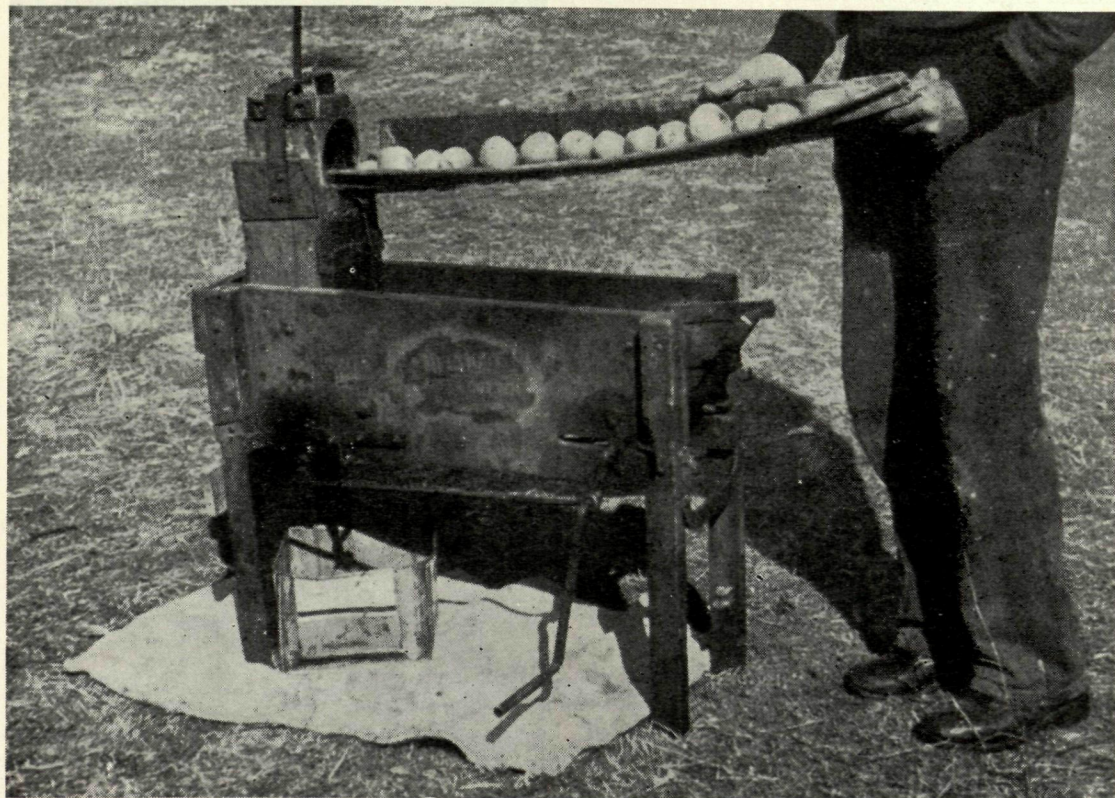


Fig 3.—A hand-operated apple cutter.

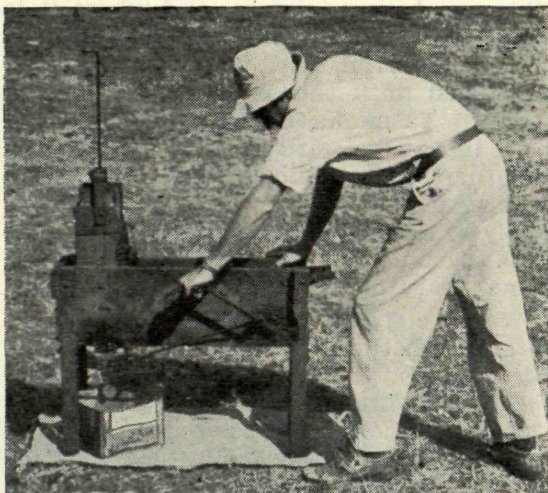


Fig. 4.—Operating the apple-cutter.

### SECONDARY POISONINGS

A noticeable feature of the poisonings carried out in the Manjimup area was the almost complete absence of secondary poisonings of native fauna, or the poisoning of birds with grain. (Birds are, in general, very resistant to "1080"). Foxes have been very hard hit in the areas poisoned with apple bait. Some farmers report that foxes have almost disappeared from their area following the use of this poison. These deaths have, in most cases been due to foxes picking up the apple straight from the furrow, rather than from any secondary effects.

### CONTRACT POISONING

Besides the purely experimental work detailed earlier, a limited amount of contract poisoning was carried out for farmers. Approximately 70 farmers came into the scheme and had work carried out on their properties. A questionnaire was attached with each account requesting fundamental details. Twenty-nine of these have been completed and returned. Of these 28 state that they are entirely satisfied with the work carried out on their property, while 25 state that the results are better than any ever achieved on their properties previously. Farmers were asked to sign a form exonerating the Agriculture Protection Board from any liability through loss of stock or other causes. The free-feeding was carried out by the land-

holder under supervision, while the actual poison laying was done by members of the Government staff and a charge made to cover this cost.

It can be appreciated that the organisation involved in the smooth functioning of several teams of men (who must be kept fully occupied, if costs are to be reasonable) are immense and involves a lot of planning.

### OVERALL RESULTS

Taken as a whole, the results achieved with "1080" in the Manjimup district have been bordering on the spectacular. One can travel several miles in areas like Middlesex, which previously was heavily infested, and not see a single rabbit on the road now, whereas last January one would have expected to see anything up to one



Fig. 5.—Laying apple baits poisoned with 1080 in a furrow. Note that the bait-layer is wearing rubber gloves.

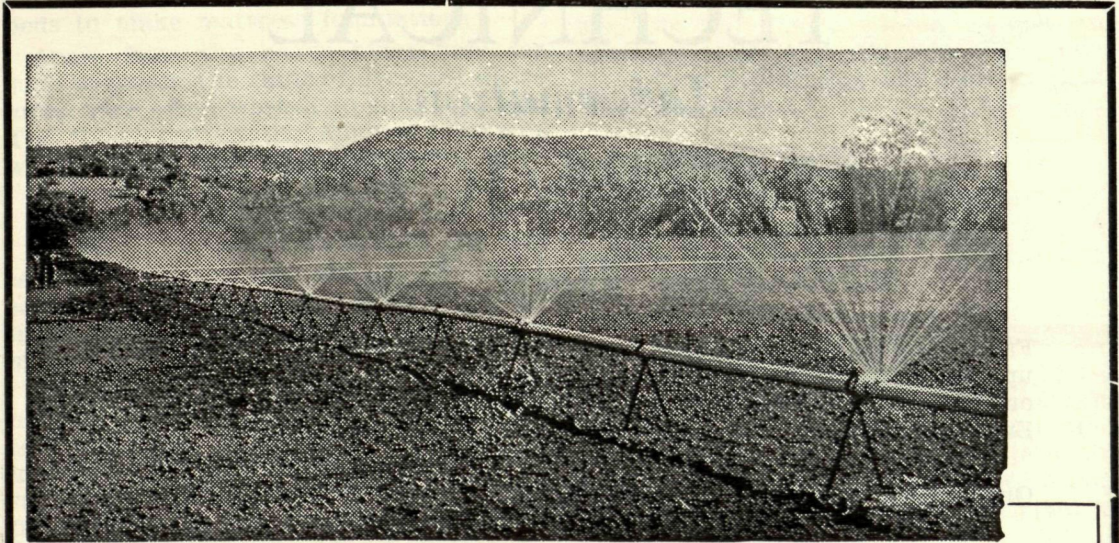
hundred. The feed in the areas poisoned first is now beginning to show the benefit of a season free of rabbits. One farmer reports that his cream cheques are bigger this year from 11 cows than from 21 last year. This increase he attributes entirely to the lack of rabbits. Inspection of a large property east of Manjimup, which for years has been described as badly infested, revealed only one rabbit on this property, and he ran under the homestead for protection.

A reliable, well-informed resident in the area who has had a lifetime of experience with rabbits in Manjimup, states that with the small amount of work done in the dis-

trict last autumn the average rabbit position is now better than it has been for several years past. When the wholesale scheme gets under way in the coming season it is hoped that the first stages in a more successful war against the rabbit in the lower South-West areas will commence.

**ACKNOWLEDGMENT**

Many thanks are due to the Manjimup Vermin Board who through the agency of their Vermin inspector Mr. W. Rooney, provided much valuable assistance with all the experimental and contract poisoning work.



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