Fruit Fly Control, a jeep-operated spraying outfit

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FRUIT FLY CONTROL
A Jeep-Operated Spraying Outfit
By J. A. MALLETT

THE Eastern Hills Fruit Fly Foliage Baiting Scheme is one of three similar schemes operating in the fruit-growing districts of Western Australia, the other two being located at Donnybrook and in the South Suburban (Armadale-Kelmscott) area. They are designed to prevent losses from the attacks of the Mediterranean Fruit Fly (Ceratitis capitata) by weekly foliage baiting with a solution of sodium fluosilicate and sugar in water.

The Compulsory Fruit Fly Baiting Act, a subsidiary measure to the Plant Diseases Act, was brought into being to provide for the introduction of these baiting schemes, which may be inaugurated at the request of district organisations providing that 60 per cent. of the growers voting at a special poll are in favour of the scheme.

In 1951, a poll of growers in the Glen Forrest, Parkerville, Mundaring, Sawyers Valley and Mount Helena districts resulted in a favourable vote and the Eastern Hills Fruit Fly Foliage Baiting Scheme came into being.

This scheme called for the weekly spraying of trees on about 750 properties spread over an area of some 70 square miles. The properties ranged from “backyard orchards” with one or more trees, to commercial orchards up to 40 acres in area.
Finance for the scheme was provided by a Government subsidy, plus a scale of fees charged to growers for the season's spraying operations. The following fees were charged:

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<th>Trees</th>
<th>£</th>
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<tbody>
<tr>
<td>1 - 4</td>
<td>9</td>
<td>0</td>
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</tr>
<tr>
<td>5 - 9</td>
<td>1</td>
<td>0</td>
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</tr>
<tr>
<td>10 - 19</td>
<td>1</td>
<td>2</td>
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<tr>
<td>20 - 29</td>
<td>2</td>
<td>1</td>
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<tr>
<td>30 - 49</td>
<td>2</td>
<td>1</td>
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<tr>
<td>50 - 99</td>
<td>2</td>
<td>1</td>
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<td>100 and over</td>
<td>2</td>
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Soon after the scheme came into operation, three local orchardists, Messrs. C. Cappelletti, G. H. Tournay and E. Brindle—all of whom were members of the districts' Fruit Fly Baiting Committee—evolved a tractor-mounted spraying outfit operated by compressed air which proved particularly successful.

This unorthodox but highly satisfactory outfit was described in the Journal of Agriculture, March-April, 1952, and the description was reprinted in Bulletin No. 1092, which is available upon application to the Department of Agriculture.

In 1953 the Fruit Fly Baiting Committee purchased a Willys jeep and fitted it with a similar type of compressed air outfit. This consisted of a 40-gallon steel air receiver which carries the solution of fluosilicate and sugar used for foliage baiting. The power take-off of the jeep operates a Clisby compressor which builds up the normal working pressure of 50 to 60 lb. per square inch when the jeep has been running for about two minutes in neutral gear. After this, the pressure is maintained at ordinary running speeds.

The compressor is fitted with a safety valve and a length of hose which carries the compressed air to the steel container. A pressure gauge is fitted to the dashboard of the jeep where it can easily be read by the operator. From the container, hoses run to two Edgell pistols with spraying nozzles situated one on each side of the jeep.

Working between the rows the jeep can spray 2,500 trees an hour under ideal conditions using an average of a gallon of spray solution to each 40 trees.

**ADVANTAGES**

Using the jeep-mounted outfit little time is lost in travelling between properties, as the vehicle can maintain good road speeds. A second man can be carried, together with two knapsack sprays where required. It is thus possible for the jeep to proceed with the major spraying operations on a property while the man with the knapsack spray can attend to trees in awkward positions such as in house gardens or trees situated on the far side of creeks or gullies and in other spots difficult to reach by vehicle.

At present the committee is operating the tractor-mounted compressed air spray and four knapsack sprays in addition to the jeep-mounted outfit, and the scheme has been highly successful.
An another grower with 15 acres of mixed varieties, disposes of the whole of his fruit through his own roadside stall. In the 1952-1953 season for the first time he sold all his fruit tree-ripened and had no losses from fruit fly.

Still another orchardist produced nearly 11,000 cases of fruit—mainly pears—and in all this quantity only three fruits were found with possibly fly strike, despite the fact that picking was not completed until the end of May and that pears were in very forward condition.

A new grower who entered into his property in the middle of the season and produced large numbers of Bartlett pears was only able to market six cases of this variety prior to the establishment of the baiting scheme. In the first year of the scheme's operations he marketed 136 cases and in the second year over 700 cases. These yields were from the same trees and there was little variation in the actual seasonal yields so that in this case he showed a substantial profit after paying fees of about £21 a year.

The fact that the Great Eastern Highway runs through the baiting area constitutes one of the greatest threats to the security of orchardists in this district. On a number of occasions infested fruits obviously thrown from cars have been picked up by the roadside and in one case a large heap of badly-infested fruit was dumped on the side of the road.

The majority of the growers realise that the risk of heavy infestations resulting from such acts, or from the negligence of individual orchardists, is greatly reduced by the comprehensive baiting scheme.

Many realise, too, that the scheme leaves them free to attend to their routine tasks at periods when labour is scarce. Under such conditions, time that would normally be needed for baiting the trees can often be utilised much more profitably on such tasks as picking and packing.
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