New recommendations for fruit fly control

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NEW RECOMMENDATIONS FOR

FRUIT FLY CONTROL

By D. G. SHEDLEY, B.Sc. (Agric.), Entomologist

THE MEDITERRANEAN FRUIT FLY (Ceratitis capitata Wied) is one of the most serious horticultural pests in Western Australia. For more than 50 years growers of stone fruit and pears have not been able to relax their activities against this pest. Despite all their action however, there have been many occasions when fruit losses have been very severe.

New control methods for fruit fly in orchards and backyards have consistently given more satisfactory and reliable control than was possible a few years ago.

The use of malathion-protein baits was the first main step forward. Application of this type of foliage bait has now become standard practice in many orchards.

The most recent advance in fruit fly control has resulted from the production of chemicals which, while remaining toxic to adult flies resting on sprayed fruit and foliage, also have the ability to penetrate fruit and kill eggs and larvae within the fruit. Dipterex was the first of this type of insecticide to be tested locally and has proved useful in protecting ripening stone fruit for from seven to 10 days after application.

Rogor and Lebaycid are more recently developed chemicals, both possessing longer residual action than Dipterex. This makes them more useful, particularly for later stone fruit and pears which normally need a longer period of protection than early stone fruit. Unlike Dipterex, they are also effective against fruit fly infestation in citrus.

EXPERIMENTAL WORK

Trials have been conducted to test the value of these new materials under West Australian conditions and to determine the most satisfactory methods of application, timing, and concentration of sprays.

During the trials, observations were also made to ascertain any harmful effects, and it was found that Rogor caused some leaf damage, while Lebaycid was highly toxic to birds.

Detailed recommendations for the use of Lebaycid, Rogor and Dipterex based on the results of these trials, are given in the accompanying table.

GENERAL INSTRUCTIONS

Detailed observations have shown that it is important to apply Rogor, Lebaycid and Dipterex as thorough cover sprays. Inefficient spraying may result in inadequate control.

A single spray of Rogor or Lebaycid can be expected to last from two to three weeks, and two sprays up to five weeks, after the first application. Where crops such as oranges are allowed to hang after ripening, repeated sprays may be needed during periods of susceptibility.
# FRUIT FLY COVER SPRAYS

<table>
<thead>
<tr>
<th>FRUIT</th>
<th>INSECTICIDE</th>
<th>CONCENTRATION</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>APRICOTS AND EARLY PEACHES</td>
<td>LEBAYCID</td>
<td>1 oz. in 8 gallons</td>
<td>Single spray 7 to 10 days before the first pick, or, for longer protection, two sprays as for other stone fruit.</td>
</tr>
<tr>
<td></td>
<td>DIPTEREX</td>
<td>1 oz. in 6 gallons</td>
<td>Spray weekly from the first sign of fly strike.</td>
</tr>
<tr>
<td>OTHER STONE FRUIT</td>
<td>LEBAYCID</td>
<td>1 oz. in 8 gallons</td>
<td>{Two sprays 7 to 14 days apart, timed so that the second spray is applied one week before the first pick.}</td>
</tr>
<tr>
<td></td>
<td>ROGOR</td>
<td>1 oz. in 6½ gallons</td>
<td>Spray weekly from the first sign of fly strike.</td>
</tr>
<tr>
<td></td>
<td>DIPTEREX</td>
<td>1 oz. in 6 gallons</td>
<td></td>
</tr>
<tr>
<td>PEARS AND CITRUS</td>
<td>ROGOR</td>
<td>1 oz. in 6½ gallons</td>
<td>Two sprays 7 to 14 days apart, timed so that the second spray is applied one week before the first pick.</td>
</tr>
<tr>
<td></td>
<td>LEBAYCID</td>
<td>1 oz. in 8 gallons</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LEBAYCID</td>
<td>1 oz. in 4 gallons</td>
<td>This concentration may be used where longer lasting effect is desired.</td>
</tr>
</tbody>
</table>

**WARNING.**

Where there is danger of poultry or other birds contacting this spray or freshly sprayed trees, LEBAYCID should not be used.

ROGOR and LEBAYCID should not be used within one week, and DIPTEREX within three days of picking.

ROGOR has been observed to cause leaf fall of apricots and early peaches, and scorching of fig and loquat fruits and leaves.
Dipterex cannot be relied on to last more than seven or eight days, and is ineffective on citrus. The addition of a wetting agent is an advantage with Dipterex, particularly for spraying plums.

ROUTINE CONTROL MEASURES
It is suggested that cover sprays may be used to supplement the routine baiting practices, for which the following mixtures are recommended:

- Malathion—1 oz.
- Protein—\( \frac{1}{2} \) to 1 oz.
- Water—1 gallon.

or

- Malathion—1 oz.
- Sugar—\( \frac{1}{2} \) lb.
- Water—1 gallon.

One gallon is enough for 30 to 40 trees and should be splashed onto the trees at weekly intervals, from six weeks before the fruit is ripe and continuing until two weeks after all fruit is picked. Sodium fluosilicate (\( \frac{1}{4} \) oz.) plus sugar (10 oz.) in one gallon of water may be substituted for the malathion bait.

When not actually egg laying, fruit flies spend much of their time in citrus trees, from which they can obtain their food requirements. Therefore, periodic baiting of these trees, even when no ripe fruit is present, helps prevent attacks on other fruit and should be carried out throughout the year.

Trees or varieties which are known to be regularly infested should be treated with Rogor, Lebaycid or Dipterex according to the chart.

THE CONTROL MEASURES HERE OUTLINED HAVE BEEN FOUND TO BE VERY EFFECTIVE, BUT NOTHING HAS YET BEEN DISCOVERED WHICH DOES AWAY WITH THE NEED FOR CONSCIENTIOUS ORCHARD HYGIENE, INCLUDING THE PROPER DISPOSAL OF INFESTED FRUIT.
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