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CHEMICAL THINNING OF PLUMS AND PEACHES

By J. CRIPPS and K. T. WHITELY

DURING the past decade the acreage of Japanese plums in Western Australia has increased by 10 per cent, and production has risen by nearly 40 per cent. Furthermore, almost 30 per cent. of our trees were still classified as non bearing in 1966, so rapid increases in production are certain to be recorded within the next few years.

The disposal of this increased production may pose the problem that while fruit above the minimum size can be exported, small fruit cannot and is not wanted on the local market. This season we have witnessed consignments of such fruit being returned to the growers because the fruit could not be sold at anything like an acceptable price.

Fruit grown for export, too, is being more severely viewed in regard to minimum size. For example, the longer counts, especially the 315 count for Wickson and Beauty plums, have been accepted this year but may not always be able to be exported; growers should not rely on them being acceptable.

Large fruit can only be produced if thinning is adequate, but skilled labour for hand thinning is expensive and difficult to obtain.

RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Variety</th>
<th>Amount of DNBP amine per 100 gallons with Tween 20</th>
<th>Amount of DNBP amine per 100 gallons without Tween 20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLUMS</strong></td>
<td>Fluid ounces</td>
<td>Fluid ounces</td>
</tr>
<tr>
<td>Wickson</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beauty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satsuma</td>
<td></td>
<td></td>
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<tr>
<td>Delaware</td>
<td></td>
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<tr>
<td>Narrabeen</td>
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<td></td>
</tr>
<tr>
<td>Santa Rosa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilson</td>
<td></td>
<td></td>
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<tr>
<td><strong>PEACHES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden Queen</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NECTARINES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goldmine</td>
<td></td>
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</tr>
</tbody>
</table>

Advantages of chemical thinning

Chemical thinning is the obvious way to avoid small fruits. It is cheaper, removes fruit earlier and gives a greater increase in size at harvest time than hand thinning. Spray thinned trees also make more shoot growth, have a larger bearing surface and more leaves to protect the fruit from sunburn. Growers should realise, however, that although the time required for hand thinning is much reduced by chemical thinning some hand thinning will still be necessary.

More plum and canning peach growers will have to turn to chemical thinning in the near future in order to maintain profitable production.

Method

Recommendations for the chemical thinning of Japanese plums were first published in the June, 1961, issue of the Journal of Agriculture.

Further work has been done with plums and the thinning of canning peaches has been investigated and we are now in a position to publish more complete recommendations. Moreover the sodium salt of D.N.B.P. (Dinitro secondary butyl phenol) at 16 per cent. concentration is no longer available and the amine of D.N.B.P. at 20 per cent. has been substituted so that it is necessary to amend the earlier recommendations.

In Department of Agriculture experiments consistent results have been obtained with the plum varieties Wickson, Wilson, Satsuma, Delaware and Beauty. The need for thinning Narrabeen and Santa Rosa varies from one orchard to another according to proximity of pollinators and conditions under which the trees are grown and the grower should estimate the need for thinning from past tree performance. The setting of Ruby Blood is too inconsistent to justify a recommendation. Spraying Golden Queen peaches has given consistent thinning and some success has been recorded with Goldmine nectarines.

Trees should be sprayed when the weather is fine and sunny, not when rain
has just fallen or when it threatens to fall soon after spray application.

Sprays should be applied at full bloom, that is, when two-thirds to three-quarters of the flowers are open. Spraying earlier or later will give reduced thinning. Very thorough spraying, using a coarse nozzle, is essential for success. D.N.B.P. amine is supplied as a liquid and the spray should be prepared by adding the requisite quantity of D.N.B.P. to a small quantity of water in the spray vat and then adding the remainder of the water.

Concentrations required may vary to some degree with age and size of tree, type of soil on which grown, availability of pollination and seasonal conditions. Accordingly growers should be prepared to slightly amend recommended spray concentrations in the light of individual circumstances. Generally the addition of Tween 20 to the spray increases thinning so that concentrations have to be reduced.

A spray with Tween 20 is preferred, but growers who have obtained good results without the use of this material need not change.
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