Chemical thinning of apples: spray recommendations for 1966

Department of Agriculture, Western Australia

Follow this and additional works at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4

Part of the Fruit Science Commons, and the Horticulture Commons

Recommended Citation

This article is brought to you for free and open access by Research Library. It has been accepted for inclusion in Journal of the Department of Agriculture, Western Australia, Series 4 by an authorized administrator of Research Library. For more information, please contact library@dpird.wa.gov.au.
ALL indications point to a heavy crop of apples in the 1967 season. This year gives growers an opportunity to break through the biennial bearing cycle of "on" and "off" years by the thorough application of chemical thinning sprays.

Fruit size has been very good for two years but there is no guarantee that this will apply in the coming season.

The latest recommendations for chemical thinning of apples based on field trials and experience over several years are summarised in the table at the end of this article. In addition, the following notes outline the main factors which should be considered in using chemical thinning sprays.

**Advantages of chemical thinning**

The advantages of chemical thinning are more uniform cropping, lower thinning and picking costs, fewer limb breakages, and better tree health.

**The degree of thinning**

Thinning should aim for a high yield of commercially-popular sized fruit and an equivalent crop in the following season. The degree of thinning needed to achieve this varies with the circumstances.

Spray thinning should not be expected to eliminate the need for follow-up hand thinning, although it will greatly reduce it.

Red varieties, such as Yates, Jonathans and Delicious usually need subsequent hand thinning.

Granny Smiths adequately chemically thinned usually require little more than the removal of fruits from the leader tops.

In non-irrigated orchards entering an "on" year, a more general hand thinning may need to follow chemical thinning. Slight overthinning will avoid this and enhance the prospects of a crop the following year.

**Assessing the degree of thinning**

Biennial cropping, and favourable setting conditions increase the need for chemical thinning.

Tree age and availability of irrigation are other important factors. Thinning requirements generally increase with tree age and are greater in non-irrigated orchards.

Local knowledge of the trees' ability to crop regularly and bring fruit up to size is important. This is only gained by experience in the orchard.

These recommendations are intended only as a guide and will need to be adjusted to each situation. In a number of cases the range of Amid-thin is shown at 6 to 8 oz. per 100 galls. The higher concentration should be used where considerable thinning is required.

**IF IN DOUBT ABOUT THE BEST SCHEDULE TO ADOPT CONTACT A LOCAL DEPARTMENT OF AGRICULTURE FIELD OFFICER.**
Chemical thinning materials

The main chemical thinning materials available are:

N.A.A. A general purpose petal fall spray for most varieties. It has the disadvantage of causing foliage wilting. This condition is normally only temporary. N.A.A. has, on occasions, caused over thinning of Granny Smiths.

N.A.D. (Sold commercially as Amidthin). Has some advantages over N.A.A. as a petal fall spray for Granny Smiths and can also be used for Jonathans and Cleopatras. It is an ineffective spray for Yates and Delicious.

SEVIN* First developed as an insecticide, it is a very useful thinning spray for Granny Smiths, producing moderate thinning. Normally it is applied seven to 10 days later than other sprays.

Sevin is particularly useful for Granny Smiths where regular cropping has been established. For young Granny Smiths, Sevin offers an excellent means of reducing fruit set as it has no effect on foliage.

Sevin will also produce some thinning of Delicious and Jonathans, and with heavy flowering trees is a very useful as a follow up spray for these two varieties.

*Registered trade name for Carbaryl.

Additives
A wetting agent is necessary in all cases except where Sevin is used.

EQUIPMENT
Hand spraying lances delivering a broad cone of spray with a fine droplet size are recommended. Double nozzles are preferred.

Air blast machines can be used but present a problem where selective treatments and strengths for different varieties, tree sizes and amount of blossom is needed. Twice normal strength should not be exceeded unless calibration of a machine is accurately known.

Results with airblast machines are often unreliable and hand spraying is preferred.

TIME AND METHOD OF APPLICATION
AMID THIN and N.A.A. should be applied at about late petal fall, although there is latitude of approximately five days either way. Earlier spraying near full bloom and later spraying from the calyx stage onwards will give less thinning. Each variety should be treated separately as the correct stage is reached.

With Yates, spraying should be done four to seven days after full bloom.

SEVIN should be applied from 10 to 25 days after full bloom.

MIXING PROPORTIONS FOR NAA

<table>
<thead>
<tr>
<th>Parts per Million required in final mixture</th>
<th>Amount of NAA preparation required per 100 gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a) For preparations where 4 fl. oz. per 100 gallons equals 10 ppm (Lanes NAA)</td>
</tr>
<tr>
<td>5 ppm</td>
<td>2 fluid ounces</td>
</tr>
<tr>
<td>7 1/2 ppm</td>
<td>3 fluid ounces</td>
</tr>
<tr>
<td>10 ppm</td>
<td>4 fluid ounces</td>
</tr>
<tr>
<td>12 1/2 ppm</td>
<td>5 fluid ounces</td>
</tr>
<tr>
<td>15 ppm</td>
<td>6 fluid ounces</td>
</tr>
</tbody>
</table>
APPLYING THE SPRAY

Where heavy setting is expected, the top two-thirds of the tree should be thoroughly wetted.

If limited thinning is needed spraying should be restricted to the upper parts of a tree or only the tops.

An orchard should be treated selectively by spraying individual trees thoroughly or lightly according to their needs. Tree markers can assist sprayers in identifying "on" year trees.

One method which has proved effective is to spray the tops of the leaders with N.A.A. or Amid thin at petal fall and follow this later with a complete coverage of Sevin.

Chemical thinners should not be mixed with insecticidal sprays.

APPLE SPRAY THINNING RECOMMENDATIONS FOR 1966

<table>
<thead>
<tr>
<th>Variety</th>
<th>Spray Mixture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRANNY SMITH</td>
<td>1. 6-8 oz. of Amid-thin + 1/2 pint Tween 20 per 100 gallons 2. NAA 10 ppm + wetting agent</td>
<td>The Amid-thin spray is preferred. The choice between 6-8 oz. depends on seasonal conditions. In the case of &quot;off&quot; year trees which requires slight thinning spray top only. The addition of Tween 20 to Sevin will give a slight increase in thinning.</td>
</tr>
<tr>
<td></td>
<td>1. 5 oz. Amid-thin + 1/2 pt Tween 20 per 100 gallons 2. 1 1/2 lb. Sevin (80%) per 100 gallons</td>
<td></td>
</tr>
<tr>
<td>CLEOPATRA</td>
<td>1. NAA 10 ppm + wetting agent 2. 6 oz. Amid-thin + 1/2 pt. Tween 20/100 gallons</td>
<td>With heavy flowering Jonathans, I should be followed by 2. Two sprays of Sevin 7-10 days apart will give a slight increase in thinning.</td>
</tr>
<tr>
<td>JONATHAN</td>
<td>1. 8 oz. Amid-thin + 1/2 pt. Tween 20 per 100 gallons 2. 1 1/2 lb. Sevin (80%) per 100 gallons</td>
<td></td>
</tr>
<tr>
<td>DELICIOUS</td>
<td>7 1/2 ppm NAA + 1/2 pint Tween 20 per 100 gallons, followed 7-10 days later by a 2nd spray consisting of Sevin 1 1/2 lb. (80%) per 100 gallons NAA 5 ppm + 1/2 pint Tween 20 per 100 gallons</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10-12 ppm NAA + 1/2 pt. Tween 20 per 100 gallons 8 oz. Amid-thin + 1/2 pt. Tween 10/100 gallons or 7 1/2 ppm NAA + 1/2 pint Tween 20 per 100 gallons</td>
<td></td>
</tr>
<tr>
<td>GOLDFIELD</td>
<td>12 ppm NAA + 1/2 pint Tween 20 per 100 gallons 12 oz. Amid-thin + 1/2 pint Tween 20 per 100 gallons or 10 ppm NAA + 1/2 pint Tween 20 per 100 gallons</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 ppm NAA + 1/2 pint Tween 20 per 100 gallons</td>
<td></td>
</tr>
<tr>
<td>YATES</td>
<td>10-15 ppm NAA + 1/2 pint Tween 20 per 100 gallons</td>
<td>Apply 4-7 days after full bloom.</td>
</tr>
</tbody>
</table>
San Jose scale controlled

and light brown apple moth, too

WITH® GUSATHION

Spray Gusathion 25% W.P. and your apple orchard will be healthier, your fruit blemish free. Gusathion controls both San Jose scale and light brown apple moth so you can solve two problems by purchasing Gusathion in bulk and spray as needed. Gusathion will not harm fruit foliage or grape vines in the process. Use Gusathion, for effective control of a wide range of orchard pests.

Developed in the laboratories of BAYER GERMANY

OBTAINABLE FROM YOUR LOCAL AGENT

DISTRIBUTED BY BAYER LEVERKUSEN LTD. SYDNEY • MELBOURNE • BRISBANE • ADELAIDE • PERTH

© Registered Trademark of BAYER GERMANY.

Please mention the "Journal of Agriculture of W.A.," when writing to advertisers