Olive Tree Spacing

studies indicate wide spacing of
trees advantageous to yields

Karl Opitz and H. T. Hartmann

Very few olive orchards in California are planted as far apart as 44' x 44'. In fact, 30' x 30' is considered to be a fairly generous planting distance with an appreciable percentage of the orchards being set even closer than this.

There are many orchards in California in which the trees are obviously planted too close together. One of these orchards, with trees set 20' x 20' apart was given a severe pruning in an attempt to overcome the crowded condition. Such heavy pruning further reduces yields by removing fruiting wood.

A much better solution to this problem would be to pull out a portion of the trees. In an orchard planted 20' x 20', the removal of every other tree in every row, starting with alternate trees, would leave the trees on a diagonal 28' x 28' spacing, which would still be a minimum desirable distance. A further removal perhaps several years later, of all the remaining trees in every other row would leave a final spacing of 40' x 40' which could be expected to result in an increase in yields per acre in a few years after new fruiting wood developed. Another important ad-

Effect of Planting Distance on Yields of Mission Olives During Five Harvest Seasons—Tulare County

<table>
<thead>
<tr>
<th>Year</th>
<th>Yield per tree</th>
<th>Yield per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Close spacing</td>
<td>Wide spacing</td>
</tr>
<tr>
<td>1944</td>
<td>29 lbs.</td>
<td>128 lbs.</td>
</tr>
<tr>
<td>1945</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td>1946</td>
<td>26</td>
<td>116</td>
</tr>
<tr>
<td>1948</td>
<td>46</td>
<td>214</td>
</tr>
<tr>
<td>1948</td>
<td>55</td>
<td>201</td>
</tr>
<tr>
<td>Average of 5 years</td>
<td>32 lbs.</td>
<td>137 lbs.</td>
</tr>
</tbody>
</table>

Annual increase in yields due to wide spacing 105 lbs.  1,636 lbs.  77%  52%

Gross Income per Acre for the 1949 Harvest Season from Mission Olives Planted 30 x 30 in Comparison with Trees Planted 44 x 44

<table>
<thead>
<tr>
<th>Size grades and price per lb.</th>
<th>Lbs.</th>
<th>Per cent</th>
<th>Value</th>
<th>Lbs.</th>
<th>Per cent</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammoth (16.5o)</td>
<td>178</td>
<td>7.5</td>
<td>$26.34</td>
<td>389</td>
<td>8.2</td>
<td>$57.57</td>
</tr>
<tr>
<td>Extra large (14.3o)</td>
<td>178</td>
<td>7.5</td>
<td>$26.34</td>
<td>389</td>
<td>8.2</td>
<td>$57.57</td>
</tr>
<tr>
<td>Large (13.0o)</td>
<td>498</td>
<td>21.2</td>
<td>64.74</td>
<td>1,771</td>
<td>24.5</td>
<td>152.33</td>
</tr>
<tr>
<td>Medium (11.3o)</td>
<td>777</td>
<td>33.0</td>
<td>87.80</td>
<td>1,771</td>
<td>24.5</td>
<td>152.33</td>
</tr>
<tr>
<td>Standard (10.0o)</td>
<td>503</td>
<td>21.4</td>
<td>50.30</td>
<td>771</td>
<td>16.2</td>
<td>77.10</td>
</tr>
<tr>
<td>Substandard (3.8o)</td>
<td>396</td>
<td>16.8</td>
<td>15.05</td>
<td>1,056</td>
<td>22.1</td>
<td>46.10</td>
</tr>
<tr>
<td>Increased income per acre in 1949 with wide spacing</td>
<td>$244.33</td>
<td>4,771 lbs.</td>
<td>$484.32</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Transplanted mature olive tree three years after moving.

Continued on page 16

CALIFORNIA AGRICULTURE, MARCH, 1951

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NEW PUBLICATIONS

—now ready for distribution—

Each month, new publications of the College of Agriculture are listed in this column as they are received from the press.


Single copies of these publications or a catalogue of Agricultural Publications may be obtained without charge from the local office of the Farm Advisor or by addressing a request to: Agricultural Publications, 22 Giannini Hall, University of California, College of Agriculture, Berkeley 4, California.

OLIVE

Continued from page 13

vantage would be the ease of harvesting due to the production of fruiting wood around the sides of the tree as well as in the top.

Transplanting

Olive growers contemplating a tree removal program are fortunate because the olive is a fruit tree species in which mature trees can be dug up or pulled out and replanted in a new location. It is necessary to cut the scaffold branches back to the trunk and to remove practically the entire leaf area but in a few years transplanted olive trees will again be in bearing. Such trees will be in full bearing much sooner than trees started from nursery stock. A two-fold advantage can thus be obtained—the removal of trees from overcrowded orchards with the resultant increase in yields, and the rapid establishment of a new bearing orchard.

Karl Opitz is Farm Advisor of Agricultural Extension Service, Tulare County, University of California College of Agriculture.

H. T. Hartmann is Assistant Professor of Pomology, University of California College of Agriculture, Davis.

The above progress report is based on Research Project No. 1301.

DONATIONS FOR AGRICULTURAL RESEARCH

Gifts to the University of California for research by the College of Agriculture accepted in January, 1951.

BERKELEY

Daniel I. Arnon.......................................................... Barcroft-Warburg apparatus, stainless steel, for fourteen manometers, with manometers, vessels, and other accessories

Shell Chemical Corporation

Soil fungicidal fumigant; active ingredient being 1,3 chlorobromo propane

For soil fumigation studies

West Virginia Pulp and Paper Company.................................. 30 pounds of Tallene Ester For nutritional experiments with chicks

DAVIS

American Chemical Paint Company........................................ 1 gallon 2,4,5-T (butoxyethanol ester) or Weedone 2,4,5-T

Carbide and Carbon Chemical Corporation........................................ 1 quart ACP-648

For experimental use in brush control

Commercial Solvents Corporation........................................ 1 gallon Amine 220

For experimental use in brush control

Commercial Solvents Corporation........................................ 1 gallon 2,4-D acid

For experimental use in brush control

Commercial Solvents Corporation........................................ 1 gallon 2,4-D acid

To ascertain possible use with herbicides

DiGiorgio Fruit Corporation.................................................. $1,000.00

To support the established project on mineral nutrition of fruit trees

Dow Chemical Company...................................................... Experimental herbicides:

5 pounds 2,4-D acid

5 pounds 2,4,5-T

1/2 gallon Propane glycol

5 pounds NAC (90%)

1 Jiffy applicator for MC-2

For experimental use in weed control in brush

Chester Himel................................................................. Basal applicator

For use in experimental work in brush control

Lederle Laboratories Division (American Cyanamid Company).................................................. $15,000.00

For work on laboratory and field clinical investigations on sulfonylureas, antibiotics and other such agents in the treatment of diseases of livestock, including poultry

Poultry Producers of Central California.................................................. 345 dozen eggs

For research

LOS ANGELES

Atkins and Durrow, Limited.................................................. 75 pounds Dicoumarol fertilizer

For experimental research in turf culture

Soil Pep Sales Company....................................................... 300 pounds Pep Soil

For experimental research in turf culture

Yoder Brothers................................................................. 650 Chrysanthemum cuttings

For floricultural research

RIVERSIDE

The Dow Chemical Company, Great Western Division.................................................. $2,640.00

For continuation of studies of Dow chemicals for the control of red spider and associated pests

CORRECTION

In the article, "Mites on Walnuts," published on page 9 of the February 1951 issue of California Agriculture, the data pertaining to five tests with Aramite (88R) were given. The figures for the fifth treatment should read as shown in the reduced table at the right.

Control of Spider Mites Obtained with the Acaricide Aramite (88R)

<table>
<thead>
<tr>
<th>Treatment and</th>
<th>Date applied</th>
<th>Average number of active mites per sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>composition per 100 gallons of water</td>
<td>July 24</td>
<td>Aug. 1</td>
</tr>
<tr>
<td>3/4 pints 25% emulsion + 4 oz. multifilm L</td>
<td>Aug. 2</td>
<td>124.3</td>
</tr>
</tbody>
</table>

*Number of leaves examined. **Pretreatment count.