Pruning Bearing Trees

Light Measurements and Effects in Mature Bearing Walnut Orchards

K. Ryugo and D. Ramos

Light intensities 3 feet above the orchard floor ranged from 180 to 450 f.c., depending on the canopy density, even when the sun was at zenith. Direct sunlight approximated about 12,000 f.c. Two walnut leaflets superimposed on each other with a 1-1/2 inch space reduced solar radiation to 200 f.c. (the sensor was held about 2 inches below the lower leaf). Sugar and starch contents of the current season’s shoot and 1-year-old branches are still being determined. Embryo analyses revealed that levels of fructose, inositol and polyphenolic substances decreased as the cotyledons filled; conversely, sucrose and oil contents increased.

Selective Limb Pruning

Lyndon Brown and Dave Ramos

Selective pruning in a 16-year-old Hartley orchard was continued in 1976. Each plot consists of 30 trees. There are two treatments (pruned vs. non-pruned) replicated nine times in a randomized block design.

Counts were made of the number and size of the branches removed in 1975 and in 1976. Below is a summary of the numbers of cuts made and branches removed.

<table>
<thead>
<tr>
<th>Branches Removed/Avg. Number Per Tree</th>
<th>1&quot; and Under</th>
<th>2&quot; and Over</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>1976</td>
<td>17</td>
<td>4</td>
</tr>
</tbody>
</table>

It was decided that the 1975 pruning removed too much fruiting wood. In 1976 less cuts were made, as reflected in the number of branches removed in 1976.

Yields were reduced in the pruned trees in 1975 as compared with the unpruned. Yields in 1976 were equal in both plots, indicating the stimulation resulting from the pruning cuts encouraged the production of fruitful wood. Yields were as follows: