

Deer Repellents

sprays found not harmful to foliage on two-year-old trees

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Deer repellents sprayed on two-year-old fruit and nut trees did not damage the foliage, even at twice the strength recommended by the manufacturers and when sprayed as often as every two weeks.

Four kinds of repellents were tested on 85 trees of the following varieties: Gravenstein apple, Yellow delicious apple, Royal apricot, Tilton apricot, Winter Nelis pear, Elberta peach, Bosc pear, quince, Marianna plum 2624, Bing cherry, Mazzard cherry, Mahaleb cherry, President plum, Duarte plum, and Nonpareil almond.

The tested repellents were Diamond L Brand, Good-rite z.i.p., Mapco, and Mapco plus adhesive.

Deer damage to crops is common in California because the animals have increased in numbers—to approximately one million head—while their range has decreased owing to new land cultivation. Protection of female deer from hunters has further aggravated the situation. The incidence of deer damage will probably increase steadily because of the rapid expansion of the human population and increased agricultural demands in the State.

It is often impracticable to build fences high enough—seven to eight feet—to exclude deer from orchards, vineyards, and gardens; or to kill them under permit. Hence an effective deer repellent in the form of a spray is required. Repellents have been developed which are effective in varying degree. A landowner,

however, often is hesitant to use new materials until he is certain that they will not damage his trees.

The experiment was conducted to determine whether any of the four deer and rabbit repellents would burn or otherwise damage foliage on the kind of trees tested. The repellency value of the sprays was not investigated.

To give the materials a severe test, many trees were sprayed oftener and with stronger concentrations than recommended by the manufacturers. Many of the trees were sprayed with a solution that was double the strength recommended, and some trees were sprayed with two kinds of sprays.

No foliage was noticeably injured on any of the 78 treated trees including those sprayed every two weeks at double the recommended strength. Many leaves exhibited insect damage and wind burn, but this also occurred on the controls.

The 83 fruit and two almond trees used in the tests were planted at Davis in April, 1948. Most of the two-year-old trees were first sprayed on March 14, 1950, the remainder on March 31. All had at least a few leaves on March 31, when the following kinds were well foliated: Royal apricot, Tilton apricot, Elberta peach, quince, Marianna plum 2624, Duarte plum, and Nonpareil almond. By April 13 all trees had many leaves.

The experimental trees were planted close together to save space. To avoid



Bosc pear being sprayed with a recommended strength of Mapco on March 14, 1950.

contamination of adjacent trees each was enclosed with part of a nylon parachute while being sprayed; they probably received more spray and more complete coverage than do trees sprayed in open stands.

To protect them from deer, trees may have to be re-treated as new leaves appear, the frequency depending upon the rate of leader growth, the number of animals in the locality, and the availability of natural browse. But it is unlikely that trees will need treatment more frequently than was received by some of the trees in this experiment.

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The above progress report is based on Research Project No. 1341.

Left: Yellow delicious apples sprayed six times with a double concentration of Good-rite z.i.p.—tree on left—and Mapco—tree on right—still had no foliage damaged. Right: Mahaleb cherry seedlings that received many different treatments had no foliage damaged. One tree near the center was sprayed six times with a double strength of Good-rite z.i.p. and the white residue from the spray is visible on the leaves. Both photos taken June 1, 1950.

