



A General Purpose Fruit Spray

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Most efforts along the lines of orchard insects and disease control have been directed toward helping the commercial fruit growers. There are many thousands of amateur gardeners and farm-orchard owners, whose needs are not being met. These small growers find it next to impossible to buy small quantities of the many spray chemicals called for in the commercial or home orchard spray schedule as generally recommended.

All-Purpose Spray Developed

Six years ago the Purdue Horticultural Department tried to interest several of the large spray chemical companies in developing an all-purpose, one-package combination of insecticides and fungicides, which might eventually be safely recommended for rather indiscriminate use on most or all of our commonly grown tree and bush fruits. The chemical companies were not interested or were too busy to give attention to this problem at that time.

In 1946 a trial formula was prepared by C. L. Burkholder, the late Frank Beach and V. H. Davis of the Ohio Farm Bureau. The product is a wettable powder containing fermate, lead arsenate, DDT, diluex, talc and gulac. Spraying trials in 1946 were limited to the Experiment Station orchards at Purdue and Ohio State universities. Insect and disease control was very promising on apples, peaches, plums, cherries, grapes and currants. There was no foliage injury when as many as five cover sprays were applied on peaches. At Lafayette in 1946 the last spray on peaches was applied too late (3 weeks before harvest) and the fruit carried undesirable spray residue at harvest. In 1947 the last spray on peaches was applied five weeks before first fruits were picked and did not result in objectionable residues or discoloration of the fruit at harvest time.

In 1947 the same materials were used but the formula was changed slightly so that the resulting powder could be used either at 1 lb. to 10 gallons of water as a liquid spray or when diluted with equal amounts of wheat flour it could also be used in a hand duster.

Tested in Several States

This 1947 product was tested at the experiment stations at Columbus and Wooster, Ohio; Lafayette, Indiana, and Mt. Grove, Missouri. Limited tests were also carried on in Kentucky and Illinois. Peaches, plums, pears, sweet and sour cherries, apples, grapes, gooseberries and currants were protected throughout the spray season at Lafayette, Indiana.

In most cases disease and insect control was not as good as that obtained when the individual commercial schedules were used but in no case was control so poor that the fruit was not suitable for home consumption. When used as a dust and applied with a hand dust-

er, results were not as good as when applied as a liquid spray although in the case of small fruits the dust product was quite satisfactory.

The original idea of a "One Package" spray and dust mixture was to provide the owners of limited plantings of tree and bush fruits with One Package containing ALL the materials necessary for both insect and disease control and with no expectation of producing a quality product that would compare favorably with commercially grown fruit. Nevertheless in 1948, in Purdue plots where mature apple trees received an all season spray program of "One Package" materials, apple scab control was excellent. Rome were 97.9 percent U. S. No. 1, Delicious 92.8 percent and Golden Delicious 99.6 percent while unsprayed trees of these 3 varieties carried only 5.7, 0.0, and 45 percent U. S. No. 1 fruit at harvest.

The new "One Package" spray and dust mixture was recommended in the 1948 Purdue Spray Schedule for home fruit plantings. It was formulated and sold by both the Indiana and Ohio Farm Bureaus in 1948. The present general-purpose mixture may not prove to be the best insecticide and fungicide combination that can be worked out. It is hoped that the formula will continually be improved. So far the favorable reaction of large numbers of home gardeners, who have used this material, has verified the need for this or a similar general-purpose, one-package spray and dust mixture for fruit plants.



(Courtesy Wine Institute, Calif.)

A portable hand duster is an important piece of equipment in the home fruit garden.