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## What Spray Mixtures Shall We Use ?

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I HAVE been asked several times what spray mixtures I should recommend for fruit trees this coming season. The following in my opinion are the best:

For the dormant spray lime-sulphur, either commercial or home-made. If there is San Jose Scale in the orchard the commercial should not be used weaker than about one gallon diluted to eight, or a specific gravity reading on the hydrometer of 1.032 to 1.035. Weaker solutions often fail to give good results. If there is no scale, either Oyster Shell or San Jose, the wash may be diluted one gallon to eleven or twelve. On peaches this should be applied early before the buds have any more than begun to swell, but on apples or pears it may be applied any time, say from two or three weeks before the buds burst right up to the time they are bursting. On plums and cherries it is better postponed until a few days before the buds burst.

For the second application on apples and pears, which should be just before the blossoms begin to open,—the earliest varieties being sprayed first,—either lime-sulphur of the specific gravity strength of 1.010 or 1.009, which is equivalent to the commercial diluted not more than about one gallon to thirty, or bordeaux mixture four-four-forty, should be used as the fungicide, the latter being given the preference. To each forty gallons of either of these mixtures two or three pounds of paste arsenate of lead should be added as a poison.

To prevent apple scab this application should be done very thoroughly and as near the time advocated as possible. Many tend to overlook the importance of this spraying but after such a bad season for scab as we had last year, the greatest care should be taken this season.

The second application for plums and cherries should be in about a week after the blossoms have fallen or as soon as the fruit is well set. The same mixtures should be used as for apples but in the case of Japanese plums and possibly sweet cherries the lime-sulphur should be a little weaker.

If peaches receive a second application paste arsenate of lead alone, two or three pounds to forty gallons of water should be used when the fruits are formed, and about one-third of an inch in size. The object of this spray is to destroy the plum curculio in the peach.

The third application for apples and

pears should be, especially in the case of apples, as soon as from eighty to ninety per cent. of the blossoms have fallen, beginning with the earliest varieties. By this time the bees will have almost abandoned the trees and gone to other flowers. For this application it is not advisable to use bordeaux mixture for these fruits as it often causes russeting, instead I prefer lime-sulphur of the strength of about 1.008 specific gravity, which is equivalent to one gallon of the commercial diluted to from thirty-five to forty gallons. To every forty gallons of this diluted mixture two pounds of the paste arsenate of lead should be used. More than this is not necessary but does no harm. This is the great application for codling moth and apple scab, and the trees cannot be too thoroughly and promptly sprayed.

For cherries and plums the third application should be about two weeks after the second and the same fixtures as for the second may be used.

If the weather in about ten days after the third application is cold, dark and wet it will be absolutely necessary to

give a fourth application for apples and pears with the same mixtures as for the third, otherwise there will be an attack of apple scab, especially in varieties like Snow and McIntosh. If the weather, however, is dry and warm there is no need for this application except in the far eastern part of the province where it should always be given.

Cherries should receive a fourth application with the above mixture or bordeaux as soon as the fruit is off to prevent leaf spot. Plums that are inclined to rot should be sprayed as late as possible without danger of staining the fruit for market, either lime-sulphur or bordeaux being used. Peaches may receive an application of the so-called self-boiled lime-sulphur about one month after the blossoms fall to ward off brown rot. For method of making this see Spray Calendar or Bulletin 198.

Towards the end of August or in early September cold, wet weather sometimes requires an extra application to keep off late attacks of scab and sooty fungus on apples. I should use the same mixtures as for the third application.



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