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A PLAN FOR SPRAYING APPLE ORCHARDS FOR BLISTER-MITE AND CASEBEARERS.

Many fruitgrowers who are planning to spray their apple trees this spring with the lime-sulphur wash to control the leaf blister-mite, have also to contend against casebearers. The question arises as to what is the most practicable plan of treatment, including an application of a sulphur spray, to follow in spraying their apple orchards. In the use of these new sprays it is important that fruitgrowers should understand their range of usefulness and the conditions under which they may be advantageously employed in the general treatment against diseases and insects which attack the apple. The following points should be clearly understood:

(1) The sulphur washes are contact insecticides, and are especially recommended for the treatment of the San José scale and the blister-mite. They are of little value for fruit and leaf-eating insects, such as casebearers, canker worms and codling moth.

(2) The sulphur washes are destructive to foliage. They can be used safely only when trees are dormant or during the time when the buds are swelling and are showing green at the tips. Applications made later than this time may cause serious injuries.

(3) The chemical reactions that occur when poison is added to the sulphur wash are not thoroughly understood. It appears to be advisable not to combine arsenicals with sulphur sprays.

(4) The sulphur washes are also fungicides, but their effectiveness for most diseases of fruit trees has not been determined. If applied early in the spring, sulphur sprays will control peach leaf-curl. They are also of some value for apple scab, but the

exact conditions under which they may be depended upon to control this disease have not been ascertained.

(5) To destroy casebearers, the chief reliance must be placed on arsenicals. The poison, arsenate of lead preferably, should be used with bordeaux mixture. Applications are advised during the time that the buds are breaking and before blossoms open. This treatment also helps to control apple scab.

A plan of treatment which would appear to meet the needs of fruitgrowers who desire to spray for the leaf blister-mite and casebearers, is as follows:

(1) Spray trees with a sulphur wash as buds are swelling and show green at the tips, for the blister-mite.

(2) Spray trees with bordeaux mixture, containing an arsenical poison, arsenate of lead preferably, before blossoms open. This should be done from five to seven days after (1). This treatment is effective against many leaf-eating insects and various plant diseases.

(3) Spray trees with bordeaux mixture, containing a poison, just after blossoms fall. This is the most efficient treatment for codling moth.

(4) Spray trees with bordeaux mixture, containing a poison, from ten to fourteen days after (3), for codling moth and apple scab.

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