



PROPERTY OF MAIN LIBRARY, DEPARTMENT
OF AGRICULTURE, OTTAWA

Lent to.....

Date.....

PLEASE RETURN

THE FIRST SPRAY FOR Nova Scotia Apple Orchards 1918

W. H. BRITTAIN
N. S. Agricultural College
TRURO, N. S.

G. E. SANDERS
Dominion Entomological Laboratory
ANNAPOLIS ROYAL, N. S.



FIRST SPRAY

Time of Application: When leaves are about one-quarter of an inch in diameter.

632.94
.N936

There is little danger of spray injury at this time from any of the combinations ordinarily used in orchards. Our experiments would indicate that, under ordinary circumstances, the combination to use is largely a matter of choice.

Regular Formula.—Lime sulphur, commercial concentrate 3 gals. to 100 of water or 1.009 sp. gr., with 2 lbs of powdered arsenate of lime can be used with greater safety at this time than in the other sprays and will give good results under ordinary circumstances.

Substitutes.—If desired several substitutes may be used for the foregoing with satisfactory results. Under conditions especially favorable for the development of apple scab, Bordeaux Mixture will be favored by many. If it is the intention to repeat this mixture in later sprays, a formula with a smaller proportion of bluestone and a larger proportion of lime will result in less russetting and bronzing of the foliage. A 3-10-40 formula, i.e. 3 lbs. bluestone 10 lbs. lime to 40 gals. of water has been used satisfactorily for this purpose.

A rapid and convenient method of making Bordeaux when a power sprayer is used, is as follows: Use pulverized bluestone that will pass through a screen of 20 meshes to the inch (or dissolve the bluestone first if the pulverized material cannot be obtained) and hydrated lime. Weigh out quantity of bluestone required and place in the empty spray tank, start engine and mechanical agitator and fill tank nearly full of water. By this time the bluestone will all be dissolved and the hydrated lime should then be added. Last of all put in the poison. This does not give quite as efficient a Bordeaux as if made in the regular way but it has given good results and the method is a quick and easy one. Do not attempt to prepare Bordeaux this way in an outfit not provided with a mechanical agitator.

A cheap spray can be prepared with soluble sulphur when apple scab is not likely to be serious. The following should be used:

Soluble sulphur.....	3 lbs.
Lime.....	10 "
Arsenate of lime.....	1½ "
Water.....	100 gals.

Application of the Spray.

Since there is little danger of burning at this time the material that will enable the operator to thoroughly cover

the trees most rapidly and effectively is the one to use. On a powerful outfit of medium capacity, the spray gun would appear to be the most efficient instrument as it best fulfills the foregoing requirements.

Pests Destroyed.

About one year in every three this spray is of prime importance in the control of apple scab. In years when the disease develops late, this is not so important but most fruit growers will prefer to have the insurance given by this spray of having a big crop in the years of big prices.

Budmoths, brown-tail moths and canker worms are also destroyed by this spray. If the latter threatens to be numerous, the application should be delayed for three or four days later than the time indicated in our illustration.

Modifications for Sucking Insects.

If troubled with rosy or green aphid, black-leaf 40 should be added to whatever fungicide is used at the rate of $\frac{3}{4}$ of a pint to 100 gals. of the spray. This should be applied several days earlier than indicated in the illustration. If necessary to spray for green apple bug, it is better to wait until next spray in the case of green aphid, but for the rosy aphid this is the only time to get perfect results.

Notes on First Spray.

Do not use arsenate of lime alone.

If a weaker dilution of lime sulphur is used than that recommended either the quantity of arsenate of lime added must be correspondingly decreased or else lime must be added to prevent leaf yellowing.

Do not allow soluble sulphur to stand exposed to the air. Keep in air tight container.