

In the finest households in the land where baking results alone are the thing that counts, and also in the poorest families where economy is an absolute necessity,



"REGAL" FLOUR
Stands First

N. S. Fruit Growers Association
DOMINION EXPERIMENTAL ORCHARD WORK IN 1917

As has been the custom during the past four years, we are presenting at the present time a report, as condensed as possible, of the work being conducted at the different orchards where tests with different sprays are being tried for scab control. As you all know, the opening of blossoms was delayed fully 15 days, the full bloom period being about the middle of June. The temperature was high and the weather fairly bright, giving apparently ideal conditions for a good set of fruit. The set was influenced largely by a more or less weakened fruit bud having developed, an increase of bud moth the green apple bug. To add to this the crop was lightened by the heavy gale on August 10th when one third of the fruit was blown from the trees.

It will be noticed that the foliage injury tabulated has been divided into two classes, one having the characteristic brown burn on the foliage, and the other a yellowing of the foliage which may or may not have any of the former injury present. It will be remembered that this yellow leaf appeared in 1916 in the Bordeaux sprayed plots to a marked degree and also in the soluble sulphur arsenate plots. This season it seemed to follow the use of arsenate of lime quite generally and was not apparent on the arsenate of lead plots to any great extent. The foliage injury it may be stated as usual did not appear to any extent until after the 4th spray, and injury as given for that date is for that which appeared after that time.

MOST IMPORTANT SPRAY

For the purpose of finding out which of the four regular sprays are the most important, tests have been conducted during the past four years, and in addition to the results obtained this season, we have made a summary of the previous experiments, which is given herewith. It is exceedingly difficult to determine just what in general is the important one, as there is a variation from year to year, and sprays giving the best results one year may not be the important one the following season. It is evident, however, that no one spray will suffice. It may be possible, however, to control scab fairly well by two thorough applications, the one just before bloom and the one soon after bloom. These certainly should not be eliminated if we hope to get reasonably clean fruit, and in general it may be said that the two sprays before bloom are of greater importance than the two after bloom. That is, if only three are to be given, the fourth is the safest one to leave out, judging from our results covering a period of years. During this period, however, in some years the fourth may be of more importance than the first.

TO DETERMINE MOST IMPORTANT SPRAY FOR SCAB CONTROL—VARIETY, KING.

| Place & Plot | How Sprayed | | | | Per Cent Scab | Per Cent Insect Injury |
|--------------|-------------|--------------------------------|---------|---------------|---------------|------------------------|
| | L. S. 1,008 | & Dry Lead 2 lbs. to 100 gals. | Dates | Per Cent Scab | | |
| Borwick | | | | | | |
| 1 | May 23 | June 13 | July 11 | 0 | 0 | 0 |
| 2 | do | do | do | 0 | 0 | 3.2 |
| 3 | do | do | do | 0 | 0 | 5.7 |
| 4 | do | do | do | 0 | 0 | 14.05 |
| 5 | do | do | do | 0 | 0 | 1.9 |
| 6 | do | do | do | 7 | 1.1 | 4.7 |
| 7 | do | do | do | 0 | 0 | 22.3 |
| 8 | do | do | do | 0 | 0 | 1.4 |
| 9 | do | do | do | 0 | 0 | 15.6 |
| 10 | do | do | do | 8 | 2.3 | 39.2 |
| 11 | do | do | do | 0 | 2.8 | 14.6 |
| Midway | | | | | | |
| 12 | June 5 | do | do | 0 | 1 | 2.4 |
| 13 | do | do | do | 1.1 | 0 | 17 |
| 14 | do | do | do | 8 | 3.5 | 8.9 |
| 15 | do | do | do | 8 | 4.7 | 5.6 |
| 16 | Check | do | do | 2.6 | 13.1 | 44.7 |
| 17 | do | do | do | 3.3 | 2.06 | 26.8 |

EXPERIMENT TO DETERMINE MOST IMPORTANT SPRAY FOR SCAB CONTROL RESULT OF FOUR YEARS' WORK

| Sprays Applied | Four Years' Average—Per Cent Scab | Per Cent Burning |
|--------------------|-----------------------------------|------------------|
| 1st, 2nd, 3rd, 4th | 1.59 | 28 |
| 1st, 2nd, 3rd | 2.57 | 0 |
| 1st, 2nd | 9.72 | 0 |
| 1st | 32.05 | 0 |
| 2nd, 3rd, 4th | 5.26 | 18 |
| 2nd, 3rd | 6.59 | 0 |
| 2nd | 36.9 | 0 |
| 3rd | 30.8 | 0 |
| 4th | 55.92 | 25 |
| 3rd, 4th | 8.58 | 20 |
| 2nd, 4th | 6.5 | 27 |
| Midway 3rd, 4th | 6.62 | 24 |
| No Spray | 53.58 | 0 |

SPRAYS OF DIFFERENT STRENGTH FOR APPLE SCAB CONTROL

In order to control the green apple bug, it is necessary to apply a spray of high pressure. It appears that the regular lime sulphur arsenate spray of 1 to 40 strength, when applied to foliage, is liable to cause burning and that to reduce this to 1 to 60 materially lessens the injury. The tests given below were developed to gain information as to efficiency of different strength for scab control, and these have been applied in light, moderate and heavy applications to determine whether even the weaker mixture heavily applied, may not cause material injury. A summary of the results are given below, and from this it would appear that the heavier the application the greater the leaf injury and the better the scab control. On the other hand it does not seem possible

to eliminate burning material, especially in the heavy applications, by reducing the strength of the mixture. Observations made during the past three years would lead us to believe that much of the drop attributed to the lime sulphur is not due to this at all. So far as we have been able to determine, none of the fruit drop tabulated was due to the mixture used. It will be seen that the drop on the check plot where no spray was used was as great as on the sprayed trees.

The light, moderate and heavy application were put on as we thought a fruit grower would apply them. The light was simply one put on sufficient to cover the foliage and cause little, if any, dripping when spraying was finished. The moderate was applied heavier, more liquid having been applied and a corresponding increase in dripping, although not a heavy dripping by any means when spraying was finished. The heavy application was made until there was a heavy drop from the foliage.

SUMMARY OF EXPERIMENTS WITH LIME SULPHUR 1 to 40, 1 to 50 & 1 to 60, LIGHT, MODERATE, & HEAVY USING BRY ARSENATE OF LEAD & ARSENATE OF LIME.

| How Sprayed | Foliage Injury | | | Total foliage injury | Leaf drop on 1 sq. yd. of ground | Fruit drop on 1 sq. yd. of ground |
|-------------------------------------|-----------------------|--------------------------|----------------------------|----------------------|----------------------------------|-----------------------------------|
| | Per Cent Average Scab | Per Cent Average Burning | Per Cent Average Yellowing | | | |
| L.S. 1 to 40 & dry lead, Light | 5.7 | 6.1 | 0 | 6.1 | 0 | 38 |
| L.S. 1 to 40 & A. of lime, Light | 7.44 | 3.4 | 4.0 | 8 | 38 | 48 |
| L.S. 1 to 40 & dry lead, Moderate | 1.8 | 6 | 0 | 6 | 0 | 13 |
| L.S. 1 to 40 & A. of lime, Moderate | 2.25 | 10.6 | 5.0 | 15.8 | 56 | 63 |
| L.S. 1 to 40 & dry lead, Heavy | 1.42 | 25.2 | 0 | 25.2 | 0 | 68 |
| L.S. 1 to 40 & A. of lime, Heavy | 6 | 14.7 | 12.7 | 27.4 | 63 | 45 |
| L.S. 1 to 40 & No arsenate, Light | 3.9 | 2.5 | 0 | 2.5 | 0 | 8 |
| L.S. 1 to 50 & dry lead, Light | 8.33 | 7 | 0 | 7 | 0 | 21 |
| L.S. 1 to 50 & A. of lime, Light | 13.2 | 10.8 | 9.3 | 20.1 | 65 | 50 |
| L.S. 1 to 50 & dry lead, Moderate | 3.79 | 5.6 | 0 | 5.6 | 0 | 26 |
| L.S. 1 to 50 & A. of lime, Moderate | 1.2 | 14.6 | 10.2 | 24.8 | 105 | 42 |
| L.S. 1 to 50 & dry lead, Heavy | 3.4 | 7.7 | 0 | 7.7 | 0 | 40 |
| L.S. 1 to 50 & A. of lime, Heavy | 9 | 16 | 8.2 | 24.2 | 62 | 70 |
| L.S. 1 to 50 & No arsenate, Light | 1.72 | 0 | 0 | 0 | 0 | 68 |
| L.S. 1 to 60 & dry lead, Light | 16.6 | 3 | 0 | 3 | 0 | 68 |
| L.S. 1 to 60 & dry lead, Moderate | 2.8 | 1.4 | 0 | 1.4 | 0 | 22 |
| L.S. 1 to 60 & dry lead, Heavy | 1.6 | 6.4 | 0 | 6.4 | 0 | 26 |
| L.S. 1 to 60 & A. of lime, Heavy | 4.67 | 16.5 | 10.7 | 27.2 | 65 | 50 |
| Check Plots | | | | | | |
| Berwick—Plot 7 | 82.1 | | | | 0 | 65 |
| " " 19 | 64.3 | | | | 0 | 43 |
| Falmouth " 7 | 46.5 | | | | | |
| " " 20 | 44.6 | | | | | |
| Bridgetown " 1 | 11.7 | | | | | |

LIME SULPHUR ARSENATE APPLIED WITH DIFFERENT NOZZLES

Lime sulphur of the regular 1 to 40 strength with 2 lbs. of arsenate of lead were applied with the calyx, drive and regular nozzle. From the results obtained it would appear that there is a slight advantage in favour of the drive nozzle in scab control, but for practical purposes, the kind of nozzle is not a factor of great importance in actual scab control. It will be noticed the foliage injury is greatest with the drive nozzle. The advantage of the calyx nozzle is that double the liquid may be applied in the same time as would be possible with the regular. The advantage of the drive is that slightly more liquid can be applied in the same time than with the calyx, and the top of the tree can be more readily reached than with either the calyx or regular nozzle.

KARL GREY
A Last Word

A piece of literary news which has for Canadians an almost national significance is the announcement of the forthcoming publication of Earl Grey's last message to the Empire. At a time when even the most devoted and unselfish of statesmen might be pardoned for thinking only of his approaching end and his private affairs, Earl Grey summoned his failing energies to utter a final word in support of the ideals to which he had devoted his life. This message has been given to the world through Mr. Harold Begbie, the well known novelist and man of letters, who was for some years intimately associated with the late Earl Grey.

Such a message as this, coming from a statesman of proverbially liberal and progressive views, would at any time deserve the most serious consideration. But at such a period of stress and change as the present, when the whole fabric of modern society has been thrown into the fiery crucible of war, it has a very special significance. Far more keenly than most public men, Earl Grey realized the perils to liberty and progress involved in the great European struggle, perils which might still exist, even if Germany were decisively beaten. These perils lie in the long and bitter struggle between capital and labor, in the selfish tyranny of partisan politics, in the spirit of arid sacerdotalism in the church, and in the general tendencies of society towards money-grabbing industrialism and materialistic standards of happiness. Earl Grey sounds a solemn last warning against these things, and makes a noble plea for that Anglo-Saxon unity and that federalization of the Empire in which he saw the surest hope for the peace and progress of the world.

While Earl Grey's last message is addressed to the whole British Empire, it has a special appeal for Canadians. Of all the great Dominions this is the one in which he took the keenest interest, and to which he was bound by the strongest ties. In fact his last published utterance under his own hand, was a warning to Canadians to as an Imperial statesman were centered in Canada, and he delighted to describe himself even in England as a Canadian by adoption. It is therefore only natural that in his last message his eyes should have been turned particularly to this country.

Mr. Begbie has very wisely added to Earl Grey's last word a character study of the dead statesman himself. Canadians have every reason to recall how unselfish and lovable was the personality of this nobleman, who probably numbered more intimate and devoted friends among all classes of the Canadian people than any other Governor-General. As Viscount Bryce says admirably in this very book: "No more beautiful or lovable personality has adorned our generation, or borne more worthily the tests of long life and high office." Similar testimony is given by men of such diverse distinction as Lord Milner, George Russell, the Irish seamanist and poet, better known as "A.R." Sir Starr Jameson, and F. S. Oliver. The appreciations of these distinguished public men and writers, the clever and sympathetic character-sketch by Mr. Begbie, and above all Earl Grey's own last word to a harassed and bewildered world, make this book, which is announced for immediate publication by Messrs. Hodder and Stoughton Limited, Toronto, one which should have an almost universal appeal. It is fitting monument to a great career closed in honor and in unselfish public service. It represents also the accumulated wisdom of a statesman's life.

King Honors C.P.R. Official

SIR ARTHUR H. HARRIS, who has been made a Knight Commander of the British Empire for his services in Canada as Director of Overseas Transport, is a son of the late Henry Vinton Harris of Devonport, Devonshire, England. Educated at the Devonport and Stoke Grammar School he came to this country in the seventies, entering the service of the Grand Trunk Railway, and rising to the position of General Freight Agent Through Traffic. In 1902 he joined the Canadian Pacific Railway since which date to August, 1914, he was actively engaged in initiating traffic for the Company's rail and ocean services. On the outbreak of the war, the President of the Canadian Pacific offered Mr. Harris' services to the Imperial and Canadian Governments for the purpose of organizing and directing an Overseas Transport Department, the successful administration of which is now recognized by His Majesty.



SIR ARTHUR H. HARRIS, Director of Overseas Transport.

He is a member of St. James' Club, Montreal; Rideau Club, Ottawa; and the Montreal Royal Golf Club. In 1888 he married a daughter of the late William B. Lamb, B.C.L. of Montreal, granddaughter of the late Hon. Wm. Morris, at one time Receiver-General of Canada, and niece of the late Hon. Alexander Morris, First Governor of Manitoba and the North West Territories.

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EVERY-DAY DISHES

By Martha All The holiday season season when that cont "fancy dishes" was this year plain dish "thing" and the extra years will be tabooed by. But if we will and a frill there the of yesterday will be joyous surprises. T apt to forget that as people are but children the delight of a surp tion of a new dish, ot ing up of an old st combination of sauc Serve the cream sou so often with croustons use up some of the breads, or place a slice bed with grated chee or meat soup, and a corn in the cream of Disguise the simple