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The orchard will now be safe until well on in August when we must once more watch the weather. We know that it is not at all rare to get a late attack of scab in September, and also to have the sooty fungus or ink spot on the fruit. A cool, wet, late August is almost sure to lead to such a condition of affairs and the only way to prevent it is on observing a tendency to this kind of weather to spray at once with lime-sulphur alone, strength 1.008 (commercial, 1 gal. to 35 of water). This application should not be postponed to September because it would then remain too thickly on the fruit and require wiping off after picking. A small opening in the nozzle to give a fine mist spray should be used and attention should be devoted solely to covering all sides of the fruit without thinking at all of the leaves. Trees with no fruit on need not be sprayed.

Summary of Times to Spray for Apple Scab and of Mixtures to use.

1st application—Just before blossoms open—use lime-sulphur, strength 1.010 or 1.009 sp. gr. (commercial lime-sulphur, 1 gal. to 28 to 32 of water). Add 2 or 3 lbs. arsenate of lead to each 40 gals.

2nd application (to be applied only when there is going to be a long interval between the time of first application and dropping of bloom)—at end of about 14 to 16 days from first application—use lime-sulphur, strength 1.008 (commercial, 1 gal. to 35 of water). No poison must be used.

3rd application (This will usually be the second one)—immediately after the blossoms fall—use lime-sulphur, strength 1.009 sp. gr. or 1.008 (commercial 1 gal. to 32 to 35 gals. water). Add 2 or 3 lbs. arsenate of lead to every 40 gals.

4th application (only to be given if weather is dark, cool and wet)—about 12 days after the 3rd—use lime-sulphur, strength 1.008 (commercial lime-sulphur 1 gal. to 35 gals. of water). Add poison if desired.

5th application (to be applied at once if latter part of August shows tendency to be wet and cool)—use same strength lime-sulphur as in 4th but without poison.

Helpful Suggestions.

1. Good pruning especially of large apple trees helps greatly because it lets in light and air, thus drying the mixture off more quickly, coloring the fruit better and making spraying easier and more economical.

2. Have the spray outfit in good condition before beginning to spray. Re-pack it whenever necessary to keep up good pressure. Use as high pressure as can conveniently be obtained but not over 200 lbs. Wash the tank out every night and pump clean water through the nozzles. Use angle disc nozzles. Put new plates in them when the holes get much enlarged, have plenty of hose and a spray tower where necessary.

3. Either supervise all spraying yourself or put a reliable man in charge of it. Study how to do it thoroughly; only one man in about 10 sprays large trees thoroughly. It requires close attention all the time to do a tree well. Do not go by the rule to stop as soon as the leaves begin to drip, but keep right on at each tree until you are sure the job has been thoroughly done. The spray will not go all over the leaves and fruit of its own accord. You have to put it there if you want it to do the job.

4. The dormant spray as a rule does not do a great deal to keep off apple scab unless it is delayed until the buds are actually bursting. In orchards where there is no San Jose scale, and very little oyster-shell scale, this spraying may be used much weaker than given in the Spray Calendar; in fact it need not be stronger than 1 gal. of commercial diluted with 14 or even 15 gallons of water (1.018 to 1.020 sp. gr.). If there is the least danger of San Jose scale, take no chances but use the strength recommended in Spray Calendar because San Jose scale is a very destructive insect.

Spring Notes from British Columbia.

EDITOR "THE FARMER'S ADVOCATE":

At the first of March the British Columbia fruit growers held their annual meeting at the Coast where many important matters were brought up for discussion and adjustment. An attempt is being made to so increase the membership of the organization that it will be able to operate without the financial aid of the Government and thus keep it out of political influence.

At the meeting of March 7 the Markets' Commissioner addressed the meeting and explained what had been done to readjust the coast markets so as to get the consumers there into the habit of buying British Columbia produce. Mr. Nicholson, President of the Okanagan United Growers', Limited, gave the meeting the results of co-operation in the Okanagan Valley. In 1913, the year of organization, 954 cars of fruit, vegetables and produce were handled by the Union; 1,139 in 1914, and 1536 in 1915. The value of these in 1913 was \$48,000, in 1915 it reached \$654,682. Operating expense in 1914 was 12.4 per cent as compared with 9.5 in 1915. This year they anticipate reducing this figure to almost 5 per cent. In the past the Union had earned a name for a reliable pack both in the home markets and on the markets of foreign countries.

The Market Commissioner from the Prairies addressed the meeting on the issuing of the weekly report on market conditions and also the difficulties British Columbia was likely to meet in the way of opposition from the free trade sentiment which prevailed on the

Prairies, which sentiment, he said, had been rather antagonized against British Columbia because of their action in urging a protective tariff increase on apples.

Some important resolutions were passed and adopted, among these was one urging the Government to appoint a full staff of inspectors to inspect all packs at the shipping point. This inspection of pack has become quite a good thing and is being upheld all over the Okanagan. The Government inspector often turns down a shipper and refuses to let the shipment out because of defective fruit, poor pack, or misrepresentation. It is a good thing and is doing much to bring the standard up to a reliable pack. Another of these resolutions dealt with the trouble in securing enough good packers for the rush season in the fruit districts and it asked the Government to establish packing classes in connection with the manual training classes in the public schools.

Previous to the calling of this convention, Mr. Flack, fruit inspector on the Prairies, Mr. Smith who was formerly at Summerland in charge of the pre-cooling plant but recently in charge of Ontario plant at Grimsby, Ont., and Mr. Abbott the Coast Markets' Commissioner made a tour of the Province speaking to the farmer's institutes and fruit growers' associations explaining where the mistakes in marketing were being made. They finished up their tour by speaking to the Convention at Victoria. Mr. Flack's remarks at the Convention on standardization made a good impression and it is hoped will have the effect of bringing the growers together strongly enough to get the Government to pass legislation standardizing fruit packages.

The stockmen of the province are getting considerable assistance in the way of securing through the Government pure-bred sires. The Government will pay the freight on the animal and loan the money for its purchase, to any district where there is no animal of the desired breed. Up to the present time there has been quite an interest awakened in this way in dairy and stock raising. In the Okanagan it has chiefly been taken advantage of by the dairymen and hog raisers.

The Department of Agriculture at Victoria, seeing that the usual bulletins do not reach the people as well as might be desired have considered the advisability of publishing an agricultural journal. The first number was sent out March first and in order to get interest started they have made a subscription fee which no doubt is a good idea because what people get for nothing they seldom appreciate. A page is given to short topics. Another is a message from the Deputy Minister and I am glad to see that a full page is given to the Boys' and Girls' Clubs.

There seems to be quite a feeling on the Prairies against the new tariff on apples. In fact in one community the members of a certain organization have made an attempt to boycott British Columbia apples in particular, and all Canadian apples if possible, pledging themselves to buy only goods from the United States. The reasons Mr. Winslow advanced at Ottawa when he was there advocating this duty, evidently do not appeal to them. His principal reason was that the growers across the line had made the mistake of over production and that the Canadian growers should not be made to lose their investments because of that mistake. Fair or unfair, time alone will tell; the duty is now on and must stay for a trial.

British Columbia.

WALTER M. WRIGHT.

POULTRY.

Hatching Chicks.

Many poultrymen rely on artificial incubator for hatching their chicks to renew or increase the flock. Commercially, incubators are a necessity. The success of the hatch depends on the hatchability of the eggs and the management of the machine. The temperature of the room in which the machine is operated should not vary to any great extent, and the room should be clean and well ventilated. It is a mistake to set dirty or washed eggs as disease germs that may lodge on the dirty eggs might infect a number of eggs, owing to the shell being porous and so cause serious loss. It is also possible for disease organisms to lurk in dirty machines and be a source of trouble. It is therefore a good plan to wash the interior of the machine before putting eggs into it. A ten per cent. solution of creolin or zenoleum proves satisfactory for this work. The operator of the machine should also be careful to have clean hands when handling the eggs and to always turn the eggs before touching the lamp. The lamp should be lit a day or two before placing the eggs in the machine in order to regulate the heat and have it at the desired temperature. Experimenting with the lamp after the eggs are placed in the machine is sometimes an expensive business. A good deal depends on the thermometer. If it is not reliable, the temperature in the incubator may drop too low or become too high and so kill the germ in the egg. The temperature recommended is about 103 degrees, with the thermometer lying on the egg. The thermometer should be tested alongside of a registered thermometer every season in order to see that it is working correctly. Moisture is usually used in the machine, especially the first part of the hatch. The eggs should be tested from the seventh to the ninth day and all infertile eggs discarded. After this the ventilators of the machine should be gradually opened until wide open at hatching time. Once the chicks commence hatching, they should not be disturbed until the hatch is over. They are taken out of the machine and placed in the brooder and given water and a little chick grit, but feed is usually withheld for thirty-six to forty hours after hatching.

When only a few chicks are raised each year, the eggs are set under a hen. In order to secure a good hatch, the hen should be placed where other hens will not disturb her. Eggs for setting should be clean and carefully handled the same as for the incubator. Feed and water should be within easy reach, of the sitting hen and a dust bath should be convenient. If there is any danger of vermin, the hen should be dusted with insect powder when set and also a few days before the hatch comes off. The young chicks may be raised in the brooder or allowed to remain with the hen, but the feed in either case would be similar.

Egg-Laying Competition.

At the end of the twentieth week of the fifth year of the International Egg-laying Competition operated on the grounds of the Delaware Agricultural Experiment Station, Newark, Del., the pen of five White Wyandottes entered by Valley Green Farm, Whitmarsh, Pa., were first to date with 438 to their credit, and a pen of the same breed entered by Tom Barron, of Catforth, England, came second, having laid 429 eggs. For the week beginning March 11, a pen of single-comb, Buff Orpingtons entered by A. Wilson, Oak Hill, W. Va., laid 32 eggs out of a possible 35, and pens of several other breeds laid 27 eggs in the seven days.

FARM BULLETIN.

More About that Monkey.

BY PETER MCARTHUR.

Last week I made a few remarks about the lobbying methods of Mackenzie & Mann. This week I propose to deal with a phase of their work which should teach an excellent lesson to the people of Canada—but I doubt if the people will ever learn it. You may remember that I mentioned the fact that they have a fully equipped prospecting expedition exploring the barren rocks of the north for mines and the water-power needed to develop them. As I reflected on this enterprise I could not help feeling that they were doing a work that should really be done by the government, especially at this time when the question of public revenue is becoming so urgent. The minerals in those regions are part of the public domain and the question suggests itself: Why should not the work of exploration be done by the government and the mines developed for the benefit of the people? There may be new Cobalts in those regions and if there are would it not be more sensible to have them developed for the good of the country than to allow them to be exploited by individuals? No one will question but it would be better to have the undeveloped wealth of the country used to meet the war bills, but when you try to think out how this could be done you find that the difficulties are practically insurmountable—even though the difficulties are also absurd. The simple truth is that no government that hoped to remain in power would dare to conduct a prospecting expedition as it should be conducted and then allow a critical opposition hunting for political capital to examine the accounts. You may have smiled about the story of having a monkey to amuse the Eskimos, but properly considered that apparently absurd story only goes to show how well these men know how to do their work. And because there is no need of making their methods public they are able to do things right.

Most of us got our ideas of prospecting from stories about the lucky strikes made in California and Australia by lonely prospectors who were perhaps "grub-staked" by some man who was willing to take a chance. Men who worked alone and carried their provisions with them on a pack mule or burro were able to do prospecting because climatic conditions were endurable and they were hunting for placer mines that could be worked by hand. The prospector of the present must be a scientist who is able to read the story of the rocks and his work must be done in places where one man alone would perish. Prospecting is now a highly specialized business conducted by enterprising firms like the Guggenheims of New York, the copper magnates, and no expense is spared to make the work successful. The Guggenheims employ a corps of mining engineers to whom they pay salaries ranging from ten to twenty-five thousand dollars a year to lead expeditions into every wilderness to search for mines. At one time they had as their chief of staff the greatest mining expert in the world, John Hays Hammond, who was said to be in receipt of a salary of five hundred thousand dollars a year. The result is that the Guggenheims derive a revenue from their mining properties that would pay the burdens of a government. But no government of a democratic people would dare to use their methods. The plain people could not understand how any man could earn such fabulous salaries as they pay. The result is that they get the best men for the work—and also get all the best mines.

I am informed that such an expedition as Mackenzie and Mann have sent out to prospect for mines entails a cost of from one hundred thousand to one hundred and fifty thousand dollars. It would be impossible for a lone prospector to equip himself for the work. Only an enterprising firm or a government could do it and the government does not dare. Such an expedition must be provided for in ways that the ordinary man cannot understand. Though it seems absurd to think of having a monkey with them, the