

BRITISH COLUMBIA
FRUIT AND FARM
MAGAZINE

Vol. VI, No. 6

MARCH, 1915



DINNER TIME.

Courtesy Eastman Kodak Co.



Catalogues

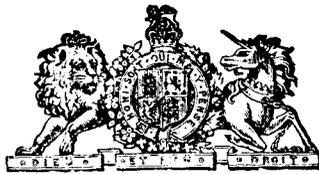
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Application for a lease must be made by the applicant in person to the Agent or Sub-Agent of the district in which the rights applied for are situated.

In surveyed territory the land must be described by sections, or legal subdivisions of sections, and in unsurveyed territory the tract applied for shall be staked out by the applicant himself.

Each application must be accompanied by a fee of \$5, which will be refunded if the rights applied for are not available, but not otherwise. A royalty shall be paid on the merchantable output of the mine at the rate of five cents per ton.

The person operating the mine shall furnish the Agent with sworn returns accounting for the full quantity of merchantable coal mined and pay the royalty thereon. If the coal mining rights are not being operated, such returns should be furnished at least once a year.

The lease will include the coal mining rights only, but the lessee may be permitted to purchase whatever available surface rights may be considered necessary for the working of the mine at the rate of \$10 an acre.

For full information, application should be made to the Secretary of the Department of the Interior, Ottawa, or to any Agent or Sub-Agent of Dominion Lands.

W. W. CORY,
Deputy Minister of the Interior.

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BRITISH COLUMBIA Fruit and Farm Magazine

A Monthly Journal Devoted to the Interests of the Man on the Land.

Vol. VI.—No. 6.

Vancouver, British Columbia

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in Advance

Credit Commissioners to Lend Money to Farmers

A general sentiment seemed to prevail for some time prior to the meeting of the Legislature that no action would be taken on the report of the Agricultural Commission. It is therefore doubly pleasing that in the last week of the session, and just prior to our closing the forms for this issue, a bill should have been brought down, practically embodying the report of the Commissioners.

and no loans will be made except upon the basis of the value of property as ascertained and fixed by such department. Its regulations must be confirmed by Order-in-Council. The working capital of the commission will be such monies as may be raised from time to time by the issue of securities appropriated for in the act and such other monies as may be appropriated for the commission's purposes by the Legislative Assembly. The commis-

fund will be created to meet the payment due on the securities.

The commission can accept as security for loans, first mortgages upon agricultural lands in the Province free from all encumbrances, liens and interests. Loans may be made for the following purposes.

The acquiring of land for agricultural purposes.

The clearing of land, draining, dyking, water storage and irrigation works.



Cherry Blossoms—a sample of what can be done at Chilliwack, in the Fraser Valley

This bill provides for the constitution of an agricultural credit commission which shall consist of a superintendent who shall be ex-officio a director, and four other directors. This shall be a body corporate. Its object is to make loans to farmers and to this end its powers are defined. It can make advances in instalments corresponding to the work of improvement on the land. For this purpose it will establish a department of appraisal and valuation

and the commission will be empowered to issue securities for periods not exceeding 30 years at such a rate of interest as the Minister of Finance may determine. All securities will be sold throughout the Department of Finance. The due payment of these both as to principal and interest will be unconditionally guaranteed by the Crown. The Lieutenant-Governor-in-Council is authorized to make arrangements for supplying the money necessary out of the general revenue of the Province. A sinking

The erection of farm buildings.

The purchase of live and dead stock, machinery and fertilizers.

Discharging liabilities incurred for the improvement and development of land used for agricultural purposes and any purposes calculated to increase productiveness.

Any purpose which in the opinion of the commission will increase the productiveness of the land in respect of which the loan is proposed.

Carrying out the objects of any association.

Taking over in whole or in part any existing loan by the Crown in right of the Province to any association or any debentures issued by any association.

Strict safeguards guaranteeing the security before a loan is issued are provided for in the act. There are clauses covering long-dated loans, short-dated loans and single-season loans and also what are termed additional loans. Provision is also made for the repayments which shall never be

made in a sum of less than \$25. In the event of default in payments the commission is empowered to take over the land upon which a loan has been made, without recourse to the courts, after reasonable time has been given.

The bill covers 45 pages and is exhaustive in its safeguards regarding loans, but is designed for the purpose of increasing production in such a way as to give farmers more ample opportunity than they have ever had in this Province in the past. There are regulations regarding the incorporation of

associations of an agricultural character and provision is made whereby the council of any municipality can grant money in aid of any duly organized farmers' institute.

No loan shall be granted for a sum of less than \$250 or for more than \$10,000 to any one borrower.

Although the week in which the bill was introduced was liable to be the last of the session there is little doubt that effect will be given the bill, and it will be transformed into a statute before the House rises.

Convention of Fruit Growers

The annual convention of the British Columbia Fruit Growers was held on January 26 and 27, in the Agricultural Convention Hall, Parliament Buildings, Victoria. A good attendance was recorded, and altogether the convention was a marked success. During the first day some matters of vital importance to the fruit growers came up for discussion, and very interesting addresses were given at the morning session by Sir Richard McBride, Mr. F. W. Peters and the President of the Association, Mr. F. C. Ricardo, who read his annual address.

Mr. Ricardo, in opening the convention with the presidential address, expressed himself as very much encouraged by the large attendance of members. He laid special emphasis on the need for unusual effort among the fruit growers of British Columbia, and advised that great care should be taken to reduce the cost of production as far as possible.

Mr. R. M. Winslow, the secretary, read the report of the executive, the secretary, which also covered that of the advertising committee, transportation committee, legislative committee, the labor committee and the treasurer.

The principal work done by the executive during the past year had been towards securing publicity for British Columbia fruit. It was urged by the executive that the advertising be continued, and Government support had been granted in this direction. The membership for the year reached a total of 876. The general returns were the lowest recorded in past years. In various branches of the industry ad-

vances had been made, but the general conditions were against high prices. The transportation service had been generally satisfactory and the freight rates to the Interior of the Province had been reduced.

Mr. F. W. Peters, in his address regarding transportation service, stated that the railways were all interested in the work of the Association, and that they were doing their best to give satisfactory service to the growers throughout the Province. In May the Kettle Valley Railway will open, although the exporters will not get much benefit from it until later in the season. Mr. Peters described the various routes of the railways and gave a brief outline of the proposed schedule from the Coast into the Interior.

Sir Richard McBride was warmly welcomed by the Association. In his address he made several remarks tending to encourage the fruit growing industry, at the same time assuring the members that the Government was devoting much attention to the various questions, relating to this industry in British Columbia.

"The time has come," he said, "when there should be greater unanimity of co-operation throughout the Province. Economy should be sought, and, with co-operation, we are not without hope that its benefits will be obtained.

"We have had to bear some unfair competition from the country to the south, and while I would be the last to say anything that might affect the equilibrium existing between the two nations, we have ourselves to consider first always, and there is only one con-

clusion to be derived from the wholesale shipments of American goods into our legitimate markets, that we must try to obtain the support of the Dominion Government. We should spare no effort in that direction and endeavor to impress upon the authorities at Ottawa the necessity of increasing the duty on fruit from the United States.

"I honestly believe that the whole situation may be adjusted without any increase in cost of the consumer. In an effort of this kind we may expect the co-operation of other provinces of the Dominion."

On the second day of the convention a number of important resolutions were passed and addresses were heard from the Hon. Price Ellison, Minister of Agriculture, and Mr. R. Robertson, which added very substantially to the general interest of the sessions. At about 10.30 o'clock the convention was called to order and the first business transacted was the adoption of two resolutions. The first resolution was chiefly urged by the delegation from Saanich and Gordon Head.

The resolutions passed were the following:

1. "That the full pint hallock and crate be adopted as a legal and standard package for berries, thus equalizing competition with imported fruit, particularly berries.

2. "That the Dominion Government be requested to enact legislation compelling dealers receiving fruit on consignment to make returns to shippers, showing condition of fruit on arrival; to whom it is sold, buyers address and the price received therefor and that returns be made at least once a week."

An address was given by Mr. R. Robertson, manager of the Okanagan United Growers, on the subject of "Co-operation in the Okanagan," in which he dwelt on the real meaning of co-operation and the good that had been accomplished by it in the Okanagan District.

The address given by the Hon. Price Ellison was received enthusiastically

(Continued on page 549.)



Economic Methods of Tile Draining

"There are instances of two common classes of soils needing drainage: the all-wet or marshy, and the cultivated land with water close to the roots," says L. M. Austin, in *The Canadian Countryman*. In every community—in fact, on practically every farm, one or both may be found. "Drainage may be said to pay for itself in any case where needed, in from one to three years," says Professor W. E. Day, of the Ontario Agricultural College. The need is, after all, not so much to realize the need of it, but information as to how it is to be done.

There are three kinds of drain work. One is the old style method of running levels by eye and guess, followed by ditchers of the breed now almost extinct, who didn't know the use of the drainage level, and who got the drain running up hill occasionally at least, and more often ran it so deep into the ground before the outlet was reached that the lower levels couldn't be drained. And these were the richest parts of the land, at that!

The second kind of drain work is that done by modern methods—exact surveys, exact levelling of the ditches, whether dug by hand or ditching machine, and exact calculation of the sizes of tile to be required. Foremost in the promotion of this sort of work, which is now transforming thousands of acres yearly in Ontario, is Professor W. E. Day, with the efficient co-operation of the district representatives of the Ontario Department of Agriculture. Professor Day is as energetic as he is little, and he has not only pushed free surveys and the gospel of drainage into every county, along with other important economies in farm improvements, but he persuaded the Dominion Government to remove the tariff, first on ditching machines, then on their repair parts.

The ditching machine, or traction ditcher, costs a good deal, but it pays, in these days of all things considered, in these days of scarce and not very efficient labor. Of course, the farmer rarely buys one—unless he calculates on doing job work for others with it.

The old ditcher has now lost much of his glory. He trails in behind the expert surveyor paid by the Ontario Department of Agriculture, and digs the ditch according to survey and plotted plan. He has to charge prices considerably higher than the machine can do the work for, but even at that, where the machine cannot be had, it pays handsomely to hire him—but for the digging only.

One farmer who employed the traction ditcher explained that he had to contract for 300 rods of drain to get

the lowest rate of forty-five cents per rod, at two feet depth. He then had to lay and cover the tile.

The third way of digging drains is the Dawson way—and it is new. Mr. George Dawson, a farmer living near Odessa, which is near Kingston, invented it. Mr. Dawson has been putting in tile drains for twenty years. The method consists of a simple plow with a vertical share on each side, a vertical coulter in the centre, and a cutting shoe at the bottom. These are rigidly attached to a solid beam, and a team with extra long doubletree draws it.

The material cut up at the ditch bottom, each time the Dawson Ditcher is drawn through it, is shovelled out easily by hand, and there seems to be no question that every kind of ground is successfully and cheaply ditched by this method.

Mark Hawley, a farmer near Napanee, put in 300 rods—5,000 tile—a year ago last fall with this machine. "It will do the work in the very hardest and driest clay soil, depth of two feet, at a cost of only twenty-five cents a rod," says Mr. Hawley, "and it will dig to five feet deep if needed."

A. V. Dollar, R.M.D. 1, Napanee, is another who has benefitted by the Dawson method. He tells his experiences thus: "It loosens the ground up, be it wet or dry, making it easy to shovel out. It works fine through the knolls, and is a great saving on the old way of spading.

"I laid 5,600 tile—336 rods—in the fall of 1913, with this plow and men, at a cost of about \$1.00 a hundred tile, or 17 cents a rod, including covering and all the work on the job."

Another farmer, W. A. Asselstine, says: "Mr. Dawson put in between eight and nine thousand tile for me over a year ago, and they are working satisfactorily. This machine redeemed land for me that never was any use before—nothing but a bog.

"I had had two other men, who called themselves practical ditchers, undertake the job, but on account of the sticky blue clay they left. 'Couldn't be done with the spade,' they said. The district representative brought the man who runs the big ditching machine,

and he said the ditching couldn't be done. But it is done, and I got a good crop off it last harvest."

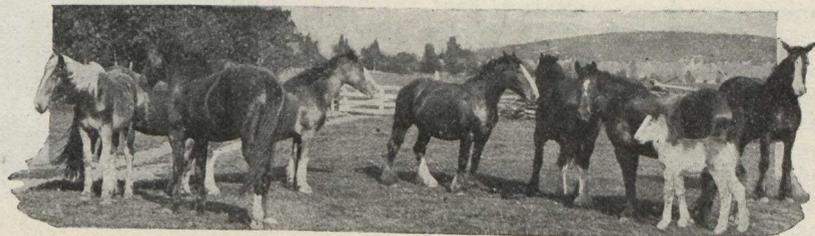
"There are thousands of acres of waste land in this county," said Mr. Asselstine, "that need under drainage. This machine ought to be set to work all over the province."

The best way to make sure of good drainage is to send a card or phone the district representative, who will see that the survey is done. If you wish, however, you may make a fairly good job of it by getting Professor Day's Bulletin, number 175, by writing the Department of Agriculture at Toronto, and then following instructions there given.

There are two classes of drains, according to Professor Day, "individual drains running through well-defined courses," and those for the "level area requiring systematic drainage, a drain every four rods or less. In all cases, however, the first thing to bear in mind is the necessity of draining all the area to an outlet, and at a depth of not less than two feet below the surface anywhere.

A home-made drainage level is described in the bulletin referred to, and full detailed directions for surveying small or large systems of drainage. The best policy in draining is to get the bulletin, and then have the Department of Agriculture survey the whole farm and map it for complete drainage. The ditching can then be done a field at a time as may be convenient. All the drainage work on the farm, whenever done, will then dove-tail together and give perfect results when proper ditching is done.

One very important point in ditching, even where the amount of drainage intended is very small, is to put the drain where it will do the most efficient work, having in mind seepage from higher ground, springs that may exist, and the nature of the soil. The ideal method is to run the drains from fifty to sixty-six feet apart in clay, and not more than 100 feet apart in loam, seeing to it that the lowest spots are cut with tile large enough to carry off the seepage from below the levels of higher drains, and that springs and "veins" are cut, not where they show



on the surface, but at a depth of at least two feet—preferably more on slopes.

Depth of drain depends not merely on the danger of frost, but chiefly on the need for keeping the "water table" far enough below the surface to give air circulation in the growing season at three feet, at least. Roots of ordinary crops to yield well, must penetrate at least three feet deep. If they cannot go so far, their growth above ground and the nourishment they store up, will be so much less. They will not go below the level at which subsoil water stands. That level stands where the drainage leaves it.

Water moves slowly through the soil toward a drain—more reluctantly through clay than through loam or sand. It has been proven that in clay the water-level, or water-table, has a grade toward the drain of one foot in twenty-five, and in loam of one in thirty-three. To lower the soil water to three feet depth at the highest point

—midway between two drains fifty feet apart, it would therefore be necessary to put the drains at a level four feet lower. This rule repays in extra crop far more than the extra cost, as can be seen from the illustration of plants at different drainage levels.

In addition to the traction ditcher and the Dawson drainage plow, there is at least one "ditching" plow" on the market, made by an Ontario firm, which is said to reduce the old spade ditching cost by forty-two per cent., and which it is claimed will work in summer and fall, when the ground is hardest.

The amount of "fall" in the ditch must be determined by the required depth at the upper and outlet ends of the drain. It should be not less than one inch in five rods for all but the largest sized drain. It may be as great as desired.

Notwithstanding Mr. Dawson's confidence in his method of levelling the

bottom by use of a straight-edge and level, drawn after him as the bottom is cleaned, it must be said that only a man of his skill and experience will be safe in following that method. The better way is that recommended by Professor Day and followed by all engineers. This requires an overhead line, six feet six inches above the ditch bottom so as to clear the shovel, and set up with the identical fall required in the drain. By truing this line throughout the length of the ditch, there will be no costly errors to remedy by filling or spade work as the levelling proceeds.

This line—any stout cord will do—is supported on cross-heads nailed to stakes on opposite sides of the ditch, and may be 100 feet apart. A stick 6 1-2 feet long is then used to get the bottom exactly the right distance down at all parts. A straight-edge in the bottom will be found useful in addition, but scarcely sufficient in itself.

Increased Duty on Apples

By A. LUCAS, M.P.P.

RESOLVED—That a humble address be presented to His Honor the Lieutenant Governor, requesting His Honor to urge upon the Government of the Dominion of Canada, that the Tariff Schedule respecting Fruits, may be so amended during the next Session of Federal Parliament as to afford the increased protection necessary in the interests of the Apple Industry of the whole of Canada.

In moving the above resolution in the Assembly I stated that the case for the fruit industry was concisely and accurately outlined in the resolution. In this resolution it was aimed to place on record the views of the members in respect to one of the most important questions now confronting the country. In so doing, there was involved no radical innovation or change in policy. Since 1878, the fiscal policy of Canada, under both parties, has been directed toward protection of Canadian industries, and the preservation of their products for Canadian markets. Delegations have frequently gone to Ottawa on such questions, and Provincial legislatures have frequently passed resolutions in purport similar to this one.

The apple industry is now an important one in all parts of Southern British Columbia, producing annually to the value of about one million dollars. The industry is fully justified by the demand for apples in Western Canada; and both Federal and Provincial Governments, in the expectation that, under fair competition, B. C. apples would supply these requirements, had encouraged its development. But the great increase in production in the Northwestern States has materially modified conditions; these districts now using Western Canada (at a loss to themselves, it is true) as a dumping

ground for their large surplus not saleable in the United States. The fruit jobbing trade use this surplus, at low prices, to hammer down the price of all Canadian apples in the Prairies. It is true that this is felt most disastrously by B. C., but the apple industry of Eastern Canada is also suffering as a result.

As there is an increasing over-production in the whole United States, as well as in the Northwestern States, the conditions are not likely to be more favorable in time to save our apple industry. And yet it is distinctly to the

interest of the fruit consumers of Western Canada to foster B. C. fruit growing, for, as experience has shown, the highly organized fruit jobbers maintain maximum prices on imported fruits whenever Canadian fruit is not available, and control the imports to that end. When our fruit is offered, however, they use the American surplus to compel disastrously low quotations, though the consumer does not by any means get the benefit he naturally expects under such conditions.

As to whether the consumers are willing to see the fruit grower get a



Hope River, B.C.

(Courtesy Chilliwack Board of Trade)

reasonable return for his labor, it is surely the case that they do so desire. They have not been made aware of the critical conditions existing, nor of the inevitable results of continued loss to the fruit grower. At the same time, they have little reason to feel that prices for apples would be increased very materially. Our production is increasing so rapidly that any great increase in price is not possible, and if attempted would restrict consumption of apples and so defeat itself. Even if

this were not the case, the interests of the consumer can always be safeguarded by further readjustment of the tariff. As showing the excellence of B. C. apples when compared with the product of the best districts in the Northwestern States it may be mentioned that at the Spokane National Apple Show, November 16th, 1914, British Columbia secured 25 prizes with 34 entries against the competition of the best fruit produced on the American continent.

Out of 102 boxes entered, prizes were secured on 79, which included 11 first, 7 seconds and 7 thirds. It also included first and second on Wagners, first and second on Delicious, and first and second on Northern Spy. It may be noted in this connection that the Spokane District, which was defeated in the Wagner competition, is conceded to be the home of the Wagner, with a record for growing this particular variety to perfection.

Increase in Agricultural Production

Extracts from the Budget Speech.

The Budget speech this session contained some interesting data relative to the agricultural production of the Province. The following is a reproduction of the remarks of Hon. Price Ellison, Minister of Finance and Agriculture, in this connection:

"As the question of agricultural production has been very much discussed of late, I have taken particular pains to have the department, through its statistical branch, go very carefully into the details of production and imports, and I hold in my hand a very complete statement of everything under the several heads covering the past three years. In fact, we have been able, with a fair measure of success, at least so far as the available information will permit, to extend the comparison as far back as 1894. Through increased facilities the department has been able to get additional information as to the production of several recent years, which was not formerly included and which somewhat increases the totals. These relate principally to the production on Indian reserves located in the Peace River District. In this connection I wish to say there was some criticism of the figures of production of the Agricultural Department in reply to a statement of the Premier in a review of the year's progress in the newspapers. It was pointed out that on page 359 of the report of the Royal Commission of Agriculture the production for 1913 is given as \$38,124,819, which, instead of showing an increase of \$3,500,000 in 1914, as stated by the Premier, was actually about \$10,000,000 less as compared with the figures for 1914 given by Sir Richard. In order that there may be no mistake about it, the \$38,000,000 odd in ques-

tion is not the value of the production of the year 1913, nor does it purport to be. It is the value of agricultural products as a whole, including live stock, ascertained at the time the valuation was made, and refers to that year. The actual production for that year, including the increase in the value of live stock, was about \$3,600,000. As a matter of fact, the Premier understated rather than overstated the increase of production. I wish to dwell upon this matter because through some misleading criticisms an impression is being created that the Province is not producing as it should, and is really on the decline. Whatever may be the splendid possibilities of the future, in the past we have done well and we are now doing well. An increase of \$3,500,000 in one year, in a Province like British Columbia, is a good showing. I think it is a remarkable showing. In fifteen important products there has been an average percentage of increase of over seven hundred per cent. since 1894, and in only three have there been decreases, and that of an average of 28 per cent. The most important of these is beef marketed, and that is due to the breaking up of the large cattle ranges of the Interior and the shifting of a large portion of the source of supply to the Middle West. There are other items like fruit and vegetables, nursery stock and milk, in which there is no basis of comparison, but which have assumed a very large amount of production.

"We must, of course, go on doing well, very much better; but it is unfair and untrue to say agricultural production has not been very satisfactory. It is true that the volume of imports is very large, and has been increasing; but I must point out, as I did on former occasions, that in twelve years subsequent to 1901 the population increased over three times. Among these imports, too, there are many items which in certain seasons will always be imported and will always be considerable in bulk. Now, in regard to imports as shown by customs returns, I want to

say that they decreased in value in 1914 over 1913, 27.21 per cent. This is gratifying as being largely in the right direction. An effort has been made to discredit the value of the agricultural statistics, and it may be contended that they do not represent actual conditions. It was difficult a few years ago to arrive at absolutely accurate returns, but with increased facilities I can assure this House that they are as reliable as any such statistics can be, and the methods employed are those employed by other agriculture bureaus of statistics. The greatest care has been made to secure accuracy.

"Home production, as will be seen from the table accompanying the statement usually printed in full, has increased over 1913, in round figures, \$3,600,000. In live stock there was an increase of about \$2,000,000. The greatest increase occurred under the head of dairy cattle, and there is a steady demand at high prices for milch cows. In dairy produce the increase was \$419,600 over 1913, or 16 per cent. Beef and pork marketed shows 62 per cent. since 1913. Poultry increased about 20 per cent. The war has created an extra demand for horses suitable for cavalry remounts.

"Although the total fruit crop was far in excess of that of 1913, nearly 40 per cent. more, the lower prices showed a decrease value of about 9½ per cent. Vegetables show an increase of over 11 per cent. The production of honey is increasing very rapidly and this is a most gratifying feature. Hay, fodder, corn and grains all show large increase. These have almost a direct relation to the development of live stock and dairying production.

"It is estimated that the output of jam and canning factories has increased about two hundred per cent. We see, therefore, with two or three exceptions, there has been substantial increase all along the line, and, despite war conditions, prices have not increased. On the other hand, they have declined in some instances."

Experiment in Potato Culture

By ALEX MAGEE

One of the Available Ways of Finding Out What We Are Doing as Farmers and Producers

We hear and read frequently (not too often) of the duty and wisdom of every dairyman and every man who keeps a dairy cow or cows of testing the productiveness and profitableness of each and every cow as to milk, butter and stock-raising qualities. I submit it would be equally necessary, interesting and profitable for the farmer to have thorough practical knowledge (expert if possible) regarding the proper time of planting, the necessary and best cultivation of the soil, the quality, variety and vitality of all the seeds he plants, year by year; and to ascertain, for his own satisfaction at least, by test and weight, cost and selling price of one or more, or all of them, the measure of profit or loss.

This testing process of seeds, etc., is possibly as necessary to the cultivation, quality and quantity, and the profitable raising of potatoes as to any other fruit, grain or vegetable—as the following may illustrate.

During the growing season of 1914 I took some care, especially with regard to the time of planting, also the quantity and varieties planted, and noted the results which at the least were to myself of some interest, gave me more pleasure, and in a measure were instructive and profitable. Out of many varieties the "Gold Coin" and the "Late Burbank"—three pounds (3 lbs.) of each variety—were selected.

The land was a porous red soil, free from rock or gravel, about 20-24 inches to hard pan: not a naturally rich soil: a portion of a quarter acre plot. A cutting of somewhat indifferent meadow had been taken off the land each year for the past three years. The land was not plowed or spaded in any shape or form previous to my seeding it to potatoes. A moderate dressing of stable manure was spread on the land. The particular portion now to be planted and tested was marked off—six feet (6 ft.) by twenty-two feet (22 ft.) or 132 square feet for each of the above named varieties. The several 3 lbs. of potatoes were cut into 48 pieces, planted by me on a moiety of each plot, viz., 4 ft. 6 in. by 22 feet. I then took my spade and covered the potatoes 2-3 inches deep, digging a portion of the 6 ft. plot 9 inches wide and as deep as needful on each side to provide this seed covering. I had then a seed bed of 4 ft. 6 in.

by 22 feet. When the potato vines appeared above ground I put on an additional covering of two inches from the bottom of the trench previously dug. This was all the cultivation the potatoes received, except the use of the hoe to kill some chickweed and a few ferns (the grass did not trouble at all). You will note the seed were planted right on the manure which had been spread—a practice disapproved by some expert and scientific potato growers.

(Allow me to state that the seed were not planted the day they were cut; but were cut some time previously, and dried, and had some sprouts appearing.)

The potatoes were planted on April 6th, 1914.

The "Gold Coin" was raised on September 10th, 1914.

Some might have questioned the full maturity of the crop at time of raising; but the tubers kept perfectly, and at date show healthy sprouts.

The yield of the 31 lbs. of "Gold Coin" potatoes was 108½ lbs. or fully 36 fold.

Yield per acre: 31 lbs. planted 132 square feet (43,560 sq. ft. in an acre). Therefore 132 ft. : 43560 sq. ft. :: 108 1-2 lbs. = 35,805 lbs. = 17 tons, 1805 lbs. to the acre.

Quantity of seed potatoes to plant an acre: 132 sq. ft. require 3 lbs. (43,560 sq. ft. in an acre), 132 sq. ft. : 43,560 sq. ft. :: 3 lbs. = 990 lbs. to the acre.

In years past without any special test or calculation, I estimated and provided 1000 lbs. of potatoes to the acre, a close guess.

The above variety and quantity of "Gold Coin" potatoes was freely and generously forwarded to me on request by the Manager of the Experimental Farm at Agassiz, B. C.

My second variety, the "Late Burbank" was grown on the Delta in 1913. The plot of ground on which this variety was planted was exactly similar to the above as to quantity and state of culture, and treatment (weight of seed 3 lbs.) The seed was planted on the same day, April 6th, 1914. The plot lay side by side with the above.

The "Late Burbank" is a later variety than the "Gold Coin," consequently the crop was not raised till some three weeks later, or the early days of October. The yield of the "Late Burbank" was 151 lbs., or 50 1-3 fold.

Yield per acre: 132 sq. ft. : 43,560 sq. ft., :: 151 lbs. Whole yield per acre 49,830 lbs. or 24 tons and 1830 lbs.

Some years ago a friend of mine stated that he had a certain yield per acre from a certain variety of potato—a yield somewhat less than the above. I doubted his report, despite the fact that his yield was on the "Delta" land, far superior in productiveness than the land on which I raised the above yield and estimated acre yield.

Now, my purpose in presenting to your readers these results and figures is not to commend my selection of varieties (I had some five or six other varieties that I would be prepared to place on trial with the above) or the preparation of the soil or of the ground (it got no preparation) or my method of culture. As to the latter, possibly nine out of ten farmers would call it too slow and toilsome, and impossible to follow in cultivating on a large scale. It is, I think, worthy of recommendation in some particulars. My object is to show that our B. C. soil is productive, and profitably productive; that it will yield a good return to careful, seasonable and intelligent cultivation, that producers should take time and pains as to extent of ground cropped, variety of seed used, time of planting, proper time to cultivate the growing crop, and the measure of cultivation necessary; the proper time to raise the potato crop: how to raise it so as not to injure the tuber, and how best to store—to keep in quantities; and to preserve the vital and productive qualities.

I need not hesitate to state that some farmers (and too many then) toil and strain to plant an excess acreage (of general crops) and are somewhat thoughtless as to the most perfect and thorough cultivation in preparing the seed bed, and the perfect season for planting, and precise moment for attending to the subsequent cultivation of the crop. Our rich and fertile Coast lands with our climatic conditions are in my opinion a guarantee that practical, seasonable, intelligent and attentive farming should yield to the husbandman 50 to 100 per cent. better returns than our average best hitherto.

During the past season I also experimented on somewhat similar lines to the above, on wheat; but this paper is much longer than I supposed it would be, and in consequence I will not enter upon a statement of my results as to the wheat.

DRY FARMING RESULTS.

Prof. W. J. Elliott, who supervised the dry-farming experimental work undertaken by the Provincial Department of Lands to determine the agricultural value of large areas in the Interior—a work which is fraught with tremendous consequences to the development of a vast area—has reported the result of his investigations. From the report submitted covering the first year's practical work, it is evident that very gratifying results were secured on the Lillooet Farm, but in the Nicola the grasshopper pest seriously interfered with the experiments made.

LAND SETTLEMENT.

A report submitted by the Minister of Lands at Victoria shows that in the matter of land settlement, greater progress was made during the past year than during any former period in the history of the Province; the issue of pre-emption records having reached the total of 4,304—a marked increase over the previous year, and a steady growth since 1905, for which year the figures were 955 records.

During the year 114,410 acres of reserved lands were opened to pre-emption entry. Of this acreage, approximately 90,000 acres represent lands which had been closed to pre-emption pending survey, and the remaining 23,710 acres represent logged lands which had been subdivided prior to opening for entry. These lands were divided into 979 pre-emptions, and at the openings 382 of the parcels were filed upon. The greatest demand was for the logged lands near the coast, and with the exception of the area opened in the vicinity of Kennedy Lake on Vancouver Island, all the logged off lands on the coast were applied for on the first day on which they were opened to entry.

Land sales for the year throughout the Province totalled 45,036 acres, of which 5,430 acres represented the sale of surveyed lands, and 39,632 acres the sale of unsurveyed lands. These figures indicate the smallest sales of Crown lands since 1904, and the sales for the previous year aggregated 421,262 acres.

From this date, the Subscription Price of the B. C. FRUIT & FARM MAGAZINE will be \$1.00 instead of \$1.50 as formerly.

Patriotism and Production

Patriotism without production is an empty sound. If ever there was a time when by your deeds you are required to be known, it is now. Now, when the Empire is at war; now, when many of the regular channels of supply are closed; now, when men in millions have been summoned from the paths of industry to the inferno of destruction; now, when Britain is fighting for Belgium's right to live; now, when the world's liberties are at stake; now, when Germany seeks to prostrate Britain even as she has prostrated Belgium; now, when Germany threatens the forty million people of England, Scotland, Ireland and Wales with starvation; now, when the enemy is bombarding peaceful towns and villages, slaughtering innocent and harmless women and children; now, when fertile fields and fruitful gardens of other lands are lying in waste and swollen with death; now is the time when Canada is called upon to put forth her mightiest effort to help stem the tide of destruction, to aid the Empire and to profit herself.

In entering upon the campaign in which it is now engaged, the Department of Agriculture of the Dominion has entered upon a task that should do untold good. It is not that our farmers needed altogether to be prompted to benefit themselves, but that perhaps some of them do not entirely recognize the seriousness of the present and the more than probable critical conditions of the future. If the war were to end tomorrow, there would still be need for every effort in productiveness, for many years must elapse before the devastation that has been caused can be remedied or repaired. Unhappily, the probabilities are that the giant conflict will continue for many months yet, in which case the mind of man cannot fathom or foresee the damage that will have been done to every form of industry. To agriculture in particular, by the waste of life, by the wrecking of property and by the spreading of desolation. It is in repairing the damage others cause that the farmers are called upon to aid. It is their mother country that cries to them.

The Agricultural Department is not alone holding conferences at many points in the country, but it is engaged, as will be seen by the announcement elsewhere, in distributing large quantities of literature telling how the farmer can best serve the interests of the Empire, display his grateful sense of patriotism and bring profit to himself. In brief and explicit language, that all who run may read and understand, is pointed out the needs of the situation

and how those needs can be met. Above all, the advice is given to avoid waste. Everything can be utilized. Nothing need be thrown away as useless. The economy of production is in saving.

The wisest can learn something by reading, and in the Bulletins and Reports prepared and written by experts and men of practical science, farmers will find hints, suggestions and information of the greatest possible value at this season, and such as will advantage both their land and themselves for all time. They will also aid them in that duty to the Empire which is such passing and instant importance that to shirk it is to be criminal. Copies of the publications of the Department can be had upon addressing Publications Branch, Department of Agriculture, Ottawa. No postage is required on the application.

AFRICA WANTS B. C. APPLES.

The Okanagan United Growers have evidently found a new large and profitable market for Okanagan apples in the British South African colonies. As an experiment a carload of apples was shipped to that market last fall. Reports from the consignees as well as the Canadian trade commissioner, are very flattering.

Wenatchee apples have established a high reputation there, but the Okanagan consignment is described as rather superior in pack and quality to the Washington product, and the growers are urged to make large and regular shipments.

TOTAL AREA OF SURVEYED LANDS.

Since 1907 the total acreage surveyed by the Province is given at 4,895,910 acres, of which area 950,000 acres have been Crown granted to pre-emptors, or are held under pre-emption record; 250,000 acres are held in reserve for sale by public auction; 800,000 acres have been reserved for university purposes; 500,000 acres represent sales of various descriptions, and 2,395,910 acres remain available for pre-emption entry.

CONUNDRUM.

Why is the Kaiser like Holland?

Because he is low lying and dam(n)'d on all sides.

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Vol. VI MARCH, 1915 No. 6

AGRICULTURAL CREDIT.

The submission of a bill providing for a commission for the purpose of extending loans to farmers on the credit of the Province is epoch-making in the history of this country. It will probably be so regarded a decade or so hence, when its full significance is appreciated and its effect fully felt.

Back of all the agitation for the amelioration of the conditions under which farmers carry on their operations lies the basic difficulty of securing working capital adequately and cheaply. In a land where clearing is very expensive or irrigation necessary it becomes more than ordinary acute.

An independent commission would appear to be the only medium available which will protect the loaning of money under Government auspices from abuse, and this is provided for in the bill.

We shall deal more fully with the matter in our next issue.

INCREASING THE APPLE DUTY.

The debate on Mr. Lucas' resolution asking for an increase in the tariff on apples, in the Legislature last month, brought out the old arguments for and against protection. It helped to demonstrate, as all such debates do, that the man who is a confirmed free trader on principle is often keenly anxious for an exception to the rule when his own particular industry is affected.

Farmers generally have felt that protective tariffs are often unjust to them because the interests which can bring the strongest pressure to bear on governments are frequently those which find their largest markets among the tillers of the soil. While the latter may not object to a reasonable measure of protection to the manufacturer, he often feels that he in turn should

secure some easement of the conditions under which he carries on his trade.

This attitude was reflected in the remarks of Mr. Parker Williams, the leader of the Opposition, whose amendment was voted down. His amendment suggested that in the Address to the Governor-General in Council the attention of the Dominion Government should be drawn to three matters. One representation was a request that the farmers of this Province be released from oppressive transportation charges; another asked for a rigid enforcement of the dumping clauses of the tariff; while a third asked that such changes be made in the tariff as will give the producer of "fruit, grain and other foodstuffs the same advantageous position in the matter of free raw material and free machinery as is enjoyed by the interests producing commodities for sale."

We think it rather unfortunate that the House should have been divided on this question, and are of the opinion that Mr. Williams' amendment might with advantage have had consideration on its own merits.

Mr. Lucas, elsewhere in this issue, outlines his main argument in support of the motion. Its preamble recited the conditions of the apple trade in the Northwestern States, resulting in over-production and the glutting of the Canadian market. This falling concurrently with the great increase in the production of our own orchards, caused a great depression in prices. It was also pointed out that there is little prospect of an improvement of these conditions; that our best market is in the Northwest; that we import \$12,000,000 annually from these provinces, and that with the failure of returns from our fruit crop this trade would fall off; and that the tariff increase asked would make possible the continuance of this industry. It was also pertinently pointed out that ten years ago the Dominion Government imposed a protective duty of 2 cents a pound to save the grape industry of the Niagara peninsula from a similar injury.

We think the practical unanimity with which the resolution was adopted reflected fairly well the sentiment of the country at large.

CHARGES AGAINST MEMBER.

The dying days of the session of the B. C. Legislature developed a grave charge against the member of Finance and Agriculture. It transpired from questions asked by Mr. Forster of Columbia and commented on pointedly by that member and by Mr. Parker Williams.

The charge is that the member bought privately from the Colony Farm owned by the Government at Esson-dale, thirteen thoroughbred Holsteins for \$550, five of which had cost the Government \$1200, and which Mr. Forster valued at \$3025.

At the time of going to press the reply of the member had not been made, but the Premier had promised a complete statement from his colleague on the matter.

IRRIGATION PROBLEMS.

The problem which has arisen with regard to Okanagan Irrigation threatens to be a serious one. Some of the irrigation companies in that district, finding it impossible to meet their bond obligations, are confronted with the practical certainty of collapse. Apparently these companies were financed by bonds issued on the security of the land irrigated, and consequently were dependent for their revenue on the sale and occupation of the lands which they watered. At the time the bonds were issued they seemed a safe enough investment, because the district was booming—people flocked into the Okanagan Valley, the coast and prairie market was rapidly extending, and fruit farming as an occupation was represented in England in glowing colors. Most of the bonds were sold to certain large investors who were not speculating in land, but were willing to furnish the irrigation companies with money at a specified rate of interest. Three interests were thus established—the bond holders, the water companies and the producers. The latter settled on the land taking it for granted that the water supply would be permanent.

The weakness of the irrigation companies' position was that their whole security lay in the lands that they irrigated and the bondholders depended altogether on the sale of these lands. The possibility that they might not be sold did not seem to occur to anyone. The result now is only a partial success, and the bondholders are more than likely to simply throw up the whole concern for what they can get for it. This may be all very well for the bondholders and the irrigation companies who may be said to deserve to see through the result of their investment. But with the producer the situation is different. His purchase of land for fruit growing purposes was no idle speculation; he paid for his land and paid his water taxes for the water that he must have to make his living. If he were forced out of business it would be a very bad thing for the whole Province; but he is unable to solve the difficulty himself because he can

neither pay the interest on the bonds, nor can he buy out the irrigation companies. Appeal has been made to the Government. In these times appeals of such a kind are numerous; but the farmers in the Okanagan would seem to have a very strong case.

It might be possible for the Government to pay the interest on the bonds; but this would not be a fair settlement of the question, because, besides helping the farmers it would be also putting money into the pockets of the land companies who "stand to lose" in this case. It has been suggested, however, that possibly some scheme might be evolved whereby the Government should take over the irrigation companies and some of their assets and provide a new bond issue to redeem the old. It would, of course, be an extension of the Government's credit, but the security under such circumstances would be a better asset than at present. The Government would have the right over some of the lands and could throw them open for settlement on special terms. The settlers would be assured of the permanence of their water supply and the bondholders would have a better security. Any necessary extension or renewal of these irrigation systems might provide plenty of work for unemployed.

OUR WOMEN'S PAGE.

With this issue we are beginning a Women's Page, which we hope may prove of interest to our many women readers. In this department matters concerning women in general and the woman in the country in particular will be dealt with in a friendly, conversational way; and it is hoped that the correspondence that is invited will be mutually helpful and entertaining. There will also be a corner devoted to the children, with, for the present, a short story in each issue.

AFTER THE CHINESE EGG

On the initiative of Mr. W. H. Hayward, M.P.P., the Legislature is memorializing the Dominion Government to amend the "Inspection and Sale Act" to compel the legible marking of foreign eggs when exposed for sale.

According to Mr. Hayward, last year 6,000,000 eggs were imported from

China and 5,000,000 from the United States. The Chinese eggs in particular are in many cases produced under conditions which make them undesirable for use quite apart from the fact that they have been kept for a protracted period in cold storage.

In Washington State the law compels the dealers or restaurant keepers where these eggs are used to put a large sign in their windows to that effect—a most salutary corrective for the evil.

Several of the members who took part in the debate spoke of the great handicaps under which our poultry keepers now labor, owing to the sharp advance in wheat and other chicken feeds, and the decrease in poultry and egg prices. These facts furnished additional reasons for a sharper discrimination against the imported egg.

THE MARKETING PROBLEM.

A series of meetings—beginning as we go to press—have been organized for the purpose of bringing together the farmers of the Lower Fraser Valley and the Lower Mainland in order to have general discussions on the subject of marketing problems. Mr. R. M. Winslow, Provincial Horticulturist, whose duties have been enlarged to cover co-operative marketing—a movement which the Department of Agriculture has been encouraging—will supervise the carrying out of the schedule of these meetings. The schedule of meetings to be held at points in the Fraser Valley is as follows: Abbotsford, March 1, 8 p.m.; Mount Lehman, March 2, 2 p.m.; Matsqui, March 2, 8 p.m.; Agassiz, March 3, 8 p.m.; Murrayville, March 4, 2 p.m.; Hammond, March 8, 2 p.m.; Haney, March 8, 8 p.m.; Hatzic, March 9, 2 p.m.; Huntington, March 10, 2 p.m.; Chilliwack, March 10, 8 p.m.; Strawberry Hill, March 11, 2 p.m.; Fort Langley, March 11, 8 p.m.; Pitt Meadows, March 15, 2 p.m.; Whonnock, March 15, 7.30 p.m.; Ladner, March 16, 8 p.m.; Cloverdale, March 17, 3 p.m.; Aldergrove, March 19, 8 p.m.; St. Elmo, March 22, 2 p.m.

INSTITUTES' PATRIOTIC FUND.

Our readers will be pleased to note that, according to the report of the Secretary of Institutes, \$4,350 has been raised by the Institutes for the Patriotic Fund.

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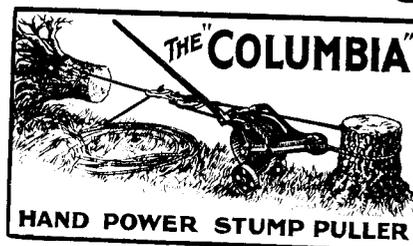
Our English Oxfords and Prints at \$1.50; Percales, Zephyrs, etc. at \$2.00 and \$2.50 are bound to appeal to the discriminating buyer.

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POULTRY SECTION

The Egg Circle

Co-operative egg marketing is a subject which is causing a good deal of thought and consideration among the poultry farmers of this Province. Since war broke out, the prices of the various kinds of feed required on a poultry ranch have gone up to such an extent that the cost of poultry production has increased thirty per cent. To add to this obstacle, the selling price of both eggs and poultry has decreased considerably.

It is urged, however, by those who have good reason to know the subject, that, in spite of these difficulties, it would be a foolish move on the part of the poultry rancher to sell off his stock. It may be advisable for him to sell all those birds which might be classed as culls, and thus increase the efficiency per capita of his flock; but by no means should he sell out entirely. With carefully planned economy in production, and well arranged co-operation in marketing, it is quite possible for those who are depending on poultry for their livelihood to make a comfortable living in this pursuit.

In December last poultrymen at Enderby, in the Northern Okanagan, formed an "Egg Circle," which has been very successful. This egg circle, in its attempt to improve the quality and thus the price secured for eggs, insists upon the observance of stringent rules by members. Circle members at Enderby must keep houses clean and sanitary, use only fresh nesting material, feed wholesome food, exclude broody hens from nests and shut up or otherwise dispose of all male birds except during the breeding and hatching season. They must, under penalty of expulsion, collect eggs twice daily and place them at once in a dry room where the temperature does not exceed 60 degrees Fahr. All eggs must be candled before being placed in the association's cartons.

The circle deducts five per cent. monthly from members' accounts to cover operating expenses. A manager attends to collections and shipments.

Co-operative egg marketing is of comparatively recent development, but everywhere tried it has demonstrated its practicability. In Prince Edward Island, Ontario and British Columbia

the movement is strongest. The most notable success in Canada has been achieved at Duncans on Vancouver Island, where the Cowichan Creamery Association pioneered and stimulated a tremendous increase in egg production.

The rules followed at Duncans are much the same as those adopted at Enderby. Eggs are largely marketed in cartons, and are stamped with the member's number, so that complaints can be investigated, and the blame placed on the proper party.

The Cowichan Creamery Association sold in 1913 eggs valued at \$61,495.69, and dressed poultry valued at \$10,619.47. Poultrymen at Chilliwack and Strawberry Hill have inaugurated co-operative egg marketing.

In the Province there are a host of poultry associations, many of which purchase feed at a big saving to members. The educational feature has been emphasized. Shows and lectures lead to the dissemination of progressive ideas and the general improvement of stock.

The Vernon Poultry Association makes a feature of discussions and debates. At the last meeting the respective merits of natural and artificial incubation were argued. Few will deny that poultrymen carry to their work greater interest and enthusiasm than perhaps any other class of agriculturists.

In the past five years egg production has doubled several times in British Columbia. The rate of increase will doubtless fall off now, as profits have. The point to be remembered is that the situation arises from certain well-defined causes of a largely transitory nature. Inherently our poultry industry is sound.

SEE THAT EGGS ARE CLEAN.

Take great care never to send dirty eggs to market; very little time or trouble is required to wipe off each egg as it is packed, and it is well worth while. Eggs may be perfectly fresh, but if they look dirty, the buyer is prejudiced against them and they will not sell.

DONT'S FOR THE BEGINNER IN THE CHICKEN BUSINESS.

Don't go into the business too heavily at first; for you may not succeed.

Don't be afraid of a little hard work; it is good for you and will keep the pocketbook full.

Don't keep changing from one idea to another; be slow to change, but do not be the last.

Don't, if you want to be a success, start in with mongrels.

Don't go in for too many breeds at first; select a standard breed and get started; then if you want to, try some other kinds.

Don't think it will do you any harm to read some books and magazines on chickens; you will learn a few things.

Don't buy a cheap incubator or brooder; buy them from a reliable maker.

Don't take your neighbor's advice for the running of your incubator or brooder; follow the directions of the maker carefully.

Don't treat your chickens like machines.

Don't put your chickens in cold, damp houses, for they are apt to take cold.

Don't feed your chickens musty food. Give them plenty of food and green stuff.

Don't get discouraged if things do not go right at first.

—From Pacific Poultry Craft.

CARE OF POULTRY.

A fowl requires grain food, vegetable food, meat food, and grit. These foods should be clean and wholesome, and, furthermore, a portion of them should be given in some form so as to induce the birds to take exercise, so that the fowls will be healthy. Fowls should be well supplied with water or milk to drink. Many make the serious mistake of not giving it regularly. The supply should be clean and constant. Dirty water, dirty or slimy drinking dishes, etc., will do more toward making a flock unhealthy and diseased than any thing else. Most attendants are inclined to forget to clean the drinking vessels, and to keep them well filled at all times.

THE VALUE OF EXERCISE.

It is necessary to maintain laying hens in a lean, hard condition. Fat hens are rarely profitable, for not only do these produce fewer eggs, but a larger proportion is infertile. It is a grave error to feed too liberally or upon too stimulating food. Exercise is a very important factor towards health and prolificacy, but it is not always an easy matter to persuade hens to take much exercise during the winter months. A great help towards this end is to have a scratching shed attached to the roosting compartment, littering the floor with straw or chaff. The afternoon grain should be thrown down in the litter, affording the birds a considerable amount of exercise. Unless hens have something with which to occupy their time during the winter months they are very liable to get into mischief, and contract such bad habits as feather-picking and egg-eating.—Farm and Home.

THE TRAP NEST HEN TEST.

One of the most pressing problems of the poultryman is how to increase the egg production of his flock. Professor Graham, of the Ontario Agricultural College, has hens that lay 200 eggs a year. The ordinary everyday hen of the eastern part of Canada lays only about sixty eggs a year. How can we best bring about an increase of our egg production?

The modern dairy farmer, by keeping tab on the quantity and quality of the milk of each cow, is able to double and sometimes quadruple the production of his herd. Why can't we poultrymen take a leaf out of his book and do something in the same direction?

The only practical way that we can keep track of the egg producing capability of each hen is by the use of the trap nest. The leg band and trap nest go together. Each hen has a numbered leg band by which it can be distinguished. Whenever a bird is found in the trap nest, the number on its leg band is written down on a chart kept specially for the purpose, with credit to her for the egg she has laid. In this way we can tell how many eggs a certain hen has laid in the year, and the months in which these eggs were laid. By using the trap nest also and marking each egg as it is laid, we can distinguish the eggs of the good-laying birds from those of the poor layers. By marketing the eggs from the good layers and using only those from good layers for hatching, a first-rate flock of excellent layers can be built up.

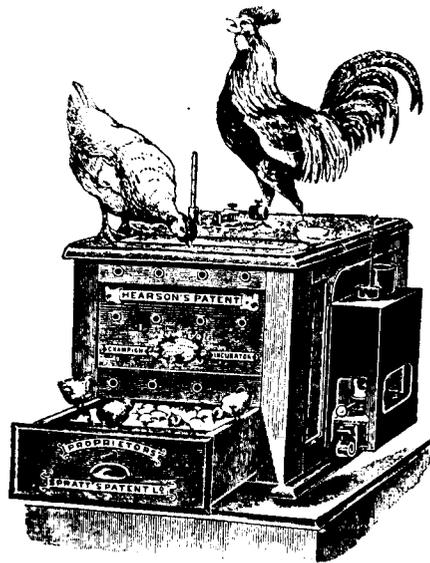
Many people object to using the trap nest because they claim that going round and releasing the hens, writing down their numbers and marking the eggs takes up considerable time and

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Hearson's "Champion" Incubator has now been before the world 30 years, and has achieved a reputation which eclipses all competitors. From its first appearance to the present time, no other incubator in the world has been awarded a prize at any show where this apparatus has been exhibited for competition. In all our experience we cannot recall a single instance in which our apparatus has been abandoned for another by a rival maker. Mr. Hearson is the original inventor of the Thermostatic Capsule, the Double-ended Flue, the Lifting Damper, and all those other accessory parts without which all attempts at incubation end in failure.

Every Hot-water Lamp Incubator now on the market is more or less a poor imitation of Hearson's "Champion," but we can state positively that no improvement has been made by any one of our imitators which can add to the usefulness of our apparatus one iota. We disapprove of corrugated drawer bottoms, egg turners, insulated or shielded Capsules, Bent Thermometers, self-filling Lamps and all other dangerous and complicated adjuncts which detract from the simplicity of our apparatus.

May we send you our intensely interesting book, "The Problem Solved"? It is published at One Shilling but a copy will be sent FREE to those who contemplate investing in an Incubator.

HEARSON'S

Patent Hydrothermic Foster-Mother

An Outdoor Rearer for Chickens. Substantially Built. Will Rear
Every Healthy Chick. For Use in Summer or Winter

This Foster-Mother is acknowledged to be the most complete and satisfactory yet offered to the public, and entirely overcomes the difficulties experienced in the use of all previous apparatus of the kind.

The Hydrothermic Foster-Mother consists of three chambers, viz., a sleeping compartment or dormitory, a glass-covered run and a wire-covered run. The dormitory is heated by means of a petroleum lamp, which burns in a wind-proof lantern situated at the rear; this imparts its heat to a copper tank filled with hot water which occupies the upper part of the dormitory.

Spratt's Chicken Meal is a cooked food, easily digested and assimilated, and invaluable as the first morning feed.

"CHIKKO" is a mixture of Grains, Seeds, Dried Flies, Ants' Eggs, and Egg Flake, and should be given later in the day and as the evening feed.

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involves extra expense in labor. When dairymen first began to weigh the milk from each cow and test it, many men objected on exactly the same score. But the men who are making the biggest money today in the dairy business are those who weigh and test their milk; and the men in the future who are going to make the most money out of poultry will be those who test out their hens by the trap nest.—Can. Countryman.

THE FEEDING OF COWS.

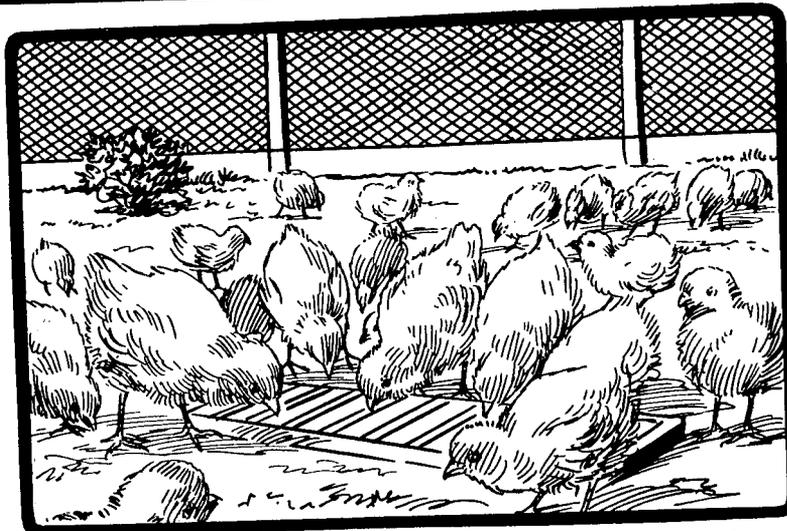
If we are to have adequate returns from our cows, we must give them at all times all the feed that they will consume profitably. It should not be a matter of getting them through the winter alive. In such a case they are so poor that they lose the very best months of early pasture before they are in a fit condition to give much milk. The feeder's aim should be to induce the cow to consume as much food, especially roughage, as possible. There is no greater incentive to good digestion and abundant production than having the animals lie down with the comfortable feeling of a perfectly satisfied appetite.

Palatableness is a feature which cannot be overlooked. The feed must be prepared and given to the cows in such a way that they eat it because they like it; then are the returns the best. Cows like succulent food. Grass is their natural and ideal diet. In substituting, we ought to come as near to it as we can. Corn silage is the best and cheapest and most easily handled succulent food. The cows like it. It keeps them in health and keeps up the milk flow. Where corn can be grown, no dairy farm should be without a silo.

Variety in the cow's rations is also desirable, and so roots, mangels, carrots, sugar beets, one and all, should be provided. A mixture of pulped roots and silage is better than either fed alone.

If, from some failure, no succulent food is available, cut good oat straw, moisten it with water, sprinkle over it a little salt and let stand awhile. This makes it palatable, and if some meal be added to it, cows will readily eat a considerable quantity. Shredded or cut cornstocks may be put into a silo and steamed or moistened, and thus made more acceptable and digestible; but this is a poor substitute for good silage.—From Farm Dairying, by Laura Rose.

A supply of Spray calendars for 1915, issued by the Provincial Department of Agriculture, is on hand at the office of this magazine; and we will gladly forward a copy to anyone applying for same.



Feed Your Chicks Properly Balanced Rations and the Other Problems of their Raising will be Easy

But don't complain of the cost of raising them if the ration you buy contains a number of ingredients absolutely useless, and, as is often the case, decidedly detrimental to their growth and well being. Some chick foods are put up to sell from their showy appearance; but however much the package or its contents may please your eye, the little chick has an entirely different viewpoint. Dust, waste and useless seeds have no place in its choice of food.

Royal Standard Mills Chick Food AND Royal Standard Mills Growing Food

Have stood every test with hundreds of successful poultry raisers in this and other countries. They contain only the choicest of useful cracked grains, with just the proper proportion of Beef Scraps. They are absolutely free from dust and screenings, which condition is obtained only by the special modern machinery which we maintain for its manufacture. They are mixed in the proportion to afford the little chick and the growing chick the proper balance of carbohydrates which supply the heat and energy; proteins to build up the tissues, and fats which act as fuel to keep up the temperature of their small but active bodies.

The Beef Scraps in our Chick Food and Growing Food is the famous "Darling Beef Scraps," universally recognized as the best and most economical.

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Please send me free sample of Royal Standard Mills Chick and Growing Foods, as advertised in the March issue of The Fruit & Farm Magazine.

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GOLDEN SEAL
(Hydrastis Canadiense).

By John L. Frayer.

Since the outbreak of the present great European war, the people of America are just beginning to realize how much we have depended on the different nations now engaged for a number of articles in every day use. One line which is perhaps most seriously affected is that of medicinal roots—herbs, leaves, barks, etc.; and as we have a varied climate in America, most of these can, and will be, successfully grown here—with handsome profits to those who will start in this line. One of the most profitable of these, which is in universal demand, is Golden Seal.

What is Golden Seal?

Golden Seal, also known as Hydrastic Canadiense, Yellow Puccoon, Orange Root, Indian Dye, Indian Tumeric, Yellow Eye or Jaundice Root, is a medical plant belonging to the family of Ranunculaceae, and is a small perennial with a thick, fleshy, yellow rhizome, from which numbers of long roots arise, and has an erect pubescent stem from six to twelve inches high. There are usually but two leaves, which are unequal—one sessile leaf at the top of the stem and the other attached to the stem a short distance below by a thick roundish foot-stalk, which causes the stem to appear biforcate near the summit.

The leaves are pubescent, roundish—cordate with from three to seven, but mostly five, lobes, which are pointed and unequally serrate.

A solitary flower stands upon a peduncle rising from the base of the upper leaf. The flower is whitish rose-colored, or purplish without a corolla, but with a colored calyx. The sepals closely resemble petals and are very caducous, falling very soon after the flower has expanded.

The fruit, or seed, is a globose, compound, red berry half an inch or more in diameter, composed of numerous fleshy carpels, each tipped with a short, curved beak and containing one, and sometimes two, seeds each.

Golden Seal, like Ginseng, is a native of some parts of the United States and of a few places in Canada. It is usually found in moist, rich woodlands, and at one time was abundant in some localities; but the rapid rise in price has caused it to be almost exterminated. Only of late years, to meet the universal demand, it has been put under cultivation, to which it readily responds where the conditions required are fulfilled.

It takes three years to grow the root to maturity from seed; and at the pre-

(Continued on Page 552)

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Gardening for the Home

By H. M. EDDIE, F.R.H.S.

The fall is really the best time to prepare for the coming year's crops in the way of digging the vegetable garden; but I am afraid that most people rather shun this part of their garden during late fall and winter, and their interest is not rekindled until a few balmy days, and the appearance of seed packets in the seedsman's window, force it on their memory that it is time to be up and doing.

face of the ground and dug in: Superphosphate of lime, 8 lbs.; muriate of potash, 3 lbs. This amount should be spread over every 40 square yards. After digging, a dressing of sulphate of ammonia, at the rate of 2 lbs. to every 40 yards, may be scattered on the surface and raked in.

There are several kinds of vegetables which may safely be sown now. A row of peas ought to be sown at once; and

Onions ought to be sown at once in rows 15 inches apart and one-half inch deep; the method of growing onions from "sets" is very commendable; they stand a better chance of escaping the maggot, and large, well ripened bulbs for winter use are easier to obtain in this way. The "sets" ought to be planted at once in rows six inches apart with fifteen inches between rows.

A packet of leek seed may be sown in an odd corner for transplanting.



A Home Garden at Chilliwack, B.C.

If the ground has not yet been dug, no time ought to be lost now; and as the season for applying manure is well advanced, only that which is well rotted should be used: manure with a large amount of fresh straw must on no account be used at this time, as it is harmful in more ways than one.

Where a plentiful supply of good manure is obtainable, the following mixture may be spread over the sur-

face of the ground and dug in: Superphosphate of lime, 8 lbs.; muriate of potash, 3 lbs. This amount should be spread over every 40 square yards. After digging, a dressing of sulphate of ammonia, at the rate of 2 lbs. to every 40 yards, may be scattered on the surface and raked in.

There are several kinds of vegetables which may safely be sown now. A row of peas ought to be sown at once; and

It is time a sowing of parsley was made; this plant is slow to germinate, and unless it is hurried on now the chances are that the supply from the old plants will give out before the new ones come on.

Broad beans are an excellent and nutritious vegetable, not grown as much as they ought to be. Some people object to them because of the black aphid which affects them; they are

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easily cured of this, however, in much the same way as the major got cured of a troublesome corn—by getting his leg shot off. The tops of the beans should be cut off when about 3½ feet high, as they do not develop pods over that height anyway, and the aphid cannot live on the older and harder wood.

Parsnips should be sown now; and the deepest and best soil in the garden ought to be selected for this crop. Sow in rows 1 inch deep and 18 inches apart. Seeds should be sown only when the surface soil is dry enough to be crumbly. It is a good plan to lightly fork the surface of the patch to be sown in the morning, and then sow the seed in the afternoon.

If the pruning and spraying of fruit trees has not yet been attended to, this ought not to be delayed a day longer. If the buds are showing the green of young leaves, the full winter strength of spraying mixture must not be used.

I am glad to see by advertisements in the B. C. FRUIT & FARM MAGAZINE that an enterprising firm has started the manufacture of Bordeaux Mixture. This is, in my opinion, the best fungicide as yet on the market. As it is a little troublesome to prepare in the home, I have not generally recommended it, but now that it can be obtained ready to mix with water I heartily recommend it. The manufacturers no doubt give the proportion of water to be added for winter strength and summer strength.

In the flower garden, planting of all kinds of hardy plants should be completed without delay. If the weather remains mild, roses may be pruned towards the end of the month. Remember that weak growing roses require harder pruning than strong growers; the former may have the young wood cut back to within an inch of the old wood, the latter from 6 to 12 inches, moderate growers 3 to 4 inches.

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NEWS FROM FARMERS' INSTITUTES

N.B.—All Subscriptions (or renewal subscriptions) to FRUIT AND FARM, which are forwarded through secretaries of Farmers' Institutes will be accepted at the reduced rate of 75c. per annum, instead of \$1.00.

CRANBROOK FARMERS' INSTITUTE.

At a meeting of the Cranbrook Farmers' Institute, on Saturday, February 6, President A. B. Smith occupied the chair. The secretary, Alb. H. Webb, reported that he was awaiting an answer from the department re "Killing of Cattle on the Railways," and so had not taken further action in that matter. It was decided to have a register prepared showing the stock, crops, etc., that each farmer had, so that it would be on hand for reference when inquiries were made for various farm products. Discussion of a plan for a farmers' evening school where an agricultural course could be taken, covering farm carpentry, care of farm machinery, live stock lectures, crop discussions, farm arithmetic and book-keeping, milk testing, etc., etc., was deferred to the next meeting.

The committee was instructed to get quotations for Burbank White and Carmen Nol seed potatoes. Over thirty entries were taken for the field crop competitions. The following resolutions were passed:

1. That it is desirable that separate homestead inspectors be appointed for East and West Kootenay and that copies of the resolution be sent to the Agricultural Department and to the Conservative Association.

2. That steps be taken to have a Crop Convention at Cranbrook on March 6th, as one is to be held at Creston on March 5th.

3. That a letter be sent to the Conservative Association urging them to get the member for Cranbrook to support legislation for the compulsory stamping of eggs with the place of production and the date.

Mr. R. T. Williams gave an interesting and able paper on the Co-operative Marketing of Eggs. He showed how such a system benefitted the producer by evening the prices a little the year round; how it increased the quantity and quality of the product in any district, and how several other things of great interest to producers could be worked in with the scheme. After a

short discussion it was laid over in order to allow Mr. Rive, the live stock commissioner, to speak on the milk and creamery question. A lively discussion followed. The result was that the matter of co-operation along the dairy line was put aside as the district is not quite strong enough to support a creamery. Mr. Rive pointed out that unless enough milk or cream could be guaranteed regularly a venture in that direction would be sure to fail. He urged those present to go further into the live stock branch, as that was the most certain and safe branch of the farmers' work. Cranbrook needed more clearing, more fodder crops and then with additional dairy cattle the creamery would be quite a safe investment.

COQUITLAM FARMERS' INSTITUTE.

The annual meeting of the Coquitlam Farmers' Institute was held on January 20th, in the Burquitlam Agricultural Hall. Thirty members were present, and Mr. George Alderson occupied the chair. The financial statement and the secretary's report were of a most satisfactory character. Mr. Cocherill, in detailing the successful administration for the year, reported that a capacious grain warehouse had been constructed by voluntary labor with the small outlay of \$55.35—a valuable asset to the institute. The first consignment of feed had been delivered on April 28th, and during the rest of the year about \$865 worth of mixed grain had been sold to members. Also 75 tons of mixed feed had been ordered and delivered—thus a saving of approximately \$427 had been effected, and the working expenses totalled only \$9.75. This was only one instance of the advantages gained by co-operation. Officers were elected as follows: President, Mr. Geo. Alderson; first vice-president, M. Morrison; second vice-president, T. W. Collins; third vice-president, E. N. Wiltshire; secretary-treasurer, F. Cocherill; directors, J. D. Robertson, H. Fitzpatrick, T. Wilson, W. Walker, C. Halvorsen, C. E. Walls, J. Goodfellow, E. Martin.

STRAWBERRY HILL FARMERS' INSTITUTE.

At the regular meeting of the Strawberry Hill Farmers' Institute held on Saturday, February 6th, Mr. Damaske, representing the Agricultural Lime Company of Popcum, brought before the members the advantages of lime as a fertilizer. A sample of the product was shown both as raw and finished material. The percentage of lime under various tests proved very high. Mr. Stuart Wade also addressed the meeting, President Walden in calling upon this gentleman referring to the honor the Institute felt in having one who had done so much for the farmers of the Valley attend their meeting. Mr. Wade touched in an interesting manner upon various matters of interest to farmers, dealing particularly with the use of agricultural lime, and the nature of plant growth. Mr. Wade was asked to give an address on alfalfa at some future date.

The application of the L. O. L. 2544, presented by Mr. V. Atchison for the use of the Institute hall for business meetings was granted.

Mr. T. Sayer was added to the directorate, owing to the increase of membership.

Orders for stumping powder were placed with the secretary. The feed question was laid over until next meeting, the first Saturday in March.

COOMBS FARMERS' INSTITUTE.

The regular meeting of the Coombs Farmers' Institute was held on Saturday, February 6th, with President Gregory in the chair. The minutes of the previous meeting were read and approved. A motion to buy seeds co-operatively was carried, and the members hope to make quite a saving in their purchases. A motion to the effect that the Institution should participate in the "Field Crop Competition" was carried, and it was decided that the crop entered this year should be potatoes. The secretary, T. B. Shearme, read several letters, which were duly discussed. The meeting then adjourned.



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WHEN TO APPLY LIME.

Lime in the form of hydrated lime can usually be applied with safety in the spring or any other season of the year, but the fall is always the safest time to apply it. This is particularly true if the soil is light and sandy. Hydrated lime will not injure growing plants, and in case of clover and legumes, it may be applied any time during the winter, even after there is frost in the ground, so long as precautions are taken against the wind blowing the lime off the fields.

HOW TO APPLY LIME.

Lime in any form should be distributed with a machine spreader in order to insure an even distribution.

An excessive amount in one place is harmful and none in another place causes an uneven stand. Hence, it is not advisable to spread with a shovel.

One of the most economical methods is to spread the lime from the back of a wagon, driving slowly against the wind. In dry weather the land should be harrowed or disced immediately afterward.

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Mrs. A. T. Watt.....Victoria

Another year is opening before the Women's Institutes of British Columbia bringing with it new responsibilities, and work, that had not been even thought possible that our Institutes would be called upon to do.

In our last report we told how earnestly and nobly the Institutes were working, trying to carry their share of the burden caused by the war, the needs of our Canadian contingent, the needs of the Red Cross, the needs of destitute families in Europe or at home. All these received attention and help.

Mr. Bonavia, the secretary of Institutes, reports \$4,350.65 received for the Institute Patriotic Fund from both the Farmers' and Women's Institutes, of this sum the Women's Institutes gave \$1,256.75.

The close of 1914 saw 48 Institutes in the Province with a membership of 2,857.

The annual reports as submitted by the secretaries of the Institutes are most interesting and many of them give the suggested work for the coming year.

CRANBROOK WOMEN'S INSTI- TUTE.

This Institute has just concluded a very pleasant and profitable year, the attendance for the year being 492. Three socials have been held during the year and the regular meetings have been made very interesting by the demonstrations given by different members. At the annual meeting, held January 6th, 1915, in the Maple Hall, the president, Mrs. Leaman, reviewed the work of the past year; she referred to the co-operation of the members in all work planned and thanked them for the kind support given her during the year. A hearty vote of thanks was given her for the kindly and courteous way in which she has always conducted the meetings, also the thanks was given the directors, the demonstrators, the hostesses and those conducting the fancy work classes of the Institute.

The auditors' report showed an income of \$562.10, expenses amounting to

\$506.60, leaving a balance of \$55.50 in the treasury.

The election of officers followed: Mrs. McFarlane, president; Mrs. Sarvis, first vice-president, and Mrs. Couldwell, second; Mrs. J. Shaw, secretary-treasurer.

The Institute members expressed themselves ready to co-operate and make the market a success.

CENTRAL PARK WOMEN'S IN- STITUTE.

The regular February meeting of the Central Park Women's Institute was held in Agricultural Hall, Thursday afternoon, with the president, Mrs. Bell, in the chair.

It was voted to give \$25.00 to the Belgian Relief Fund. Most of this money was raised for this purpose by a concert given in January in Agricultural Hall by the children of the Beaconsfield Methodist Sunday School, under the auspices of the Women's Institute.

Convenors of committees not appointed at the annual meeting were as follows: Convenor of refreshment committee, Mrs. Alex. Ford; convenor of visiting committee, Mrs. Hewie, convenor of patriotic committee, Miss Summers. Recruiting officer, Mrs. Walter Telford.

The subject of vacant lot gardening was discussed and it was decided to write asking the government for seeds.

LANGFORD WOMEN'S INSTI- TUTE.

This Institute is one of the three new Institutes organized on Vancouver Island during 1914, and notwithstanding the several Institutes close at hand, they closed the year with a membership of 52.

The cooking and dress-making classes were much enjoyed by the members and were the means of bringing new members into the Institute. The travelling library has been much enjoyed by all.

A resolution was passed that the Langford Institute would try to get government aid toward establishing a "Lady Minto Nursing Home" in the district when the time seemed opportune, after the war had closed.

The secretary also reported that the sum of \$37.15 had been realized at the entertainment held on December 15th, and that the sum of \$8.25 had been sent to the Institute's Patriotic Fund.

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STRAWBERRY HILL WOMEN'S INSTITUTE.

On Wednesday, January 27, the annual meeting of the Strawberry Hill Women's Institute took place at the Farmers' Institute hall. About twenty members were in attendance. The president, Mrs. J. B. Kirk, gave her report of the work of the institute for the past year. The secretary's report was given by Mrs. M. Huntley. The officers were then elected as follows: Mrs. J. B. Kirk, president; Mrs. Killman, vice-president; Mrs. M. Huntley, secretary-treasurer; directors, Mrs. G. Stafford and Mrs. J. Atchison. The auditors appointed were Mrs. F. Hicklenton and Miss H. Jameson (convenor), Mrs. M. Huntley and Mrs. Cook; social committee, Mrs. A. Walden (convenor), Mrs. F. Hicklenton and Mrs. McDougall.

Convention of Fruit Growers

(Continued from Page 532)

by the association. He referred to the progress made by the Fruit Growers' Association in the past few years, and emphasized the importance of co-operation. He also made a plea for economy in all things appertaining to the operation of the industry; and expressed his belief that a large and profitable trade could be developed with the United Kingdom by shipping through the Panama Canal; observing also that efforts were being made to secure a higher rate of taxation on fruit coming from the United States, which would naturally tend to check all competition coming from that quarter. He remarked in conclusion that the aim of the Government, as in past years, was to do all in their power to help the Fruit Grower.

At the convention, a report containing much valuable data was read by the markets commissioner, Mr. J. Forsythe Smith, on his activities during the past year in the Prairie Provinces and elsewhere, with a view to stimulating and promoting trade in British Columbia fruit. The election of officers was as follows:

Directors: Victoria, W. F. Somers; Duncan-Nanaimo, R. M. Palmer; Lower Mainland (south of Fraser), George I. Thornton; Lower Mainland (north of Fraser, Mission and East), F. M. Shook; Lower Mainland (north of Fraser, west of Mission), J. C. Metcalfe; Salmon Arm-Armstrong, F. D. Nicholson; Vernon-Coldstream, W. C. Ricardo; Okanagan Centre-North Kelowna, J. E. Reekie; Kelowna (South and East), W. C. Pooley; Summerland, R. V. Agur; Vernon-Long Lake, W. S. Foggo; Penticton, E. W. Mutch; Similkameen, J. J. Armstrong; Kettle River, James Rooke; Arrow and Slocan Lakes, Thomas Abriel; Nelson and Lower Kootenay, James John-

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Bruce's Empire Collection Asters, 1 pkt. each of 4 magnificent varieties, separate, all colors, for **25c.**

Bruce's "A" Vegetable Collection, 6 pkts. different varieties, our selection, for **25c.**

Bruce's "B" Vegetable Collection, 12 pkts. different varieties, our selection, for **50c.**

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stone; Kaslo and Upper Kootenay, E. Norman; Creston and East Kootenay, James Compton; Gulf Island, Alex. Law; Lytton to Kamloops (including Lillooet), C. E. Barnes; Peachland-Westbank, J. L. Vicary.

The executive were re-elected unanimously, as follows:

W. C. Ricardo, president; Thomas Abriel, vice-president; F. D. Nicholson, R. M. Palmer, Jas. Rooke, W. S. Foggo, Hon. Price Ellison, Minister of Agriculture, W. E. Scott, Deputy Minister of Agriculture, ex-officio; R. M. Winslow, secretary.

TIME TO RISE.

A birdie with a yellow bill
Hopped upon the window sill,
Cocked his shining eye and said:
"Ain't you 'shamed, you sleepy-head?"
—R. L. S.

THE HOUSE OF SILK.

The sun was very hot as Peggy, Frank and Emily came through the front gate and walked across the wide, bare piece of ground called by the grand name of The Avenue. The children were little Australians, and their bare feet did not feel the blistering hotness of the earth. Recent rains had made tiny river beds which ran in different directions through the smooth surface of the clay. These river beds were quite dry now, but the children loved to imagine that they were real rivers like the ones that they learned about in geography lessons. They each claimed a stream bed and gave it the name of the geography book river that it seemed to resemble most.

"This is my river, and it's called the Mississippi," said Peggy, standing with one bare foot on each bank of the chosen stream bed.

"Mine is a much nicer one," said Frank. "It looks just like the Volga River that we had to draw yesterday; and that's what I'm going to call it."

Emily had just returned from a journey to England, and so the only river which seemed of any importance to her was the Thames. She chose the stream bed which she thought most like that river, and was just going to scratch her name by it when suddenly she exclaimed:

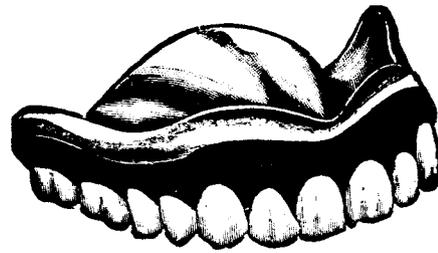
"Why, I wonder what this little door is!"

The other children came closer to see what she was looking at, and this was what they saw.

In the hard clay there was a perfectly round hole about half an inch across, going straight down into the earth. It was all beautifully lined with white silk, or what looked like white silk, so that the white walls gleamed. At the mouth of the hole was a little round, flat piece of clay, exactly the right size to fit into the hole, its edges and underneath side covered with the same white silk that lined the hole. This little door—for it really was a door—was fastened to the wall of the hole on one side by a tiny silken hinge.

"What a pretty little house," Peggy exclaimed, "I wonder who lives in it."

"I know what it is," Frank said in rather superior tones. "It must be a Trap-door Spider. Father told me about them once. Let's wait and see if Mr. Trap-door Spider will come and shut the door."



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They waited very quietly till at last a tiny, bright pair of eyes could be seen coming up from the dark hole. Then a head appeared above ground; slender legs came quickly out, took hold of the door, and—presto!—the hole was gone! All that could be seen was a tiny, faintly marked circle about the size of a lady's ring. The door fitted so closely that the children had to look hard before they could see even that mark.

"Well, I never!" said Peggy. Let's go and tell Mother."

Golden Seal

(Continued from Page 543)

sent time it is sold by every druggist at about \$7.00 per lb., while a few years ago, when there was a fair supply of the wild root to be had, it could be bought for 50 cents a pound.

The extract of Golden Seal (*Hydrastis*) at the present time sells for about \$15.00 per lb. It can be purchased at any drug store, and is used by almost every doctor who practises medicine. The Indians formerly used it for staining and dyeing yellow; and with indigo it produces a fine green dye for wool, silk or cotton.

There is only one other species of this plant known. It is called *Hydrastis Jazoensis*, and is found only in Northern Japan. The fresh roots, or rhizomes, are juicy and lose some of their weight in drying. The color of the rhizome in its early growth is a clear yellow, but becomes a dark yellowish-brown with age, while the interior, and the rootlets, are bright yellow, and when powdered become even more so.

The odor is sweetish and somewhat narcotic; the taste bitter and peculiar. As a local remedy, it has a very decided effect upon the mucous membranes. It has been used with remarkable results in catarrhs, and also increases the biliary secretions. It is strongly recommended by eminent physicians for dyspepsia and vomiting, and is also used with great success in hemorrhoids or piles.

This valuable root can very easily be grown in any good, rich, loose soil in

a shady situation, or by providing some artificial shading where the natural shade does not exist.

A garden can be started by planting either seed or one-year-old roots. They should be planted in the fall in beds prepared some time previously; and just before the cold weather comes on the beds should be given a mulching of leaves or other suitable litter, and raked off in early spring.

While Golden Seal is not so hardy as Ginseng, yet in its natural wild state it stands considerable frost without injury.

PAISLEY HORSE FEED.

Owing to the unreasonably high price of oats and the low earning power of horses at the present time, it is almost impossible to feed a horse in the usual way and make him earn his feed. Paisley Horse Feed, introduced by the Grain Growers' B. C. Agency, Ltd., at New Westminster, helps out a lot in this difficult situation, as it is higher in food value than oats, and costs about \$7.00 per ton less. It is made from Molasses Oat Feed, Cracked Corn and Oilcake Meal, on a formula that has been carefully tried out, not only on horses at heavy work, but also on light delivery and driving horses. Three and a half pounds of this feed is equal in food value to one gallon of oats. With this basis to start on, it is easy to figure out just how much should be fed in each particular case. Feeders who have given it a thorough trial are enthusiastic in its praises. These people have also introduced into the B. C. market Paisley Dairy Meal and Paisley Calfmeal.

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Dig all around the walls to below the foundation, put in tile drains, plaster the outside of the walls with a 1:2 cement plaster, then wash several times with a wash of pure cement and water to fill up all the pores. Fill up the trench to within a few inches of the top with coarse gravel and broken stone and cover the top with soil. Also make connections from the cellar to the drains outside.



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