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FARM AND DAIRY

RURAL HOME

PETERBORO, ONT.

MARCH 4 1909



THERE SHOULD BE AN ORCHARD AND GARDEN ON EVERY FARM

There is pleasure and profit in the growing of fruits and vegetables. A small plot of ground near the house will yield an abundance of these things for the home table; a larger area, properly planted and well-kept, will give a money return that could be had from this sideline on any farm. The little time and labor required to care for it will well repay the owner. The illustration was taken in Simcoe Co., Ont.

See article on page 13.

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WE WANT AGENTS FOR A FEW UNREPRESENTED DISTRICTS

Alberta Will Enter Pork Industry

The Province of Alberta is considering the advisability of embarking in the bacon industry. A provincial pork commission appointed some time ago has recently reported to the Legislature. Their recommendation is that the government equip and operate a packing plant of a minimum capacity of 300 per diem, whenever hog-growers give assurance of an annual supply of 50,000 hogs, the management to pay two-thirds of the hogs' value less, and the balance (minus expenses and one per cent a pound for paying back the original outlay by the government and interest), to be paid after a reasonable period for marketing. Shares would be allotted to patrons equal to one-quarter per cent, for a sinking fund, and when the government indebtedness is paid off, the money would be used to pay interest on shares. Patrons would guarantee to give all hogs to the plant, under \$2 fine a hog if otherwise disposed of.

In view of this proposed move on the part of the Alberta Legislature, the question of sending a commission to Great Britain and Denmark takes on increasing importance. The Dames it is understood, owe much of their success in producing bacon to government direction of the packing plants. The proposed commission as suggested by Farm and Dairy could go thoroughly into this matter. Information secured upon this point would be of inestimable value. Alberta should the legislature decide to adopt the recommendations of the provincial pork commission. The Dominion Government would have the backing of the farmers throughout the Dominion in arranging and sending the proposed commission which would be of such vital concern to all.

Model Factories and Farms

"I would like to see model cheese factories and model farms established in every county in the province," said Mr. A. A. Ayer, of Montreal, the well-known cheese exporter, at the recent convention of the Eastern Ontario Dairyman's Association. "The decline in our dairy exports," said Mr. Ayer, "is due in part to the fact that we are not making the improvements that we should. We are not weeding out our poor milkers. Many farmers are still using scrub bulls and are buying too much milk feed when they should raise the feed on their own farms. I would like to see every cheese maker licensed and restrictions placed on the erection of factories in Ontario similar to those that have been adopted in Saskatchewan."

"Montreal has appointed inspectors to examine the quality of the milk sold in that city. Why should we allow factories to receive poor milk and to make it into cheese? We cannot make good cheese as long as poor milk is taken at the factories." Mr. Ayer thought that if there were model factories and farms in every county, that would serve as object lessons to the people in their respective sections, he believed that it would pay the counties of the province to bonus such buildings and farms. Although Mr. Ayer is rated as a wealthy man, and as one who has made a great success of his extensive business operations in Montreal, he stated that if he had his life to live over again, he would choose the life of a farmer as being the life which has, everything considered, the most advantages and the greatest freedom. "On the farm," said Mr. Ayer, "it is possible to get nearer to God and nearer to Nature than it is in the city." Mr. Ayer pointed out that there is a stability about the operations of the farm that is lacking in many business enterprises, the profits of which are largely determined by one's ability to forecast the turns the market is likely to take.

The Country Life Report

In addition to the passages in President Roosevelt's special message to congress with the report of the country life commission, which we quoted last week, the president says other things that are worth noting.

The president says: "To improve our system of agriculture seems to me the most urgent of the tasks which lie before us, but it cannot in my judgment be affected by measures which touch only the material and technical side of the subject. The whole business aspect of the farmer must also be taken into account. Such considerations led me to appoint the commission on country life. Our object should be to help develop in the country community the great ideals of community life, as well as of personal character. One of the most important adjuncts to this end must be the country church, and I invite your attention to what the commission says of the country church and of the need of an extension of such work as that of the Young Men's Christian Association in country communities. Let me lay special emphasis upon what the commission says on personal ideas and local leadership. Everything resolves itself at the end into the question of personality. The country government can do much for country life unless there is voluntary response in the personal ideas of the men and women who live in the country.

"In the development of character the home should be more important than the school or than society at large. The influence of the farmers and farmers' wives on their children becomes the factor of first importance in determining the attitude of the next generation toward farm life. The farmer should realize that the person who needs most consideration on the farm is his wife. If the woman shares her duty as housewife as home-keeper, or as the mother whose prime function is to bear and rear a sufficient number of healthy children, then she is not entitled to our regard, but if she does her duty she is more entitled to our regard even than the man who does his duty, and the man should show special consideration for her needs."

The country life commission, after emphasizing the need and demand for better roads, extension of rural free delivery of mail and a parcel post, says:

"There must be a vast enlargement of voluntary organized effort among farmers themselves. It is indispensable that farmers shall work together for their common interest and for the national welfare. If they do not do this no governmental activity or no legislation, no even better schools will greatly avail. The forces and institutions that make for morality and spiritual ideals among rural people must be energized. There must be not only a vast scheme of rural education, but a new kind of education adapted to the real needs of the farm people. The country schools are to be so reoriented that they shall educate their pupils in terms of the daily life. Opportunities for training toward the agricultural callings are to be multiplied and made broadly effective.

This means redoubled efforts for better country schools and an increased interest in the welfare of country boys and girls on the part of those who pay the school taxes. Education by means of agriculture is to be a part of our regular public school work. Special agricultural schools are to be organized. There should be organized under government leadership a comprehensive plan for an exhaustive study of the conditions that surround the business of farming and the people who live in the country in order to take stock of our resources and to supply the farmer with knowledge."



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No. 9

THE BEST VARIETIES OF FRUITS FOR ALL CANADA

The Kinds that are Worth Growing in each Province—Select Standard Sorts for Planting—Test Novelties.

BEGINNERS in fruit growing and even experienced orchardists are often at a loss to know what varieties of fruit to select for planting. Local conditions, soil and climate vary so widely that many varieties that do well in some localities are failures in others. The demands of the market also have an important bearing on the selection. Fruits that are most acceptable in the home market are often useless for export. For the benefit of the readers of Farm and Dairy some of the leading authorities in all parts of Canada have prepared lists of the standard varieties in their provinces. Some of these are published below. They are offered not with the idea that there are not other varieties just as good, but as a guide to intending planters. When selecting, it is well to learn from the most successful growers in the particular district that the orchard is to be planted, what varieties have done best with them and then be governed accordingly.

NOVA SCOTIA

For Nova Scotia and particularly for the Annapolis valley, Mr. G. H. Vroom, Dominion Fruit Inspector, Middleton, recommends the following: Apples—Gravenstein, Wealthy, Ribston, Blenheim, King, R. I. Greening, Stark, Fallwater, G. Russet, Spy, Nonpareil; Pears—Clapp's Favorite, Flemish Beauty, Bartlett, Bose, Louise Bonne, Howell, Winter Nellis, Anjou, Clairgeau, Comice, Hardy; Plums—Golden Prolific, Burbank, Abundance, Grand Duke, Snipper's Pride, Lombard, Monarch, Washington, Damson, Victoria, German

Prune; Peaches—Crosby, Waterloo; Cherries (not much grown except for home use)—Gov. Wood, Oxheart, Tartarian, English Morello.

In grapes which are not grown extensively, Mr. Vroom recommends Moore's Early, Campbell's Early, Champion, Delaware, Brighton, and Niagara. All the leading varieties of strawberries are grown. Cuthbert and Herbert raspberries, Downing gooseberries and most all other varieties of small fruits are grown for home use and local markets.

NEW BRUNSWICK

For New Brunswick, Mr. J. C. Gilman of Fredericton offers the following selection: Apples—Red Astrachan, Duchess, Dudley Winter or North Star, Wealthy, Alexander, Wolf River, Fameuse, McIntosh, Bishop Pippin or Yellow Bellflower, G. Russet; Plums—Moore's Arctic, Golden Pro-

lific, Lombard, Green Gage; Cherries—Early Richmond; Currants—Red Dutch, Fay, Versailles, Cherry, White Grape, Black Naples; Strawberries—Crescent, Warfield, Senator Dunlop, Splendid, Glen Mary, Bubach, Sample; Red Raspberries—King, Herbert, Cuthbert, Golden Prolific; Blackberries—Snyder, Taylor, Agawam, Wachusett Thornless; Gooseberries—Downing, Pearl, Houghton.

PRINCE EDWARD ISLAND

For Prince Edward Island, the following list of varieties is the selection of Mr. Johnston of Long River: Apples—Crimson Beauty, Yellow Transparent, Red Astrachan, Duchess, Wealthy, Alexander, Wolf River, Stark; Pears—Clapp's Favorite, Bartlett; Plums—Saunders, Moore's Arctic, Victoria, Lombard, Damson; Cherries—



The King of Small Fruits is the Strawberry

The illustration shows a strawberry picking scene in Peel Co., Ont., last summer. Every farmer cannot have as large a plantation as this, unless he is in the business for money, but he should have at least a few rows planted near the house to supply the home table.

English Morello; Blackberries—Snyder, Agawam; Currants—Cherry; Gooseberries—Downing, and Houghton.

QUEBEC

For Quebec, a list of the most popular varieties, furnished by Prof. G. Reynaud of La Trappe, is as follows: Apples—Yellow Transparent, Lowland Raspberry, Montreal Peach, St. Lawrence, Duchess, Wealthy, Alexander, Wolf River, McIntosh, Fameuse, Pewaukee, Salome; Pears—Flemish Beauty; Plums—Early Yellow, Nicolas, Niagara, Perdrigon, Lombard, Bradshaw, Green Gage, Reine Claude, Pond's Seedling, Geuil, Coe's Golden Drop; Cherries—Early Richmond, Empress Eugenie, Louis Philippe, Large Montgomery, English Morello, May Duke; Grapes—Champion, Moore's Early, Moore's Diamond, Concord, Delaware, Rogers' Vergennes, Niagara; Strawberries—

Bederwood, Wilson, Sharpless, Uncle Jim, Sample, Bubach; Red Raspberries—Cuthbert, Marlboro; Currants—White Grape, Cherry, Fay, Versailles, Lee's Prolific, Black Naples; Gooseberries—Downing, Whitesmith, Smith's Improved, Triumph, Houghton, Red Jacket, Pearl, Industry.

Another list of standard varieties for Quebec was prepared by Prof. W. S. Blair of Macdonald College, as follows: Apples—Yellow Transparent, Duchess, Wealthy, Fameuse, McIntosh Red, Milwauke, Canada Red, and G. Russet; Pears—Flemish Beauty and Clapp's Favorite; Cherries—Montmorency, Early Richmond, Ostheim, English Morello; Red Raspberries—Marlboro, Herbert, Cuthbert; Purple Raspberries—Columbian, Shaffer; Black Raspberries—Older, Hillborn; Blackberries—Snyder, Agawam; Red Currants—Wildor, Pomona; White Currants—White Grape; Black Currants—Victoria, Champion; American Gooseberries—Pearl, Red Jacket; English Gooseberries—Whitesmith, Industry; Strawberries—Senator Dunlop, Sample, Marshall, Dorman; Grapes—Campbell's Early, Moore's Diamond.

ONTARIO

For Ontario, the most satisfactory varieties for general planting, according to Mr. J. W. Crow, Ontario Agricultural College, Guelph, are as follows: Apples—Duchess, Alexander, Wealthy, Snow, R. I. Greening, Baldwin, Spy, Ben Davis; Pears—Clapp, Bartlett, Duchess, Kieffer; Cherries—Richmond, Montmorency; Peaches—St. John, Early Crawford, Fitzgerald, Elberta, Smock; Plums—Burbank, Bradshaw, Shipper's Pride, Grand Duke, Reine Claude; Grapes—Moore's Early, Delaware, Lindley, Concord, Niagara.

The standard varieties of small fruits recommended by Mr. Crow are, in Blackberries—Agawam, Snyder; Red Raspberries—Marlboro, Herbert, Cuthbert; Black Raspberries—Hilborn, Gregg; Purple Raspberries—Columbian, Shaffer; Black Currants—Lee's Prolific, Naples; Red Currants—Cherry, Fay, Victoria; Gooseberries—Pearl, Red Jacket, Whitesmith; Strawberries—Van Daman, Bederwood, Splendid, Senator Dunlop, Sample, Williams.

A list of varieties more or less similar to the one recommended by Mr. Crow is the choice also of Mr. P. W. Hodgetts, secretary of the Ontario Fruit Growers' Association. A few additional sorts are mentioned by Mr. Hodgetts as follows: Apples—Gravenstein, McIntosh, Blenheim, King, Hubbardston, Stark; Pears—Boussock, Howell, Bose, Clairgeau, Anjou, Winter Nellis, Lawrence; Cherries—Wood, Knig't, Napoleon, Tartarian, English Morello; Paches—Bridget, Reeves; Plums—Red June, G-vuil, Lombard, Monarch,

Yellow Egg; Grapes—Campbell's Early, Worden, Wilder, Agawam, Vergennes.

MANITOBA

For Manitoba, the following list is recommended by Mr. A. P. Stevenson, of Nelson: Apples—Volga Anis, Repka, Kislag, Blush Calville, Ukarine, Lowland Raspberry, Charlamoff, Anisette, Peerless, Simbrisk, Wealthy, Antonofka, Hilbarn; Crabapples—Transcendent, Whitney, Phillips, Hyslop, Minnesota, Gen. Grant; Plums—Oschewa, Cheney, Aitken, Mammoth, Wood, Bixley, Wyant; Cherries—Compass Cherry (for southeastern parts); Grapes—Beta, Moore's Early (for southeastern parts).

The small fruits that have grown successfully on Mr. Stevenson's plantation are: Gooseberries—Houghton, Smith's Improved, Rideau, Mabel, Joslyn, Champion; Red Currants—Stewart's, Raby Castle, North Star; White Currants—White Grape; Black Currants—Lee's Prolific, Naples, Climax; Red Raspberries—Loudon, Shipper's Pride, Minnetonka, Sunbeam, Kenyon; Purple Raspberry—Shaffer; Black Raspberries—Older, Hilborn; Strawberries—Bedelwood, Senator Dunlop, Gandy.

SASKATCHEWAN

For Saskatchewan, fruits that have done well in some parts of the province and that reasonably may be expected to give satisfaction in most districts where fruit growing has been more or less satisfactorily conducted are recommended by Mr. Angus MacKay, Superintendent, Experimental Farm, Indian Head, as follows: Crabapples—Wild Siberian, (Pyrus baccata), Silvia, Golden, Cavan, Aurora, Northern Queen, Novelty, Pioneer, Cherry, Charles Tony; Plums—Aitken, Weaver, De Soto, Manitoba wild plum, Cheney, Carsterson; Cherries—Sand, Compass, Pin and Choke cherries.

The varieties of small fruits that may be planted, according to Mr. MacKay, are the following: Strawberries—Dunlop, South Dakota No. 1, South Dakota No. 2, Biscel, Daisy, Daniel Boone, Johnson's Early, Alpine, St. Antoine, St. Joseph and Jean d'Arc; Red Raspberries—Dr. Reider, Marlboro, Cuthbert, Herbert, Miller, Turner, Mary, Garfield, Columbia, Palmer; Yellow Raspberries—Golden Queen, Caroline; Black Raspberries—Hilborn, Older, Red Currants—Red Dutch, Victoria, Raby Castle, Fay; White Currants—White Cherry, White Imperial, White Grape, White Dutch; Black Currants—Lee's Prolific, Magnus, Climax, Black Naples; Gooseberries—Houghton, Smith's Improved, Pale Red, Red Jacket, Carrie, Saunders, Downing, Edna, Companion, Industry.

BRITISH COLUMBIA

For British Columbia the following list of varieties has been compiled from a report of the Board of Horticulture of the Provincial Department of Agriculture: Apples—Yellow Transparent, Duchess, Gravenstein, Wealthy, Cox's Orange Pippin, King, Spitzenberg, Red Cheek Pippin, Spy, Newton Pippin; Crabapples—Hyslop, Martha, Transcendent; Pears—Bartlett, Boussock, Louise Bonne, Clairgave, Hardy, Anjou; Plums—Peach Plum, Prince Englebert, Monarch, Pond's Seedling, Yellow Egg, Italian Prune; Cherries—Royal Anne, Windsor, Black Tartarian, Bing, English Morello, Belle Magnifique, Olivet; Peaches—Hale's Early, St. John, Early Crawford, Early Charlotte, Elberta; Grapes—Campbell's Early, Moore's Diamond.

The varieties of small fruits best suited for British Columbia, according to Mr. R. W. Hodson, Live Stock Commissioner, are as follows: Strawberries—Magoon, Improved Sharpless, Paxton; Raspberries—Cuthbert, Antwerp, Golden Queen, Filbasket; Blackberries—Eric, Snyder, Logan, Evergreen; Phenomenal, Mammoth, Dewberry; Lucetina; Gooseberries—Champion, Industry, Red Jacket, Whitesmith, Victoria; Currants—Fay, Cherry, Lee's Prolific, Black Naples, White Grape.

Send photographs of orchards for publication in Farm and Dairy.

Renovating The Neglected Orchard

J. C. Harris, Oxford Co., Ont.

It is conceded by our best orchardists that one acre of apple orchard well cared for will give as much profit as 10 acres of any other farm crop. In other words, a 10-acre orchard of the right varieties on a 100-acre farm can be made to produce as much net profit as the remaining 90 acres in farm crops. If this be true, surely we will be well repaid for systematically caring for whatever orchard (large or small) we may have



A Familiar Scene in Some Localities

When an orchard becomes so neglected as this, it should be done away with altogether and re-planted. The photograph was taken in Brant County, Ont.

on our farm. I do not purpose in this paper to go into details but rather to give a few general points that are apt to be overlooked by the beginner in fruit growing.

In our locality, many of the orchards (I include all unsprayed ones) look unhealthy and not thrifty. The life of our trees, where not sprayed, is sapped by insects and fungi. We should no more expect to see paying crops on these orchards than we would expect to get a profit from our animals if they are covered with lice.

If I had an orchard that has been neglected for some years, I would endeavor to get at least one-half a load of manure under each tree this winter, commencing about two feet from the trunk of the tree and spreading it out as far as the branches extend.

PRUNING

In the spring, start pruning as soon as the weather is favorable. Prune to keep the tree symmetrical and open. Avoid cutting large limbs as much as possible. Trim with a ladder from the outside of the tree, thinning the ends of the limbs so as to let in the sun and air. Be careful to encourage and protect the fruit spurs, on the limbs on the inside of the trees. These little twigs or fruit spurs along the limbs are where we find our choicest fruit. We do not want clusters of fruit on the outside of our trees.

Some time ago an old man who has made a business of pruning in our locality for many years, came to me for a job. I thought it a chance of getting some new idea on the subject. He took the saw and commenced clearing the limbs of all their fruit spurs. I can assure you that he did not continue very long.

SPRAYING

When the trees are pruned and open they are ready to spray. Should there be no scale in your district, it will not be necessary to spray until the blossoms are beginning to fall. This spraying is the pivot of success of the entire operation for the destruction of the codling moth and apple scab. Do not wait until the blossoms are all fallen. Do the work thoroughly. Put on lots of material (drenching a little won't hurt). Spray four sides of each tree this spring if possible. Any part of the tree missed when going north and south can be easily seen when going east and west and the tree thus is completely covered.

I apply two later sprays, one about 10 days later, the other two or three weeks later. I use

six pounds bluestone, eight pounds lime, six or seven ounces of Paris green to 40 gallons of water prepared the usual way. I intend this season to use arsenate of lead instead of Paris green, as it is more certain.

A few of the important points to be remembered in spraying are:

1. Have a good outfit with high derrick so that you can see well what you are doing.
2. Keep the liquid well stirred or your efforts will be fruitless.
3. Start in time. Do not wait for the weather. Spray with the wind, if possible.
4. Be sure that your lime is fresh and put in plenty.
5. Remember that the June spraying, as blossoms are falling, is the most important. Do it thoroughly. This one spraying with no more will give excellent results in most seasons, but spray once or twice more if you can.

THINNING FRUIT ON TREES

Thin a few of your overloaded trees, taking off all small and inferior fruit (which can be done with little expense) and see what a wonderful difference there is in your apple crop of 1909, compared with last year. Many farmers in our district who paid little attention to their orchards two or three years ago, are now considering the orchard the best asset on the farm and are giving it every care. Try it this year and you will not require to be asked to do so in future.

Lime-Sulphur Wash for Spraying

The lime-sulphur wash has come into prominence as a successful remedy for treating the San Jose scale on fruit trees. It is an excellent combined insecticide and fungicide; that is, it may be used for treating both insects and diseases. Among the apple tree pests that this remedy will control effectively is the oyster shell scale. Its preparation is described by Mr. Robert Thompson, St. Catharines, Ont., as follows:

"The lime-sulphur wash can be prepared by boiling with the heat of lime, but this is not safe to depend on as some of the barrels may not get sufficient cooking, owing to some defect in the lime, or something else may result, where this is applied, in not killing all the scale. A better plan is to arrange for a number of growers to have an engine or boiler and cook by steam.



A Spray Pump on a Stone-Base

Where the orchard is near the place where the spraying mixture is made, this is a convenient way of mounting a spray pump for use when the frost is coming out and the ground is soft.

Where this is not available, an agricultural boiler can be rigged up. Where the steam is used, the cooking can usually be done in about an hour. When the agricultural boiler is used it will take longer. When boiled with steam or agricultural boiler bring twelve to fourteen gallons of water to the boil, then throw in twenty pounds of good

lime and quickly add eighteen pounds of finely pulverized sulphur. Stir occasionally. Dilute by adding enough water to make forty to fifty gallons.

"Commence spraying early in the season. Spray the sides of the trees from the windward side, then watch until the wind blows from the other way, and do the other side; a good stiff breeze is preferable. This helps to carry the spray to points on the opposite side of the tree and not only insures better and more thorough work, but also obviates the disagreeable features of the mixture falling back on the clothes and person when spraying is done in calm weather."

To Make Peach Trees Hardier

A. M. Smith, Lincoln Co., Ont.

The destruction of peach orchards for several years in the Essex peninsula by root freezing aroused the attention of planters to the necessity of providing some remedy or prevention for this loss. Cover crops and mulching were tried with some measure of success but, on account of the light sandy soil, it was difficult to produce a good cover crop and mulching was expensive. The board of control of the experimental fruit stations was consulted. They suggested growing the trees on something harder than their own roots as a remedy. They tried to purchase some trees budded on plum but could find none, either at the nurseries in Canada or the United States; so, I volunteered to grow them some if they would furnish me the stocks. Accordingly they sent me in the spring of 1907, 500 each of Americana and St. Julian plum stocks which were carefully planted. They made a fair growth and were budded in August.

The buds took fairly well and made a good start last spring, but about mid-summer, those on the St. Julian stock stopped growing and had quite a sickly appearance (something like the yellows). I got only ten trees out of the entire lot big enough to plant last fall. Those on the Americana stock made a vigorous growth, quite equal to some alongside of them on peach roots. I got over 300 first-class trees out of the 500 budded. The St. Julian will have to be grown another year and it is not likely that they will ever be good trees.

How to Grow Spinach

One of the most popular greens for table use in spring and early summer is spinach. It is easily grown and should be found in every farm garden. The seed may be sown in hotbeds or cold frames early in spring or outdoors as soon as the ground can be worked. It is also a profitable crop to grow for market. The earliest spinach of fall may be had by sowing the seed in the fall. A market gardener in Peterboro Co., Mr. Charles Kitney, who grows about an acre of this crop each year, and who recently called on Farm and Dairy, gives his experience with spinach as follows.

"I sow the seed broadcast about the last week in August. The best variety is Large Flanders. The ground should then be mulched with straw or coarse manure. This helps to protect the plants and to drain off the surface water. In spring it is not necessary to weed or cultivate this crop. It grows rapidly. The first lot for market usually is cut about the first of May. The crop will last about one month. Spring-sown spinach comes in when this is done and lasts until early cabbage. The early spinach sells from 75 cents to \$1.00 a bushel. The spring-sown crop brings less money but is more plentiful.

"To grow spinach successfully," concluded Mr. Kitney, "a suitable location must be chosen. It will grow best on the southern side of a hedge or fence where it will be protected. The snow should drift and lie on it. Spinach will stand about the same extremes of temperature as fall wheat."

An Experience with Small Fruits

A. W. Peart, Hutton Co., Ont.

Some valuable information about the growing of currants, blackberries and raspberries was given by Mr. A. W. Peart, of the Burlington district in an address delivered some time ago to growers in that locality. Mr. Peart spoke in part as follows: "We have tested some thirty or forty varieties of red and black currants. Only a few of them have been found good. The red currants that have been successful include the old Cherry, Victoria and Wilder, the latter being a new variety. The North Star and Prince Albert also have done well. These varieties cover the season well, the Prince Albert being a very persistent climber. Of the black varieties of currants, the best with us have been Naples, Black Victoria, Collins' Prolific and Saunders. The varieties also cover the season well.

"In blackberries, we have tested thirty or forty varieties and found a great many to be tender. Only six or eight proved hardy enough for the Burlington district. The good varieties include

a sufficient depth to insure avoiding this mistake.

"Before planting small fruits, and trees, I cut off the ends of the roots. When they come from the nursery the ends generally are more or less bruised. These ends are cut off obliquely on the under side so that the cut surfaces come in close contact with the soil. When this has been done, if the soil is removed some little time after the bushes have been planted, it will be found that soft growths have started out from the roots and obtained a grip on the soil. These growths help to give the bush or tree an early start. I also trim back the tops so that they will correspond with the roots. In the case of currants and raspberries, I prefer to plant the rows six feet apart with blackberries seven or eight feet.

"With a moderate acreage you can start to thin early in February and continue to work until the middle of April. My practice has been to do this work in the spring. In the case of the Cuthbert raspberries, I find that if the old canes are taken out in the fall, it has a tendency to expose the bushes to the gales. This does not apply to the



A Plantation of Raspberries That Gives Much Pleasure and Profit

Raspberries are easily grown, either in patches by themselves, or between the trees in the orchard. There is no reason why every farm home in Canada should not have a patch nearby for family use. The scene illustrated was photographed in Bruce Co., Ont., at picking time.

the Ancient Britain, Snyder Western Triumph and Agawam. All of these are of medium size, are hardy and first-class for commercial purposes.

In raspberries, the old varieties, Marlboro and Cuthbert are the best, the former being a week to 10 days earlier than the latter.

"I prefer to do my planting in the spring. If the soil is thoroughly under-drained and there is no fear of heaving, I see no particular objection to fall planting. As regards the soil, I try to have the same conditions as we desire when planting a field of barley or oats. The ground should be sufficiently dry to have life in it. Work can be saved by plowing a deep furrow in the line you intend to plant. In this furrow, plant the currants, blackberries or raspberries as the case may be.

"Too many of us are in a hurry when planting and plant too shallow. It does not pay. The crown of the root is not deep enough in the soil and the wind blows the bushes or tree until it grows in a slanting position. A good many years ago I made this mistake when planting an orchard of apples. Ever since I have aimed to plant at

Marlboro, which does not grow so high. In the spring pruning, I cut the Cuthbert to about three and one-half feet.

"There are certain varieties of blackberries such as Kittatiny, the laterals of which should not be cut off close to the main vine as, by so doing there will be but little fruit. The Ancient Britain and Snyder varieties, however, can be cut off closer, because their fruit buds are nearer the stem.

"I plow to the rows in the fall," said Mr. Peart, "to keep the water from the roots. In the spring, I like to use the one-horse spring-tooth cultivator. It is better to cultivate frequently. The more often this work is done, the better will be the fruit. Raspberries I have sometimes cultivated between pickings and believe that it pays.

"Currants are voracious feeders, and if they are given sufficient fertilizer they do well. They can be grown on almost any variety of soil. My experience has been that a nice, mellow clay loam is the best adapted for all varieties of fruit, except strawberries. Stable manure, well-rotted, makes about as good a fertilizer as can be secured. Wood ashes are good on light soils."

Long Experience in Sugar Making

F. H. Mizen, Bromo Co., Que.

For the last 20 years or more I have been engaged in making maple syrup and sugar, at first using a pan and heater. This method was superior to the old system of iron kettles. For the last four years I have used the Grimm Champion evaporator and have found it as far in advance of the pan and heater as that method was of the kettle. The evaporator takes less wood, boils in more sap in a much shorter time, and makes a far superior article. By its use the syrup can be boiled down thick enough to can, thereby saving the second time heating necessary with other methods. This second heating darkens the syrup and this makes it an inferior article. By using good bright tin buckets, tin spouts, and using nothing but tin and galvanized utensils in the bush, and by keeping everything perfectly clean and in good condition, there is nothing to prevent one from making a first-class article which will bring the highest market price.

Cleanliness and haste are two of the most important points in sugar making. Keep the syruping-off pans clean. Mine are washed every morning before we commence to boil. Gather the sap often and boil it very quickly.

With regard to spouts, I have used a great many kinds, but consider the Grimm spout far superior to all others. The bore is very small, and with it the tree requires no robbing, which is an advantage as robbing injures the tree to a certain extent. The bark is left in its proper place, the sun cannot strike the bore, thus preventing the sap from souring. I would advise the No. 2 spout with the bucket wire. The wind cannot blow the bucket off with these, as it surely will do with other spouts.

Let the Commission Tell Us

W. H. McNish, Leeds Co., Ont.

I note with a great deal of satisfaction that the Dominion Swine Breeders' Association at their annual meeting endorsed the proposal of Farm and Dairy to send a commission over to Europe to inquire into the methods adopted in those countries that produce large quantities of bacon for the export trade. This was a very important step taken by the association, and, when the deputation appointed by that body waits on the Department of Agriculture, their wants should be recognised.

The expense of sending over a commission of say three or four farmers would be a trifle compared with the results of the report, for, I am sure such a commission would stimulate the production of bacon as nothing else would. The people would be satisfied.

If the Danish methods of hog feeding are more economical than ours, we want to know it. On the other hand, if the credit to their great success is due to co-operative packing houses, we also want to know that. No country has at their disposal the raw material for the production of choice bacon to equal Canada, and why should we not do more of the business? Let the commission tell us.

Is the Hog Business Profitable?

J. S. Kyle, Dundas Co., Ont.

It would be advisable to appoint a commission as suggested by Farm and Dairy to investigate this hog question thoroughly and find out if it is paying the Danish farmers to buy our grain, and where the profit and loss is. The Danes may be no better off than we are but are hoping against hope to come out all right in the deal, and are actually losing at the present time. We know and feel that if they can stand the strain long enough they will win in the end.

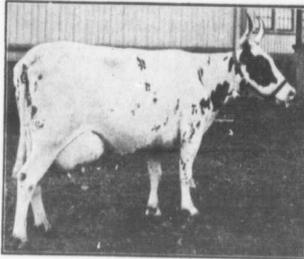
If that is their game to run us out, we would

like to know it, as I consider we Ontario farmers can stand that business as long as they. If it is for the want of knowledge of proper feeding or care of his majesty, the hog, we as a class can compare favorably with anything in Europe, if we have the necessary information. If there are really dollars in the hog business, we are the boys that would like to know where to get at them, so we will not be ousted from our British market. As we are true descendants of our John Bull, what we have we want to hold, if we do not have to pay too much for our catch.

Milk Fever

Dr. H. G. Reed, V.S., Halton Co., Ont.

Parturient Apoplexy or Milk Fever is a disease peculiar to newly-calved cows. It usually appears from the first to the fourth day after calving.

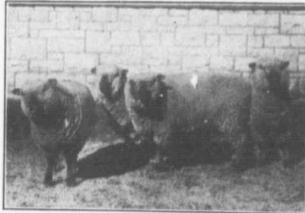


An Ayrshire Cow that Has Won Honors

"Eva of Menie," bred and owned by Mr. A. G. Hume of Northumberland Co., Ont., was an outstanding winner in the Ayrshire Classes in 1906 and '07, at the Toronto, Charlottetown and Sherbrooke Exhibitions. She gave 8,500 lbs. of milk, testing 4.2 per cent. fat.

Sometimes it occurs as late as a week after calving, when the attack is usually of a mild kind, and instances have been known where the cow was affected before calving. It is more likely to affect animals of the dairy breeds although many milking animals of the beef breeds are by no means immune from its action.

The best cows are the most likely to contract the disease. A cow which is a poor milker is almost immune; neither is a cow in poor condition likely to suffer, although exceptions will occur in the latter case. The heavy milking cow



Some Thrifty Shropshire Ram Lambs

Sheep are recognized as a strong factor in combatting weeds. Sheep of good type and quality, are just as efficient at such work as are more indifferent sorts, and they are worth more when ready for market. The above lambs were bred and fed at the Experimental Farm, Ottawa.

especially if she is in good condition is the kind most liable to an attack.

The first symptoms are an excited and nervous condition, a moving about in the stall in an excited manner with a gradual loss of power till the patient lies down and is unable to rise. She will lie with her head thrown sideways along her ribs and will be unable to raise it up. In some cases the patient will be stretched full length on one side unable even to lie up in a natural condition.

Any man who has ever seen a well-marked case of the disease will never have any trouble recognizing another when he sees it. It has been a source of great loss to dairymen in the past, more so than it is likely to be in the future as Veterinary science has recently discovered more successful methods of treatment. But while it is well for the dairymen to know that the disease can now be successfully treated it is better that he should understand that it is possible so to manage his cows as to make it almost a certainty that he will not have a case of it to treat.

Cows, especially if in good condition as very cow should be, at calving time should not be fed any rich or stimulating food such as corn, wheat or pea meal for at least two weeks before coming in, they should have succulent food such as clover, hay, silage or roots, but no meal, the hovers should be kept relaxed. Food such as described will usually keep them right, but if constipation should be present give one or two pounds of epsom salts to overcome that condition. Cows fed in this manner for two weeks before and for one week after calving are not at all likely to suffer from milk fever. Many a good cow has been lost because her owner was too anxious to have her make a big showing at the fair as soon as she came in and in order to enable her to do so fed her to excess and the result was milk fever.

Another preventive measure is not to milk the udder out clean for two or three days after calving, milk out a little at a time and do it often. This seems to be nature's method, for under natural conditions the calf does the milking and we all know the manner in which he will go about business. Newly calved cows should be kept dry and warm. Allowing them in a draught which predisposes to a chill is liable to produce an attack of milk fever. They should not be allowed to drink large quantities of cold water which will also predispose to chill.

The curative treatment consists in simply milking the udder out dry and filling each of the four quarters with pure oxygen gas. This treatment rarely fails to cure. No person should ever attempt to pour any liquid, not even water, into the throat of a cow suffering from this disease because the throat is paralyzed. The cow cannot perform the act of swallowing and the fluid is almost sure to run down the wind-pipe into the lungs killing the patient sometimes right at once, at other times probably not for some days.

The Ensilage Proposition

C. D. Cook, Hochelaga Co., Que.

If your cows don't pay whose fault is it? It is a case where it is right up to you Mr. Dairy-Farmer, it is your problem, and it is your pocket-book that is affected.

You can't run a furnace to advantage without proper fuel, and neither can you run a dairy to advantage without proper feed. Of course you could fill your coal stove with cobble stones, and it would be just as full as if you used coal, but it would be a pretty chilly thing to gather around on winter evenings, and no sane person would really blame the stove because it didn't throw out any heat. On the same principle you can fill the old cow up on straw, mouldy hay and frozen cornstalks, but no sane person ought to blame the poor creature if she didn't give any milk.

Your dairy is to you what the manufacturer's mill is to him. He realizes that in order to run his plant successfully, he must use proper fuel for his boiler to generate steam, and you, in order to run your dairy at a profit, must use proper feed to produce milk, and that brings us to the subject of ensilage.

There are just four ways for you to look at this ensilage proposition, and each way spells profit. It will save your hay, decrease your grain bills, make more milk, and benefit your land.

The average hay crop is about one and one-

half tons an acre. The average corn crop, planted for ensilage, is from 15 to 20 tons an acre. Three tons of ensilage contains about the same feeding value as one ton of hay, and has more milk producing qualities. It's very easy to figure which is the most profitable, and every dairy farmer has land that would be benefitted by plowing and planting to corn, while the frequent cultivation that the corn crop necessitates, puts the land in the best possible condition for the next season's crop.

To produce milk with ensilage requires but comparatively a small amount of grain, because ensilage itself contains milk producing elements. You can begin feeding it in the fall as soon as your silo is filled, and you will be surprised to see how your cows will come up on their milk, and in the spring you will be just as agreeably surprised by the milk yield, while the extra money jingling in your pockets will have a very pleasant sound.

But it is absolutely impossible to produce good ensilage without a good silo. Don't make a mistake and think you can produce first-grade ensilage in a second-grade silo. A large number of good farmers have failed on that same proposition. It is cheaper for you to profit by their experience than to pay for it yourself. You would not expect very choice hay to come out of a barn with leaky roof and boards off the sides, neither can you expect good ensilage from a make-shift silo, and as you naturally expect a silo to last for a good many years, it certainly won't pay you to put up anything but a good one. Just which kind is best you must determine for yourself.

But the fact remains now, as at the beginning of this article, if your cows don't pay it's not all their fault. The old cow never enjoyed being a boarder, just feed her good ensilage, and see how quick she will become a dividend payer.

A Varied Use for Silage

S. E. Lane, Hastings Co., Ont.

Our grain as well as our hay crops were short last year. I find that ensilage takes their place to a certain extent in feeding horses. We feed a half-bushel per horse each day. This, in addition to a light feed of hay each meal time and some pulped roots and a quart of oats at night, proves very satisfactory. My horses are doing as

Kind Words About Poultry Number

Ed. Farm and Dairy.—The special poultry number of Farm and Dairy is a great credit to its editors. It is the best thing on poultry in a practical way that I have ever seen, poultry papers not excepted.—J. R. Hutchison, B.S.A., Thunder Bay District, Ont.

well on this ration as they did last year on a ration of three gallons of oats a day and plenty of hay.

Ensilage is also good for pigs. I feed it along with roots and a little meal, and my pigs seem to thrive well on it. When I get whey in the spring I will be able to finish them off in short order. I have fed silage to milch cows for three years. It beats everything as a winter feed for milk production.

The Brooding of Chicks

J. R. Hope, Northumberland Co., Ont.

Prepare the brooder for the chickens before taking them from the incubator. The brooder should be at a temperature of from 95 to 100 degrees. Never be in a hurry to feed the chicks. They should not be fed at least until they are 48 hours old. Nature has abundantly provided for them in the whole of the yolk which has been absorbed previously to hatching. More chicks are killed by being fed too soon than by not being fed soon enough.

Brood crumbs soaked in milk and squeezed dry are excellent for the first feed. Scatter some sand or fine grit in the feeding apartment of the brooder. Keep a drinking fountain full of water where they can have access to it at all times. As they grow older let them run out of the brooder. Provide lots of exercise for them at all times by scattering cracked grains in chaff and thus making them scratch for it. It is necessary to give them some sort of green food if there is no grass for them to run to.

A Bad Weed

Bladder Campion is a weed that has come to stay a while, with Ontario farmers. It will require most heroic measures to stop it now that it has got such a foothold in many parts of the province. It is also called bell weed, rattle box, white cockle and other colloquial names. It has widened its constituency very largely through being carried in hay and in clover seed. It becomes bad in old meadows and the roots get to be very large with age.

The plant has a crown from which a number of string-like stalks, the size of a lead pencil and larger spring, and when each of these reach the surface, they send up a number of strong flowering stems, the number and strength depending



A String of Youngsters that Anybody would be Proud to Own

These registered Clydesdale colts were bred on the Co. Sask. Mr. Osborne breeds a large number of heavy sets of his farm.

western prairies by Mr. Daniel Osborne, East Assiniboia and considers them one of the best paying assets of his farm.

upon the age of the plant, and the quality of the soil. The plant is mostly spread and perpetuated by its seed, but any piece of the crown cut off with the plow may become the progenitor of other plants. It has been maintained by some that to cut this plant deep in the soil and below the crown will kill it. My experience leads me to believe, that, wherever a piece of the thick fleshy part of the root, from which the true roots run into the soil at the lower part is cut, and the crown is attached to the upper part, that it will repair the injury by producing a new crown.

It is well known at any rate that it will grow most rapidly if the stalks are only cut off above the crown. In handling individual plants, a handful or so of salt placed over the root will kill it. Where it occurs in field cultivation and in quantity, a short rotation of crops should be adopted at once. A rotation like clover, corn or roots, or rape, and grain every three years is the most advisable. Where a sharp broad-shared cultivator is used in the cultivation of a bare fallow or after harvest cultivation, it goes a long way to weaken these plants. Where seed falls to the ground, it should be encouraged to grow right away and then the plants killed by cultivation.

This weed is a long-lived perennial and its leaves resemble somewhat the liverwort, grown as a door-yard plant quite frequently, and which can take on the proportions of a weed when allowed to escape from the flower garden. It

may be that the bladder campion was started in this way.

All clover seed grown in localities where bladder campion exists should be carefully examined for the presence of its seed which resembles catchfly seed in appearance, only it is a little larger and darker in color. Quantities of this seed are sold every spring in red clover seed and the unsuspecting farmer buys it and increases his troubles. Furthermore he has no redress through the law as the Seed Control Act does not mention it as yet. It will soon be added to the list of noxious weeds as it ought to be.

The time to fight this weed is when it first appears on your farm. Get to know it by consulting the bulletin on the Farm Weeds of Canada, which you will find in your public library or public school, and on page 39 see its description and opposite to that a cut of the plant itself. Plate 16.—"Weed Fighter."

A Disease Among Colts

"A disease called Joint or Naval Ill that has been prevalent throughout Ontario, has caused the death of many colts," said Mr. W. F. Kydd, the well-known institute speaker recently to a representative of Farm and Dairy. "At one time," continued Mr. Kydd, "nearly all authorities were

agreed that it was caused by a germ entering the body through the naval cord opening. At present, some authorities say that the foal is born with this disease. Be that as it may, I would, in every case tie the naval cord with a strong piece of twine and close to the body and then cut off the cord below the tying. Have a ten per cent. solution of carbolic acid, previously prepared, ready for use. Dip the string in this solution to kill all germs that may be on it, and wet the cords and surroundings with this solution several times a day, until the cord falls off and the opening is thoroughly closed.

ANOTHER TROUBLE

Many foals have a secretion in their bowels that they are unable to pass. This secretion is usually called meconium. This can be detected easily by the foal straining and being unable to get rid of this secretion. This condition requires immediate attention. Generally, an injection is necessary. Inject a tea-cup full of liquid every four or five hours until the excreta has a yellow color. This tells you that the mother's milk is passing through the body. I would suggest that milk be used for injection. It should be taken direct from the cow, as it will then be of proper temperature. The fat in the milk has a soothing influence. Milk will dissolve hard lumps as well as any other liquid and the bowel has power to absorb nourishment from the milk as long as it is retained.

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Good Cows in Demand

A few days ago a buyer from the States gave the high price of \$2,000 to a farmer near Brockville for one cow; This is believed to be the highest price ever paid for a Canadian cow. What made the animal so valuable? Granted that she was a model of beauty and an exquisite type of her breed, the fact remains that her actual performance largely helped to effect the sale. She has a record of 121 pounds of butter in 30 days. The records, those figures down in black and white, assisted in making the price.

When farmers generally commence to keep records of individual cows we may hope to develop specimens, but a general improvement in the production of the average herd. Records alone cannot furnish the information necessary to enable intelligent selection of the promising cows, and the rejection of those that are not profitable. Such selection, coupled with more liberal feeding, will repay any farmer abundantly. A score of farmers in Canada can testify, it has often resulted in an additional \$15 and even \$25 income per cow within four years. This means millions of dollars extra for the farmers of Ontario and Quebec, even from the present number of cows. The Dairy Commissioner, Ottawa, will be glad to supply record blanks for weights of milk, and to assist in organizing cow testing associations.—C. F. W.

Likes Alfalfa

Editor, Farm and Dairy.—I had heard so much about the merits of alfalfa hay, I decided last summer to try an experiment with it, and to grow 1 1/2 acres of alfalfa for the first time. The results I have obtained from it have been so satisfactory, that I have decided to increase my acreage next summer.

As soon as I started feeding alfalfa hay to my cows, their milk production increased until I was getting as much as 50 lbs. of milk a day more with a herd of nine cows, than they gave when I fed them grain, corn and mangles. I am now feeding them alfalfa and mangles. The cows are looking better than they ever did, and are always anxious for their feed. Alfalfa is a crop that hundreds of farmers could grow to splendid advantage.—T. E. Jory, Peterboro Co.

Farm and Dairy is a real value to the farmer and to the dairyman. prize it very much.—Wm. Bate, Richmond Co., Que.

Imports of U.S.A. Hog Products

Editor, Farm and Dairy.—The Editor of the Weekly Sun of Toronto makes the following statement in his report of the annual meeting of the Swine Breeders' Association held Feb. 3rd in Toronto. "Some of the statements made during the discussion which occurred in connection with these proposals indicate that at least some of those present were not conversant with the facts of the case, and that others have not fully considered the effect that must be brought about if some of these proposals are carried into effect. For instance, D. C. Flatt, President of the Swine Breeders' Association, declared that 'half the pork consumed in Canadian cities to-day was of American origin.' The Sun editor says 'it would be interesting to know from what source Mr. Flatt derived his information.' In the first place I would inform the Sun that such a statement was never made by me, and that other reliable newspaper men were present and they do not quote me as saying any such thing.

Now, for the special information of the Weekly Sun, I will state the facts as they were at the convention, that a certain packer had said that 'half the pork consumed in our Canadian cities was of American origin.'



Mr. D. C. Flatt, Millgrove, Ont.

The President of the Dominion Swine Breeders' Association, Mr. D. C. Flatt, of Millgrove, is one of the most successful breeders of hogs in Canada, he having exhibited successfully at leading exhibitions both in Canada and the United States. Mr. Flatt has recently been appointed by the Swine Breeders' Association to act on the deputation that will visit on Hon. Sidney Fisher, to ask the Government to adopt the suggestion made some time ago by Farm and Dairy, that he be sent to Denmark to investigate the hog raising industry in that country. Mr. Flatt is a strong advocate of the raising of the Canadian tariff on hog products from the United States. He believes that the Canadian tariff should be the same as the United States tariff. During the past two years, Mr. Flatt has been building up a fine Holstein herd. He was recently elected a director of the Canadian Holstein Friesian Association.

It looks to me that the Sun does not feel friendly towards the present move of the swine producers of Canada in asking that a 4c duty be placed on American hog products coming into Canada.

The Sun in presenting its case, says that the total exports of bacon and hams from the U.S. to all British American ports, including Newfoundland, for the 12 months ending with November, amounted to a total of \$600,000. I can see no use of the Sun trying to mislead the people. Why does it not give the last official report of American hog products coming into Canada? Possibly it has some special reason for not doing so. I will give the figures of the last

official report and let the men who are pricing the hogs of our country judge for themselves as to whether the amount of American hog products coming into Canada is not having an influence on the fluctuations in the market values of our hog products. I will quote from Mar. 31, 1907 to Mar. 31, 1908.

	Pounds	Value
Lard	11,028,225	\$1,063,553
Compound Lard	698,252	82,829
Bacon & Hams	7,307,949	852,301
Pork in Bbls.	8,966,365	704,779
Dried & Smoked	1,918,161	148,850

Total Hog Products 29,983,640 \$2,834,511

It might be interesting to know that during the same period our exports to the U.S. amounted to only \$5,211. The above comparison shows the effect upon the hog industry.

If we wish to export to the U.S. we must pay 5c. a lb. duty, while they may dump our market full at 2c. a lb. duty.—D. C. Flatt, Wentworth Co., Ont.

The Feeders' Corner

The Feeders' Corner is for the use of our subscribers. Any interested are invited to ask questions, or send items. Interesting questions will receive prompt attention.

Scours in Calves.

Would you please give me advice as to how to treat calf with scours. I have a pure-bred male calf, month old, scours very badly. I am feeding separated milk, lucern hay, plain concentrate and clover, to which I am a subscriber.—C. V. H., Welland Port, Ont.

Thoroughly clean pen and sprinkle lime about floor. Whitewash walls, if possible. Give a dose of one-half oz. castor oil. Thoroughly clean feed pail each time it is used. Reduce amount of milk being fed to three quartas/day. Mix a little lime water with milk. Then gradually change to whole milk. Begin at once to gradually change to skim milk again. Replace a small amount of whole milk with the skim milk each day until feeding skim milk entirely. Add to the skim milk electrolyte made by a cupful per pint of flaxseed meal to simmer (not boil) for about 24 hours in about two quarts of water. Give some other milk immediately. Give a small quantity of timothy hay.—J. H. G.

Weed Seeds for Sheep

If sheep be fed rawweed seed is there any danger of it germinating after it is hauled out. Also is a little buckwheat seed for sheep?—E. B. Marshville, Ont.

Rawweed seed fed to sheep is not likely to germinate provided it goes through the sheep. The danger lies in such seed as gets scattered about and escapes being eaten before getting into the manure. The better plan would be to grind them finely and mix with bran and oats.

A small amount of buckwheat is a satisfactory grain for sheep. The rawweed seed ground might be fed with the buckwheat if the latter were cracked before feeding.—J. H. Grisdale, Agriculturist, C. E. F. Ottawa.

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FARM MANAGEMENT

Growing Feed For Cattle

Will you kindly let me know what you consider the best feed which you could grow on our farm for fattening cattle in the winter time? We suppose that roots such as sugar beets, manurets, etc. would constitute a large part of their food, and we would be glad of any information which you can give us which would enable us to decide how much we would need to plant of these roots, in order to provide for fattening 20 head of cattle.—C. N. Co., Montreal, Que.

To winter 20 head of cattle, fattening them and keeping in mind at the same time the production of manure in considerable quantities, would require approximately the following amount of materials:—Four tons bran, two tons oil cake meal, two tons gluten meal, 20 tons straw, eight to 10 tons hay, and about 100 tons of ensilage or roots. If less roots or ensilage are provided then the quantity of hay would have to be increased, or likewise the quantity of meal above mentioned.

If corn were grown, then about three acres would be required. If roots then about six acres would be necessary. Equal areas of turnips

Satisfied with Results

Brockville, Ont.
Ed. Farm and Dairy.—We have obtained good results by our advertising in "FARM and DAIRY" that we have almost entirely confined our advertising to your paper. By your medium, we find the people that we are desirous of interesting, and we have had such results as to warrant our continuing our ad. in "FARM and DAIRY."
(Signed) D. Derbyshire & Co.

and mangels would be the most likely to prove satisfactory when it came to feeding.

If land is not in shape to grow hay, then I would suggest as a substitute for the hay the growing of about eight acres of a mixture of peas and oats sown at the rate of three and a half bushels an acre, equal parts of peas and oats by weight. This should be cut when quite green in color (that is, when the oats are in the milk stage) and cured as hay.

If grain is grown on the farm, then part of the bran might be replaced by oats and part of the oat meal by barley. The oil cake meal should be retained.—J. H. Grisdale.

Variety of Corn to Grow

What is the best kind of corn to grow for the silo?—Subscriber, Teasewater, Ont.
The Selects—Leaming, White Cap Yellow Dent, Longfield, Early Mastodon, are the varieties of corn that are likely to suit you best.

I would suggest that you sow about 1 1/2 of the area to each of the varieties of corn, or if you wish to sow only three varieties, then I would suggest one-quarter area Longfield, one-half Leaming and one-quarter to Early Mastodon.—J. H. Grisdale, Agriculturist, C. E. F., Ottawa.

Amount of Cement for Wall

How much cement and how much gravel would be required for a wall of a building 40 feet by 60 feet by 8 feet.—C. A., Huron Co., Ont.

As you do not state the class of building this is for, or the thickness of wall, we are at a loss how to give you figures, so as to figure on a basis of a 12 inch wall. If this is required, you will be able to deduct from this in proportion. As we understand it, this would be for a barn, probably

40 x 60 feet, and a 12 inch wall would be amply heavy enough, in fact, a 10 inch would do. This would mean there is 1600 cubic feet of wall which will take 60 yards of gravel, and if built of a proportion of 1 to 8, which is all right for barn work, which is used, it will take 60 blis. of cement.—London Concrete Machinery Co., Limited, W. Poocok, Mgr.

Cement Floors in Horse Stalls

Would you advise putting a cement floor in horse stalls or plankings there? It is injurious to horses' feet to stand on cement?—E. A. B., Wildmay, Ont.

Cement makes the best kind of a floor for a horse stall. It is advisable, however, to lay planks on top of the cement. While it cannot be said that the cement is injurious to the horses' feet it is difficult to keep horses sharp shod in winter on such a floor, besides it being a cold floor to lie on. The planks on top of the cement have proved very popular with all those who have installed them.

Our Veterinary Adviser

LUMP JAW.—Two year old steer has a lump just under his jaw. It is not attached to the bone.—W. S. C., Oroon, Ont.

This is lump jaw. Get your veterinarian to dissect it out, and he will give you a dressing to use until the wound is healed. About a week after the operation give the iodine or potassium treatment. This consists in giving the drug three times daily. Commence with one dram doses and increase the dose by one-half dram daily until he refuses food and water, tears run from eyes and saliva from mouth, and the skin becomes scrufty. When any of these symptoms become well marked cease giving the drug.

FATALITY IN HORSE.—Horse took distemper, ran freely from nostrils, abscess formed and broke in neck. In about five days the discharge from nostrils became very foetid. He died in three days.—No name.

Your horse had an attack of what is known as irregular strangles. In these cases abscesses form in various parts; doubtless in your case there was an abscess or abscesses in some of the internal organs and this caused death. It requires a careful post-mortem

tem to ascertain where said abscesses are situated. Nothing can be done, and the presence of the abscesses can only be suspected during life.

Warranted to Give Satisfaction.

Gombault's Gaustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure For Cough, Spill, Sneeze, Croup, Hoarse, Strained Throat, Sore Wind, Puffs, and all Lameness from Spavin, Glanders and other bony tumors. Cures all skin diseases or Parasites, Thrush, Blisters, Chives all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Gaustic Balsam sold is warranted to give relief within 15 to 30 per cent. sold by druggists, or sent by express, postage paid, full directions for use in plain English for descriptive circulars, testimonials, etc. Address The Lawrence-Williams Co., Toronto, Ont.

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IS BETTER, CHEAPER, MORE HEALTHFUL.

It is considered to be the only milk substitute in the world. Makes stronger and healthier animals and sweeter, firmer, whiter veal than any other known method of feeding. Prevents scouring. Costs half as much as milk and contains no milk fat or other by-products.

WRITE TODAY for our valuable free book, "How to Raise Calves Cheaply and Successfully Without Milk."

It contains the condensed experience of the generation which this firm has spent in learning to produce an absolutely perfect calf food. The 50,000 farmer who are raising Blatchford's Calf Meal today know by their own names on a scale well being this book.

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Lands are offered for settlement in some cases FREE, in others at 50 CENTS per acre, in various districts in NORTHERN ONTARIO.

Write for information as to terms, homestead regulations, special railway rates, etc.

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If you count the results it gives, Livingston's Oil Cake is just what cows need.

It tastes good—is easily digested—keeps stock in prime condition all the year round—actually increases the percentage of Butter Fat by 16% over Pasture Grass. The richer the cream, the more money you make. Livingston's is the feed that pays for itself.

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A \$5,000 DAN PATCH STALLION FREE

An Absolute Free Hair Counting Contest Without Money or Purchase Consideration And Open To Any Farmer, Stockman or Poultry Breeder. Can you count the number of hairs drawn in a picture of "Forest Patch" sired by Dan Patch, dam a photo engraving of "Forest Patch," the fine Registered Stallion to be given away and also a \$5,000 Drawing showing hairs to be counted and also stating exact conditions. Every stock means a small fortune free for some one. We paid \$20,000 for Dan Patch and have offered it \$100,000. You may secure this \$5,000 Dan Patch Stallion Absolutely Free. "Forest Patch" might make you a fortune of \$50,000 to \$50,000 as a great stock horse and beautiful conformation. E. B. SAVAGE, Toronto, Canada.

Mail this Free Coupon To-day to E. B. SAVAGE, International Stock Food Co., 1000 York Street, Toronto, Ont.

NAME.....City.....Hogs.....Horses.....Sheep.....
Post Office.....Province.....



DAN PATCH 1:55.

POULTRY YARD

Poultry on the Farm

J. Durd, Huron Co., Ont.

Of late years farmers and their families have taken much more interest in poultry raising than formerly. The result has been that this branch of the farm is now an important source of wealth to the country. There are yet, however, a very great many who believe that poultry cannot be made to pay and that fowls are more bother than they are worth. Those who honestly hold that opinion had better leave poultry alone, for it is certain that unless they like the birds, and will take pleasure and interest in caring for them and providing for their wants, they cannot make poultry pay.

The same principle applies to all other classes of live stock. If a man does not like the animals he is handling sufficiently well to watch them closely and supply them with all they need and perhaps a little more, he had better give them up and devote his attention to something that has no life in it. In dealing with living and intelligent creatures it is the little attentions that count quite as much as the observance of general rules. A great many farmers fail with poultry in being careless in little things, for instance proper housing. Give your poultry plenty of room if possible. Don't cram them in so small a space that they scarcely have room to turn round. Providing exercise is another common failing. Too many sim-

ply throw down the feed for their hens. It is greedily gobbled up by the fowl, who then go and stand in a corner the rest of the day. Keep plenty of cut straw on the floor and have the hens scratch for all they eat. This will keep them healthy. Then feed a variety of feed. There are no laws to be laid down in regard to feeding, as different poultry men adopt different ways of feeding. Above all keep plenty of grit, oyster-shell, ground bone, charcoal and fresh water, also plenty of fresh air, and be very careful to have them free from lice. These are just a few of the many things to be looked after in the poultry line.

KEEP AWAY FROM MONGRELS

The poultry man aims to produce always the best type of the breed to which he is devoting his attention; at least he ought to. But, how often do we see a flock on the farm, where characteristics of every known breed show forth. Such a mixture the writer always detests. If you wish to have success take a breed of fowl, good egg producers, and don't cross them. Keep them pure.

It is the hen that lays that is the one that pays, but there are two classes. The first being that which is useful only for the production of eggs, the birds being a little too small for market purposes. The second class comprises the breeds which are sufficient in size to make them important as producers of wholesome and attractive meat. It must not be understood, however, that the larger breeds are deficient as egg producers, this is not the case. In fact in the exper-

ience of the writer, some strains of these breeds were most profitable egg producers. They were more so because they were good winter layers, which birds of the exclusively egg-producing class seldom are, unless they receive more care and attention during the winter months than they are likely to get upon a farm.

From my considerable experience with the rearing of poultry, both by the natural methods, and also by means of the incubator, I have found the natural method, or hatching by means of the clucking hen to be the most profitable for the farmer. My reasons are various: 1st. The farmer seldom takes time to tend an incubator properly. 2nd. Each succeeding generation hatched by the incubator is weaker than its predecessor. 3rd. If one happens to spoil a hatch in the incubator his loss is greater than with

Hatch Chickens by Steam

Small "Wood-Drum" Incubator
Largest Capacity "The Incubator"
Well Built, Reliable, and Efficient
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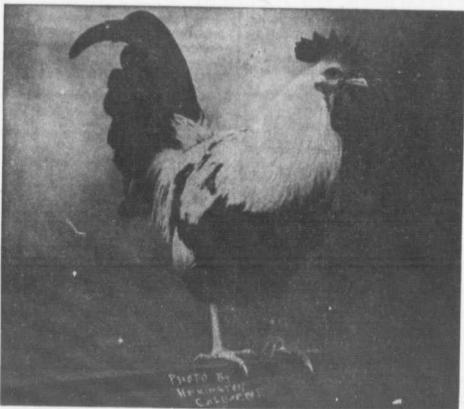


242 EGG STRAIN (Kulp)

Brown Leghorns from the biggest birds and biggest layers of big eggs (up to 32 oz. per doz.) Best business breed in America. Hardly handled and profitable; lay earliest and longest. \$200 per doz. Circulars free.

BRANT POULTRY YARDS, Brantford, Ont.

of the same weight, thus making them a most desirable table fowl. In fact, they are acknowledged by many authorities as the "King of Table Fowls." They are ranked among the best of layers. They stand our Canadian win-



A Good Specimen of a Favorite English Breed

The illustration taken from life is a typical Silver Gray Dorking male, owned by Mr. Walter McGlennan, Northumberland Co. Ont. He has won many 1st, and special prizes at leading Ontario poultry shows.

the hen. Good hatches are had by both methods. However, if one wants to rear good strong specimens for breeding purposes give him the hen to hatch and raise them.

A General Purpose Fowl

Wallace McGlennan, Northumberland Co., Ont.

In this advanced age we are constantly looking for something new, and in many cases an improvement on the old. While in the chicken world we are making new varieties and breeds every season or two, the writer does not think that the attention of the people should be drawn away from some of the varieties of poultry which have stood from the ages down. I refer particularly to the Silver Gray Dorking. We have the White, Colored and Silver Gray varieties of this breed which the American Standard of Perfection recognizes, but perhaps the variety which is the most popular and which is the most extensively bred is the Silver Gray. The Dorking is one of the oldest if not the oldest breed in existence to-day, being bred in the early days of British history. It is of English parentage, but it has been bred and greatly improved in this country for many years back.

The Dorking is a very low set fowl, with a long, full breast. Its legs are short and stout, which tends to give this long low set appearance. The flesh is of very delicate fibre, and is very juicy and sweet. They are much finer boned than other breeds of fowl

ters admirably, and if given the proper care and attention which any fowl should have, they will fill the egg basket to the entire satisfaction of their owner.

From the standpoint of the farmer the Dorking should be especially considered. Combine their qualities in a bird and see what we have: Good size, good laying qualities, fine table qualities, splendid sitters and good mothers, very docile to handle, and last, but not least, a most beautiful breed.

For the man who is "only keeping a few hens," where is there anything that will fill the bill better than this. This is the fowl that should have the attention of every fancier, small breeder and farmer, for experience has taught the writer that they are indeed worthy of attention from all sides.

It is not my wish to belittle other breeds. Anything in the shape of a hen has a place with me, but while other breeders are praising up the good qualities of their favorites, Dorking fanciers should blow their horns too. Let us hear from some of the other breeders.

Never feed decayed meat, mouldy grain, or give fowls stale water to drink.

Start with the breed that you think you want, and then stick to it. The stock-raiser who shifts every few years to a new breed never gets anywhere in his operations, except nearer to the poor-house, perhaps.

FENCE TALK No. 4

Before you buy any fence—even Page Fence—make it prove up its value. Then you'll know what you're getting. Test it two ways, thus;

Have the dealer cut for you, before your eyes, a piece of horizontal wire from the roll of Page Fence and any other fence. Now for the fire-test. Heat both pieces cherry-red; cool them in cold water, and start to bend them.

The Page wire will have taken such a temper that after breaking off a piece the fresh end will cut glass—because it is "high-carbon" steel that takes a temper. That proves its toughness, its hardness, its power to stretch farther, stay tighter, and sag never.

The other wire will bend like copper wire—because it is only hard drawn steel, that won't take a temper. That shows it up as soft, weak—breaks at 1,800 lbs. compared with Page wire that stands 2,400 lbs. tensile strain. Shows it up, too, as sure to sag, hard to make tight, certain to give out sooner, by far.

And then the eye-test—look at the locks of the other fence. Have the man give you one to cut apart. Study it where the wires cross; look for marred surface where the cross comes—that means weakness. Then look at the cut-apart Page lock—positive, cannot slip a little bit, shows no sign of squeezing or pinching.

Look, too, that the running wires are wavy enough to allow amply for expansion and contraction—as the Page does.

Last, the third test—the cost-test. A Page Fence stands up and stands tight on two posts to any other fence's three. Figure the fence-posts saved, digging labor saved, and the time saved in putting up the fence.

Apply every test—and you will choose Page Fence every time. Send now for valuable free book that teaches how to make sure of fence value before you buy. Write for it to the Page Wire Fence Co., Ltd., Walkerville, Toronto, Montreal, St. John, Vancouver, Victoria, and find out why.

"PAGE FENCES WEAR BEST"

It is desirable to mention the name of this publication when writing to advertisers.

HORTICULTURE

Many Fruits on a Small Area

The illustration on the front cover of this issue of Farm and Dairy shows a corner of the orchard and garden of Mr. W. J. Justice, Simcoe Co., Ont. It is described by the owner as follows: "The plum trees shown are 20 feet apart between the rows by 10 feet in the row. The ground in these rows is devoted entirely to the plums. It is kept clear from weeds and well manured. The space between the rows is occupied in the centre by a row of either red currants or gooseberries, and on either side of this I grow strawberries until the trees, by top and root, prevent it. It is surprising how long they can be grown profitably if the soil is properly treated with well-rotted stable manure and thoroughly worked.

"After a crop of strawberries has been harvested, the plants are plowed under at once if the plum crop will permit, and manured and plowed twice if possible before snow fall. The following spring, if desired, another good coat of well-rotted manure may be worked in and planted again with strawberries. Should circumstances forbid following this plan, I occupy the strawberry space with a crop of some early vegetables. I use freely a 12-tooth cultivator harrow in working the soil while the crops are growing, using care when the strawberries are near fruiting. I use about 20 team loads of good manure per acre each season. I find that plum trees, when they reach a certain age, cease to be profitable and should be grubbed. I had to treat several that way last fall. Other fruits also are grown in other parts of this orchard."

How to Make Bordeaux Mixture

A. C. Blair, Peterboro Co., Ont.

A standard remedy for the treatment of apple scab and other fungous diseases of the orchard is the Bordeaux mixture. When combined with Paris green, it is also an effective insecticide for the treatment of codling moth and other pests. It is not difficult to make but requires some care.

To prepare it properly, at least two barrels besides the spray pump are necessary, and four barrels are better. The usual formula for Bordeaux mixture is four pounds of bluestone, four pounds of lime to 40 gallons of water. A little more lime may be beneficial and will do no harm.

To make a stock solution, dissolve 20 pounds of bluestone in one of the barrels with 20 gallons of water. This is best done by placing the bluestone in a sack, suspending it just beneath the surface of the water in the barrel and leaving it over night. This will require one pound of bluestone to each

gallon of water. In another barrel slake 20 pounds of lime and when slaked add sufficient water to make 20 gallons. This will also give a stock gallon of water.

When about to spray the trees, place 16 gallons of water in the third barrel and four gallons of the bluestone stock solution, making in all 20 gallons, or half a barrel. In the fourth barrel place 16 gallons of water

borer; third, immediately after the blossoms fall, for codling moth; fourth, about three weeks later, for apple scab and leaf eating insects.

Essex Fruit Meeting

M. G. Bruner, Essex Co., Ont.

At a recent meeting of the South Essex (Ont.) Fruit Growers' Association the following resolution was passed: "Resolved, that in the opin-

prepared lime and sulphur solution, also on the arsenate of lead paste, which are now being prepared by different chemical companies in the United States, but as yet are not manufactured in Canada. And also resolved that the fumigation stations are no longer of any benefit, but rather an injury to trees being imported from the neighbouring states by the rough or careless handling of the trees receive while passing through some of these stations; therefore, we ask the government to remove the same, as there is a law in each and every state which compels every nurseryman to fumigate their trees before they leave the nursery." These same resolutions have been also passed by the Leamington Fruit Growers' Association at their last regular meeting.

I have had trees killed by the handling they received at the Windsor Station in the spring of 1907. The trees had been undone to be fumigated and not properly re-packed. When they reached me the roots were as dry as straw.

The Essex county council appropriates \$25 each year to our association for the purpose of getting new fruits for the members to test as to the adaptability of our county to the growing of such new fruit trees or plants. As president of the association for the present year I called for a report on the trees and plants at a meeting in January, and found that on an average three-quarters of the trees died. The cause was in almost every case laid to the fumigation; hence the above resolution.

Take a greater interest in the farm garden and you will be pleased with the results.

There should be a small piece of ground set aside near the house for the growing of vegetables for home use.



The Power Sprayer is Being Used More Extensively as the Seasons go By

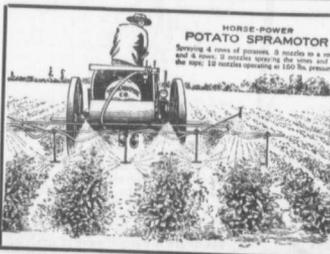
In localities where the acreage of orchards is not large, it is most convenient and cheap for six or more farmers to club in the purchase of a power machine. The Ontario Department of Agriculture gives a bonus to the men who co-operate in this manner, and who make application for same.

and four gallons of the milk of lime, making also 20 gallons in all, or half a barrel. This may then be poured into the spray pump and mixed thoroughly, when it will be ready for application. If the third and fourth barrels are not obtainable, the four gallons of bluestone may be placed in the pump immediately and the pump nearly filled with water, when the four gallons of milk of lime may be added. The important point to remember is that the stock solutions of bluestone and lime must not be mixed together without being first well diluted.

To add the insecticidal property to the mixture, mix four ounces of good Paris green to a paste with a little water, dilute with water enough to enable it to pour and add same to the mixture in the pump. If the Paris green is not good, another ounce or two may be used.

These operations may be repeated until all the stock solution is used, when more will have to be made if required. When spraying keep the mixture thoroughly agitated, as Paris green will not dissolve in water but remains in suspension. It is best to spray four times: First, when the trees are dormant in spring, for fungus; second, when the buds are opening, for bud moths and cigar case

ion of this association it would be to the interest of the fruit growers the province over to have the Dominion Government remove the present duty that is imposed on the commercially



HORSE-POWER POTATO SPRAMOTOR
 This shows the H.P. Spramotor arranged for spraying potatoes. It consists of three nozzles to a row and four rows, two spraying from the sides and one from the top, adjustable as to height and width up to 40 ft. Nozzles absolutely will not clog, 12 gal. air tank, automatic hand controlled, 200 lbs. pressure guaranteed with 12 nozzles open. An acre can be sprayed in 10 min. Inflator cannot puncture relief into tank, and nozzle protector all under control of the driver from seat. For 6 or 8 horses. Fitted for orchard, vineyards and grain crops, can be operated by hand. This Ad. will not appear in this paper. If interested write now.

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SAMPLE COPIES ON APPLICATION TO

Circulation Manager

Farm and Dairy

Peterboro, Ontario

The Brown-Tail Moth

In the issue of Farm and Dairy for February 11th, reference was made to the possibility of the brown-tail moth gaining an entrance to Canada through the importation of nursery stock from Europe. Already this pest is to be found in Nova Scotia. To aid in controlling it, and in preventing its spread to other provinces, from that and other sources, the following extract from the 1906 report of Dr. Jas. Fletcher, late Dominion Entomologist, is reprinted:

"The brown-tail moth, which has been the cause of enormous loss in Europe and the United States, is undoubtedly established in one locality in Nova Scotia, and probably in several others. It is important to find out the range of its infestation, and everybody is urged to send in any suspicious nests of insects or clusters of leaves webbed together, particularly if they contain caterpillars, whenever they are noticed on the trees.

"The collection of winter nests is the best and easiest means of controlling this insect. The collection of these nests must be done carefully, with as little handling as possible, and all should be burnt at once when cut from the trees. This work must be done before the buds burst. "Any trees bearing nests of the brown-tail moth, after the buds have opened, must be sprayed with some poisonous mixture for the destruction of the caterpillars.

"The establishment of the brown-tail moth in Canada is a serious matter, affecting everybody in the district where the insects occur. What is now only a matter of considerable interest, may, if neglected, become a public calamity. Specimens for examination may be sent to the Entomologist, Central Experimental Farm, Ottawa.

Propagating Trees and Plants

H. Holz, Central Experimental Farm, Ottawa.

In order to get the same variety again, we have to propagate. This may be done by cuttings, budding or grafting. Grapes, currants and gooseberries are generally propagated by cuttings. The principal thing in making cuttings, is a sharp knife to make a clean cut. The wound will callous



Different Steps in Operation of Budding

over quicker and start to root quicker than if done with a dull knife.

Budding is done on a large scale by most of the nurserymen, especially by stone fruits such as plums, peaches and cherries, and also in pears and apples. For budding or grafting select healthy strong stock. For cherries, seed of the bird cherry gathered as soon as ripe and sowing in early fall, will make in two years' time some excellent stock for budding and grafting. In plums, our common American varieties will make some fine stock if treated in the same way as the bird cherry. In apples, seed of hardy crabs is used the most in this part of the country. If sown in fall and left growing for one year in a seed bed and then transplanted in nursery rows, these will, after growing one year in the nursery, be strong enough for root or crown grafting. In all cases, see that the stock and scion are as nearly as possible related; for instance, if grafting apples, use stock grown from crabs or apples; in plums, use stock grown from plums. I have heard people say that they grafted an apple on an elm and a rose on a hawthorn and so on. Don't believe this. There are cases where different stocks can be used; still, if a person is not quite sure about it, better not to try it.

What is called the "scion" is generally taken from one year's growth of a fruit tree, or any other tree, so long as it is used for grafting; for instance, if I would get scions now, I would get the growth from 1908.



How Root-Grafting is Done

The best time to get them, if possible, is before the real cold weather sets in. They can then be kept in a root house or cellar buried in sand, to keep them from drying out. Always get scions from healthiest and most productive trees. One of the accompanying illustrations shows the various steps in the operations of budding. All the tools you need for this purpose is only a budding knife.

There are different ways of grafting, such as root grafting, crown grafting, and top grafting. The tools necessary

THE MOST IMPORTANT FARM MACHINE

THE MANURE SPREADER

Are you Saving Money, or are you Losing it by being without One?

You believe that money spent for a mowing machine or a binder is well invested. Still you use these machines only a few days in the year.

You use the hay rake, because it saves you time and labor.

These are valuable machines. They are now counted indispensable by most farmers, even though they stand unused over eleven months in the year.

But a manure spreader is a still more valuable machine. Its purpose is to keep up the fertility of the soil. It is the machine you use *all* season, and the one on which the real usefulness of all your other farm machines depends.

If you have not already done so, you should consider now the advisability of having an I. H. C. manure spreader on your farm.

You will have choice of two different spreaders in the I. H. C. line—the Cloverleaf, endless apron spreader, and the Corn King, return apron spreader. Each of these spreaders handles the manure in all conditions perfectly and will give you long satisfactory service.

These spreaders are not ordinary. Their frames are made of air dried wood stock. They have serviceable, attractive power-propelled wheels, beaters that are unsurpassed for tearing the coarsest manure into the smallest pieces and applying it uniformly, aprons that deliver the manure to the beater with the least possible friction and

in a uniform manner. Any one of these machines will, if given proper care, last a lifetime.

The labor of spreading manure is greatly lessened by using one of these I. H. C. spreaders. Not only is the labor lessened, but it is changed into agreeable work.

But the strongest reason for using an I. H. C. spreader is the increased value you get out of the manure. The best authorities agree that manure spread by an I. H. C. spreader has at least double the value of manure spread by hand.

The I. H. C. spreaders pulverize and make the manure fine, and spread it evenly over the ground just as the manure is spread by hand. There is no question but that land manured by an I. H. C. manure spreader will give an increased yield of from two to ten bushels per acre over land where manure is spread by hand.

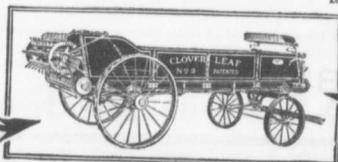
The good effects upon the crop are immediate and the permanent benefit to the land greater than when the manure is spread by hand. There is no question but that land manured by an I. H. C. manure spreader will give an increased yield of from two to ten bushels per acre over land where manure is spread by hand.

Consider the labor saved, the more agreeable work, the better crops, the more fertile condition of the land—not an I. H. C. manure spreader the machine you should have?

Are you not losing money instead of saving money by being without one?

Call on the International local agent and investigate one of these machines. He will supply you with catalogs and particulars, or if you prefer write nearest branch house.

CANADIAN BRANCHES: Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg.



INTERNATIONAL HARVESTER COMPANY OF AMERICA (INCORPORATED) CHICAGO, U.S.A.

for this operation are a budding knife, grafting knife, saw, shears, a large knife for splitting and a mallet. Root grafting is always done during the winter season. The roots are lifted in the fall and stored away in a root-house or cellar. See the illustration showing at the left scions and stock separated and at the right, the operation completed, at the point of union being wrapped with wax cotton thread. Most of the nurserymen use tie the grafts with waxed string. We find at the Central Experimental Farm that, by waxing them over, we get a larger percentage to grow.

In the crown graft, the stock is left in the ground undisturbed and the work is done the latter end of April and the early part of May. To have a success in cherries, this should be done as soon as the snow is gone in the spring.

The operation of top grafting is nearly the same as crown grafting only it is done on branches of trees and sometimes on trunks, if they are not too large, at the height desired. In top grafting it is better not to cut off too many branches in one year as this will weaken the tree too much and the tree is apt to die. It generally

caused by the beetles or not. Whenever such is the case a round shot hole will be seen in the bark when the object of the beetle in attacking the gum has been removed.

Healthy trees seems to be to kill them because it is only in dead or dying trees that they can lay their eggs and produce offspring. This fact gives the clue to an easy and practicable remedy, especially when we know that they pass the winter chiefly in the dye, under the bark of the dead such quarters and do not move from April comes.

THE REMEDY

Cut down and burn before April dead and dying fruit trees of every kind and prune off dead branches. It is left in the old brush heaps because the beetles would still continue to breed in them. If this suggestion is acted upon by the fruit-growers as a body, so many insects will be destroyed that all danger to orchards from this pest will be removed. Each fruit-grower look after his own orchard but do his best to get his neighbors to do likewise, because the insects will fly for a considerable distance from one orchard to another.

Trees with gum masses on them caused by beetles need to be cut down unless they are so badly weakened that they are likely to die. The beetles do not seem to be able to breed where the gum is exuding because this substance drives them out. Such trees, however, should be pruned severely this spring and manured to help them recover quickly. If they are greatly weakened, they should of course be cut down and burned.

Growing Tomatoes for Cannery

Louis P. Hubbs, Prince Edward Co., Ont.

Whether tomatoes are to be grown for home use or for the canning factory it is desirable that they commence to ripen their fruit early in the season, so often have in this country. The first thing necessary to the production of a large crop is the securing of large well-grown plants at the proper time for transplanting, which in this locality is the last three or four days of May or the first three or four days in June. To secure these plants the seed should be sown the last week in March in a hotbed that is well protected from the cold winds.

Too much care cannot be exercised in the selection of good seed. Sow the covering about four inches apart, firm the soil well on top. As soon as the plants begin to break ground they should be carefully watched to see that the bed is kept at the right temperature. It should not go below 50 degrees at night, or fall above 80 in the day. Too high a temperature induces a tender slender growth which is to be avoided at all times if possible.

MOVE TO COLD FRAMES

At about five weeks from the time of sowing the seeds the plants should be ready to transplant to the cold frames. These cold frames are best prepared by placing about four inches of coarse horse manure in the bottom of the frame. Put on top of this at least five inches of good garden soil. Have this soil made very fine in the bed and be careful to place the soil at an even depth to get the plants of a uniform size. The plants are to be set about four inches apart each way.

If the transplanting has been well done the plants should show signs of new growth in five or six days. As soon as the plants are well established a liberal amount of fresh air is not only advisable but absolutely necessary, and at the end of two weeks from the time of transplanting the cotton should be

taken off at least part of the day. Give plenty of water when necessary but do not water too often.

As it gets near the time to transplant to the field the plants should be left uncovered a longer time each day, and finally leaving them uncovered at night and day if the weather does not get too cold. The water supply should be diminished a few days before transplanting in order that the plants may make a slow, stocky growth. The ideal plant is about four to five inches high and nearly as thick as a lead pencil and of a good dark color. If handled this way the plants should start growth very quickly in the field.

TRANSPLANTING

Great care should be taken in removing the plants from the cold frame in order to not break the roots nor to injure the plants in removing them to the field. The earlier the plants can be set in the field without the risk of losing them by the frost, the earlier the crop will be and more money made by getting the crop all ripe and delivered to the factory at a time when they are all wanted.

CULTIVATION

Cultivation should begin as soon as the plants are set. The early cultivation should be deep and close to the plants, but later it should be shallow in order not to injure the roots. The later the cultivation can be continued the longer the picking season will last. When plants are set with the plant setter they will need to be well hilled up with a hoe, but if set in rows both ways, very little hoeing need be done after the plants get a good start.

In getting the land ready for tomatoes it should be rich and well plowed in the fall. In the spring as soon as the land is dry enough to cultivate well, it should be cultivated and kept well stirred until it is time to set the

plants in the field. In this way the land will be bound to be loose and moist and the continuous cultivating during the summer will keep the land moist. Early cultivation will also have a tendency to prevent the grubs from destroying the growing plants.

A Hedge in One Year

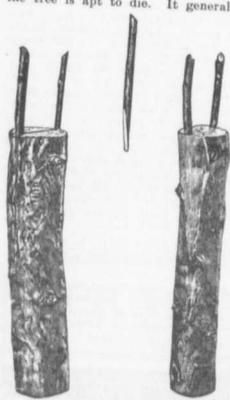
T. McVittie, York Co., Ont.

It is easy to have a hedge from seed in one year. The mock cypress (*Kochia scoparia*) is the plant that will do it. It is a half-hardy annual and, of course, will have to be renewed every year. It will grow two or three feet in height and, if the plants are grown individually, four or five feet in circumference, forming compact bushes. It makes an effective and ornamental hedge. The small feathery light-green foliage changes during the summer advances to a deep green, and to a crimson hue in the fall. The beauty of the *Kochia* is very often destroyed by overcrowding when planting.

To grow for pot culture, the seed may be sown in March, giving the same treatment as for balsam or other similar annuals. They should be given good drainage, if intended for pots, as they are sometimes very slow in germinating.

For outdoor culture the seed may be sown in April and the seedlings planted out about three feet apart by the end of May, taking care to keep well watered until established in the ground where they are to remain for the summer. The seed may be purchased from seedsmen that advertise in Farm and Dairy.

The article referred to on the front cover of this issue of Farm and Dairy may be found on page 11, at top of first column.



An Example of Cleft Grafting

takes from three to four years to get a new top on a fairly good sized tree. In top grafting the cleft graft is used. (See the illustration).

The following recipe is used for making grafting wax: Rosin, 4 parts; beeswax, 2 parts; tallow, 1 part; all by weight. A little more tallow will not hurt. Another wax recommended is: $\frac{2}{3}$ lb. of beeswax; 10 oz. of boiled paint oil. This is the better wax for outdoors.

A Dangerous Pest

L. Caesar, Ontario Agricultural College, Guelph.

During this coming season fruit-growers of the Niagara district from Hamilton to Niagara-on-the-Lake are threatened with serious injury to their cherry, plum and peach trees through the attacks of a very small black beetle about one twelfth of an inch long, commonly known as the Shot-hole Borer, Fruit Bark Beetle, or Pin Borer. Under normal conditions it confines its attacks to dead or dying numerous, however, it has the dangerous habit of attacking perfectly healthy trees.

When healthy trees are attacked by the beetles, gum masses soon form over the holes bored by the insects through the bark. Very similar gum exudations are caused by fungous diseases, such as Brown Rot. It is easy, however, to tell whether the gum has been

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A Busy Man's Garden

A talk on "A Busy Man's Garden," was given by Mr. R. B. Whyte, Ottawa, at the convention of the Quebec Pomological Society. He remarked that a garden was a part of the home and, therefore, should be so arranged in summer that the owner could live for a large part of the time out-of-doors. Consequently, a certain amount of privacy was needed. It should be open to the public. It should be a place where a person could grow that in which he was most interested. Some grow vegetables, others fruit and other flowers. To be complete, more or less of the three should be included.

How can a garden be made to fill these conditions? In the first place, a point very much overlooked was that of having wide, roomy paths, which must be soft to the feet and dry, clean, and easily kept clean. Secondly, there must be pleasant resting places here and there. It is important to have summer-houses in suitable and proper places, where a person could sit down and read, or pass the time in any way he wished. Thirdly, time being limited, it is important to have labor-saving tools and to always have them sharp and ready for use. The things worth growing in such a garden are the best of vegetables and fruits, but it does not pay to grow turnips or potatoes.

The great interest of the garden is the flower department. Grow such flowers as will give a continuous of bloom all summer and up to the time of frost.

They should be grown in masses, as this gives an idea of the mass of color and beauty. They should be grown for quantity, garden decoration and cutting. For best results spring and summer bulbs are required, also bedding plants, annuals, perennials and climbers. For early flowers, Dutch bulbs were necessary. In May the first perennials come into bloom, and June, which is the great flower month, is the month of the iris, rose and peony; in this month, too, the first annuals come.

"One of the great problems in a garden," remarked Mr. Whyte, "is to have no waste ground; things should be coming up all the time." He when in England last spring in visiting some penny gardens and seeing the wonderful improvement that had taken place in the last two or three years in the size and color of peonies. He said that 25 years ago now everybody would be growing peonies.

Transplanting Fruit Trees

W. J. Stevenson, Ontario Co., Ont.

Years of experience have taught us that many lose their young trees through neglect at planting time. Be sure that the soil is in proper condition both in fertility and drainage. It is easier to prepare it before than after planting.

Secure none but first-class stock as you are only planting once; a mistake at this time is, for the balance of your life, a regret. Go over your bundle of trees and carefully examine the roots. Cut away all mutilated parts. Use a very sharp knife to make a smooth cut. Always hold the tree with the top on the ground and prune the root so that the cut will be on the under side; thus the young roots that spring from the cut will strike downwards instead of upwards as would be the case if the root is cut on the upper side.

The hole must be made large enough to receive the roots freely, and deep enough to allow several inches of good surface soil to be placed in the bottom under the tree. Plant same depth as the tree stood in nursery. Hold perfectly upright. Fill with the finest and best earth from the surface. Be careful that every root is covered properly and pack firmly until near the top of the hole and then fill in surface light and loose.

Mulching is done by placing a layer of coarse manure from three to six inches deep, extending two or three feet further in each direction than the roots. This protects the earth about the roots, retains the requisite moisture, and obviates the necessity of watering.

Pruning should now be done, to secure proper formation of heads, by removing all limbs to the point to where it is desired to have the top. Then cut back each limb, leaving from four to six buds of last season's growth. The necessity of pruning at time of setting is generally a very heart-breaking one as it spoils the appearance of the trees for a time; however, it must be done. Care should also be used to give the proper form to the tree. The head may be left high or low as the planter prefers.

Cultivation and training after planting is very important, but often neglected. After taking all the trouble and expense in selecting and planting the trees, many fail of success by not taking that after-care and attention that is essential. The wants of your growing trees must be carefully foreseen, and a faithful effort made to insure health and productiveness.

Pruning should be done each year so that no necessity may arise for cutting large limbs. Trim as early as possible to the required height that it is intended that the head should be, and then the removal of large limbs

will not be necessary; but, when such operation becomes imperative, pare the wound smooth and cover with wax or thick paint to protect from the action of weather.

Articles for Fruit Growers and Gardeners

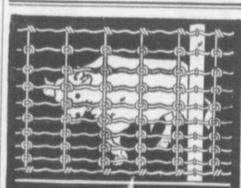
The March number of The Canadian Horticulturist, which is published in the same office as Farm and Dairy, and which is the only paper in Canada devoted exclusively to fruit growing and gardening, contains a wealth of valuable information. For the fruit grower there are articles on the best varieties of fruits for our orchards, on spraying, orchard implements, root killing of trees and prevention, how to judge fruit properly, and on a score of other practical topics. A number of letters from the various provinces gives the fruit news of the Dominion.

An article on the making and managing of hotbeds is exceedingly practical. How to irrigate vegetables and small fruits is dealt with. For those who are interested in ornamental gardening such topics are discussed as the best shrubs for planting, growing asters, sowing flower seeds, planting for winter effect, window boxes and so forth. An excellent article tells what to do in the garden and orchard this month.

This number of The Canadian Horticulturist is an excellent one. The publication is improving with each issue. All persons interested in horticulture should subscribe for it. The subscription price is only 60 cents a year or two years for \$1.00. If you will send \$1.20 you will receive both The Canadian Horticulturist and Farm and Dairy for one year.

The pear takes kindly to moist soils, but prefers a loose and strong clay.

Keep the orchard soil in good tilth until the first of August, and then sow a cover crop of clover. Allow it to remain until the following spring and then plow it under.



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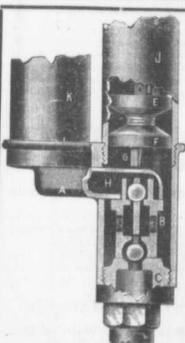
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Is Trying Cranberries

J. W. Ackerman, Norfolk Co., Ont.

I planted a small plot of cranberries in the spring of 1908 and they have done nicely considering the late planting; I did not get them planted until June 9th. Cranberries can be grown all right but there is some work in connection with the business.

To prepare the ground I removed the sod, which I cut about two inches deep and unhooked it. Then I spaded the ground and got it as near level as possible. I put about two inches of light sand on it and it is ready to plant.

I have about half an acre prepared to plant this spring. I intend planting about the first of May or the later part of April. I will tell more about my experience later.

Sowing Garden Seeds

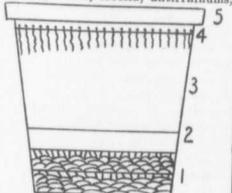
A. V. Main, Lanark Co., Ont.

The success of our seeds generally results in how we treat them for germination. Failures and complaints had seed is quite a common echo. We are apt to lay fault on the individual who furnishes us with seed, condemning his seed as rubbish. I would not give the seed trade immunity altogether, but the non-appearance of seed germinating is often due to our own negligence.

For flower seeds good, clean pots and boxes are essential. Boxes three inches deep with several holes bored in the bottom for an outlet for water, and made a convenient size, are first-class for seeds or plants. A good layer of rough leaves, rotted manure, pieces of broken flower pots, oyster shells or rough ashes should be at the bottom of the pots or boxes, then fill up moderately firm with fine soil to within an inch of the top. A mixture of loamy soil, sand, and leaf soil make a suitable compost.

We have failed as yet to procure sieves from any of the leading seed firms for the purpose of grading or sifting the soil for seed sowing. For this purpose a fine mesh of mosquito netting will do by nailing a two inch board round a square of it. Chicken netting, half-inch mesh, will also make a good sieve for sifting soil. With level for the soil; for pots, anything round and flat is sufficient.

For very small seeds, such as begonia, gloxinia, lobelia, antirrhinums,



Flower Pot Prepared for Seed Sowing

1. Drainage material, broken pots, links, etc. 2. Rough leaves or decayed manure. 3. Prepared soil. 4. Tomato seeds for water. Prepare boxes in similar fashion.

and colous, water the seed receptacles with a fine rose can an hour prior to sowing. A mere dusting of fine soil is sufficient covering. The size of the seeds will almost determine the covering of the soil required. Begonia seed does not require any, colous again requires very little, while castor oil plant and sunflowers want half an inch of soil.

A piece of glass should be laid over the seed pot or box, also a piece of brown paper before the seedlings appear, then gradually withdraw it when the seed receptacles become very dry,

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do not apply a shower bath overhead, but hold the seed pot half way down in a pail or tank of tepid water. The water will thoroughly saturate the soil from the bottom finding its way to the surface. This will be sufficient for a good many days, and better than daily dribbles on the surface. Seedlings like to be kept tolerably dry before they gain strength. With a good sunny window, many fine plants can be raised, then remove to a frame outdoors.

Any haphazard or slipshod fashion with vegetable seeds will only result in disappointment. The ground is best forked over the day it is to be sown.

A fine open mould, neither too wet or dry. Gardeners on a small scale should prepare a fine tilth of soil, raked quite

level. The alert gardener will take the first opportunity of a good day to sow onions, parsnips, carrots, beets, turnips, cauliflower, cabbage and parsley. All these will do with half an inch of covering. The culinary peas and flowering sweet peas require very early sowing, three inches deep. Label all seed correctly and give date of sowing. Before we convict the dealer of bad seeds, let us consider if we have done justice in the preparation of the soil and the seed bed, having climate and price of seed duly noted. We are more than amused at the number of persons who soil seeds in the small towns and villages, hardware stores, drug stores, grocery stores and newagants. Our experience tells us to buy from reputable seed firms.

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SPRAYING

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Sworn detailed statements of the circulation of the paper, showing its distribution by countries and provinces, will be mailed free on request.

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We want the readers of Farm and Dairy to feel that we can deal with our advertisers with our assurance of our advertisers' reliability. We try to admit to our columns only the most reliable advertisers. Should any subscriber have cause to be dissatisfied with the treatment he receives from any of our advertisers, we will investigate the circumstances fully. Should he have reason to believe that any of our advertisers are unreliable, even in the slightest degree, we will discontinue immediately the publication of their advertisements. Should the circumstances warrant, we will expose them through the medium of the paper. Thus we will not only protect our readers, but our advertisers and advertisers' goodwill. All that is necessary to entitle you to the benefits of this "Protective Policy" is that you include in all your letters to advertisers the words, "I saw your ad. in Farm and Dairy." Complaints should be sent to us as soon as possible after the reason for dissatisfaction has been found.

FARM AND DAIRY

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TAKE CARE OF THE ORCHARD

The orchard bears the brunt of neglect on many farms. Once it is planted, it is left to take care of itself. The weeds and grass are allowed to grow, the soil is never fertilized, the limbs are never pruned, insects and diseases are given full swing and the trees must fight for an existence. The other crops of the farm are given all the attention that they need but the old orchard receives none. Is it any wonder that many farmers say that the orchard doesn't pay?

There is an orchard located within three miles of the office of Farm and Dairy that doesn't pay one-fifth what it should. In it there are over 200 mature trees. Last year they yielded 100 barrels of apples, 75 of them No. 1's and No. 2's, and 25 culls. In its best year it yielded about 200 barrels of which 150 were No. 1's and No. 2's. These apples were sold for \$1.00 a barrel in the orchard. Their average per tree, therefore, at the best, was

75 cents. Had these trees been cared for properly and regularly every year, they would have given a return of \$5.00 a tree at least.

Consider another instance. A few years ago the farmers of Norfolk County in the vicinity of Simcoe had orchards similar to this one, and they knew that they were not paying. These men knew that there was a market for good fruit, and they decided to grow good fruit. They got together, largely through the influence of one man, who had been in the apple business for some years, and organized a co-operative association. They cultivated and fertilized their orchards, they grow cover crops, they pruned systematically, sprayed intelligently, and paid attention to all the demands of up-to-date orchard management. Last year they received \$10.00 a tree for their fruit. Does not this prove that it pays to attend to the orchard?

Farmers who have orchards should look after them. Those who have none should plant them. Then form a co-operative association for selling the fruit to the best advantage. It pays to make the most of the orchard.

HAVE A GARDEN

Every farm should have a vegetable garden to supply the home table but on how many do we find them? There are hundreds of farms where grain and root crops for stock feeding are grown on large areas, but scarcely a rod of land is devoted to the growing of vegetables for home use. Why should not farmers and their families have vegetables all the year around when the labor and expense incidental to their culture is so small? It is, in most cases, because gardening is considered by the farmers as work for the women folks and the women folks haven't the time. This condition of affairs should not be. A small plot of ground laid out so that it can be worked by horse power, should be set aside for this purpose, and it should be worked by the men. It should be located near the house, where convenient for working at odd times and for gathering the crops as required.

Those farmers who have gardens would not be without them for ten times their cost in time and expense. They know the pleasure and profit that the garden yields. If you have not had a garden, start one this spring. Once the start is made, the plot will grow in usefulness and in favor.

THE NET PROFIT THAT COUNTS

The members of the Dominion Ayrshire Cattle Breeders' Association recently passed a resolution urging Hon. Sydney Fisher to so extend the work of the cow testing associations as to provide for the gathering of information that will show the cost of producing the milk as well as the net profit per cow. It is to be hoped that Hon. Mr. Fisher will adopt the suggestions.

Of late years, altogether too much attention has been given to the making of large milk and butter records without taking into consideration the cost of production. There is grave

danger that the craze for large records may lead us into dangerous extremes. In order that they might make large records some breeders have been allowing their cows to go dry for a year so that they would enter the test in the best possible condition. If they are to hold their own, other breeders will have to do the same. Large records, made under such conditions, are not of as great value as those made under conditions within reach of the average breeder or farmer.

After all, it is not the quantity of milk or butter that a cow produces that is most important. It is the net profit she returns above the cost of feed and care. If too much importance is attached to large records it is apt to divert attention from what is almost equally important, that is, the study of economical methods of feeding.

In the cow testing associations in Scotland and Denmark the cost of production is considered and the net profit per cow is figured out. It should be the case in Canada. We would like to see Hon. Mr. Fisher appoint one or two capable men this year to investigate carefully the conditions governing the production of milk on a few dozen representative dairy farms. The results would add immensely to the interest taken in the work of the associations and to its value.

SOIL FERTILITY IMPORTANT

It is commonly said that, as farmers, we adhere too closely to the ways of our fathers. The statement for the most part is true, yet it must be remembered that we need not so much a revolution of farm practice as we do an improvement of it.

All agriculture depends upon the growth of plants. The profit accruing to us depends primarily upon the value of the crops the farm produces. Continuous cropping the soil results in a loss of fertility. With what rapidity and to what extent, the majority of Ontario farmers experienced many years ago before adopting a rational system of mixed farming and live stock husbandry.

In the older sections of the West, the soil at one time was thought to be inexhaustible. The evils of continuous cropping have there long since become apparent. Many have been obliged to move on to a virgin soil or to change their methods of farming. To build up and maintain a fertile soil is the most important problem that confronts us.

The subject of soil fertility is a complex one. It is one of our foremost economic questions and must be given serious consideration. It is high time that those of us, especially, who grow and sell grain, were investigating beneath the surface. The cause of poor yields lies there. Soil fertility should receive more study at our hands. It should be one of the foremost topics at farmers' institutes and agricultural meetings.

We have been forced to recognize the fact that all soils are exhaustible. Plant food cannot be maintained without crop rotation and the use of manure. Plant food, not unlike min-

erals, cannot reproduce itself. Its supply is limited and that type of agriculture which removes this wealth from our soil and sells it off the farm, and makes no equivalent return, is not permanent. Give thought to the fertility of the soil. It is the basis of all agriculture.

CONVENIENCES IN FARM HOMES

A sign of the good times that farmers in many localities are experiencing is the modern improvements that are being installed in many farm homes. Recently while in Durham Co., an editorial representative of Farm and Dairy was pleased to note the spirit of progressiveness with which the farmers of that locality seemed imbued. This was noticeable in many ways, but particularly in the matter of installing conveniences in the house and thus lightening the burden of those whose domain is therein.

A case particularly worthy of mention was in the house of Mr. Northcott. His son, being handy with tools and desiring to have things as up-to-date as possible upon the farm, had placed in the house a modern system of plumbing, including a hot and cold water system, and bath room. A cess-pool had been constructed in the garden to take care of all waste water from the house. The water was supplied from the well at the barn and forced to the house by means of the windmill. Everything about the system was all that could be desired. It had been installed at a considerable cost, but we were assured it was a paying investment and worth while.

Why should the farmer's wife not have these conveniences? Even the laboring man in the city has his hot water attachment to his stove, and water "on tap." We put the water into our barns for our cattle. Why should we not place it also in the house? The farmer's wife is the money maker of the farm. She feeds them all. Why not give her the consideration that modern conveniences allow and thus lighten her load which is great at all times.

BREED THE BEST

"Horses, except good ones, are rather dull," writes our correspondent from Belwood, Wellington Co., Ont. How often the force of this statement has been brought home to us through the ups and downs of horse breeding business! Good horses are ever in demand. At the best of times, there is but an indifferent market for the other sort.

Now is the time to view the stallion you will use next spring. Make sure that he is the best obtainable for your purpose. When the choice of a stallion is left until the travelling season, one is too often victimized by the glib-tongued stallioner. A good horse can be raised on practically the same amount of feed as the indifferent one. The better horse will cost a few dollars more in stallion fees at the outset, but this will be returned many-fold in the extra value at selling time; besides, there is an ever-ready market awaiting it. Which will you raise the coming year?

Manitoba Dairymen Convene

"Manitoba is making considerable progress in milk production and in the manufacture of milk products. Manitoba will make more rapid progress, however, when its dairymen pay more attention to the 'cow end' of dairying," so said Mr. T. L. Haecker, Professor of Dairy Husbandry and Animal Nutrition, St. Anthony Park, Minn., as he addressed the 23rd annual convention of the Manitoba Dairymen's Association held at the Agricultural College, Winnipeg, recently. Professor Haecker is recognized as the foremost expert on the American continent on the feeding of dairy cows with balanced rations for scientific milk production.

The attendance at all the meetings was large and the interest of the audience was sustained to the end. The membership of the association has increased during the past year. It now numbers upwards of 115. Some of the prominent speakers at the convention, besides Prof. Haecker, were Mr. J. H. Sheppard, Dean of the Agricultural College, Fargo, N.D., J. A. Ruddick, Dairy Commissioner, Ottawa, Prof. J. W. Mitchell, Professor of Dairying, and Prof. Bedford, of the M. A. C., Winnipeg.

OFFICERS

The officers elected were: Pres., W. B. Gilroy, of McGregor (re-elected); 1st vice-pres., J. P. O. Allaire, St. Boniface; 2nd vice-pres., L. A. Race, sec.-treas., W. J. Carson, Winnipeg; D. Froctors, D. Langill, Woodlands; Chas. Fully, Reburn; L. A. Gibson, Winnipeg; J. R. Nesbitt, Shoal Lake; John Gill, Oak River.

The president, Mr. W. B. Gilroy, in opening the convention, reviewed the very successful season that the farmers and dairymen in Manitoba have just experienced. He paid a glowing tribute to the late Mr. Waugh, one of the founders of the Manitoba Dairymen's Association, whose portrait was unveiled during the convention.

Mr. J. A. Ruddick addressed the meeting on the outlook for the Manitoba dairymen. He reviewed his visit to the dairy countries of the old world, and showed along what lines Canadians should follow. Dean J. H. Sheppard gave a very practical address on the "Selection and Points of the Dairy Cow." At one of the evening meetings the "Evolution of Dairying in Manitoba," from 1870 to the present date was handled by Mr. Champion, who is the only surviving member of the founders of the Manitoba Dairymen's Association.

MANITOBA'S WEALTH

While speaking on the advantages to agriculture and the dairy business to soil maintenance, Dean Sheppard said, "The first six inches of Manitoba soil constitute the wealth of the province. She has no great forests, fisheries, rivers or manufacturers to fall back on. If the fertility of Manitoba soil is wasted, the prosperity of Manitoba is gone." The speaker warned farmers not to rob their lands by continuous wheat mining until they were worn out like the wheat land of the Dakotas. He urged them to adopt soil preserving methods before it was too late.

In Dakota they can grow more wheat on a rotation of roots followed by wheat for three years than they can by growing wheat for four years. The root crop is extra profit. By growing clover the wheat crop following gave bigger yields. Where a rotation of crops is adopted, live stock feeders produced. The dairy cow can produce more money from these foods than can any other farm animal.

Prof. Bedford gave an excellent address on "Corn Growing in Manitoba." He advocated the growing of the early ripening varieties, such as the North Western Dent and Longfellow;

then the silage produced will be sweet and good. Mr. J. A. Ruddick gave an illustrated lecture on his old country trip, showing pictures of the old country buildings and stock. The convention all through was one of the most successful ever held in the West.

Dairy Breeds For Dairying

"The advantages of Employing Dairy Breed Stock" was the subject handled by Prof. Haecker, of St. Anthony Park, Minn., an American expert on the feeding of dairy cows and balanced rations for scientific milk production, at the recent Dairymen's Convention held at Winnipeg. He pointed out that the dairymen of Manitoba would make much more progress when they paid more attention to "the cow end of dairying." That is, they should breed cows that will make large yearly milk records.

For the special dairy farm, where the best of feed and care can be given, the Jersey and Guernsey are the most profitable dairy cows. But under average Minnesota and Manitoba farm conditions, where the cows get only ordinary care and feed, he would not recommend the somewhat delicate dairy breeds. He would recommend the improvement of common cows by better feeding, selection of the best milkers and gradual grading up. As the herd improves the dairymen will also increase his stock of information and experience, and will then be ready to care for the special dairy cow as she must be cared for.

The average dairy cow of Manitoba was a better milk cow than the average farmer was a good dairymen. By this was meant that the common cows did not receive the care and food necessary to bring out their utmost milk capabilities.

At the Minn. College dairy, they have always kept common cattle to compare with the dairy breeds. The special dairy cows invariably gave greater returns for feed consumed. To illustrate what effect dairy farms had on milk production, 18 years ago the herd was divided into two sets, the beefy cows in one lot, and the regular dairy type in the other. The regular cows averaged 359 pounds of butter, produced at a cost of 11.7 cents a pound, while the beefy cows averaged only 265 pounds of butter at a cost of 14.2 cents. All these cows were good dairy cows. Type has a lot to do with economical milk production.

Some interesting comparisons could be made between the best and poorest cows in the Minnesota herd. The poorest cow in the herd gave a gross income of \$62, with a net profit of \$19, while the best cow gave a gross income of \$85, and a net profit of \$56. The poor cow was one of common farm type, the good one a Jersey. Thus the high-class Jersey cow is worth two common cows for dairy purposes.

Our Insurance Premium Offer

Elsewhere in this issue will be found the details of our offer to give absolutely free of cost for the securing of Farm and Dairy, yearly subscription to only one penny, an up-to-date accident insurance policy. This policy is issued by the Imperial Guarantee and Accident Insurance Co. of Canada.

In recent years the liability to accidents on the farm is much greater than was the case several years ago, owing to the introduction of labor-saving machinery and the more common use of power, other than that furnished by the horse, on the farm. Recognizing this increased danger, it behooves every farmer to have an insurance policy. The one we offer is at the lowest cost, and is in one of the most reliable companies in Canada. Every farmer should take advantage of this insurance policy. It can be had absolutely free for securing one new subscription to Farm and Dairy. Read the advertisement.

USUAL CROP OF CREAM SEPARATOR SNARES AND TARES

If actual merit alone prevailed the DE LAVAL cream separator would be the only one made, sold or used.

But the dairy farmer with his dollars is an alluring proposition to those who "need the money," so that every season brings with it a new crop of separator fakes and fables, with some of the old conjurers over again and always a few fresh ones.

Last year the new and improved line of DE LAVAL machines literally swept the field. This year everybody has a "new" machine, which is the one thing they universally harp upon in their talk and advertising. But it is mostly bosh and nonsense. There is mighty little new to them. No more DE LAVAL patents have expired, so that there is nothing else "new" that they can lay hold of this year.

There's the usual crop of fakirs appropriating the facts of DE LAVAL separator use and the endorsements DE LAVAL separators have received, and quoting them as though they applied to their own inferior imitations of the standard cream separator.

There's the concern that makes an inferior disc separator and speaks of the "disc" separator being "the machine which has won out universally in Europe, the home of the disc separator." True, but it was the DE LAVAL that has done the winning out in Europe, as it has in America.

There's the political separator concern, with the new "year" or "cents" trademark, whose claims it is to be hoped nobody ever believes, and which manifestly practises the circus man's theory that the great American public ever likes to be fooled.

There's the only concern which has stuck to the abandoned DE LAVAL "hollow bowl," of 30 years ago, but will this year desperately join the procession of 10 year back DE LAVAL imitations with a "disk bucket bowl" machine.

There's the "Trust," striving to complete its monopoly of dealer and farmer, harvesting much costly separator experience, largely at the expense of buyers-for-use, through trying to build a cream separator like ordinarily made farm machinery.

There's the "mail order" outfit, with their cheaply made machines, bought here and there, not claiming by themselves or sold under the real manufacturer's name, all claiming the earth, and many of the things that should be below it.

But the merry lot changes and dwindles every year. They gradually drop out and leave their unfortunate patrons helpless with trashy machines. More will fade away this year. The dairy farmer, like the creamery man, is coming to know something of separators. He doesn't swallow mere "claims" so easily. Ninety-eight per cent. of the world's creamerymen use DE LAVAL machines. The percentage of farm users content with nothing else is always increasing.

There isn't a single reason why every man who buys a cream separator this year should not buy a DE LAVAL. There are many reasons why he should. The best costs no more than the various grades of inferior imitating machines.

A DE LAVAL catalogue may be had for the asking. A DE LAVAL machine may be tried for the asking.

THE DE LAVAL SEPARATOR CO.

173-177 WILLIAM STREET

14 AND 16 PRINCESS STREET

MONTREAL

WINNIPEG

Creamery Department

Butter Makers are invited to send contributions to this department, to ask questions on matters relating to their making and to suggest subjects for discussion. Address your letters to the Creamery Department.

Why Butter

Reports have been received by the Department of Agriculture from J. W. Mitchell and Frank Herna upon the experimental work conducted by them in Eastern and Western Ontario respectively, in regard to why butter. A statement will be issued shortly based upon the results of this work, and also that of Professor Dean. So far as we have been able to learn the reports show that allowing for shrinkage in separating the whey and the loss of fat in the butter, 1,000 lbs. of whey from cheese made under average factory conditions, will yield about 2.3 lbs. of butter. In Western Ontario why butter sold at from 2 cents to 3 cents a lb. less than regular creamery butter.

One of the conclusions reached is that it will not pay a factory receiving less than 10,000 lbs. of milk per day to make whey butter. The business may be made profitable by a number of factories combining and separating the whey at each factory and forwarding the cream to a central station to be made into butter. Why butter, when properly made, is of fair quality when fresh, but it will not keep for any length of time.

Affecting the Over-run

James Stonehouse,

Creamery Instructor, Eastern Ont.
The manner of testing at different creameries sometimes very materially affects the over-run, and consequently affects the price paid per lb. of butter fat.

I have found as much as 10 per cent. difference in over-run between creameries in the same month. Either by careless methods or by wilful misreading of the tests a difference of two per cent. can easily be made from what the actual reading should be. A difference of two per cent. on a 25 per cent. cream makes a difference of 1½ cents a lb. of fat if the butter is sold for 30 cents a lb.

Where there is a uniform lowering of the tests in a creamery the patrons do not suffer, as that does not affect the amount of money to be divided among the patrons, but it does affect the price paid by the different creameries, if one creamery reads correctly and another reads too low.

These are factors entering into the manufacture of butter which affect the over-run seriously. These factors are or should be largely under the control of the maker. If a maker lbs. more butter than another maker can, that is skill which is worth money to a community; but the manipulating of tests is not the kind of skill we want and is of no value to the patrons of some other creamery, dissatisfied with the returns they are getting.

Creamery Business in Manitoba

The increase in value of dairy products in Manitoba during the last ten years was outlined by Professor J. W. Mitchell, the newly appointed professor of dairying at the M. A. C. at the recent convention of the Manitoba Dairymen's Association. In the period 1896 to 1900 the average production of butter was 2,680,922 pounds, valued at \$377,964.78, or 14 cents a pound. From 1901 to 1905 the average production had increased to 4,801,173 pounds valued at \$722,336.78, or 16.8 cents a pound. In 1906 and 1907 the average was

5,533,769 pounds, valued at \$1,115,548.81, or 20.1 cents a pound. Thus, during this time the production of butter had increased over 200 per cent., and the price per pound had increased from 14 to 20 cents a pound.

Professor Mitchell drew attention to the unsatisfactory rates of the express companies on sweet cream. The express rates on sweet cream are twice as high as on soured cream. As a result, the cream is never delivered until it is ripened; then it arrives at the factory overripe, and in unfit condition for making good butter.

A committee was appointed to wait on the Railway Commission in March and ask for a reduction of rates on sweet cream, and also to ask that the baggage-men load the cream on the train instead of the shipper, as at the present. This is a real inconvenience, especially when trains are late.

Cost of Pasteurizing Plant

At a recent meeting of the Montreal Produce Merchants Association it was stated that a creamery could be equipped with a pasteurizing plant for about \$150.

Messrs. Hodgson Bros. & Rowson, Limited, Cheese and Butter exporters, Montreal, take exception to this statement as misleading and unfair to the proprietor of a butter factory, as it will retard, more than anything else, the adoption of this very necessary improvement in our butter trade. They fear if this statement as to cost goes out, creameries proprietors will not be able to get any increased price for making from their patrons and to delay the adoption of pasteurizing. They ask that a plain statement of the actual cost be made and conclude their letter published in a recent issue of the Trade Bulletin, as follows: "From careful inquiries made by us,

we are convinced that an outlay of at least \$300, would be necessary to properly equip the ordinary factory. The interest on this money, with extra labor, fuel, etc., would make it necessary, in order to clear the butter maker, that he should be paid at least ¼ cent more per pound. The result of this charge, would, however, be an increased price for the butter so treated, and we are satisfied the trade generally would be well pleased to pay more per pound more for butter properly pasteurized. We wish, however, to caution both butter makers and patrons that the butter must be properly and scientifically pasteurized, and that no makeshift machinery or workmanship will accomplish the purpose.

"The butter trade of the country has been decreasing of late years, other countries obtaining as much as 2 cents per pound more for their butter. Something must be done, and that immediately, if we wish to retain our present trade, but if done and done well, there is no reason to suppose that inside of three years we should not command as good prices as any other country, which would mean a gain of about \$600,000 to come into this country, which is now lost to it annually."

As an indication of the food value of milk, Professor Long states that a man of average weight (147 lbs.) when kept inactive, can live and sometimes put on flesh on three quarts of milk a day. If given four quarts a day he could do a good day's work. So much fluid would, however, not be a suitable diet for a healthy man. But four quarts of milk are equal in food value to 1½ lbs. of bread, 1½ lbs. of potatoes, ¼ lb. of boneless beef and 3 oz. of butter, and there is no waste, while there is considerable waste in the other ration excepting the butter.

Renew Your Subscription Now.

See That Can? It Never Moves.

Other separator manufacturers have been trying to imitate it for five years. That shows their high opinion of a low, steady supply can which need not be removed in order to take the bowl out of the machine.

OUR machines are the only cream separators that have such a supply can. Other manufacturers have not been able to imitate it. That is because all common "disc" or "bucket bowl" separators have bowls fed through the top—such bowls must have the supply can set directly over them. Consequently, the supply cans are always the highest part of all common "disc" or "bucket bowl" machines and must



IN A CLASS BY ITSELF

Exclusive Tubular advantages are surprisingly numerous. Observe the tubular supply can, so easy to fill, not necessary to move to take out the bowl. The solid, one piece frame. The suspended bowl and bottom feed. The enclosed, self oiling gears. The crank, set just right for easy turning.

always be lifted off before the covers or bowl can be removed.

LOW supply cans are only possible in cream separators having a suspended bowl fed through the bottom. Our machines are the only cream separators having such bowls, and our patents prevent any other manufacturer from making them.

SUPPOSE you had the supply can, on any separator, full of milk and found it necessary to remove the bowl? It would be mighty inconvenient to lift the supply can off, wouldn't it? No need to with the Tubular.

PUBLIC appreciation of Tubulars has made their manufacture one of Canada's leading industries. 1908 sales were way ahead of 1907—far ahead of any competitor, if not of all competitors combined. Exclusive Tubular advantages will make our 1909 business still greater. Write for Catalog No. 253. It will interest you.



The Sharples Separator Co.

Toronto, Ont.

Winnipeg, Man.

Cheese Department

Makers are invited to send contributions to this department, to ask questions on matters relating to cheesemaking and to suggest subjects for discussion. Address your letters to The Cheese Maker's Department.

Important Meeting of Dairymen

The question of legislation was taken up and discussed at a joint meeting of a deputation from the Eastern Ontario Dairymen's Association and the Western Ontario Dairymen's Association held in the office of Mr. George A. Putnam, Parliament Buildings, Toronto, on Wed., Feb. 24th. Those present were: J. R. Dargavel, M.L.A., Elgin, Henry Glendinning, Manilla, James B. Anderson, Mountain View, T. A. Thompson, Almonte, T. G. Publow, Kingston, James Whitten, Wellman's Corners, John H. Singleton and M. K. Everett, Smiths Falls, R. G. Murphy, Brockville, F. R. Horns, London, J. J. Parsons, Jarvis, Geo. A. Putnam and D. A. Dempsey, Stratford. The motion adopted by the committee of the Eastern Ontario Dairymen's Association recently was read, and, with some few amendments, adopted by the joint committee.

It was moved by T. A. Thompson and seconded by Mr. J. J. Parsons, that the joint committee request the Minister of Agriculture to pass some kind of legislation that will prevent the indiscriminate building of cheese or butter factories in Ontario in the future, unless the erection of such factory is first shown to be in the interest of the dairy industry, and that the site and plans are approved by the Minister of Agriculture or by an appointee of the Government. The motion was carried.

The following clauses in the Dairy Act were recommended to be amended, Sec 14 by giving power to the instructor to inspect the product manufactured therefrom (cheese butter or condensed milk).

Moved by Mr. Glendinning, seconded by Mr. Everett, that Messrs. Horns, Pablow, Dargavel and Putnam be appointed a committee to go over the act and suggest the above and some other improvements thereto. Carried.

Moved by Mr. Glendinning, seconded by Mr. Everett, that in the opinion of this joint committee two magistrates with "Provincial Powers" be appointed to adjudicate upon all cases of violation of the Cheese and Butter Act, of Ontario, and that the Minister of Agriculture be asked to make such appointments. Carried.

Moved by Henry Glendinning, sec-

onded by J. J. Parsons, "that the Minister of Agriculture of the Dominion of Canada be memorialized to enact a law making it imperative to brand Whey Butter as such." Carried.

At the afternoon session the question of Dairy Herds' Competition was taken up, and an explanation of the working of the competition in the West was explained by Mr. F. Horns. He read the rules adopted by the Western Association during the past year, and after much discussion it was decided that a Dairy Herds' Competition be instituted in the Eastern part of the Province similar in some respects to that which has been working in the West, but with the difference which the various localities would require.

The Minister of Agriculture, Mr. Duff, was introduced to the various members of the deputation, after which the resolutions which had been passed, were read to the Hon. gentleman, and addresses delivered by Mr. T. A. Thompson, mover of these resolutions, and Mr. J. J. Parsons, as seconder, as well as Mr. G. Pablow, Chief Instructor for Eastern Ontario, F. R. Horns, Chief Instructor for Western Ontario, M. K. Everett, John H. Singleton, Dr. Preston, M.P.P., and John R. Dargavel, M.P.P., President.

Hon. Minister of Agriculture gave an interesting address, and said that he would do everything in his power to grant the request of the deputation.

Mr. Thomas Mulvey, B.A., K.C., was present, and gave it as his opinion that a request for the appointment of a magistrate with "Provincial Powers" would not be granted.

A Presentation

J. W. Mitchell, B.A., professor of dairying in the Man. Agr. College, Winnipeg, was made the recipient a short time ago of the gold watch, suitably inscribed from the associate members of the Eastern Ontario Dairymen's Association, and a few others.

Prof. Mitchell held the position of Superintendent of the Eastern Dairy School, Kingston, for the past five years, during which time the school, under his able leadership, ranked second to none in the Dominion as a means of imparting dairy knowledge to those who are engaged in the dairy business.

Prof. Mitchell's thorough knowledge of all the subjects necessary for a full and comprehensive course in dairying will make him an especially strong member of the staff with which he is now associated. His many friends in the East all wish him every success.

Paying by Babcock Test

Does the Babcock test give rich milk too much advantage in cheese making? It is claimed that even after 2 per cent. has been added rich milk still has a bonus. Do the factories in Western Ontario that pay by test add 2 per cent.? Is there a greater loss in the whey from rich milk?—J. D., Peterborough, Ont.

In "Canadian Dairying," page 147, you will find that milk test 3.22 per cent. of fat will make 90.3 lbs. of cheese per 1000 lbs. of milk, and milk testing 4.23 per cent. of fat will make 106.7 lbs. of cheese per 1000 lbs. of milk. If cheese is selling for 8 cents a lb., then by the pooling system of payment a patron whose milk tested 3.22 per cent. of fat would receive \$8.27 for 1000 lbs. of milk. By the straight fat test he would receive \$6.63. By the fat test plus 2 he would receive \$7.18. The actual value of 90.3 lbs. of cheese at 8 cents a lb. is \$7.22. This is what the patron should receive for 1000 lbs. of milk testing 3.22 per cent. of fat provided this milk makes 90.3 lbs. of cheese. This is practically the same as the amount received by the test plus 2.

Again, with cheese selling at 8 cents

a lb., then by the pooling system of payment a patron whose milk tested 4.23 per cent. fat would receive \$8.27 for 1000 lbs. of milk, by the straight fat test, \$8.71, by the fat test plus 2, \$8.56. The actual value of 106.7 lbs. of cheese at 8 cents a lb. is 8.54. This is practically the same as the amount received by the test plus 2. Practically all the factories in Western Ontario paying by test add 2 per cent.

The whey from rich milk, say over 4 per cent., might contain slightly more fat than whey from milk with a lower test. The amount would be very small, but this would depend to a great extent on the condition of the milk as to acidity and so forth. The average loss of fat in the whey for Western Ontario, 1908, by months was as follows:

May, 226 per cent., test of milk 3.3 per cent.
June, 223 per cent., test of milk, 3.37 per cent.
July, 226 per cent., test of milk, 3.38 per cent.
August, 236 per cent., test of milk, 3.5 per cent.
September, 23 per cent., test of milk, 3.65 per cent.
October, 241 per cent., test of milk, 3.8 per cent.

Frank Horns, Chief Instructor for Western Ontario.

New Chief of the Dairy Division.

The Secretary of Agriculture has appointed the Dairy Division of the Bureau of Animal Industry, Washington, D.C. to succeed Prof. Ed. H. Webster, who resigned some weeks ago to accept the position of Dean of the State Agricultural College at Manhattan, Kans. Mr. Raul has heretofore had charge of the dairy farming investigations of the Dairy Division. He is a graduate of the Agricultural and Mechanical College of North Carolina, and has pursued special courses at the Pennsylvania State College and the University of Wisconsin.

To Butter-makers—and all who buy salt in large quantities, its cost is no inconsiderable item.

Windsor Salt

goes farther—and does better work. Its cost is really less — and it makes the butter worth more. Ask your grocer.

We have heard a great deal lately about unfair methods in the selling of cheese. Good cheese is always in demand. If the patrons of our cheese factories would pay more attention to lessening the cost of producing milk, they would obtain better results than by fighting with the buyers over a difference of a fraction of a cent a pound in the price obtained for cheese.—R. W. Ward, Dairy Instructor, Peterboro Co.

FOR SALE AND WANT ADVERTISING

TWO CENTS A WORD CASH WITH ORDER

CREAMERY AT BEETON, ONT.—Complete, up-to-date equipment; stone building; close to station. Also sold by March 25th. Good reasons.—R. A. Thomas, Barrie, Ont.

THE MAN IN ONTARIO who wants to buy your creamery could not be found by Sherlock Holmes as surely and as quickly as an ad. in this column would find him. The cost of this is lower, too.

"PERFECT" STEEL CHEESE VATS

The most popular and sanitary line of dairy utensils in Canada. Steel Cheese Vats, Steel Whey Tanks, Steel Cream Vats, and Steel Curd Sinks. Steel Agitators, Steel Butter Whey Tanks, Milk Cooling Tanks, Steel Whey Leader, Smoke Stack.

Let us quote you on entire equipment. Get our Catalogue.

The Steel Trough and Machine Co.
TWEED, ONT., LIMITED

THE BAIRD AGITATOR

IS SUCCESSFULLY USED IN MANY OF THE LARGEST CHEESE FACTORIES IN CANADA

When buying a Curd Agitator by one that has no weak spots. The Baird Agitator has no weak spots but it has many strong points that are not found in any other Agitator.

The Drive Gears are so constructed that they may be fitted to vats of different lengths, which change might be necessary when replacing your old vats with new ones.

The Frame is neat and strong, being made of 1½ in. pipe. There are no unnecessary bolts to become loose to cause extra attention.

The Driving Jack is made in a manner that will permit the paddles in any vat being thrown out of gear.

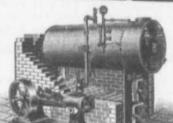
The Paddles work in every part of the vat which assists in giving a smooth even texture to the cheese.

There are many other good points about this Agitator that you should know. Write at once for information to—

WM. BAIRD, Woodstock, Ont., Manufacturer

WHITE & GILLESPIE, Peterboro, Ont., Agent for East of Toronto

It is desirable to mention the name of this publication when writing to advertisers



ENGINES AND BOILERS FOR CHEESE AND BUTTER FACTORIES.

The largest output of any factory in Canada

E. LEONARD & SONS LONDON, ONTARIO



THERE is need of the tiniest candle
As well as the garish sun;
The humble deed is ennobled
When it is worthy done.
You may never be called to brighten
The darkened regions afar;
So fill, for the day, your mission
By shining just where you are.

The Domestic Adventures

By Joshua Daskam Bacon
(Continued from last week)

"You're the dearest thing, you know!" he said eagerly.
And just then the last drop of doubt and indecision melted out of my happy heart. (It is surprising how one grows accustomed to its happening.) I felt him shiver—Mamie's aunt had told me how his coat caught fire on the way to my room—and while I began to pour some tea for him he noticed my wet bed slippers.
"Heavens, you poor child, what was Miss Archbold thinking of?" he cried—the idea of Sabina's attending to my slippers!—and he threw open the bedroom door.

"Has nobody here a dry pair of shoes?" he called reprovingly.
Sabina and Mamie's aunt emerged from the bedroom—there was no other door out—and fell upon me apologetically.

"When I went back into the kitchen Mr. Van Ness stood there warming his hands at the fire. I took my courage in both hands and walked straight up to him.

"I know about you and Sabina now, Mr. Van Ness," I said hurriedly. "I heard in the cart, but I could not wake up exactly. I am sorry I kept you away for ten days. But I thought you—I thought it was Chloë, you see."

"He stared at me, and I was terribly conscious of my school-girl pigtails. "You thought it was Chloë?" he repeated uncomprehendingly.

"To marry her, you know," I explained feebly.
He looked positively frightened for a moment.

"But—but—how extraordinary!" he exclaimed. "How could anyone—surely no one could see Miss Archbold and—not that she is not a most attractive young woman—dear me, and extremely vivacious; it is a pleasure to meet her, I am sure, but—oh, you are not in earnest, really! Ever since I met her—and when she smiles I wonder how I could have been afraid of him for a moment—I have admired Miss Archbold more than any woman I ever saw. You understand that, I am sure—she tells me you are such old friends."

"You cannot admire her too much," I told him soberly; had I always been fair to Sabina of late?
"How much have they succeeded in saving, Hunter?" Sabina asked, when we had forgotten how long ago it was that we lunched.

"The piano and the dining room chairs," he began.

which her friends are accustomed!"
"I'm afraid there is a great deal in that," Sabina began gravely. "I have always feared—" But she was finished.
"Sabina," I cried, "where is Chloë?"
"We dropped our teacups and stared guiltily at one another. It was too unbelievable.

"I—I thought she was with you, of course," said Mr. Orden, half rising, and looking at Sabina and Mr. Van Ness. "When I went for Maria, she was running for some one to bring the piano out, and after that—I lost track of her; she wouldn't stay here—" he looked at me, and I wondered that I would ever else for him—when there was anyone else for him—when it occurred to me that you might really be in that—that—" He paused, and swallowed hard.

"And afterwards when you faint, I ran for some brandy," he went on, "and when I got back you were gone. A man there said that a lady and gentleman came and got you in a carriage, and I supposed it was she, of course." He scowled at Mr. Van Ness, who cleared his throat and pushed away his chair.

"And I suppose she was with you—of course," he answered with an accusing glance at Mr. Orden. I enquired of the firemen, and they assured me that you and she had been most active in saving what could be got out—I took it for granted that she was safe with you, when Miss Archbold and I hurried away with this poor lady."

"Sabina and I said nothing, but I am sure our thoughts were dreadfully alike. There was no disguising it; we had both of us completely forgotten Chloë."

The two men started to either for the door without a word from either of us. But before they reached it a soft thumping shook it.

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I longed for the floor to open and swallow me up.

"Sabina," I stammered. "I shall have to tell you—it was Maria. She did smoke!"

They looked hard at me, and suddenly they all began to laugh.
"The fireman swore it began in the attic, and I faced them up and down it didn't," said Mr. Orden finally, when they had finished.

"—In bed?" I went on sadly, "and I knew it. And she must have fallen asleep, Oh, where is Maria? Was she—"

"She was not," said Mr. Orden, suddenly grave. "She is alive, though she doesn't deserve to be, for she told me there was no one left upstairs when I helped her out. He looked at me and his mouth twitched. "She asked me for a dollar and headed for the station," he continued with an effort at lightness, "and I doubt if you see Maria again—in view of the facts!"
"Sabina," I cried penitently, "all your lovely books! And I engaged that her! Oh, I will never trust my judgment again!"

"I should think not," said Mr. Orden—but his eyes were kind, and oh, I was sure I was not too old!—"your judgment, indeed! Do you know," and he smiled on us all delightedly, "she pretends to have supposed that I was going to marry Miss Chloë! As if," with an audacious, confidential air, "I could dream of supporting that brilliant young thing in the style to

"Mamie's aunt! O Mamie's aunt!" some one called.

We listened breathlessly.
"Oh, may I come in, Mamie's aunt?" The voice was half laughing, half appealing.

"I can't remember your name," Mamie's aunt, I'm so excited, but I knew you'd let me in, and I am too wet to come unless you tell me I may, and my hands are full!"

The door pushed open slowly, and Chloë stumbled into the room, her skirts kilted to her knees, her shoes and stockings drenched, her lap full of some small clattering objects. She paused, and her bright questioning eyes moved quickly from one to the other of our little group.

I suppose my nerves were not quite steady yet, for at the thumping on the door, I had stepped hastily over to Mr. Orden; Mr. Van Ness stood behind Sabina's chair with one hand on it.

What passed through the girl's mind I do not know. Sometimes I think I saw more in her darting eyes than I like to remember; again I am sure there was only excitement and relief at finding us.

"A meeting of the survivors!" she cried. "Are we all safe and—happy!" Sabina moved towards her. "My dear, dear child," she said eagerly, "what must you think of us? We thought—they supposed—"
"Orden and I each thought you

were with the other," said Mr. Van Ness frankly.
Chloë's eyes rested for a moment on his.

"Ah!" she murmured. And that was all.

"I should love some tea, Mamie's aunt," she said a moment later. "Wasn't it thrilling? I saved these myself—they are Satterlee Stuyvesant's old English salt cellars! I suppose you know there's practically nothing else? We've none of us a rag. You ought to braid your hair all the time, doesn't he think so?"

Mamie's aunt got her dry, and we bustled over her tea.
"Wasn't it great luck about the insurance, though?" she mumbled with her mouth full of toast.

Sabina and I stared at each other.
"I believe you had forgotten!" she cried. "Dear, dear, it takes a thrifty spinster like me to remember—and you had other things to think of, evidently!"

A loud jarring sound grew every moment louder, and culminated at our door.

"It's the Panhard," said Chloë, starting up. "Anna telephoned she'd sent it. We'll come over in the morning—I'm dead for some sleep. Satterlee did hope those chairs had burned, he said!"

She was at the door before we knew it. "Good-bye, my dears—and Bless you!"

"But, Chloë," I began, "won't you—"
She flew across the room and kissed me.

"To-morrow!" she persisted. "To-morrow! Give me a night's rest, and I'll dance at the wedding—to-morrow!"

She was gone. We heard the great car back slowly around and snort off.

"A most attractive girl," said Mr. Van Ness, thoughtfully. "Such tremendous vitality."
"A little excitable, though. Had we not better start, Miss Archbold?"

They went out and the rumble of the cart died away.

"I suppose you couldn't wear it in braids like that, could you?" said Mr. Orden.

I looked hastily at the bedroom door (after it had happened), to see if Mamie's aunt was coming out, and there on the threshold I saw a scorched black account book.

"See what you saved!" I cried. It was that I had clutched, all through the smoke and down the ladder, and in the high cart!

I need not tell you what he said, because I cannot pretend that this is any longer a Character Study. Mamie's aunt put me to bed.

"It'll be nice for you, miss, in going to housekeeping, to have that fine Swede girl, I'm thinking," she said. "You'll not have to raise your hand."

I looked at my hand thoughtfully; it was not Maria's fault that I could raise it at that moment! And yet could I have summoned the strength of character to dismiss her? I am glad I did not have to try—she was so good!

The End.

The Upward Look

Friends with Christ

But I have called you friends.—
John 15, 15.

There are some people who read the story of the Bible as a bit of ancient history. They often wish that they had lived in the times in which the Lord was here upon earth. They would then have been able to acquaint themselves with the friends who have been friends with Christ. They always look at Christ being a friend to men, as a thing of the past, never as a thing of the present.

An easy method of starting cuttings from our winter plants is to plant them indoors a few weeks before the weather is mild enough to place them outdoors. Fill a soup plate with clean, sharp sand. The sand must be absolutely clean and free from foreign substances that would injure the tender little shoots. Put in the slips close together around the edge of the plate, slanting them in with one eye under the sand, and at least one eye above. Water until the water rises to the surface and place on the window-sill in the sunshine. The sand must be kept constantly wet to insure success, for if allowed to dry in the least, the cuttings will wilt and die.

To Wash Blankets

Select a clear windy day. Dissolve one pound of white soap in a quart of water, and to this add two ounces of borax dissolved in half a pint of boiling water. Have the tubs half filled with tepid water; put half the soap mixture into each tub. Shake the dust from the blankets and examine carefully for any dirty spots. If there are any, spread the blankets on a board or table; dip a soft brush into the suds and brush softly until the dirt is removed. Put the blankets into one tub of suds, sop and squeeze to work out the dirt. Never rub or wring woolens with the hands. Press out as much suds as possible, put the blankets into the second suds and wash as before. Next, rinse in one or two waters, having a very little

soap in the last. Wring, using a wringer, if possible. Hang as nearly single as you can and when dry fold in a sheet and put under a weight. Have all the water used of the same temperature. If the water is very hard, soften it with borax dissolved in hot water—two tablespoonfuls to each tub of water.—Elizabeth Underwood, Peol Co., Ont.

The Right Kind of Pride

Youth is the time for pleasure, but also for training, for work for self discipline. True pleasure needn't be expensive and a young man should never be ashamed to economize. Above all things should he earn his money before he spends it, and resolve that, except in the case of most imperative necessity, he will not pay a penny, either for charity or for luxury, except out of his income and pay a little every week.

Do not let society or fashion swallow up your individuality. See that you are proud but see that your pride is of the right kind. Be too proud to be lazy, too proud to give up without conquering every difficulty, too proud to be in company you cannot keep up within expenses and too proud to be anything but an honest and law-abiding citizen. And in so doing you must succeed.

The Label on your Paper, will tell you when your subscription expires. Pay up promptly to save your name being dropped from our list.

The White Spruce

Annie L. Jack, Chateaugay Co., Que.

On the banks of the St. Lawrence in the Province of Quebec, are some fine specimens of native spruce trees (*Picea alba*) and in a pasture field those shown in the illustration are growing. Not far away the Iroquois Indians have a quote reservation, and from it have cut every worthy tree for firewood, leaving only rough and tangled brushwood where was once a magnificent forest. Sometimes in winter they still stray into the woods of their white neighbors and cut down trees for the sake of a part of the wood they require for axe handles, or other merchantable goods not to be found now on their own land. But in the quiet pasture, not far from a farm house, these fine white spruce trees have escaped destruction, and form a prominent and pleasing feature of the landscape at all seasons, but more noticeable when the deciduous trees are leafless. The foliage is beautiful and on large grounds and parks the spruce is very ornamental, being of great value where hardness is one of the chief requirements. Rising over a hundred feet in the air these evergreens reveal to us the possibilities of our native trees, teaching us a lesson of stability and persistent growth, in

spite of a low temperature that in this province sometimes touches 40 degrees below zero.

No cultivation has been given these giants, Cattle range beside them in the old pasture and, in that way, the



Stately Specimens of Our Native White Spruce

land is kept fertilized, and they show no sign of age. During the late spring storms, the spruces are veritable hives for the birds, giving protection and shelter from untimely blast and belated snowstorms.

The New Country Woman

To many people it will be surprising news to hear that there really is a "new woman" in the country, as well as in cities. For a number of years we have been reading of the exploits of the new woman in town, but nothing about her country sister. Actually, there are men and women, people who call themselves intelligent, who know more about Europe than they do of the real conditions of the rural residents of their own country.

The average town dweller looks upon life in the country as one wild waste without a fertile spot to redeem

it. Men and women willingly starve in crowded tenements rather than endure the "terrible loneliness" and "drudgery" of the country, and the sympathy of every woman who has never lived in the country goes out to her down-trodden country sister.

Conditions have changed wonderfully during the past twenty or thirty years everywhere, but particularly in the country. Machinery has lightened labor, telephones have placed the country in touch with the cities, rural free delivery has brought the news and happenings of the hour to the little box at the gate of the farmer daily, fine picks have made it possible to

If You Hear A Woman Complain

that her work is so hard and that washing and cleaning is never finished—that clothes go to pieces so quickly, and even after the dishes and tinware are washed they look dull and greasy

IT IS A SURE SIGN SHE NEVER USED



Wyandotte
Cleaner and Cleanser



because Wyandotte Cleaner and Cleanser makes the work very much easier but cannot injure anything, for it contains no acids or harmful chemicals. The dishes and tins shine because they are made clean and not because they are left greasy. Wyandotte Cleaner and Cleanser contains no greasy soap or soap powder.

If all this seems too good to be true just get a sack from your dealer and try it entirely at our risk. It will not cost you one cent unless it is perfectly satisfactory.

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get about from place to place with ease and rapidity, and the steam and electric cars are assisting as well. Our people with good comfortable and cosy country homes will soon be the envy of many cramped and uncomfortable "city people."

it will have become quite soft. The county of Yorkshire is celebrated for its good things for the table, and this is certainly one of them. It is an economical and wholesome cake for children.—I. A. G., Man.

WALNUT WAFERS

Beat 2 eggs very light, add 1/2 cup flour sifted with 1/2 teaspoon baking powder and a little salt, 3/4 cup walnut meats, and enough more flour to make a very stiff batter. Drop by spoonful on buttered tins, not too close, and bake in a quick oven.

CHILDREN'S SPONGE COOKIES

Into a mixing bowl put 1 1/2 cups flour sifted with 2 teaspoons baking powder, a little salt, and 1 cup sugar. Break 2 eggs into a cup, fill the cup with cream, stir this into the flour and sugar, and beat hard about 5 minutes. Bake about 10 minutes in muffin pans.

CINNAMON ROLLS

Cream 1 cup lard and butter (mixed) with 2 scant cups brown sugar, add 3 eggs, 1 cup milk, and 2 teaspoons baking powder sifted with enough flour to make a dough that can be easily handled. Roll 1/2 inch thick, sprinkle with cinnamon and roll the dough up same as for jelly cake. Then slice off pieces from this roll about 3/4 inch thick, sprinkle

granulated sugar over the slices, dot with butter, and bake in a moderate oven.

TOMATO SAUCE

Cook 1 qt. canned tomatoes with some salt and 1 small sliced onion for 10 minutes. Brown 2 tablespoons flour in 2 tablespoons butter and add this to the tomato mixture and cook 10 minutes more. Season with salt and pepper and a pinch of cloves, and rub through a strainer. This is fine to serve with fish, meat and macaroni.

The flour barrel should have a tiny platform made of plank and set upon castors that any child can wheel out of the way while she sweeps and scrubs under and behind it.

Nature Study

We will send a beautifully illustrated set of Nature Study post cards, 50 cards in each set, absolutely free, for only one new subscription to Farm and Dairy, at \$1 a year. These cards give you the names of birds, flowers, and some fruits, and are true to nature in every respect. Address, Circulation Department, Farm and Dairy, Peterboro, Ont.

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Talks with Mothers

Do not Rock Your Child

The child is yet to be found who is either happier or better for having been rocked to sleep. On the other hand we have many instances on record of increased nervousness and irritability in babies as a result of the habit. By it the mother loses the most valuable hour of the day, the hour in which she wishes to lay aside her household cares and enjoy the companionship of her husband.

She has every right to this hour, and nothing short of extreme foolishness on her part should cause her to dedicate it to the rocking of her child. Regularly at the same hour every night, the child should be bathed, fed and laid in his bed in a darkened room, where he should stay until morning, with the exception of being fed and cared for again, if still an infant.

If this rule is carried out from birth, there will be no clash of wills; but if the too indulgent mother once stays beside her baby, or lifts him from his crib once he is put there for the night, he will demand the

THE COOK'S CORNER

Send in your favorite recipes, for publication in this column. Inquiries will be replied to, as soon as possible after receipt of same. Our Cook Book sent free for two new yearly subscriptions at \$1.00 each. Address, Household Editor, this paper.

YORKSHIRE PARKIN

To 1 lb. oatmeal add 3 cups molasses, 1 cup brown sugar, 1/2 cup butter or beef dripping, 1 teaspoon ginger, and 1/2 teaspoon mixed spice. Mix the sugar and spice with the oatmeal, and with the fingers rub in the shortening, then pour in the molasses. Mix all well together and pour into a shallow tin, about 2 inches thick. Bake in a slow oven 1 1/2 hours, and do not turn out of the tin until quite cold, or it will break. While hot cut it across into squares, so that it can be broken when cold. Keep for 3 days before eating, as by that time

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Nov 2, 1908
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same attention every evening. Three nights of discipline are sufficient to teach baby the lesson of all lessons most important for him to take to heart, namely, that he must turn

over on his little side and put himself cheerfully and happily to sleep. It is equally as important for the baby's health as for the mother's nerves that he should never, even if ill, be rocked to sleep. If he is tired and his mother wishes to cuddle and rock him, it should be done at the twilight hour, when little ones grow weary, or in the heat of the day when they want a rest or change of position

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Care of the Cellar

Cleaning up a dark, dirty, dingy cellar and transforming it into a light, airy laundry, work and storeroom is a simple process and a matter of very small investment, either in labor, material or money. Neither does it require the services of an architect nor the presence of a carpenter.

The day has gone by when the damp and fungus-like cellar can pass the inspection of even the most amateur housekeeper, who is fully conscious of the fact that darkness, dampness and fungus are the abomination of sanitation.

Frequently the housekeeper is conscious of the lack of light, lack of dryness, lack of cleanliness and lack of ventilation, but alas! there is a lack of money to remedy the deplorable conditions.

Fortunately, conditions can be remedied with very little expense. While it is true that money will produce a perfectly sanitary cellar, skill requires brains plus several degrees of initiative to maintain this desirable condition. The dingiest and mustiest cellar can easily be made into a sanitary and livable room at a very small expense.

There is an old saying that "a thousand men cannot drive the dark out of a room, but a child can draw the curtain aside and let the daylight in." So with cellars--any one can admit the daylight air and abolish the dirt.

To Dye Rusty Feathers

Black plumes that have become rusty may be restored by using ivory black in benzine; feathers dyed in this way do not come out of curl. Have no light near, even in the next room when using the benzine.

The plume may be shaded by dipping first in a weak solution of the color and shaking until partly dry; then dip again in the three-quarters the length of the feather; take out and shake partly dry again. Dip again one-half the length of the feather; take out and shake as before. For the final dipping at the tip a little more paint should be added to the benzine to make it quite a little deeper. The reason for dipping when only partly dry is that the shading will blend, and not look as though done in sections. Keep the benzine away from the fire and lighted matches. It is very combustible.

Easy Washing

A book that tells how to escape the drudgery of wash day. It's just a little book--but one of those books with a message. It tells of new and better way of doing the weekly washing. More tempers have been ruined, more complexions spoiled, more injury has been done to the health of woman-kind by the old way of washing than by any other kind of housework.

The women of Canada expend enough energy over the wash-tub every week to move the machinery in a thousand mills and factories. Now, at last a machine for woman's use has been perfected that almost runs itself. It is known as the 1900 Gravity Washer. Thousands upon thousands of these wonderful washers have been sold. They are doing the laundry work in homes all over the country. One of these 1900 Gravity Washers will wash a tubful of dirty clothes as spotlessly clean in six minutes. The little book above mentioned tells all about them. A copy will be sent free on sending address to F. D. F. Bach Manager, 1900 Washer Company, 357 Yonge St., Toronto, Ont.

A good preparation to soften and whiten the hands is made by mixing together one oz of glycerin, half oz lemon juice, and two ozs rose water.

The Sewing Room

Patterns 10 each. Order by number and size, if for children, give age; for adults, give bust measure for waists, and waist measure for skirts. Address all orders to the Pattern Department.

EMPIRE HOUSE JACKET 6146



Every woman likes to own a pretty and attractive negligee. This one is just as pretty as can be yet is so simple that it can be made without the best bit of trouble. The sleeves and the deep yoke, or body portions are cut in one piece and are really no fit whatever required.

Material required for medium size is 4 1/2 yds 24, 3 1/2 yds 32, or 2 1/2 yds 44 in wide, with 1/2 yd of silk for trimming, bands and 4 yds of ribbon for sash.

The pattern is cut for 34, 36, 38, 40 and 42 in bust and will be mailed on receipt of 10 cents.

CHILD'S FRENCH DRESS 6145



French dresses are always pretty for the little children, and this season they are being made of a great many materials. This one can be worn over any guinea and is adaptable to the wool materials for cold weather and also to the washable ones.

Material required for medium size (6 yrs) is 3 1/2 yds 24, 3 1/2 yds 32 or 2 1/2 yds 44 in wide, 2 yds of edging.

The pattern is cut for girls of 4, 6 and 8 yrs of age and will be mailed to any address on receipt of 10 cents.

BLOUSE WAIST 6147



No matter what the season of the year the blouse waist is always in demand, and no matter how many one may have in stock, the latest style always finds its place. Here is a pretty one that can be treated in so many ways as to be available for a great many different purposes.

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The coat that is suggestive of the short waist effect, without being in the least exaggerated is the one which suits a great many figures. It is a simple coat, however, and can be made with skirt or without.

Material required for medium size is 7 yds 21 or 24, or 2 1/2 yds 32 wide for the length Illustrat-ed; 6 1/2 yds 21 or 24, 2 1/2 yds 44 or 2 1/2 yds 48 in wide for the shorter length, 5 1/2 yd of velvet.

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Of course this special process is more expensive to operate but it means a lot to Purify flour users—that's why we use it.

It means that Purify Flour is made entirely of the highest-grade flour parts of the strongest wheat in the world.

It means a high-class, strong flour and therefore yields "more bread and better bread."

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Peterboro, March 1, 1909.—Deliveries of hogs on the local market last week were light, the highest in the last 13 months. The demand for bacon is good and is possible Danish deliveries on English markets last

SWINE

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A number of young boars from 4 to 6 months old from imported large English stock. These are an exceptionally good lot of young England and will be a right. Full particulars on request. Write for prices delivered at your station. Also 3 AYRSHIRE BULLS rising 2 years.

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LYNDALE HOLSTEINS

Head your herd with a son of Sara Hengerveld, Komdyke, whose dam was recently sold for \$2,000, and 3 2 year old dams average 42 to 44 lbs. butter each in 7 days. Only 2 of this sons left. We still have a few sons of Count and Paul, and a number of Heifers for sale. E-1-2-10
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SPRINGBROOK HOLSTEINS AND TAMWORTHS

3 Choice Young Tamworths, from imported sows and sired by imported Knowl King David. A few rich bred Holstein bulls and several females. Bargains to quick buyers.

A. C. HALLMAN, Breslau, Ont.
E-6-11-09

NEIL SANGSTER ORMSTOWN, QUE.

Young Cows for Sale
From Two Years Up.
They will improve your herd. Write for prices. O-4-28-09

SUNNYDALE HOLSTEINS

Boo, your order now for grandsons and daughters. Peter's Hengerveld, Count, the champion of the breed. His son, Ducland Sun Hengerveld, 4 year old heifer, his sire, and is half-brother to Sara's Lewel Hengerveld, who with her daughter, Sara's Lewel Hengerveld, 3 was recently sold by Brown Bros. of Lynn for \$3,000. Write for prices and record backing calves to be dropped during February and March, 1909. E-4-28-09

A. D. FOSTER, Bloomfield, Ont.

HOME-BRED AND IMPORTED HOLSTEINS

We must sell at least 35 cows and heifers at once to make room for the natural increase of our herd. It is a chance of a lifetime to get a good bargain. I have a sale of young bulls, Ponce Hengerveld, Imp. son of Henderveld DeKok, world's greatest sire, head of herd. Come and see.

H. E. GEORGE, CRAMPTON, Ont.
Putnam Stn., 1 1/2 miles—C. P. R. E-4-28-09

week were 35,000. The George Matthews Co. quote the following prices for this week: f.o.b. country points, \$6.65 a cwt.; weighed out cuts, \$7.25 a cwt., delivered at station, and \$7.50 a cwt. delivered.

EXPORT BUTTER AND CHEESE

Montreal, Saturday, Feb. 27th. — There has been a little break doing in cheese during the week, and another respectable shipment has gone out in fulfillment of the orders received leaving our total stock here still further depleted. We are getting down to the boards and by the end of March there should be very few cheeses available in Canada. The orders that have come along during the last few days have been largely for cheap goods in white cheese and also for fancy colored cheese, showing that the stock of this class of goods on the other side is rather small. Colored cheeses are scarce here, and it is almost impossible to get an offer of a straight line of colored cheese, most dealers trying to work off their stock along with them. There is practically no demand for finest white, and holders of this class of goods will be obliged to clear them out. They are quoted at around 12 1/2 to 13, and inferior at 12 to 12 1/2. Colored cheese are quoted at 12 1/2 to 13, with very few available.

The feature of the market here this week has been the great break in the price of butter. The week opened with prices steady at 25c for finest creamery with dairy quoted at 24c to 25c, but on Monday a large quantity of butter stored here but owned out of town was thrown on the market at cut prices, and soon everyone in the trade with butter for sale, and who is there that has not, was with panic ensued, and prices went down with a rush, and soon those dealers who at the opening were quoting finest creamery at 25c, were now looking around for a buyer at any price. Towards the middle of the week a meeting of all the dealers was held at the Board of Trade with the idea of making some arrangement as to the course to be pursued but little was accomplished beyond ascertaining the actual quantity of butter stored here. This totalled over 40,000 packages, with about one-third of quantity owned out of town, the balance being in the hands of local dealers. It was, however, decided that the interests of the local market warranted a substantial quantity to be exported.

AYRSHIRES

NEIDPATH AYRSHIRES

Bull Calves dropped this spring. By imported Bull. First price Toronto, Ottawa, Long distance phone

6-3-25-09 W. W. BALLANTYNE, Stratford, Ont.

SPRINGBROOK AYRSHIRES

are large producer of milk, testing high in butter-fat. Young stock for sale. A few choice bull calves of 1 year ready to ship. Prices right. Write or call on

E-4-1-09 W. F. STEPHAN, HUNTINGTON, Que.

SPRINGHILL AYRSHIRES

Imported and home bred stock of 3 years age for sale. See our stock at the lead ing shows this fall. Write for prices.

ROBT. HUNTER & SONS, Maville, Ont. E-6-25-09

LONG DISTANCE PHONE

BURNSIDE AYRSHIRES

Are in such demand I will make another importation. Will attend great dispersion sale of the world renowned Kirkcaldy, Scotland, where some of the choicest breeding stock ever offered will be sold. Orders on request. Write for particulars. Take advantage of this great sale and replenish with few good ones. Write for prices, terms and satisfaction guaranteed. R. R. NESS, Howick, Que. E-5-15-09

STONECROFT STOCK FARM

Harold M. Morgan, prop. Sts. Anne de Bellevue. Choice young Ayrshire Bulls and heifers for sale. Also pig from imported Sires and Dams, February and March litters. Highest selection. Highest quality. Write for particulars.

E-5-26-09 E. W. BJORKELAND, Manager.

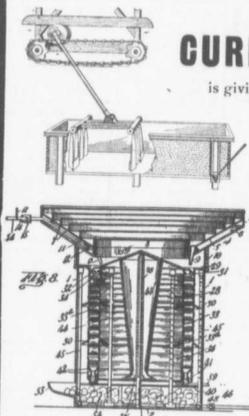
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On hand young bulls for service. Several very choice Angus, 1908, also heifers a year old, young cows and cows as desired. Family cows a specialty. Orders looked for Yorkshire pigs, orders for importing Ayrshire sows in residence. Hards Station, G. T. R.

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Consignments of Butter and Cheese solicited

and negotiations have been opened up with Great Britain and the United States with this end in view. The market in Great Britain, however, is weak, and steadily declining, and there is little prospect of doing any business there at over 18c or 19c, and this price the holders here are not yet prepared to accept. The market is closing weak at the decline with holders asking 20c to 21c for their cream-ery stock, and 18c to 19c for their dairy. There is no buying even at these prices, and unless there is a speedy improvement in this respect prices will very likely be marked down again next week.

GOSSIP

HINTS TO FENCE BUYERS

There are so many fences on the market—and so many of them seem good enough, that it is not out of place here to caution all buyers—and to tell you a few things to watch out for. Many of our readers have bought fencing that they were sorry for and we give you the following hints for the benefit of prospective fence buyers. The saving on the first cost of a fence—is in many cases—"pennywise and pound foolish." The price of a fence wears out a good deal quicker and the loss in fence quality more than discounts the saving on the first cost.

Which all goes to prove that it pays to get a good fence when you do get one. It takes time and costs money to repair fences, and the farmer who is immune from these troubles is saving both.

If you will read the advertisement on page 14 of "PERILLLESS Fencing"—"The lot that Saves Expense"—you will find how a good fence ought to be made. The facts are really interesting and worth more than pay you for your time. PERILLLESS Fencing is manufactured by The Banwell Hoxie Wire Fence Co., Ltd., of Hamilton, Ontario, and Winnipeg, Manitoba. To save time, address office nearest to you. It only costs a penny to get the facts and they may mean dollars to you by persuading you to get a better fence.

The well-known fence expert, E. L. Dyer, of Toronto, has written an instructive little manual that tells things every fence-buyer ought to know before he buys. How to test wire—how to build fence. Readers of Farm and Dairy have a limited opportunity to get a copy of this useful book by sending ten cents (stamps or coin) to Mr. Dyer, King street and Atlantic avenue, Toronto; but as the number of copies available at this nominal price for one, and he asks to mention you are a subscriber to Farm and Dairy.

Breeders' Directory

CARDS under this head inserted at the rate of \$6.00 a line a year. No card accepted under two lines, nor for less than six months.

SHEEP

ABRAM EASTON, Appleton, Ont., Leicester sheep. Show ring and breeding stock for sale. E-5-25-09

E. B. HARNING, Mapleview Farm, Thorp's, Ont. Dorset Sheep a specialty. Telephone. E-3-17-09

SWINE

JUS. FEATHERSTONE & SON, Streetsville, Ont. Large Yorkshire Hogs for sale. E-5-25-09

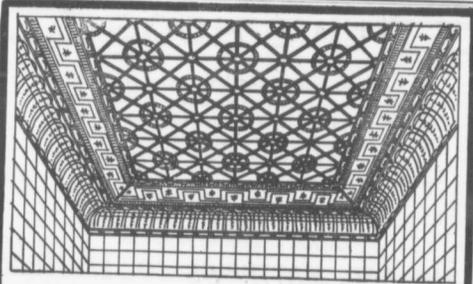
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The Canadian Dairyman and Farming World is the official organ of the Canadian Holstein-Friesian Association, all whose members are readers of the paper. Members of the Association are invited to send their interest to Holstein breeders for publication in this column.

BULL TRANSFERS FOR JANUARY, 1909.

The publication of these transfers is paid for by the Holstein-Friesian Breeders Association.

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- Victor Grougat De Kol, James H. Mosley to Wilmer Bradley, Landsdown, Ont.

COW TRANSFERS FOR JANUARY, 1909.

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- Bessie of Brickley, Jacob M. Cline to George Gilbert, New Sarum, Ont.
- Bessie of Mills Nova, D. Jones, Jr. to A. G. Golding, Downsview, Ont.
- Bessie Posch Clothilde, D. Jones, Jr. to T. Brigham, North Glanford, Ont.
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- Burkvee Deushaber, D. Foster to J. S. Striber, Bloomfield, Ont.
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- Canary Netherland, G. A. Gilray to Gordon H. Manhard, Manhard, Ont.
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- Centre View's Gem, P. D. Ede to Chas. W. Wells, Cotswold, Ont.
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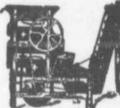
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We should be glad to send you a free sample of Amatite, and you can see for yourself how much better it is than the smooth surfaced kinds.

Address our nearest office.



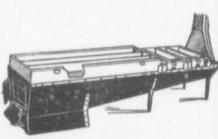
There was a time when everybody bought roofings that required painting. It was the regular thing to do. In fact there was nothing else to do, for all roofings were "smooth surfaced" and required painting regularly to keep them from deteriorating.

Now there is Amatite, an improvement over painted roofings, having a real mineral surface imbedded in pitch—making a kind of flexible concrete.

This mineral surface needs no painting. The waterproofing material, Cool Tar Pitch, is the greatest enemy to water known. It is the base of many waterproof papers. Only in a paint the pitch is diluted and made into a thin film, whereas the Amatite waterproofing is solid pure Pitch—two layers of it. It would take something like a dozen coats of pitch paint to equal in thickness that upper sheet of pitch in which the Amatite mineral surface is buried. And under that heavy sheet of pitch is a layer of wool felt and under that another sheet of pitch, just as thick as the other. And below them all is an-

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Last a lifetime. We have customers all over Canada and the United States who have been using our Evaporators from one to twenty-five years. If you have a Maple Grove (any size) we can sell you a "Champion" Evaporator that will get more money out of it for you.

FREE—Write for our illustrated booklet. It's full of useful information for Syrup Makers.

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Of our catalogue of books on Gardening, Dairying, and General Farming. Write to:
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THE COOPER RESEARCH LABORATORY

It is not generally known that the famous Cooper Research Laboratory at Berkhamstead, Eng., was established by Sir Richard Cooper of the famous Sheep Dip firm for the aid of agriculturists generally. A unique feature of this laboratory is its mailing list of many thousand names. To each farmer on this list the Laboratory mails free of charge the lat-

est literature and results of experiments on various farming topics. We understand that the Toronto Branch of Wm. Cooper & Nephews will be very glad to forward any farmer a postal card which will enable him to be placed upon the mailing list of this splendid institution.

A Profit of \$40.00.—Mr. Dickerson of Fort Wayne, Ind., writes Jan. 5, 1909, as follows:

"I am using ABSORBINE on my pacer, and it is worth its weight in gold. I bought him in July, after he got hurt in a race for a \$10.00 bill, and am now offered \$50.00 for him at any time." Lameness, Bruises, Strains, Swellings or Inflammation in the muscles or joints, respond quickly to ABSORBINE. \$1.00 a bottle, at druggists, or sent postpaid on receipt of price. W. F. Young, P.D.F. 132

Monmouth street, Springfield, Mass. Canadian agents, Lyman Sons & Co., 380 St. Paul street, Montreal, Que.

I consider Farm and Dairy a valuable farm and dairy paper. Every farmer should have it.—W. H. Brubaker, Kent Co., Ont.

Renew Your Subscription Now.



EVERY Canadian farmer who expects to build or re-roof his house or barn should write us to-day for details of our Free Lightning Insurance Policy in connection with Safe Lock Metal Shingles.

We give it to you without any conditions whatsoever, except that you roof with Safe Lock Shingles.

Such an offer is unprecedented, but we can afford to make it because we know absolutely that Safe Lock Shingles will insure safely from lightning.

It is absolutely free. You do not have to pay one cent for this protection, either directly or indirectly.

Insurance records show that nearly one-half the fire losses on barns in Canada result from lightning. This loss, running into the hundreds of thousands of dollars, can be entirely prevented if Safe Lock Shingles are used.

We know this, and we back up our statement with a Free Insurance Policy payable under its terms in cash.

Safe Lock Shingles are sold at the same price as shingles known to be inferior in quality of steel, galvanizing and construction.

We have been manufacturing Safe Lock Shingles for over ten years, and roofs laid when we started in business are still "as good as new," to quote from hundreds of letters we have on file in our office from our pleased and satisfied customers.

In all this time these roofs have not cost one cent for repairs of any sort.

In all these years no building covered with Safe Lock Roofing has ever been destroyed by lightning.

Do you know that Safe Lock Shingles fully meet the rigid requirements of the British Government for Admiralty and other public service. Think what that means. Let us illustrate.

Every farmer knows from experience that ordinary galvanized fencing seldom lasts longer than two or three years without showing signs of rust. On the other hand, galvanized wire for Government use gives years and years of service, owing to the splendid galvanizing used upon.

Safe Lock Shingles are galvanized the same as Government wire, and therefore may be depended upon to give long service. We really do not know how long they will last. Safe

Lock Shingles in use for more than ten years show no signs of wear.

To-day we are using better material in their construction than ever, the steel is of higher grade, and the galvanizing is heavier.

We have also made several improvements in manufacturing. For instance, every shingle is cut accurately to size before it is galvanizing, thus protecting the edges of the shingles instead of leaving them raw and exposed to the degrading action of moisture.

We want you to remember the

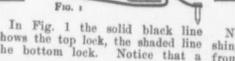
thus causing a leaky roof.

Safe Lock Shingles cannot be blown off, nor can they be pulled apart by warping of the sheeting, or any other cause.

Study the small illustrations on this page, and you will be convinced of the truth of this statement.

contraction due to heat and cold. They cannot unloose.

Illustrations 3, 4 and 5 show the construction of other metal shingles.



In Fig. 1 the solid black line shows the top lock, the shaded line the bottom lock. Notice that a

SAFE LOCK SHINGLES are the only shingles that—

1. Give you a positive guaranty against Lightning, backed up by a policy signed and guaranteed by the manufacturers.
2. Meet fully the rigid requirements of the British Government for Public work.
3. Lock on four sides, and cannot be pulled apart.
4. Have three (3) thicknesses of metal along upper edge at point of greatest strain.
5. Completely protect nails from weather.
6. Have edges galvanized after being cut to exact size.

name Safe Lock. No other shingle has that name.

No other shingle is a Safe Lock Shingle.

Safe Lock Shingles lock positively on all four sides. Other shingles grip only on two sides. This is not enough for a permanent, durable roof. We know of many instances of buildings covered with these shingles being entirely unroofed in that stiff breeze. Another objection is that these shingles are apt to spread apart owing to the warping of the sheeting to which they are nailed,

double fold forms the top lock instead of a single fold, thus giving twice the strength at the point where the greatest strain comes.

With Safe Lock Shingles the nails are driven full length into the sheeting, and are protected by any possibility of water backing up and starting rust.

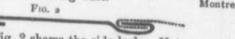


Fig. 2 shows the side locks. Note the deep firm grip which allows ample room for expansion and

No. 3 is the old-fashioned cleat shingle now almost entirely driven from the market by the Safe Lock. These do not always shed water, and it is almost impossible to keep them from leaking after they have been on for a season or two.

Note in No. 4 that the nail is only about half way driven into the sheeting, leaving a large surface exposed to the weather. This makes a very insecure fastening for a roof, and this is still further weakened by the springiness of the steel, which has a tendency to pull out the nails, causing a loose, leaky, rattling roof.

No. 5 is a side slip pattern, similar to many now on the market. The one shingle slips into the other, but does not lock. Shingles constructed in this way pull apart easily and must not be confused with the positive lock in our Safe Lock Shingles, as shown in Fig. 2.

Safe Lock Shingles are absolutely uniform. We have spent time and money to perfect their construction, which is fully protected by patent. They are now easier than ever to lay, and a Safe Lock roof cannot leak, if the shingles are laid in accordance with our printed instructions.

The Metal Shingle and Siding Co.

Limited

Exporters to the Farmers of Canada

2000 Street East
FARGUS, ONTARIO

Lower St. Factory
Preston, Ont.

Branch Factory
Montreal

CUT OUT THIS COUPON AND MAIL TO US

I expect to build _____ Kind of Building _____

State when you propose to build _____

Size of Roof _____ If interested in any other Metal Building Goods, please state such _____

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Name _____

P. O. _____ Province _____

Send for our Free Book "The Truth about Roofing"

Let us send you a Peerless Incubator and Brooder to-day and start you on the right road to profitable poultry raising

YOU can make more money out of poultry for the time, attention and investment it requires, than any other department of your farm will produce. The money is there. Others are getting it and you can get your share. But you must go about it the right way. Anyone who is making money out of poultry to-day will tell you, that to be successful you must use an Incubator. All you have to do is get the facts and decide which incubator will give you the best results.

Now we have studied poultry conditions in Canada very closely—have been doing so for years. We have been raising poultry for years on our farm—the Poultry Yards of Canada Limited at Pembroke—and making good money out of it. We know that the incubators that are successful in the United States are not suited to Canadian conditions. We know, for we have tested every one of them. It was because these machines failed to come up to the standard of success which we were looking for, that we produced the Peerless Incubator. It has proved to be the most successful of all the ones we have tested. The Peerless is the only incubator used on our farm. If there was a better one made any place in the world we would use it—for our object is to make the biggest possible profits out of poultry.

It stands to reason that the Peerless Incubator must be the most successful in Canada. It is the only one that is made in Canada to suit Canadian conditions and as the direct results of experience in poultry raising in Canada.

The Peerless Incubator has been thoroughly tested in all parts of Canada under all prevailing climatic conditions. In every case it has proven the most successful.

We have thousands of letters from all over Canada telling of the success our customers are having with the Peerless Incubator. Very likely some of these letters come from your neighbors. What we have said of the Peerless Incubator also applies to the Peerless Brooder. It is built to suit Canadian conditions and has proved itself to be the best brooder for use in Canada.

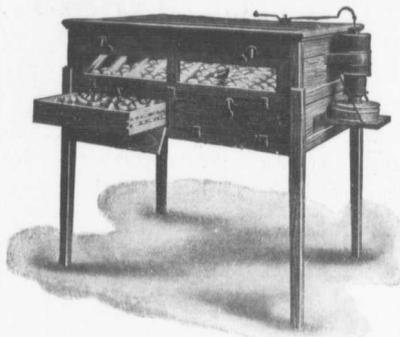
Right in your district money is being made out of raising poultry the Peerless way—you can make it too. Write for our book "When Poultry Pays." It tells the whole story. Sit down now, while you are thinking of it, and write for this free book.



Genuine advice and help for poultry raisers given by the Peerless Poultry-for-profit Club



We are honestly interested in the success of every purchaser of a Peerless Outfit. We want to help him in every way we can every cent he can out of poultry. For this reason we have formed the Peerless Poultry-for-profit Club. Every user of a Peerless Outfit is entitled to the free advice and help of the experts on the farm of the Poultry Yards of Canada Limited. No matter what problem comes up—hatching, fattening, laying more eggs—just write us and the return mail will bring you full instructions. If you cannot get all the profit you think you are entitled to, just write us and we'll put you in touch with buyers who will pay the very highest market prices.



\$510 in Cash Prizes for the most successful poultry raisers—

We are thoroughly interested in the poultry industry of Canada. We want to see it become much bigger and more profitable. We want to see Canadian poultry raisers take more interest in their work and become more proficient in the operating of incubators.

We know that if we can create a competitive feeling among poultry raisers we will have done much for the industry in Canada. For these reasons we offer \$510 in cash prizes to the poultry raisers who are most successful. The prizes are divided as follows:—

First Prize	- - -	\$100.00
Second Prize	- - -	50.00
Third Prize	- - -	25.00
Ten prizes \$10 each	- -	100.00
Twenty prizes \$5 each	-	100.00
Twenty prizes \$3 each	-	60.00
Twenty-five prizes \$2 each,		50.00
Twenty-five prizes \$1 each,		25.00

The competition is open to every owner of a Peerless Incubator. Professor A. G. Gilbert, Chief of the Government Poultry Department at Ottawa, has kindly consented to act as judge.

The names of the winners will be published in this journal after the awards are made. Write to-day for full particulars.

We are helping lots of Peerless users to make big money now—we can help you do it, too. Write us to-day for particulars.

LEE Manufacturing Co. Limited, 386 Pembroke St., Pembroke, Ontario, Canada

Early Maturity, a Good Color and a Firm Product are the Three Qualities that Orchardists find most difficulty in obtaining.

- ¶ This question has been causing fruit growers a great deal of thought in recent years.
- ¶ MARKET GARDENERS also desire to have their crops as large and as EARLY ON THE MARKET AS POSSIBLE in order to get the most remunerative results.
- ¶ Experience has proved that barnyard manure will not satisfactorily produce these desired qualities alone.
- ¶ However the inclusion, in a "Complete Fertilizer," of

POTASH

will invariably result in larger crops of better quality and an earlier and consequently more valuable product. This indispensable "plant food" ingredient can be obtained from all leading fertilizer dealers and seedsmen in the highly concentrated forms of

SULPHATE OF POTASH & MURIATE OF POTASH

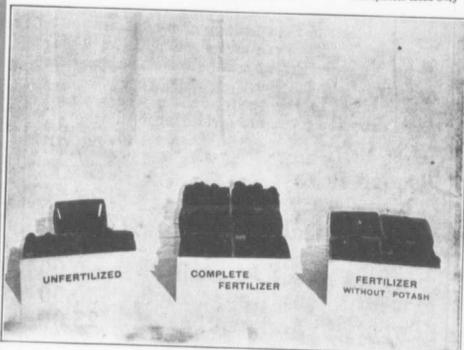
- ¶ The accompanying experiments show the PROFITABLE RETURNS to be obtained from an intelligent system of fertilizing. A study of these and other experiments that show the benefits of fertilizing in an equally striking manner cannot fail to prove interesting to the progressive orchardist and market gardener.

Experiment on "Strawberries" in 1908 Conducted by
E. EMSLIE, Oakville, Ont.

PLOT I.
Unfertilized

PLOT II.
Complete Fertilizer—
Nitrogen, Phosphoric
Acid and POTASH

PLOT III.
Incomplete Fertilizer—
Nitrogen and
Phosphoric Acid only



Yield per acre: 2,560 Baskets 6,144 Baskets 4,006 Baskets
This experiment shows an increase of 2,048 baskets, directly due to the application of POTASH

Experiment on "Wax Beans" in 1908, Conducted by
V. G. HECTOR, Erindale, Ont.

PLOT I.
Unfertilized

PLOT II.
Complete Fertilizer—
Phosphoric Acid and
POTASH

PLOT III.
Incomplete Fertilizer—
Phosphoric Acid
only



Yield per acre: 792 Baskets 1,194 Baskets 738 Baskets
This experiment shows an increase of 456 baskets, directly due to the application of POTASH

- ¶ Write for full particulars of this important fertilizing ingredient and copies of our free publications including:

"Fertilizing Orchard and Garden"

"The Potato Crop in Canada"

"Fertilizing Root Crops and Vegetables"

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