

BRITISH COLUMBIA



# FRUIT and FARM

## MAGAZINE

Vol. X., No. 10

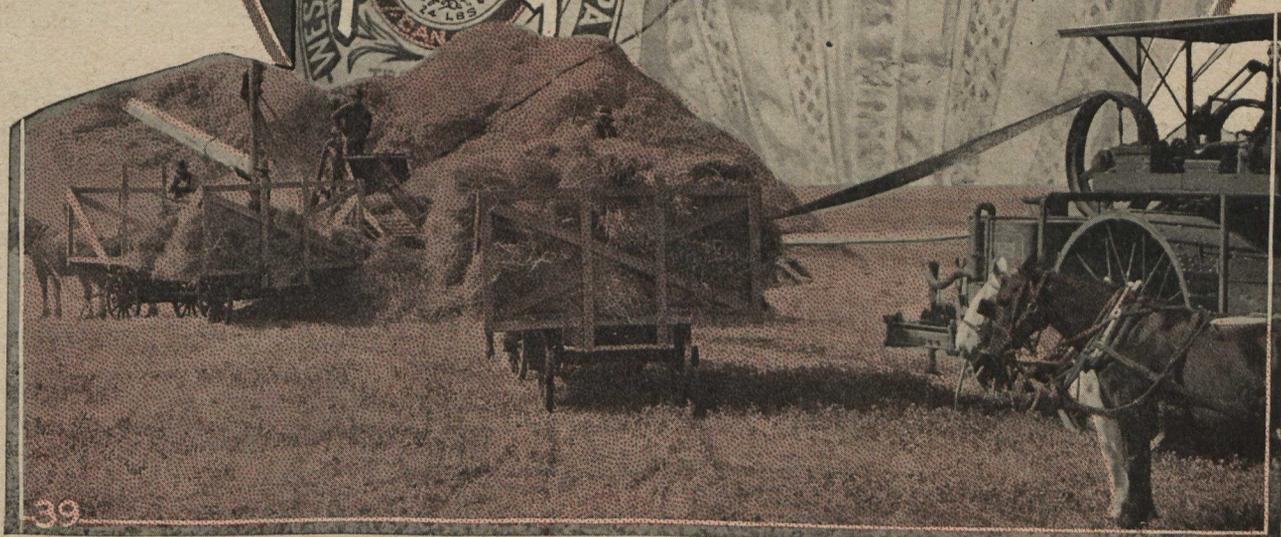
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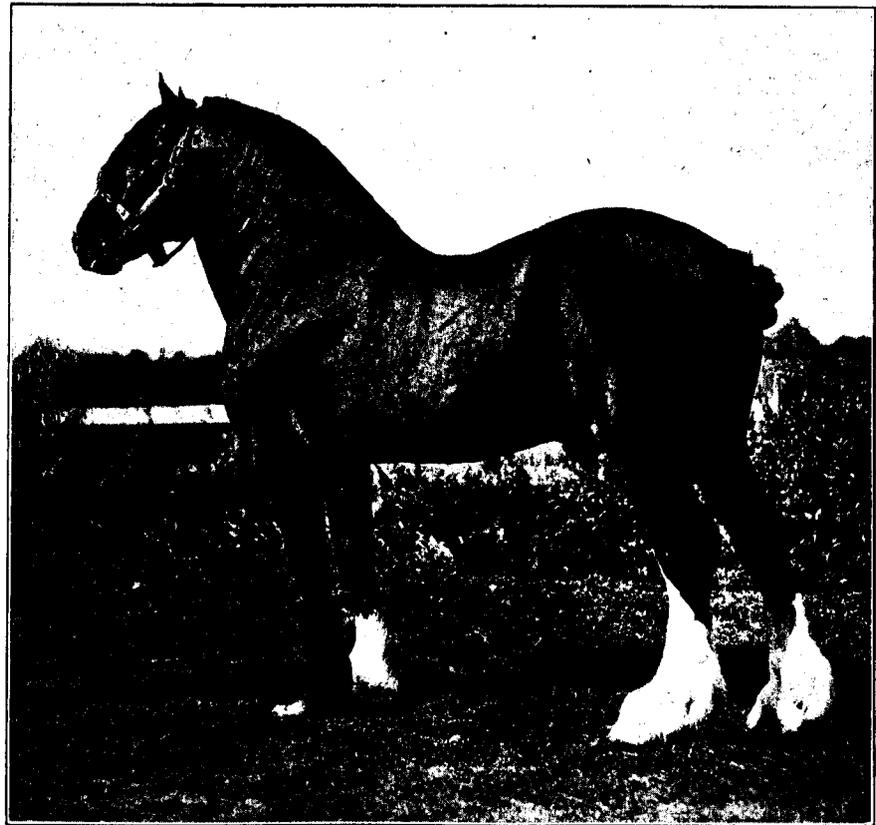
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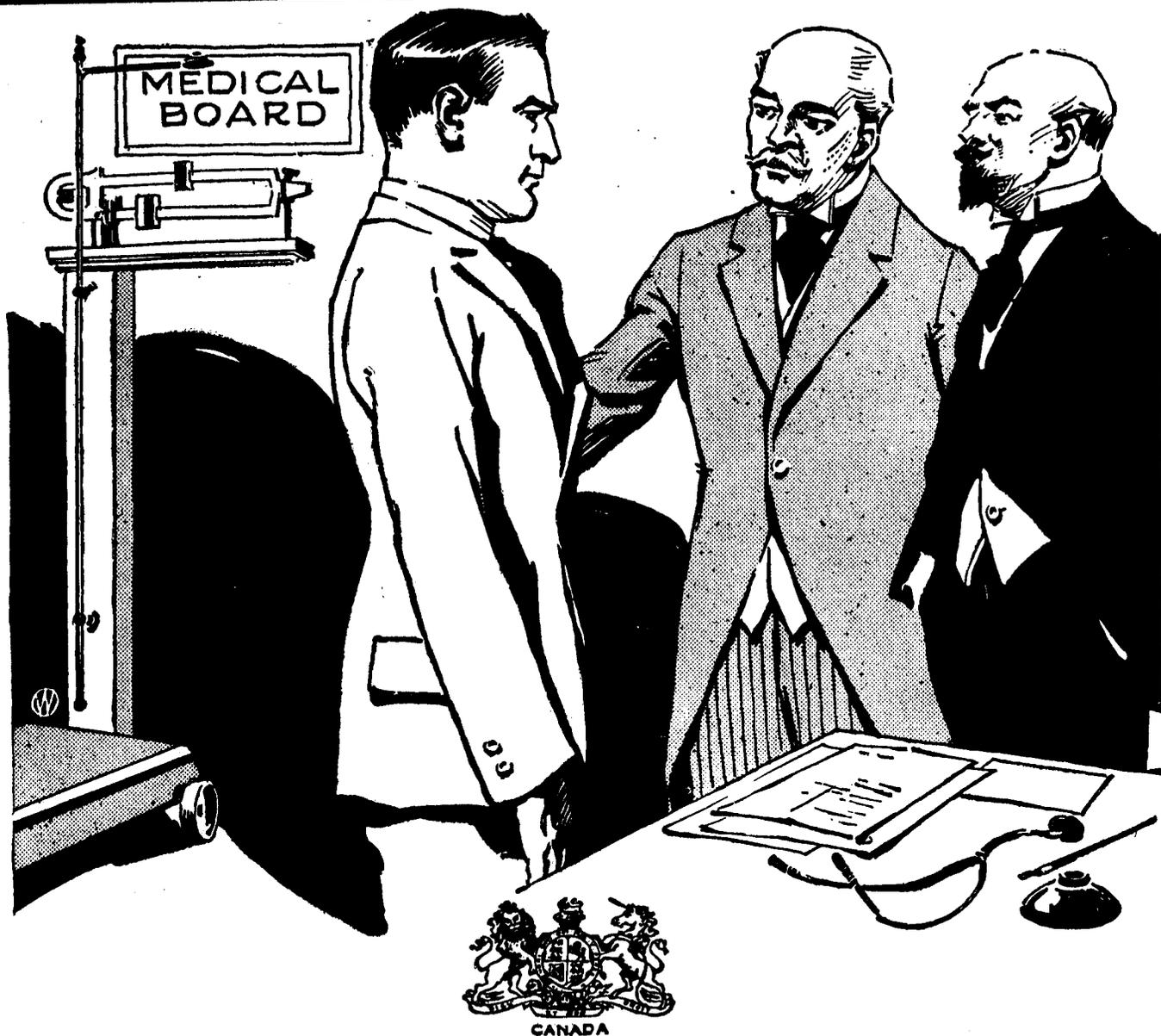
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## These Men Will Help You Decide

Are you liable to be selected for service under the Military Service Act?

The answer to this question is being made readily available for you. Remember that the first class to be called includes only men between the ages of 20 and 34, both inclusive, who are unmarried or widowers without children, those married after July 6, 1917, being deemed single for the purposes of the Act.

Medical Boards are now being established throughout Canada. These Boards will examine, free of charge and obligation, all men who wish to be examined as to their physical fitness for military service. They will tell you in a very short time whether your physical condition absolves you from the call or makes you liable for selection.

It is important that you obtain this information as soon as possible. A certificate of unfitness from a Medical Board will secure for you freedom from responsibility under the Military Service Act from any Exemption Tribunal. A certificate of fitness will not preclude an appeal for exemption on any ground.

In order that you may be able to plan your future with certainty, visit a Medical Board as soon as possible and find out if you are liable to be selected. Your family and your employer are interested as well as yourself.

Issued by  
THE MILITARY SERVICE COUNCIL.

BRITISH COLUMBIA

# Fruit and Farm Magazine

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

Vol. X.—No. 10

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[\$1.00 per year  
in Advance

## The Problem of Country Life

Dean Klinck Traces Growth of Agriculture Through History

Dean Klinck, of the Department of Agriculture of the University of British Columbia, in an interview with the Victoria Times discussed the historical phase of the "Country Life Problem." History, ancient, medieval and modern records many events that have been instrumental in the establishing of our present day agricultural colleges and institutes. All the records that have marked the course of man through his development give to the intelligent student of the rural question a basis from which has arisen the necessity of founding those institutes that are aiming to give the world the best scientific and economic methods of tillage, that a maximum of results may be obtained and that waste may be eliminated.

In dealing with the subject, Dean Klinck referred back to the time of the ancient Greeks and Romans to demonstrate that the Country Life Problem is by no means a new one. Xenophon, from the wealth of Greek knowledge, dealt extensively with the subject of the care of horses, while later Virgil treated the problem under four heads: Soil and Their Management, Horticulture, the Care of Live Stock, Husbandry of Bees. Even as far back as those days the principle of rotation of crops was understood, which knowledge was gained in all probability from the earlier Greeks and the Carthaginians.

### Primitive Method.

"In England," said the Dean, "the system of land tenure was adopted under the communistic system. Its effects were of course detrimental to settled and stable development. The rotation of crops was made impossible and drainage was practically unknown, added to which was the fact that it was impossible to improve the live stocks, as the herds wandered unconfined through the country side, thus making the prevention of in-breeding impossible. In our estimation such a system is considered primitive, yet it practically exists today in parts of Quebec, parts of the United States and England.

"The origin of our present day vacation took place during the fourteenth century. Up until the commencement of that period about eleven-twelfths of the English people were engaged in agricultural work, and during the summer it was the custom of the citizens to go to the fields to aid in the harvest. Such practices have developed gradually into our modern vacation system that is now being utilized in much the same manner by students, teachers and others who are aiding the farmer to garner his grain.

### King Wool.

"The ravages of the Black Death sweeping through England in the seventeenth century so reduced the population that thousands of acres of land reverted to

wasted fields of grass, a condition now existing in many parts of Ontario and Quebec. Those great stretches were soon given over to the grazing of cattle and the development of the sheep industry, so that for 300 years 'King Wool' reigned in the Old Land, determining in its entirety the fiscal policy of the nation.

### Tillage is Manure.

"Just as the introduction of textile machinery, steam and electricity revolutionized industry," continued the speaker, "so the improvements of tillage instruments, the introduction of new crops and the principle of specializing in live stock completely reorganized the foundation of English agriculture. The changes were the results of pressing economic conditions. The increase in manufacturing took the population of the country to the cities, and the agriculturalist found himself faced with the 'shortage of labor question.' Machines were then invented to do the work that many hands had formerly accomplished. It was at this period that Tull, the inventor of the drill, lived. His statement that tillage is manure still holds its truth to a great extent under modern conditions.

### Potatoes First Used.

"About the year 1586 potatoes were first used, and then only by the rich, the peasants looking on the tuber as a useless growth of vegetation until following the wars of Napoleon necessity compelled their use universally. Today," said the dean, "the poor have no choice in the matter of using the potato, judging from the price list.

"The introduction of clover and turnips from Holland enabled stores of food to be kept for cattle during the winter, so that the necessity of killing and salting all meat in the fall was done away with. These changes attracted much attention and many of the English nobility took up agriculture, just as today the retiring business man frequently buys a farm. By their utilization of improved methods these nobles soon established the centres from which the gospel of improved farming was preached. Such men as Walpole, Townsend, Collins and Bakewell stand out supreme as developers of a great movement. The last named was the first to improve the breed of English live stock, and as a result gave to the English people two pounds of meat where before they had had but one. It was largely due to his wonderful work that during the wars of Napoleon Britain was enabled to withstand the blockade and the decrees issued against her trade. The meat industry thus established so spread to all countries of Europe and was a step in the direction of making the Mother Country more self-contained.

### Prosperity and Ruin.

"Conditions in the Old Land during the

first years of the nineteenth century were in a critical state. The best Russian wheat sold on the London market at \$5.46. This started a movement on the part of England to undertake the raising of wheat. A great deal was accomplished but on the breaking of the blockade established by Napoleon, thousands of English farmers were ruined, their fields that had been excellently cultivated reverted into barren wastes of rank vegetation and a period of terrible stress came upon the land.

"As previously mentioned the landlords had formed centres of the agricultural industry and of research. Coke, whose name stands in the front rank as a founder of stability, conducted many experiments, the results of which he gave to his tenants. He granted his tenants long leases to their property and thus gave the agricultural industry a solid basis which it had never possessed prior to that time. His farmers were encouraged to improve their land, with the effect that during the reign of desolation that followed the great European war of the period Coke's lands were prosperous, having the distinction of forming the only district where there was no poor house required.

### Stability of Labor.

"This question of the stability of labor is what confronts us today," says the dean. "On our prairies the farmer only requires his harvesters for a short period of the year. He provides no houses for them and the natural result follows. Labor troubles with regard to the agricultural industry will never be solved until some more satisfactory method of handling farm help can be adopted.

"One of the great changes that the present war is affecting is presented in the increased adaptability that is being shown in England. About the year 1860 the American farmer flooded the London market with his wheat, to the exclusion of the produce from Denmark. The Danes were then confronted with necessity; they were forced to change their methods of cultivation and tillage that their competition might be more successful. They were called under the stress of circumstances to adapt themselves to the conditions of their times and the same changes are being affected in Britain today due directly to a great national demand."

Referring to the agricultural development in America with special regard to the States, Dean Klinck pointed out that labor conditions in the republic have always been acute. As early as 1619 labor was scarce and negroes were brought to the land. Even this did not solve the question as it is a well-established principle that laborers can rarely be kept where there is an abundance of free land. The farmer gradually moved west, where he met with great difficulties

in regard to transportation. That the bulk of his crop might be lessened he turned to the manufacture of whisky and finally to the raising of cattle. The great opening for the grain export trade came in 1825 with the completion of the Erie canal that gave access to a fertile stretch of country.

#### Elevator and Refrigerator.

"Following the disbanding of the American soldier after the Civil War," continued the speaker, "each man was given 160 acres of land. Instead of holding this land that they might produce, they produced crops in order that they might hold the land. The natural and inevitable result was an enormous increase in production. New machinery was invented to do what scarcity of labor left undone. Great highways were built to aid transportation and the grain elevator came into use.

"The advances made with regard to the use of the refrigerator established the cold storage system of preserving meat, a development that made possible the killing of cattle in summer for the export trade.

#### More Improvements.

"The determining factor in the farmer's success is not the amount of grain he can plant but the amount that he is able to harvest. The wonderful advances made in inventions of farm machinery soon increased the per capita output of harvested bushels from 5 to 9. Such an increase was warranted by the English market to which the grain could be shipped at a much lower cost than the produce raised on English soil. It was not many years following this development until the English grain grower was practically put out of business. The introduction of the roller process of flour-making replacing the old stone system was the means of making the best part of the wheat available for use, and Canada and the great plains of the western States the opportunity to become the grain producers of the world."

All these developments and events of agricultural history are, in Dean Klinck's opinion, most significant in the light of recent progress that is being made with regard to the agricultural question. The present movement to determine the most economically sound basis for production have given rise to the establishment by the foremost governments of colleges, institutes and schools of research, to educate the farmer and raiser of produce of all kinds to such a degree that the experience of the past may be an instrument in attaining success both now and in the future.

#### TO TELL A SHEEP'S AGE BY THE TEETH

A lamb has eight small first-teeth on the lower jaw. When the animal reaches the age of about one year, the middle pair are replaced by two permanent teeth; at the age of about two, the teeth on either side of these permanent teeth are also replaced with a permanent pair; at the age of three, the next tooth on either side gives way to a permanent tooth; and at about the age of four, the last or back teeth are replaced in like manner.

Briefly then, a sheep with one pair of permanent teeth is a yearling; a sheep with two pairs is a two-year-old; with three pairs, a three-year-old; and with four pairs, a four-year-old.

After a sheep is four years old, one cannot tell by the teeth about the age. However, one who is purchasing a sheep should see to it that it has not lost any teeth, or that the teeth have not become long and shoe-pegy in appearance.

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WRITE FOR A COPY OF THE "G. I. A. W. NEWS."

# The Comparative Economy of Continuous Stabling and Summer Pasturing

(By Rusticus)

The custom of pasturing dairy cattle for as large a part of the year as possible was almost universal in this country up to the beginning of the present century, owing to conditions which prevailed generally up to that time.

About fifteen years ago a new set of influences commenced to make themselves felt, and to show the many disadvantages of the system of summer pasturage. Chief among these were the rapid increase in value of those lands used for dairy purposes, the decline of the dairy as a side line in general farming, and the advent of the silo and of green forage crops as a factor in Canadian dairying.

Subsidiary causes were the overcrowding and consequent deterioration of pastures consequent upon the rapid increase in land values, and the great impetus given to intensive dairying by the creation of a larger demand for fresh dairy products in our eastern cities.

The value of land in dairy sections in the neighborhood of large cities more than doubled in the decade 1897-1907, while labor became correspondingly scarce, and the dairyman's problem resolved itself into that of producing the largest amount possible upon each acre, instead of that of expending the minimum amount of time and money in the production of a given unit of the product.

Pasturing was economical in labor, but it was wasteful of land, uncertain in providing a supply of succulent forage, and inconvenient in the case of large farms.

In order to meet these conditions a few men began to supplement their pastures by the use of green forage crops of various kinds, at first only as necessity compelled, but later, as they saw the advantages of the new system, in a more systematic way.

Obviously, this was only a half-way measure. In the Channel Islands and other sections of Europe where intensive dairying has become a highly developed science, pasturing has long since ceased, and it naturally occurred to Canadian observers that if this system was successful there it might well be so in this country. How much we are indebted to European example for this innovation, and how much of it is due to the stress of necessity, it is hard to say, but it is evident that our standards in dairy work are rapidly approaching those abroad.

The best figures available indicate that not less than one and one-fourth acres of pasture are required for each cow if she is to be pastured continuously. It is also admitted that our native pastures will seldom maintain a cow at her maximum production during any extensive period, owing to the effects of droughts which occur periodically in our eastern provinces and to the composition of our native grasses, which seem to often fail to supply the protein requirements of the dairy cow.

Let us compare the productive possibilities of an acre in pasture with those of an acre in some of our more common forage crops. The average yield per acre of corn raised for stalks is estimated at eighteen

tons per acre (green), or sufficient to supply almost the roughage requirements of two cows for an entire year.

One acre in alfalfa yields nine tons of green matter, or enough to supply one cow for more than an entire year. One acre in oats and peas, seven and one-half tons of green matter; one acre in rye, five and one-half tons green matter, and in millet about the same amount.

Thus we see that each of these crops produces from one and one-half to five times as much green matter per acre as does pasture which Shaw estimates at three and one-half tons per acre.

Now as to the nutritive value of pasture grasses as compared with our leading forage crops. Pasture grasses seem to compare favorably in composition with corn and with rye, containing a larger percentage of dry matter than either, and having a slightly higher ratio of protein to carbohydrates and fat. In the case of alfalfa and of oats and peas, however, the contrary is the case, alfalfa in particular containing nearly twice as much total nutrients and three to four times as much protein as do the pasture grasses.

The average results of all the analyses obtainable, taken in connection with the known and estimated yields per acre indicate that on tillable land forage crops will produce an average of about two and one-half times as much food per acre as will the average pasture. It is often claimed that the additional labor required to raise and feed the soiling crops will go far to

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balance this disparity, and that consequently pastures are more economical than might otherwise be inferred. But the average rent of an acre of land in dairy sections is so high as to go far toward balancing the additional cost of labor.

So far we have taken into consideration only the economy of feeding in the stable and in the pasture but there is another consideration almost as important, the care and cost of shelter.

Let us take up first the problem of shelter. The average dairyman and even many investigators in this field regard the stabling during the summer months as an additional charge for shelter, but we can readily see that this does not represent any real expense for in all the important dairy sections of this country it is necessary to make an equal expenditure or investment in buildings to provide shelter during the winter months, and the interest on this investment must be charged to the herd for the entire year in any case.

It is the care of the animals, then, that becomes the real deciding factor. Eckles has estimated the cost of caring for a cow at two dollars and a half per month under the conditions obtaining in commercial dairies, the cows being stabled continuously. Let us suppose that the cost of labor would be reduced one-half if the animal is pastured. The reduction would certainly not be greater than this, for a certain minimum number of milkers is required in any case, but this reduction in the amount of care required is important in actual farm practice because it comes at that time of the year when additional labor is required in crop production. This saving in labor is largely balanced, however, by the saving in manure and liquid excrement which is possible under good conditions of stabling. The loss of plant food in manure dropped in pastures is not great, but the distribution is poor and the value to the farmer might be several times greater if applied to fields producing other crops.

Local conditions, of course, have a wide influence in all considerations of this character, and consequently we cannot draw any definite conclusion that will cover every case, but we may draw some general conclusions from these facts.

So far we have assumed that the animal is not affected by either system as regards her general health or productive capacity, and all the evidence we are able to show that under the best conditions in both cases this is true. The advocates of each system claim that the animal will do better under the system he advocates, but the facts seem to show that the animal may readily be maintained at maximum capacity under either system, and that the differences shown are due to unequal and unfair comparisons rather than to the method of handling.

From these facts we can see that as above stated, the profits decrease as the price of land increases, and as the price of labor increases. In common with the best practice these figures show that the limit of profitable pasturage is on land costing not far above \$50 per acre. The relation to labor cost is not so definite or so easily established, but the general tendencies may be seen.

The most practical solution of the problem for the average dairyman probably lies in a judicious combination of the two methods, approaching either extreme according to his particular conditions.

## FALL PIGS GIVE A GOOD PROFIT

Some interesting figures showing profit in the feeding of fall pigs for pork production, have been gathered at University Farm, St. Paul, from experiments conducted by R. C. Ashby of the Animal Husbandry Division.

Eleven pigs, farrowed early in October, were weaned December 24. From the time of weaning until they were sold the pigs had free access to self-feeders, receiving therefrom corn, shorts, oil meal and tankage. These feeds were kept separate and each pig made its own selection. No milk was fed. The test closed May 23, after 145 days, the weight of the group having increased from 410 pounds to 2243.3 pounds. The hogs were sold after the close of the test for \$6.95 per cwt.

In the course of the test the eleven pigs ate 6613 pounds of shelled corn, 386.5 pounds of shorts, 230.5 pounds of oil meals, and 505 pounds of tankage. Charging the shorts at \$26, oil meal at \$36, and tankage at \$50 per ton, the supplemental feeds cost \$21.79, and the value of the net gain made was \$127.40, leaving a balance of \$105.61 to cover the cost of corn, labor, etc. If all this is credited to corn, it gives 89 cents per bushel as the price paid for the corn by the hogs.

An interesting feature of this experiment was the selection of feeds made by the pigs. The total period was divided into four sub-periods, the first of seven weeks, from December 24 to February 16; the second of two weeks, from February 16 to February 28; the third of three weeks, from February 28 to March 23, and the fourth of nine weeks, from March 23 to May 23. The percentages of each of the feeds to the total ration are shown in the following table:

	First Period	Second Period	Third Period	Fourth Period
Corn .....	68.45	76.46	83.64	92.37
Shorts .....	10.85	4.24	5.43	3.18
Oil meal ...	9.45	10.23	2.90	0.07
Tankage ...	11.24	9.00	8.01	4.36

It is worthy of notice that shorts were eaten only in small amounts after the first period, and practically no oil meal was eaten after the first nine weeks.

Each 56 pounds of mixed feed produced 13.27 pounds of pork.

## FALL CARE OF ALFALFA

A growth of from four to six inches is necessary to hold the snow and to protect the crowns of alfalfa plants. A higher growth is not often necessary. If alfalfa sown early in the spring has become sixteen or twenty inches high it may be cut for hay not later than the first week of September. This will allow time for a new growth before freezing weather. Fields a year old or more may in ordinary seasons be cut as late as September 15.

New seedings of alfalfa should not be pastured. The ground in these fields is not firm and considerable damage is done by the trampling of the plants, especially during wet weather. Fields established a year or more may be pastured lightly in the fall, but should never be eaten down close.

If the growth of alfalfa is not very strong the field may be top-dressed any time during the fall, preferably just after the third cutting has been removed. New

seedings may be top-dressed at any time except during wet weather when the ground is soft.

## SAVE MONEY BY THINNING

We have never been able quite to understand the position of the orchardist who believes that it is a waste of time and money to thin his fruit. It will soon be the thinning season, and the harvest time will show conclusively how mistaken many a grower has been in leaving on his trees all the apples they will bear.

Lately we visited a large, well-kept orchard, where half the crop was undersized and, incidentally, undercolored. It took a lot of those apples to fill a No. 3 barrel. It took the pickers just as long to pick each little apple as to gather the big, blushing beauties. It brought the grower much less per barrel than No. 1 fruit.

The orchardist referred to is a good, careful fruit grower in most respects. He prunes, sprays, fertilizes at the right time—but when it comes to thinning his crowded apples he claims it takes too much time and money. It would seem obvious that if all the apples must be picked eventually, as everyone agrees is essential, it would cost rather less, than more, to have them removed while they are small and can be thrown on the ground than when every apple must be carefully placed in the baskets.

By thinning you get fruit of far higher quality, you save your trees from exhaustion, and the actual outlay for thinning is less than if you wait until autumn and have the good, bad and indifferent harvested together.

## DUAL PURPOSE CATTLE

(By Paul E. Triem)

F. C. Sharkey, of the Seattle Union stock yards, is firmly convinced of the value of milking shorthorns under modern farm conditions.

"You can't get around the figures in the case," says Mr. Sharkey. "A shorthorn steer can be fattened on about half the feed it will take to finish a Holstein, for instance, and will probably command a dollar a hundred more when he is sold. Every dairyman has got to figure on a certain number of bull calves. With the straight dairy breeds these are more or less of a loss. With the dual purpose shorthorn, the steers can be finished for market almost as successfully as with a straight beef type breed, and you still have the milk pail to look to for the main profit.

"I had a practical illustration of the difference between the two types, beef and milk, when it comes to fitting for market, in the experience of one of our customers last winter. This man has been buying scrub steers and finishing them for some time. The premium of a cent a pound which he would have to pay for feeders of a better grade looked too big to him. Well, when he came here last winter for some feeders, there was nothing available except a bunch of poorly finished beef type steers. He had the feed, and he decided to take a chance. When the transaction was finished up and he had resold the steers, he came to me.

"No more Holstein feeders for me!" he said. "I've learned my lesson."

"There isn't a valid objection to the dual purpose shorthorn," Mr. Sharkey concluded. "They'll make both beef and milk at a profit."

# Easy to blast ditches with Giant Powder

**N**OW is the time to make plans for the drainage work that should be done for next season. With labor so scarce it is well to consider the advantages of blasting ditches. Most of our readers are accustomed to use Giant Stumping Powder, but not all of them may know that Giant Powder Co. of Canada, Ltd., has other powders particularly suitable for blasting ditches.

The first advantage of blasting ditches is that the cost of blasting is less than making the ditches by any other method. Many users of Giant Powders have found that blasting costs half of what digging cost. It is cheaper than trying to plow out the ditches whenever they are more than two feet deep.

Blasting is a much easier way than any other. The making of a big ditch is a hard job if done in the ordinary way. It takes considerable time, too, unless a large force of men is available. In these days of scarcity and high price of labor, any means of getting the work done without hand work should be welcomed.

The blasting can be done through any kind of woods, brush, briars, stones, stumps and fences. All that is required is that a man get through with his bar or auger to make the holes and with his Powder to charge them. The blasting can be done most economically and effectively when the ground is full of water. Ditches can be blasted through dry ground also.

Blasted ditches are superior to dug or plowed ditches in that the ground removed is scattered evenly over a wide surface on one or both sides of the ditch, instead of being piled up as an embankment along the ditch. These embankments prevent water from the surrounding land getting into the ditch, and prevent cultivation as close to it as crops ought to grow.

Blasting ditches can be done during the slack season for other work, or when the weather is too wet to do much of anything else on a farm or orchard. It must be remembered that a blasted ditch is in every way superior to one cut out by any other means. It has no disadvantages and any intelligent man can learn to do the work in half an hour.

A bar and sledge, or a dirt auger, with a wood rod for shoving the charges down, are the only tools needed.

## Amount of Powder Required for Ditching

Ditches up to five feet wide at the top can be made with one row of holes; between six and twelve feet, two rows of holes will be required; from twelve to twenty feet three rows are needed. The distance between the rows of holes should be  $2\frac{1}{2}$  to 4 feet. When more than one row of holes are used, the charges should be staggered or alternated.

The amount of powder for each charge, the distance apart of the charges in the row, and the depth of the holes, depend on the character of the soil and its condition. Heavy soil, such as clay and muck is always thrown out better than light soil.

Tests have shown that ditches 3 feet deep and 5 feet wide at the top can be blasted in heavy wet soil with charges of single sticks of Giant Powder put 30 inches deep and from 18 inches to 2 feet apart. Full directions for placing the charges and firing them may be obtained from the Giant Powder Co. of Canada, Ltd., Bank of Ottawa Bldg., Vancouver, which will gladly send its book on blasting to any reader of Fruit and Farm.

For all ditching, the most effective and cheapest powder is Giant Powder 50% or 60%. If the weather and ground are cold, use Giant Powder 50% or 60% L. F. (Low Freezing). Should you have only a short ditch to blast, and have on hand Giant Stumping Powder, it may be used successfully, provided you load heavily and fire the charges simultaneously with an electric blasting machine.



## Get the right kind of powder for stumping

"The farmer needs to know that he is getting *quality* in the powder that he is purchasing," says the *Western Farmer*. "If he secures the right kind of powder, the cost of removing stumps is greatly lessened."

The right powder to use for stump blasting is

## GIANT STUMPING POWDER

because it is made in British Columbia especially for blasting the kind of stumps that are found here. It has been used by British Columbia land clearers for 32 years. It is the original Giant powder — the pioneer Canadian farm explosive.

Giant Stumping Powder has a greater heaving and lifting effect than ordinary powders. It therefore goes further and gets the stumps out cleaner than explosives that merely shatter.

**Get our book; save money** Our book, "Better Farming with Giant Stumping Powder," will show you how to cut down your blasting costs. It explains the latest powder-saving ways of loading and firing. It is free. Mail the coupon or ask for it on a post card.

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# The Boy and Girl on the Farm

## How to Retain the Interest of the Children in the Land.

(By Roy M. James)

The high cost of living will not decrease materially until more people love the land well enough to settle down upon it and live the simple life and produce foodstuffs. As long as crowds, moving pictures, big buildings and the other so-called attractions of the city appeal to the people just so long will there be a labor shortage in the rural districts and a continual grumble about high prices in the cities.

out some problem or making some new plaything. These activities of the child can be turned to excellent advantage when guided in the right channels and given an educational value. Manual work under expert supervision should have a place in the school life of every child as it forms a welcome relief from the theoretical studies of the class room. It is not natural for a growing boy or girl to sit at books all day

text books. Each individual child must be trained to watch things closely and obtain his knowledge first hand by observation. The teacher must provide the opportunity but it rests with the pupil to grasp this opportunity and make the most of it.

Naturally, owing to the fact that this agricultural education is to be worked out on these lines, a convenient workshop must be provided. The school garden is the



Farmers in the Making—B. C. Children being encouraged to till the soil.

The "back to the land" problem has been discussed and its gospel preached for many years, but in spite of that the city still holds many attractions which appeal particularly to the young people in the country districts. The pleasant surroundings, the congenial company, the amusements, coupled together with the fact that more money can be obtained and the wage earners have more time to spend as they please, all contrast with the loneliness, the more monotonous life and the long hours of hard work in all weathers. Many will say that the country has unlimited advantages over the city. That is very true but do the young people on whom we depend to carry on the work of supplying farm produce to our Dominion realize this or do the bright lights of the cities still lure them to leave their country homes?

It is very necessary, both for the sake of the country and for the sake of the individuals that this tendency to drift to the cities be checked. The question then arises "How is this to be done?" The best way is to begin with the child by inculcating in him an appreciation of the benefits of country life and a taste for this life and its pursuits.

Casual observation of a child will reveal the fact that he is happiest when busy doing something with his hands, building up here, cutting down there. Very often his play takes the form of really hard work and he will spend hours diligently working

and it requires an effort to do so. Manual work bring them into the region of reality and allows them to develop constructive ideas more readily than studying from text books.

Agriculture is naturally the chief subject in manual training to interest the people in the country and it is the subject which, if properly handled, will do more to keep our boys and girls in the country than any other that the schools can take up.

Many years ago agriculture was taught in the schools of the older provinces, but it proved unsuccessful chiefly because the subject was studied from a text book and no practical work was taken up. It is not necessary to tell the readers of Fruit and Farm that practical agriculture cannot be taught within the four walls of a class room and it is evident to all that in order to get even a smattering of the subject the pupil must come in close contact with the work in the field and the garden.

Of course elementary agricultural education in the rural schools is not planned to make efficient farmers out of school children; it is an educational training which assists in the development of the child mind along lines which, when followed further, will form the basis of the knowledge which will be most useful to him in his later life. Agricultural education then is concerned with living things and the wonders and mysteries of plant growth and not with statements found in

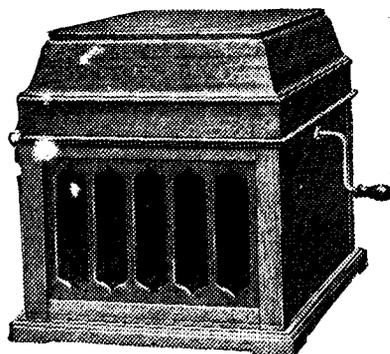
means by which the scholar can exercise his faculties and is also a place where his mental activities can be combined with technical training and bodily exercise.

It is obvious that the school garden must be looked at from a very different point of view than the commercial garden. While the latter is valued in dollars and cents the former can only be valued in the good it does for the children and for their development, both physically and mentally. Mere skill in gardening is not the only thing to be gained or sought after through the agency of these gardens. It is not altogether a question of instructing the boys and girls in practical farming and gardening but more to lead them to a clearer understanding of the laws of nature and the operation of the natural forces with which they are daily in contact. They will learn to make use of these forces and laws and to control them for their own benefit and will take a much greater and more intelligent interest in rural life and rural affairs.

The Department of Education is willing and anxious to help every school to have a school garden and it is in the interests of every community that its members should take advantage of any assistance that they can get. The interest created by these gardens will do much to give the boys and girls a permanent interest in agriculture and will do more to keep them contented and satisfied with their life in the country than all the text books available.



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## Uses of Fertilizers on the Farm

(By Dr. F. T. Shutt)

Fertilizers have a place in a rational system of farming; but farmers should first clearly understand what that place is, if our land is to improve rather than to deteriorate, and if financial loss, due to injudicious purchase of fertilizers, is to be avoided. We must first have sound education, the outcome of science with practice, on the principles involved in the upkeep of soil fertility, on the composition, value, care and application of farm manures, on the desirability of more live stock on our farms and the greater consumption on the farm of the land's produce; on the importance of rotations, and especially the value of clover and other legumes in the rotation for maintaining the humus and nitrogen of a good seed bed.

When all these matters are correctly understood and practised, then and not before, may we advocate the judicious employment of fertilizers with advantage, in general farming.

Fertilizers are no panacea for the evils of poor farming—they cannot be depended on solely to give profitable yields, to leave the land richer for posterity than when first broken, or entered upon. That is what we ought to aim at, for our native fertile soils are a great and important national asset and inheritance. Our experience has shown that fertilizers cannot profitably be used as substitutes for manure, for the growing of clover, or for good soil management, but that their role is rather supplemental to all these rational means for the up-keep of soil fertility.

I make this statement for two reasons: First, at the present time, those who are urging us to a large and practically universal, almost indiscriminate, use of fertilizers; and second, from our voluminous correspondence on the subject, it is evident that, for the most part, it is the man using poor farming methods who is clamoring for cheaper fertilizers, and who practically expects to conduct his farming profitably from their exclusive use. I feel assured we shall never see the time when fertilizers can be profitably used as a substitute for those means which science and practice alike have shown to be necessary for the economic upkeep and increase of soil fertility.

But there is a place for fertilizers in farming, and we are helping our farmers to find it. There are those of the old school still in the land, however, who have no faith in fertilizers, those who relegate them to the class of quack medicines, as frauds and fakes, and who say they act merely as a whip to a tired horse—as stimulants and not food. The number of these persons is happily decreasing.

Again, there are others who, almost as ignorant of the principles of agriculture as those just referred to, argue that if fertilizers are sources of available plant food, all that is necessary to increase our crop yields is to apply them generously. These persons are ignorant of the fact that there are limiting factors to crop growth other than the presence of available plant food. We may enumerate them.

First, there is the nature and physical condition of the soil, its capacity for holding moisture (dependent upon its texture and its humus content), in other words, its power to withstand drought, also its degree of aeration, its drainage, etc.—all those qualities of a physical character

which make for the easier development of the root system.

Second, the character of the season, by which I mean the amount and distribution of rain, temperature, hours of sunshine, etc. So far as we can see today, seasonal conditions are the most potent of all determinative factors in crop yields in Canada, as probably, also, all over the world.

Thirdly, there is the inherited capacity for growth and reproduction in the crop sown. All these, with some others, are limiting factors that cannot be overlooked; they are factors which may and do profoundly modify the effect of fertilizers. For instance, upon heavy undrained clays, what chance is there that fertilizers can play their part in nourishing the crops? On the other hand, as plants can only absorb their food in the form of a solution, how can fertilizers feed the crop, if, owing to lack of humus or want of surface cultivation the light soils readily dry up with a few days drought. Or, again, if we are sowing a variety of oats, the prolificness of which is measured by 40 bushels per acre, can we make it yield 60 bushels by simply feeding it? Many of these limitations may be in some degree overcome through the application of the teaching of science—of chemistry, physics and biology, but they are not to be overcome simply by the application of fertilizers.

### TO AID ALLIES' FARMERS

Assistance Sought for Destitute People of Europe.

A movement has been inaugurated recently throughout the Dominion of Canada, directed towards securing contributions from farmers and others to help towards the rehabilitation of farmers who have lost all their buildings, stock, implements, etc., in the war devastated areas of France, Belgium, Serbia, Russia and Roumania.

A British Columbia committee under the chairmanship of Mr. W. E. Scott is co-operating with the Dominion executive. This committee consists of: Prof. D. S. Klinck, Dean of College of Agriculture, University of B. C., Vancouver; Prof. F. M. Clement, Prof. of Horticulture, University of B. C., Vancouver; J. W. Gibson, director of the Rural Elementary Instruction, Department of Education, Victoria; Prof. W. T. McDonald, Live Stock Commissioner, Department of Agriculture, Victoria; T. A. F. Wiancko, Dairy Instructor, Department of Agriculture, Victoria; M. S. Middleton, Provincial Horticulturist, Department of Agriculture, Victoria; J. R. Terry, Chief Poultry Instructor, Department of Agriculture, Victoria; Dr. F. S. Tolmie, Dominion representative Health of Animals Branch, Victoria; William E. Scott, Deputy Minister of Agriculture, Victoria; William J. Bonavia, Secretary of the Department of Agriculture, Victoria.

Donations for the laudable purpose should be sent to Mr. Scott of the Department of Agriculture.

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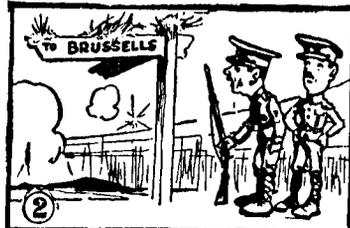
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# What Did Little Mary Plant?



What vegetables do these pictures represent?

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YOU do not have to pay a cent, or buy anything, to enter this interesting contest, and to qualify for one of the Big Prizes. All you have to do is to send in your answers. Then you will be promptly told how correctly you have solved the pictures and whether you have qualified for an opportunity to win the Big Prizes (full list on request). Also you will receive post free a copy of "RURAL CANADA for Women," the new magazine for women, and will be asked to show your copy to some of your rural friends or neighbors, to make them acquainted with it and interested in it.

The Prizes will be awarded to the duly qualified contestants whose entries have the greatest number of correct or nearly correct, names, which are considered by the judges to be the neatest and best written (proper spelling, punctuation, etc.).

The Competition is open to all persons over 10 years of age—men and women, boys and girls. All members of a family or household may compete but not more than one prize will be awarded any family or household.

So send along your entry, and try for one of the 50 Big Prizes. YOU may win the \$750 car or the piano, or the pony.



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TELL US AND  
**Win a Motor Car, Piano, Pony Bicycle, Phonograph Range, Watch, Sewing Machine Etc., Etc., Etc., Etc.**



Little Mary did National Service Work this year—had her own garden. What did she plant in it? The pictures tell you! Put your wits to work, and make out the secrets of the pictures! Those who send us correct, or near correct, answers qualify for these

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- 2nd prize—Sweet-toned Fumis Piano; value ..... **\$350**
- 3rd prize—Lovable Shetland Pony and Cart; value **\$100**
- 4th prize—Gilson Gas Engine (or cash)
- 5th prize—Famous Clare Bros. High Oven Range (or cash)
- 6th prize—Singer Sewing Machine (or cash)
- 7th prize—Standard Cream Separator.
- 8th prize—Hoosier Beauty Kitchen Cabinet (or cash)
- 9th prize—High Grade Bicycle (or cash)

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MAKE this interesting Contest your entertainment for these autumn evening gs. Let all the family try to solve the pictures. Remember that every qualifying contestant gets a fine reward, or cash; and stands a chance to win, in addition, one of the fine Big Prizes—perhaps the Chevrolet Touring Car. Send your entry now—get in first!

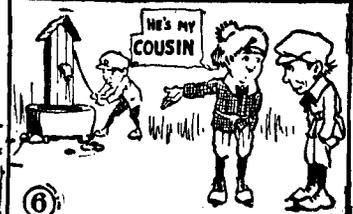
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What vegetables do these pictures represent?

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EVERY qualified contestant will receive surely a valuable reward, or cash, as may be preferred (send for list) for introducing the new magazine, *Rural Canada for Women*, to some of your friends and neighbors. These rewards, or cash, are in addition to the Big Prizes which may be won.

So begin right now to solve the puzzling pictures. Tell us what Little Mary planted in her garden.

To help you get rightly started, Picture No. 1 is Cauliflower (Call-eye-flower); and picture No. 8 is Beets (Bee Eats). So you see how to study the pictures. Can you get them all right? Try!

### RULES

1. Write on only one side of the paper.
2. Put your answers on one sheet of paper, with your full name and address (stating Mr. or Mrs. or Miss) in the upper right-hand corner. Anything other than this must be written on a separate sheet. Remember only those over 10 years may compete.
3. Qualified entries will be judged by a committee of three outside judges whose decisions will be accepted as final.
4. Contest closes December 27, 1917, immediately after which date the judges will award the prizes.



3rd Prize Value \$100

# The Eradication of Weeds

## How to Overcome the Field Pests of the Farm

(By John Adams, M.A., Assistant Dominion Botanist)

According to their manner of growth, weeds may be grouped under three heads.

1. **Annual Weeds**—These complete their whole life-history in one year or less. The seed germinates sometimes in the fall, but more often in spring, the plant grows rapidly, produces flowers, ripens and scatters its seeds, and then dies before winter. Wild mustard and wild oats are annuals.

2. **Biennial Weeds**—These during the first season of growth produce a tuft of leaves close to the surface of the ground; during the second season a tall stem is produced which bears flowers and ripens seeds, and then the whole plant dies. The life-history is thus comprised inside two years. Biennial wormwood and burdock are examples.

3. **Perennial Weeds**—These produce flowers and seeds, but after ripening the seeds only those parts of the plant above ground die down, while the underground parts live on for many years. Three types

(a) **Spot-bound**—Weeds of this class do not spread readily in the ground beyond the spot where they first take root. Their seeds may, of course, be distributed over a wide area. Examples are dock and dandelion.

(b) **Creeping on the surface**—The parent plant sends out runners in all directions along the surface of the ground, which eventually take root. Examples are silverweed and orange hawkweed.

(c) **Creeping below the surface**—The parent plant sends out shoots or, in some cases, roots, which travel horizontally at a considerable depth below the surface of the ground. New shoots grow up from these above the surface of the soil and eventually become independent plants. Likewise, a small piece of the underground shoot an inch or two long is capable of producing a new plant. Field bindweed and Canada thistle are examples.

### How Weeds Spread.

Weeds may gain entrance to the farm or, if already there, may be dispersed over a wider area in one of the following ways.

1. **As impurities in the seed sown**—Most samples of agricultural seeds contain weed seeds in greater or less amount, which are sown with the useful seeds and thus the weeds may, quite unknown to the farmer, gain an entrance on to his land. The seed sown should be absolutely free from weeds of all kinds—a condition of things which is seldom realized.

2. **By the agency of threshing machines**—The threshing machine should be thoroughly cleaned before it is allowed to begin operations on the farm.

3. **In stable manure and feeding stuffs**—Hay and feeding stuffs often contain weed seeds, some of which are liable to find their way into the manure heap and eventually on to the land.

4. **By the action of wind**—Many seeds, such as those of dandelion and thistle, are furnished with a tuft of hair which enables them to float in the air for long distances. In other cases the seeds or even the whole plant may be blown over the frozen surface of the snow.

5. **By the agency of animals**—The seeds or adjacent parts of some plants, such as blue bur and burdock, are provided with hooks by means of which they become attached to the wool of sheep or the clothing of workers on the farm and in this way may be carried into fields where formerly they did not exist.

6. **By cultivation**—In some plants, especially those with creeping, underground stems, the broken pieces may be carried all over the field by farm implements and thus dispersed over a much wider area than the parent plants originally occupied.

### Methods of Destroying Weeds.

1. **By destroying the weed seeds already in the soil**—Where the ground has been badly polluted with weed seeds through neglect in former years the surface should be disturbed to a depth of a few inches and the seeds encouraged to germinate either after harvest or in spring. If the land is then plowed deeply the seedlings will be buried and the fresh supply of weed seeds brought up should be encouraged to grow in the same manner and should then be destroyed. A hood crop should be planted and the spaces between the rows ought to be cultivated regularly throughout the season. When the ground has been badly polluted with weed seeds, some of them may lie dormant for several years and germinate when the soil is again disturbed.

2. **By preventing them from ripening seeds**—The formation of seeds can be prevented in various ways such as mowing several times during the season, or cutting the roots with a hoe or spade, or frequent cultivation of the land by horse labor, or by pasturing the ground closely with sheep. Annuals and biennials will eventually die out if the production of seeds is prevented.

3. **By frequent cultivation and destruction of the green parts as often as they appear**—Prevention of seed-formation will serve somewhat to check the spread of perennial plants but as they can live for many years and even continue to occupy new ground by the growth of underground shoots, etc., some more thorough methods are required to get rid of them. The implements employed for this purpose should be such as will loosen the soil to such an extent that the weeds can be readily pulled out and collected into heaps, after which they should be burnt when dry. It is very important that the underground parts of such weeds as field bindweed should not be broken into small pieces difficult to col-



lect and liable to be scattered over a wider area. But, however carefully the work of collecting and burning may be done, some of the weeds are sure to be left in the soil and, if undisturbed, will grow again. Consequently ground that is badly infested with such weeds will require to have the surface disturbed by frequent cultivation. This can only be done if the land is left without a crop (summer-fallow) or bears a crop of such a nature that it can be planted in rows with sufficient space between the rows to admit of ready cultivation without injury to the plants. The cultivation should be done sufficiently often to destroy all green parts as quickly as they appear and the implements used should be of such a nature that they will cut all underground stems and roots in the area covered by them without letting any escape. One of the weed-knife type of implements should be used. The underground parts of a plant are nourished by the green parts above ground and if the green stems and leaves are destroyed as quickly as they appear the parts below the surface will be starved out and the whole plant will eventually die. This is the only way to eradicate finally such weeds as Canada thistle and field bindweed.

4. By the use of smother crop—A vigorous growth of some other crop such as alfalfa tends to crowd out some kinds of weeds and the cutting of the crop several times during the season prevents the weed from ripening its seeds.

5. By excluding sunlight—This can be done by the use of building paper, or a thick layer of straw or other suitable material and can only be practised on small areas that are entirely overrun by some very troublesome weed.

6. By spraying with chemical solutions—The substances most commonly used for killing weeds are iron sulphate (copperas or green vitriol), copper sulphate (blue vitriol), common salt and sodium arsenite. Iron sulphate can be used to destroy wild mustard when growing in a grain crop without doing any material damage to the crop. For this purpose a 20 per cent solution is employed and 100 pounds of the sulphate dissolved in 50 gallons of water will spray one acre. Copper sulphate can be used for the same purpose, a two per cent solution being employed (10 pounds in 50 gallons of water per acre). Both these sulphates are poisonous. Sodium arsenite if applied at the rate of two pounds to 50 gallons of water will blacken the leaves of Canada thistle. It is very poisonous and cannot safely be applied to the thistles when growing among hay or other crop as it will damage the useful plants as well.

Common salt is a useful weed killer to employ in the case of weeds growing on paths or roadsides or waste ground. It should be applied in dry weather at the rate of 125 pounds in 50 gallons of water per acre. Strong solutions of the other foregoing chemicals may be used for the same purpose.

**General Conclusions.**

The control of weeds on the farm requires in a marked degree the two virtues of thoroughness and perseverance. If a farmer goes about it in a half-hearted way, he will never accomplish their eradication. Constant watchfulness is necessary if progress is to be made. If bare fallow is resorted to it should be possible to get rid of even the worst weeds in a single year. But the practice of bare fallow is not a paying game. It is in most cases better to

graze the land or take off a crop of hay or grain early in the season and then leave the land bare for the rest of the year. Shallow plowing should be followed by continuous cultivation throughout the rest of the season, and a hoed crop planted the following year.

It is safe to say that weeds can only be held in check where a suitable rotation of crops is followed. Where the same land is sown with wheat year after year, or where the land is pastured indefinitely, the weed problem is liable to become worse every year. In the former case a bare fallow every few years will be necessary and it is very doubtful whether the return from the land will be equal to that where rotation of crops is followed.

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## Want Apple Embargo Lifted

### British Importers and Dealers Petition Government.

The embargo placed upon apples from this continent by the British government has evoked a vigorous protest from the consumers and dealers of the Old Land. They have petitioned Sir Joseph McLay of the Ministry of Shipping to revoke the order.

This petition filed on July 12 is signed by fifteen large fruit and food associations in London, Bristol, Cardiff, etc., and also all the principal apple importers of the United Kingdom. They say:

"Our aim is not to obtain shipments of apples to the detriment of other essentials. They have been and can continue to be carried when cargo booked for certain steamers fails to connect, owing to delay in transit or when, after other cargo is loaded, the ship can best be finished off by completing with apples. In view of the weight of grain and munitions, a certain quantity of light freight is required for filling up, and from October to January, when cotton is all shipped from Southern ports, apples are almost the only light freight available at North Atlantic ports. They are promptly available at loading ports, stow well, are easily handled and quickly removed from wharves after discharged. The demand on our transportation facilities is, therefore, negligible, as compared with the great benefit they bring to the community.

#### Lines Would Carry Apples.

"The following steamship companies (who have regularly carried apples), viz., the Leyland line, the Wilson Furness Leyland line, Cunard line, White Star line, Anchor line, the Manchester Liners, Ltd., Furness Withy lines, confirm the statements made in the preceding paragraph and, for the reasons therein given, are desirous of having permission to carry apples.

"The apple is, beyond all others, our staple fruit. It enters so largely into the daily dietary of our middle and working classes as to constitute for them an important article of food. In the three pre-war seasons imports from Canada and the United States averaged over 8,000,000 bushels per annum, most of which were consumed in the great industrial centres of the United Kingdom. Under the most favorable conditions the supply of home-grown apples is totally inadequate and is practically exhausted by the end of October. This year British crops promise to be very disappointing, if not a failure. In the north of England and in Scotland the quantity of apples grown is negligible.

"Fruit and vegetable dealers, both wholesale and retail, rely chiefly upon imported apples to carry them through the winter, even when there are full supplies of lemons, oranges and grapes. With these fruits greatly curtailed and apples totally prohibited, the end of September will find the fruit trade, more especially retailers, face

to face with ruin. We desire to draw the attention of His Majesty's government to the fact that the traders principally affected will be the hundreds of thousands of small shopkeepers, many of them women, who supply the working classes and that, in addition to the individual hardship inflicted on them, the trade which constitutes the machinery for distributing our home-grown fruits and vegetables will be crippled, if not destroyed.

#### Disaster Is Faced.

"We humbly submit to the consideration of His Majesty's government these facts: (1) That apples can be shipped in space which is not required for other essentials.

"(2) That they have undoubtedly great food value.

"(3) That prohibition of apple imports will be disastrous to an industry of national importance— in the hope that they will be found adequate to justify the removal of apples from the prohibited list; and we shall be glad to co-operate in any scheme which may be formulated."

Accompanying the foregoing petition is a letter from the British apple importers and dealers going further into the reasons why Canadian and American apples are desired in the English markets during the coming season. This letter in part says:

"Upon the subject of possible congestion of the quays in Canada and the United States, which, it was mentioned, might result from bringing apples to seaboard in order to have them available when space offered, we have respectfully to submit that apples cannot be moved from the interior to the seaboard for export unless the railroad carriers have been satisfied that the traffic will be taken care of promptly after arrival, either by being loaded on steamers in space previously and specifically booked or by being placed into warehouses. In the case of apples they are stored in refrigerator warehouses, all along the Atlantic seaboard, where they are immediately available for prompt loading. Thus it should be clear that apples cannot in any way bring about the slightest congestion.

"The fact discussed and noted that apples exported from Canada and the United States move in ordinary stowage on regular liners, as space permits; whereas shipments from Australia and Tasmania must and do move in refrigerator space onboard the steamers. Furthermore, in regard to Australian and Tasmanian apples, the extension of some modification of the prohibition to admit them next season need not necessarily be discussed for many months to come.

#### No Interference Likely.

"The removal of the embargo on apples would not interfere with the movement of lumber, since we seek permission only to ship apples in space not otherwise occupied

on regular liners. We believe, moreover, that the regular liners do not generally carry lumber, either on deck or under deck—this because, after the government requirements for space are protected, the remaining room must be used, if at all, for light cargo."

### UNCOMMON APPLES

By a Specialist

We always have the standard apples with us but once in a while something good comes along that, whilst not well known, deserves a trial. The writer has in his mind now the Devonshire Quarrenden, an Old Country apple from the Cream County which surely fills a want in the B. C. market. It is a summer apple, coming in just after the Transparent, at a time when a colored apple of longer keeping properties than the juicy Transparent is most necessary. In color it is deep red, and whilst it is calculated to do well anywhere, it is extremely suitable in the wet belt. It is very resistant to canker. The fruit is not large but it has a sweetness all its own and for dessert it is almost unapproachable.

TO THE

## FRUIT GROWER

AND

## FRUIT PACKER

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Manufacturers of  
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VANCOUVER, B. C.

Berry Baskets  
and Crates.  
All Kinds of Fruit  
Boxes.

The "Goal" ever-bearing apple is a freak of nature and no human hand took part in its inception. It was discovered in Albany, Oregon, where it grew with other trees, and its peculiar characteristic of having immature fruit in all stages and ripe fruit on its branches at the same time, at last came to notice. It was carefully watched and when all doubts were dispelled it was hailed with delight as a great novelty and blessing. It is a round apple of good size, color yellow splashed with red and its flavor is exquisite.

The Vanderpool Red is perhaps the best known of the four here described, for it is one of the best keepers and shippers there

is. It has been particularly recommended for the South African market for British Columbia growers. It is a beautiful fruit in shape and color and from spring onward it becomes more and more mellow in proper storage and at midsummer is perhaps at its best.

The Orenco claims to be the best dessert apple, certainly a great achievement. If it is not the best, it is in the very front rank. It is red, round and large and needless to say it tastes like "more"?

Such apples as these should be in every orchard.

## The Best Method of Growing Alfalfa

(By Prof. Thomas Shaw)

No one method of growing alfalfa in the Northwest will prove the best for every part of the same, owing to the great difference in the soil and climatic conditions present in different areas. There are certain general principles, however, that will hold good practically in all parts of the Northwest.

Among these principles are the following: (1) Don't sow alfalfa on new land until two or three crops have been taken from it. (2) Aim to sow it on land that has been deeply plowed and that has been carefully summer fallowed the year previous to sowing the seed, or that has grown a cultivated crop well cared for. (3) Sow pretty early in the spring if the ground is clean, but if foul defer sowing as long as it will be safe to do this and be sure of a stand, as this gives time for further cleaning of the land. (4) Sow without a nurse crop where the rainfall is not more than 15 inches in a year, but where more than that, to sow a nurse crop thinly is admissible, more especially if it is cut for hay. (5) Sow with a drill and bury as lightly as the moisture conditions will permit. (6) If, say, 10 loads of good farmyard manure are applied to each acre before the preparation of the land begins, no further steps need be taken as a rule to secure inoculation.

Regarding the above there will probably be no difference of opinion. Regarding the following, however, opinions differ somewhat, even among those who are recognized as authorities on growing this crop: First, with reference to the kind of seed to sow; second, with reference to the amounts to sow, and third, with reference to the spacing of the rows.

With reference to variety some favor the Grimm, some the Baltic and some other varieties, with reference to hardiness we have in all our experimental work found the common alfalfa when the seed was grown as far north as the Dakotas has proved sufficiently hardy. By sufficiently hardy I mean that it has never winter killed worth speaking of during the six years that we have been growing it in many places in the Northwest, extending from the border of the Red River Valley to the Cascade Mountains.

With reference to the amounts to sow we favor 1 to 1 1/2 pounds of seed per acre, when it is sown in rows 3 feet distant, when sown in rows 12 to 14 inches apart we favor sowing not more than 3 pounds per acre of good seed where the annual rainfall does not exceed 12 inches, not more than 4 pounds where it does not exceed 18 inches, not more than 5 pounds where it does not exceed 18 inches, and not more than 6 to 8 pounds anywhere in the absence of irrigation in the Northwestern states. The old time advice to sow 15 to 20 pounds per acre was almost a crime.

With reference to the distance between the rows that will give the best results when the rainfall is above 10 inches and under say 18, we have found 12 to 14 inches the most suitable, and when the rainfall hovers around 10 inches probably 18 inches would be better. This applies to growing the alfalfa for hay. As to the best way of growing it for seed we are not as yet quite decided. A large majority of those who give advice on this subject urge the farmers to grow it in rows three feet distant in the areas referred to, even when growing it for hay. It is my conviction that their advice is not good. It may be, however, when growing seed. The wisdom of their advice is doubted for the following reasons: (1) When the alfalfa is grown in rows 12 to 14 inches apart our experience has shown that in a majority of instances more hay has been obtained per acre, though in exceedingly dry years this

## Agricultural Lime

It is only necessary to follow the Government Agricultural Reports to see that Lime is a necessary element to permanently maintain the fertility of the soil.

We will sell you **LIME** at \$3.00 per ton f.o.b. our works at Popkum, B. C.

### Freight Charges:

\$1.30 per ton Lulu Island District;  
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Latest analysis of our Lime shows over 99 per cent. Carbonate of Lime.

Let us supply your needs.

Full information and pamphlets on request.

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## Commercial Planters Please Note!

**IT IS ABSOLUTELY NECESSARY** that we have your orders this month for SPRING 1918 delivery. If you want to get your trees in the right quantity, quality and variety, you should **ORDER NOW**, and not leave it till the last moment, and then have to search Canada and the United States for what you want and not get it, or perhaps receive indifferent stock. Get all you want **NOW**, and from a reliable firm.

We supply a large number of the commercial growers in the Okanagan and elsewhere—one customer at Vernon has already ordered his three thousand Wealthy and McIntosh. We have lots more but there is a limit and we are selling heavily each day.

To smaller planters we offer the same satisfactory service for Spring 1918 delivery. Send for our seventy-page descriptive catalogue, also our artistic Rose catalogue, and if you mention Fruit and Farm we will send our colored calendar for November.

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Nurseries at Sardis.

We have a vacancy for a full-time salesman, also for one or two spare-time men.

may not prove true. (2) A better quality of hay has been obtained as it does not gather dust in the raking as in the other case, and it can be cut more cleanly, since none of the stems lie along on the ground. (3) It is cared for with less labor. The disk or renovator will take care of it in

the one case, whereas in the other the cultivator must be used.

Many are anxious to grow alfalfa seed. Our suggestion is don't go too quickly or extensively into this business. It is one of those lines that may be easily overdone. In wet seasons growing alfalfa seed is not a good paying business.

## Community Breeding

Some Advantages of Focussing on Single Strains in Each Locality.

(By R. M. James)

Community breeding can also be termed co-operation applied to the rearing of live stock. To make a success of community breeding the farmers in one district must agree to handle one breed and one breed only.

About the best examples that can be quoted of successful community breeding are the islands of Jersey and Guernsey. Many other striking examples can be found without looking very far. In England, for instance, practically every county is noted for some particular breed of animal which is, in all probability, named after the county that has produced it. The people of the various districts in England all take a great pride in the live stock that that district produces and are willing to stand up for their own particular breed against all comers.

In Canada conditions are very different. In any farming district it will be found that there is a great diversity of opinion as to the breeds most suitable for that locality. In consequence of this many different breeds and much live stock that is of no particular breed, will be found within a few square miles of farming territory. Naturally this is not a satisfactory state of affairs.

Some men when entering a new district will select a breed of cattle or sheep which no one else in that district is breeding. By doing this they are under the impression that competition will be avoided. This idea, however, has been proved false. Buyers will not spend extra time and money visiting an isolated herd, as they prefer going to a community where they can inspect several herds of the same breed. This has been found to be more general when several animals are required.

There are many advantages to the credit of community breeding and one of the chief of these is the opportunity it affords to select sires which have proved their worth. In the case of a single individual owning a bull in a district where no other herd of the same breed is to be found he can only keep that bull for about two years no matter how valuable he may be. In the case of a community specializing in one breed it would be possible to procure another bull for the heifers and at the same time keep the herd bull for the cows. It is also possible, by interchanging bulls with different sections of a large district, to run several strains at once. By means of this scheme money is saved and the risks attendant upon importing new blood are minimized.

Naturally there are men in every community who are better judges of live stock than their neighbors. It is upon these men that the selection of new bulls will fall and therefore a great responsibility rests with them.

One of the greatest advantages of community breeding is that it brings farmers together with one common object definitely in view, viz., to improve the breed in which they are all interested.

This mutual interest cannot exist in a

community where there are many different breeds, because when Farmer A, who perhaps breeds Holsteins, meets Farmer B, who has a fine herd of Jerseys, they are almost sure to have a difference of opinion when they discuss cattle. Both men speak in favor of the breed they are interested in and neither will give way to the other that his neighbor's taste in cattle is better than his own. The conversation of Farmer A and Farmer B would be very different if they both owned herds of the same breed. Farmer B's herd might be doing a little better than Farmer A's, but Farmer B will probably tell his neighbor how he gets a pound or two more milk and both will congratulate each other on the fact that they are breeding the finest cattle on earth and will encourage each other and exchange opinions and suggestions.

This feeling of mutual assistance in a community is worth a very great deal and cannot be valued in dollars and cents but for all that it means money in the pockets of the farmers.

Perhaps the greatest gain comes when the community is ready to place stock on

market. In the case of dairy herds (as we have been speaking of dairy cows practically all along), good cows are always in demand. When buyers are out to purchase a number of cows or a good bull they do not go into a district and take a blind chance at finding what they want there, but they know beforehand by the records which communities have high producers. It is to these communities that they go in search of the animals they wish to add to their herds.

A community which is producing good dairy cows will soon become known and it does not take any outlay of money to advertise it. The records of performance of its cows would receive publicity in the farm papers and buyers would not hesitate to go into the district to make their purchases.

One other thing which would probably result would be a greater efficiency and more businesslike methods. Each man would recognize the fact that his neighbors were to a certain extent dependent upon him and that it was necessary for him to get the very best results in order to keep up and if possible improve the standard for which they would all be working.

Possibly to the reader this seems almost like Utopia and while it must be admitted that such a state of affairs as has been described above could not be accomplished within a few weeks or even months it has been done and is being done all the time. It needs patience, forbearance and a great deal of perseverance. The farmers of British Columbia have shown themselves to be possessed of all these qualities and there is no reason why they should not be able to accomplish what other men in Canada and other countries have done before them.

## Every Farmer Needs Bale Ties

We are manufacturing Crosshead Bale-Ties and Single-Loop Bale-Ties. Every farmer should use them; they save time and labor.



"OUR STANDARD 9 1-2 FT. 14 GAUGE CROSSHEAD DIMENSION"

Cross-head Bale-Ties, sold in bundles of 250, all lengths and gauges, manufactured from a very superior quality of American Bessemer steel wire.

We also manufacture Single-Loop Bale-Ties; put up 250 in bundle and sold by weight. This tie costs but very little, if any, above what you would pay for wire in the coil. They are easily handled from the bundle, and every tie has a perfect loop, and the wire is of the same high quality as used in our Cross-Head Tie. They can be used on any kind of press, for baling any fibrous material, or bundling work.

These Ties can be secured through any of the regular jobbers.

## Morrison Steel and Wire Co., Ltd.

631 POWELL ST., VANCOUVER, B. C.

**SORE SHOULDERS****A Good Treatment for Abrasions.**

In selecting a draft horse the shoulders should be given careful attention. A good slope makes the best collar-bed. Straight shoulders with thick withers are most susceptible to injury. If the shoulder is straight, the force of the pull is thrown on the point and not evenly distributed.

A cheap, ill-fitting collar is a poor investment. The best way to secure a good fit is to take the horse to an expert harness maker, where the proper size can be obtained. Or measurements may be taken from which a collar can be made to order. If the horse has been idle through the winter and has taken on surplus flesh allowance should be made for the size needed when the horse reaches its normal weight. When the collar is in the proper position there should be room to allow the hand to be laid between it and the withers.

Careful fitting of the collar may come to nothing if the hames do not fit properly. The top hame strap, if rightly adjusted, will neither pinch the top of the neck nor be so loose as to allow rubbing. The lower hame strap should be buckled tightly to insure a snug fit of the hames against the collar. If the tugs are properly adjusted the line of draft will be at right angles to the collar bed and the pull will be evenly distributed over the shoulder. This usually means that the tugs should be fastened at a point one-third of the distance from the point to the top of the shoulder. The traces should always be the same length; if not, there is a side pull on the shoulder.

Then if care is used in hardening the horse to the work, little trouble will result.

Frequent stops are of advantage to the shoulder and an occasional lifting of the collar helps. Bathing the shoulder at night with cold water restores circulation and hardens the skin. By cleaning the collar each morning, a smooth surface is brought in contact with the shoulder, and rubbing which might result in a breaking of the skin is avoided.

With the best of care, however, sore shoulders cannot always be avoided. As long as the swelling is well defined and movable, the skin alone has been damaged. This is best treated by carefully washing the surface. Some good shoulder washes are: (1) Alcohol, 1 pint, and the white of two eggs, thoroughly mixed. (2) A solution of silver nitrate, 10 grains to 1 ounce of water. (3) Carbolic acid, one pint in 15 parts of glycerine.

After the surface has been thoroughly cleansed, the wound should be powdered with iodoform mixed in flour or starch. In the case of a wound affecting the deep-lying tissues, the treatment is more involved and the injury much slower in healing. The wound must be kept thoroughly cleaned with an antiseptic and the horn-like substance removed. If the wound must be lanced, the skin should not be divided transversely, but need not be spared longitudinally. The injured spot should be protected by means of a hole cut in a pad, if the horse must be worked.

B. C. ZIMMERMAN.

*A Breeder's Card this size  
will cost only \$1.25 per  
month. Advertise the stock  
you may wish to sell.*



## Synopsis of Coal Mining Regulations

COAL mining rights of the Dominion, in Manitoba, Saskatchewan and Alberta, the Yukon Territory, the North-West Territories and in a portion of the Province of British Columbia, may be leased for a term of 21 years, renewable for a further term of 21 years at an annual rental of \$1 an acre. Not more than 2,560 acres will be leased to one applicant.

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

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

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

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

The lease shall include the coal mining rights only, rescinded by Chap. 27 of 4-5 George V. assented to 12th June, 1914.

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

W. W. CORY,

Deputy Minister of the Interior.

N.B.—Unauthorized publication of this advertisement will not be paid for.—33575.

## FARMERS Sacks and Twine

We have just received a large shipment of new standard grain sacks, and can supply all your requirements at reasonable price. We also have a large supply of twine available.

### Hay and Grain

Let us hear from you in regard to quantities and grade you have for sale.

### Fly Knocker

Are you getting maximum amount of milk from your cows and work from your horses. Neither can do justice to you if bothered by flies. Conkey's Fly Knocker will relieve them.

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J. E. HUGHES, Manager.

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A Monthly Journal Devoted to the Interests  
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Vol. X. OCTOBER No. 10

### EDITORIAL

#### The Ban on Veal and Lamb

In connection with the conservation agitation occasioned by the war, emphasis has been laid on the necessity of saving the calves and lambs until maturity. In these matters there must be some discretionary powers permitted; otherwise the purpose sought may be easily defeated.

Many of the calves butchered for veal come from dairy farms, and the cows have been kept not for their progeny but simply for renewing. The sires are often scrub bulls and their offspring would be of doubtful value if brought to maturity. Instead they are topped off in a few weeks and brought to the block. To insist on sparing these animals would only encourage the multiplication of scrub stock.

It is quite different with the calves got by pure-bred sires and dams, these would in no event find their way to the shambles.

It is somewhat different in the case of ewe lambs, for these are usually well bred and come to maturity quickly. They furnish when grown not only the flesh needed to feed the armies of the Allies and of the nations, but the wool so necessary to clothe them.

In Oregon some protest has been made by the sheep breeders, who claim that their ranges are too limited to permit their raising all the lambs. We think this does not apply to British Columbia.

#### Extend the Herds

Whatever the reconstruction involved after the war of one thing farmers may rest well assured, namely, that there will be for years an insistent demand for live-stock to renew the herds from which the meat for the trenches has come.

Viscount Lewis Harcourt, a former member of the British government, predicts that there will be a world's famine in meat after the war. The decrease of pasture lands, resulting from more extensive culti-

vation will, he claims, reduce the cattle supply. It will take Germany five years after the war to restore its stock of cattle to the normal figure of 23,000,000 head. He estimates that after the war Europe will need from 16,000,000 to 20,000,000 head of cattle. For several years Germany will have to feed her people on imported frozen or chilled meat, and will come into a market where she has never bought before.

If this prediction comes true, where are the 20,000,000 head of cattle, which Europe will want after the war, to come from?

The suggestion to spare the young cattle and sheep has a remoter application than merely providing for the meat necessities of the trenches.

#### Hoover on Decreasing Herds

The problem of meat production is stated very concisely by Food Controller Hoover, and although written for United States readers it is of significance and interest to Canadian farmers as well. He says:

##### Decreasing Herds

"One of the incidents of the European war has been the slaughter of large numbers of animals, and it is estimated that already the herds of Europe have been diminished by 28,000,000 cattle, 54,200,000 sheep and 32,000,000 hogs. An accelerated increase in this diminution of meat animals must take place in Europe from month to month as long as the war lasts.

"We have two problems in meat supplies: First is the task of supplying our own soldiers and citizens and helping feed the citizens and soldiers of our allies during the war. The second is the one which we desire to bring particularly to the attention of the American producer, and that is:

"After the war, Europe, with diminished animals and therefore diminished animal production of animal food, will require larger imports of meats during the years of recuperation and will probably require the actual importation of breeding animals. Therefore, in a broad way, the outlook to the American producer from now on and after the war will be (a) larger demand for

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This is the only exclusive silk store in Vancouver. All silks are imported direct from the factories and sold for much less than the same qualities can be had in the ordinary way.

36-inch White Habutai, very fine and washes beautifully; sells at 65c.  
Special, per yard ..... **58c**  
27-inch Heavy Habutai; regular 85c yard for ..... **75c**  
27-inch Extra Heavy Habutai; regular \$1.25 yard for ..... **98c**  
40-inch Crepe de Chine, in twenty-five different shades. Samples sent anywhere; regular \$1.50 yard for ..... **\$1.25**  
Georgette Crepe, in twenty-five shades; regular \$1.75 yard for .. **\$1.50**

These last two silks are selling wholesale in Vancouver today for more than our regular price.

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## SABA BROS., LTD.

Silk Specialists,

652 Granville Street.

Vancouver, B. C.

## CUTHBERTSON'S

### OVERCOATS and UNDERWEAR

— two important lines to be considered at the approach of the fall season.

Advance buying in the best markets enables us to serve our customers with the best goods at the lowest prices.

Smart Styles in RAG-LANS, OVERCOATS and RAIN COATS from \$15 to \$45.

UNDERWEAR in pure WOOL and Merino in prices ranging from \$1.25 upwards--the best British and Canadian makes.

Agents for Dr. Jaegers pure wool wear--Catalogues mailed on request.

**T. B. Cuthbertson & Co. Ltd.**  
Men's Furnishers and Hatters  
2 Stores Vancouver, B. C.

animal products, (b) continuing necessity for meat and dairy animals to convert forage and grains not needed for human consumption into meats and dairy products. The herds and flocks of the country can only be increased over a period of years, and the foundation for such an increase should be laid at once. Such interest is a national interest and it must be made to the interest of the American producer."

## The Farmer and the War

Under the Military Service Act the anticipated exemption of farmers and those engaged in tilling the soil has not been specified. Instead the exemptions here will not be class exemptions, although the urgency of increased production will doubtless be taken into consideration by the boards when a member of the agricultural class is drafted. But the tribunals will pass upon the individual case. Farmers as a class will not be exempt.

We are disposed to believe that this provision has been made to prevent men who had no right to claim exemption to take refuge behind the law which was expected to leave the farmers immune. There are cases in the mind of the writer of men who have recently taken up farm work for no other reason than to escape the draft. The moment the danger of being drafted passes they will cease to till the soil.

In addition to remembering the urgency with which food supplies are required, the tribunals will also doubtless not ignore the fact that agriculture is not a non-technical calling, and that a man who is a competent farmer is just as hard to replace from the ranks of those who have no farm training as are any other class. In fact he cannot be replaced. A pair of strong arms and hands are a very necessary part of a farmer's equipment: they are not the principal part.

## Writing to This Paper

One of the things valued most by the publisher of this paper is the letters he from time to time receives from its readers. They are invariably of interest, even where the subject matter is of a character where it cannot be reprinted.

Fruit and Farm would like to encourage a closer touch with its subscribers, and to receive many times more of these letters than now find their way to the editor's desk. It is quite unnecessary for our correspondents to be trained writers, or even to be grammatical in the construction of their sentences. What we are interested in are the problems which you are facing in the daily round in which we may be of help; the new ideas which you have put into effect which may be helpful to others; the discoveries you have made, of fresh sources of income, of increased methods of efficiency, of enlarged opportunities. The probabilities are that five thousand readers of this paper are worrying over the same problems and are approaching it from different angles. There is nothing like comparing notes. Your experience will stimulate a suggestion or a remedy from another and in this way a circle of helpfulness will be formed the value of which is hard to over-estimate. These columns are wide open for such letters. Write.

## Advertise Your Wares

The next great development in advertising is going to be among farmers. At present, with relatively few exceptions, what one man has to sell of live stock, poultry, fruit, grain—these are a dark secret to thousands of men who need them. It is true a farmer's market is largely in the bulk. But there are hundreds of fellow farmers who want articles and animals which other farmers would like to sell. Use the columns of this paper. It is a clearing house for the needs of all its readers. The merchants find it the greatest medium for vending their goods. Let our farmer readers do the same.

## ANIMAL DISEASES AND PUBLIC HEALTH

Professor McDonald, Live Stock Commissioner for British Columbia, gave an address on the subject "Animal Diseases and Public Health" to a large gathering of science students of the Teachers' Summer School.

Professor McDonald has been a student of this important branch of science for a great many years and is therefore able to present the whole subject in a clear and concrete form and so impress the student with the fundamental principles.

The major portion of the address was devoted to dealing with the matter of bovine tuberculosis and the country's milk supply. The speaker showed the many dangers that may arise from allowing cattle that are infected with disease to supply any community with milk. He pointed out that many cases are on record to prove that the disease may spread from one cow to another and even from the animal to a human being who attends it. Possibly the most common means by which the infection may be carried from the animal to the human race is through the medium of the milk. It therefore becomes imperative that every precaution be taken to insure that the cows are kept in a healthy condition. When this is accomplished the danger from disease-laden milk is practically destroyed under the present sanitary dairy conditions that are required.

Professor McDonald is a strong advocate of establishing a universal test for all cattle in order that the public health may be insured to a greater extent. Such a system can be maintained without difficulty and with little expense and it would be a great safeguard to the thousands of children who live during childhood to a great extent on milk and foods made largely from milk.

The speaker also dealt to some extent with the advantages and disadvantages of pasteurization and outlined the history as science has written it, of the stages of development of the tubercular germ.

## FEEDING WORK HORSES

By A. M. RICHARDSON.

Albert McKay, north of Waterville, Wash., has been feeding his twelve work horses this spring according to the system advocated by Dr. S. B. Nelson, veterinarian of Washington State College. As a result, he has done more work, brought his horses through the season's work in better condition than ever before, and has saved between three and four tons of hay. He had but one light case of colic. He has worked two three-year-old colts all the time and they are in splendid condition.

Last year Mr. McKay plowed, packed and harrowed 160 acres in 25 days, with two six-horse teams. This year he did the same work in 19 days. He credits the difference to the change in his system of feeding. Heretofore he has fed his horses as practically all other farmers do, that is: Grain first thing in the morning; hay and water after breakfast, just before going to the field; at noon, water, grain, hay and water; at night, water, grain and hay.

According to the system advocated by Dr. Nelson, which Albert McKay followed this spring, the horses are watered first thing in the morning, fed grain but no hay, and are not watered after breakfast; at noon, they are watered and fed grain, but no hay, and no water after dinner; at night they are watered, fed hay for an hour or two, then grain, and then all the hay they will eat during the night.

This system of feeding horses will take less feed, keep the horses in better flesh, give them more life, prevent digestive disorders better than any other system of feeding we have seen tried. It is physiologically correct. Each organ in the horse's digestive apparatus does the work adapted to it and no organ is overworked. A good many men told Dr. Nelson that they fed headings during harvest and had more or less colic and founder, and wanted to know what they should do. Dr. Nelson said it was a question for each farmer to settle for himself. He could feed headings and take chances on colic, founder and the loss of a horse occasionally, or he could feed hay and grain as advocated and not have the trouble from sickness. The actual cost of feed would be practically the same. It is largely a matter of convenience.



*It's Wonderful!*

—the way calves take to it and thrive upon it.

*Fresh, Sweet Flavor*

relished by calves—thoroughly cooked under 60 pounds steam pressure.

*Economical, yes; it cuts the cost of feeding in half because it takes the place of milk.*

Dealers Sell It

**LILLY'S** SEATTLE and PORTLAND  
Established 1885

**VANCOUVER MILLING & GRAIN CO., Ltd.**

Vancouver, Calgary, New Westminster, Victoria

# British Columbia Goat Breeders' Association

This society has been formed principally for the purpose of establishing records for the registration of pedigrees of goats, under the National Live Stock Records, thus putting goats on a par with other classes of live stock in this respect. The Canadian government is the first to recognize goats officially in this way.

It is now possible, as the result of establishing these records, to import pure-bred goats from the U. S. A. free of duty.

The other objects of the society are to encourage the breeding of goats in every possible way, and to collect, preserve and publish data, information and documents relating to goats.

The officers for the current year are: President, D. Mowat, McKay, B. C.; vice-president, R. B. Samuel, Kingsville, Ont.; directors, G. H. S. Cowell, Port Alberni; A. French, Vancouver, B. C.; Ray Knight, Raymond, Alta.; C. N. Stetson, Winnipeg, Man.; G. E. O'Brien, Windsor, N. S.; secretary-treasurer, George Pilmer, Victoria, B. C.

The registration of goats in Canada will be divided into six classes, viz.:

1. Angoras, admitting animals recorded in the American Angora Goat Record, and the record of the South African Angora Breeders' Association, and the progeny of

animals recorded in the Canadian National Records.

2. British milk goats, admitting animals recorded in the general section of the British Goat Society Herd Book, and the progeny of animals recorded in the Canadian National Records.

3. Toggenburgs, admitting animals recorded in the Toggenburg section of the B. G. S. Herd Book, and animals registered as pure-bred Toggenburgs in the American Milch Goat Record, and the progeny of animals recorded in the Toggenburg section of the C. N. Records.

4. Nubians, admitting animals recorded as pure-bred Nubians in the B. G. S. Herd Book, or the American Milch Goat Record, and the progeny of animals recorded in the C. N. Records.

5. Saanens, admitting animals recorded as pure-bred Saanens in the A. M. G. Record, and the progeny of animals recorded in the C. N. Record.

6. Foundation stock, admitting animals of the Toggenburg, Nubian and Saanen breeds already in Canada on the date of incorporation of the Canadian Goat Society, if inspected and passed as worthy specimens of the breed before January 1, 1918, by a competent inspector approved by the Dominion Live Stock Commissioner.

Further, milk goats from countries other than Great Britain and the United States, of a breed provided for in the rules of entry

of the Canadian Goat Society will be registered if inspected and passed as worthy specimens of the breed by a competent inspector approved by the Dominion Live Stock Commissioner.

An officer of the Sheep and Goat Division of the Department of Agriculture at Ottawa is being detailed to inspect animals with a view to registration, and will be leaving Ottawa before long for this purpose.

Membership and registration fees are as follows: Annual membership, calendar year, \$2.00; life membership, \$50.

Registration Fees—	Non-Mem- bers.	Mem- bers.
Animals recorded before Dec. 1 of next year following year of birth .....	\$ .50	\$1.00
Animals recorded after time limit fixed .....	1.00	2.00
Animals recorded after three years of age .....	2.00	4.00
Transfers, if made within 30 days of sale .....	Free.	Free.
Transfers if made after 30 days of sale .....	.50	1.00
Transfers necessitated by a change in firm name where no consideration passes .....	Free.	Free.
Duplicate certificates .....	.25	.50
Registration of farm or herd names .....	1.00	2.00



The HINMAN in E. G. Lang's Model Dairy, Waterloo, Ont.

The HINMAN is as Simple as the "Grind Stone." COMPARE them ALL and Judge for Yourself. HINMAN Simplicity is Responsible for Low First Cost—Low Upkeep Cost and Greatest Efficiency. Over 150 HINMANS working in B. C. today. Ask the man who has one, or write to

**H. F. BAILEY & SON, GALT, ONT., for MILKER BOOK "L."**

**CHILDERHOSE & MURPHY, CHILLIWACK, B. C., Salesmen.**

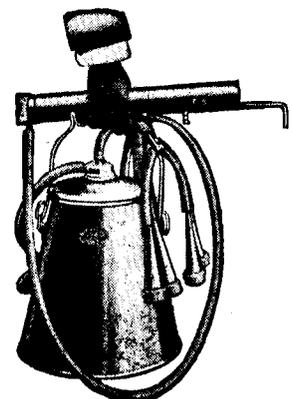
## Eventually Why Not — NOW —

Equip Your Stable With

### HINMAN MILKERS

The HINMAN is Simple, Safe and Sanitary. No Gauges, No Safety Valves. No Pulsators to Stick, Freeze Up or Adjust.

No Metal Piping to Clean  
Out or Freeze



Simple Single Unit

**GOAT FARMING ON WEST COAST LANDS**

**An Old-Time Settler Comes Back After Decade in Montana**

A pioneer of the West Coast, H. O. Bergh, one of the original locators of the famous Yreka mine on the southeast arm of Quatsinb Sound, has had a very busy life in the last decade as a goat breeder in Montana. He was a member of the National Mohair Growers' Association, which markets its valuable product in all the important centres of the world, the mohair being sent to Boston for grading.

"From my experience in Montana," said he, "I am satisfied that the West Coast of Vancouver Island affords an exceptionally fine opportunity for the cultivation of such crops as are desirable supplementary to the splendid native flora of Vancouver Island, upon which they would thrive. Shelters will require to be constructed to protect them from climatic changes.

"Goat farming in Montana suffered greatly from the hard winters, the food-stuffs required to keep the animals going adding immensely to the cost of producing the mohair. If this business developed on Vancouver Island, we should have a ready market in the United States, because the mohair is in demand for an ever-increasing number of articles, and doesn't shrink in cleaning like the sheep's wool. My goats, Angoras, averaged four pounds of mohair each."

Mr. Bergh will look out a piece of level land in the Cape Cook district, and proposes to raise goats, sheep and cattle. He hopes to see the land become the nucleus of a colony of settlers who will clear the land during the winter months, and fish or work for the whaling fleet in summer.

**GOAT'S MILK SAVED BABY**

Montreal Star: "Dear Housewife—I cannot resist sending a few lines on the subject of goat's milk, as we have saved the life of more than one child by its use. Over thirty years ago our baby girl at three months only weighed two and a half pounds. We could not get the little mite to digest anything, and the doctors thought her a marvel to have lived at that time. She was kept rolled in cotton wool and was rubbed daily with cod liver oil, the absorption of the oil keeping her alive. One doctor suggested, as a last resource, that we should try goat's milk, diluted with water. She left off vomiting, kept the milk down, and began to grow. We weighed her every week, and found that she gained from two to four ounces a week, till at last she made steady progress, and at six months we left off weighing her. Today she is the mother of four boys, and our faith is supreme in goat's milk as a food for delicate children.

Our second baby was nearly as delicate as our first, but by then we had bought a second goat, and for four years we kept ourselves supplied with their milk, not using cow's milk at all. Then we left the town and went farming, and as the goats were too mischievous to run at large we had to dispose of them.

"At the time I am writing about we lived in England on the borders of a big town. We had a garden measuring a quarter of an acre, and so were able to have a good stable for our goats and a loose box for any kids that were born. We generally had three a year, as we got our little herd up to three and a male. We were very proud of them, and our friends used to laugh at our butter, which they called lard as it was so white. We set our spare milk in pans and

scalded it exactly in the same way you speak of in the paper of August 1, only we did not churn but shook the cream in a bottle, as many have had to do when they first started out on the wild prairie of Canada. I almost forgot to say we ate our kids for meat, and it was very good. The skins we had dressed for rugs.

"If you think this is any use to help folks with delicate children, please put it in your paper."

**FANCED THE GOAT.**

Mr. J. R. Wilson, of Edmonds, has shipped a high-class Toggenberg milk goat to Mr. J. A. Turner of Uplands, Victoria. Mr. Turner was one of the judges at the Vancouver Exhibition and took a fancy to this animal, which was reared in Burnaby.

**AT STUD**

The imported Buck, Harborough Volunteer, Augh-Nubian, No. 834, British Goat Society. Fee \$10.00.

The young Buck, Burnaby Ginto, three-quarter Nubian; a fine type of the Nubian; No. 420, registered in the International Nubian Breeders' Association. Fee \$3.00.

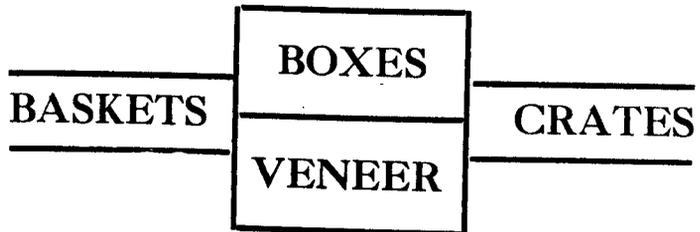
Does called for and delivered at your home or boats and trains. Charges reasonable.

**D. MOWAT**

Red Feather Ranch, McKay, B. C.

**British Columbia Manufacturing Company, Ltd.**

Manufacturers of



If you wish to eliminate that sawdust nuisance use our Standard Rotary Cut Berry Crates.

No order too large, no order too small to receive our prompt and careful attention. Write for Prices.

**B. C. Manufacturing Co., Ltd.**

NEW WESTMINSTER, B. C.

**NOTICE HIDES WANTED**

We wish to call farmers' attention to the fact that we are now in a position to purchase HIDES for the Fraser River Tannery, which we have secured and enlarged.

We will pay highest market prices for calf and light cow hides.

Ship to **LECKIE TANNERY**

New Westminister, B. C.

And notify **J. LECKIE CO., LTD., Vancouver, B. C.**

# Beekeeping in British Columbia

## NOTES ON BEE-KEEPING

### GIVE BEES ROOM

#### Much Honey Lost Through Failure to Furnish Storage Room on Time

Many beekeepers make a serious mistake in failing to give their bees enough storage room on time. The addition of this room at just the right time for the storage of the season's crop of honey requires good judgment and an intimate knowledge of the nectar resources of the particular locality and season. Very few people realize that in many localities the entire season's crop of surplus honey is gathered and stored within a period of a few weeks. It is exceedingly important during these few weeks that the progress of the work in the supers be watched closely and additional room be given as rapidly as the bees can use it.

The usual procedure by the inexperienced beekeeper is to put on a super of 25 to 50 pounds capacity during early spring and give the subject no further thought until late summer or autumn. If the super is found to be full of honey at that time it is removed and probably an empty one put in its place. In many cases this empty super is given long after there is any possibility of any further storage of honey during the season, and if comb honey is being produced the sections and foundations are ruined for further use by being on the hives during a time when no honey is being stored.

During a poor season a single super for each colony may furnish an abundance of room for the storage of the entire crop of honey but, during a good season, if additional supers are not given as needed, the major portion of the crop is lost to the beekeeper simply from lack of storage space.

In comb honey production the standard supers contain, when filled, only about 25 pounds of honey. During a rapid honey flow, such as occurs some seasons, especially in the Northern States, sufficient progress is frequently made in each newly added super to justify the addition of another every three or four days. With such a honey flow several supers may be completely filled with honey before any of it is ripened and sealed and the hive may, therefore, have as many as five or six supers at one time. Under such conditions, if the bees are compelled to ripen and seal the honey in the first super before a second is given, most of the possible honey crop is lost to the beekeeper, the bees being compelled either to swarm or to loaf during the height of the storage season. Such an abundant honey flow does not by any means occur every year, but when it does the beekeeper should be prepared to take full advantage of the opportunity.

Bees need so little attention during the greater portion of the year that it is difficult for the inexperienced beekeeper to realize that for the best results almost daily attention is needed during the few days or weeks known among beekeepers as the honey flow.

## PREPARING FOR WINTER

Now is the time to go over every colony with a view to preparing it for winter; for should feeding for winter stores be needed, the bees will take the syrup and cap it in the brood nest much better now than later, when the nights are cold and frosty.

The best winter store is the pure honey; therefore, we should leave with each colony as much as 25 or 30 pounds for wintering, if the hives are to be wintered out-of-doors, and about 20 pounds if they are to be wintered in cellars, though I prefer the outdoor wintering plan for many reasons.

You will find in your apiary, as you carefully go over each hive, that some colonies are unusually strong and others very weak. Now is the time to equalize things and make each one strong for the trying winter sleep.

The method is simple and is as follows: From each of the strong colonies select a frame of sealed brood with all adhering bees, not taking the queen, and give to each weak colony as many of these frames and bees as it requires. Then take the combs from the weak colonies, whose places are to be filled by those from the strong colonies, and use them to fill up the space made in taking from the stronger ones. Before transferring these combs to the strong colonies shake off all the adhering bees back into the hive from which they came, as the weak colonies should not be deprived of any of their bees. As the weather gets colder, partly close the entrance to each hive, but leave enough space for a free flight of the bees.

If some colonies are light in stores and others very heavy, you can transfer some frames with heavy sealed honey from the stronger ones. If you have extracted too freely from the hives, you can make up the deficit by mixing equal parts of hot water and pure granulated sugar until the mass is a thick syrup. By adding about a quart of extracted honey to the syrup you will make it all the more palatable for the bees, although it is not absolutely necessary to add the honey. Under no circumstances boil the water and sugar together, but heat the water to the boiling point, and then pour in the sugar and stir until dissolved.

Where much feed is to be mixed, the extractor will be a most excellent thing in which to do the work, filling the extractor with hot water to the proper amount. While the comb baskets are rapidly revolved, pour in the sugar slowly.

Use an overhead feeder and give to each colony all the syrup it will need at one time, placing the feeder on in early evening, in an extra hive body, and tightly closing it, so that no robber bees can get at it from the outside.

The time to feed for winter stores is in September, as the bees will carry it down more readily than in cold weather. Feeding for winter is not a regular thing, but only to be used in an emergency where stores are scarce. It is well to go over the colonies just prior to the final preparation for winter, and make sure they do not run short. This is important, as many a colony has been lost through starvation.

## PACKING HIVES IN NEWSPAPERS FOR WINTER

A beekeeper writes that he has had success in wintering bees in newspaper-wrapped hives with a winter case over all.

Where one has hives screened by buildings and fence, the plan will give excellent results, but it will hardly be adequate where the hives are out in the open exposed to a strong wind-sweep. Windbreaks for outside winterings are very important factors. If one had to choose between windbreaks and

### ITALIAN QUEENS

Now is the time to requiren.

Young vigorous queens from good stock; well marked.

Satisfaction guaranteed.

Untested \$1.00. Tested \$1.25.

W. RANT South Hill Apiary  
45th and Sherbrook St., South Vancouver

## The ESQUIMALT & NANAIMO RAILWAY CO.

### Vancouver Island, B.C.

The Company has in its Land Grant many thousands of acres of excellent land eminently suited for Fruit growing and Mixed Farming.

A beautiful, healthy climate—fine soil, and a great and rapidly increasing demand for butter, milk and cream (fine creameries in each district)—a cash market for poultry and eggs, large profits from mixed farming and vegetable products.

A complete modern educational system—free, undenominational—primary and high schools on the beautiful Island of Vancouver.

Descriptive pamphlets and full information on application to

## L. H. SOLLY

Land Agent, E. & N. Ry.

VICTORIA, B. C.

packing we would accept the former; but both are very important.

The writer's apiary is surrounded on one side by a picket fence. Such a fence, more or less surrounded by buildings, affords an excellent windbreak.

## CARE OF HONEY COMB DURING WINTER MONTHS

### How to Prevent Granulation

Emphasis cannot be laid too strongly on the importance of keeping comb honey at a temperature as warm as the living room. It is almost equally important that it be maintained uniform. A temperature down to 65 that is uniform is not as favorable to granulation as a temperature of 75 during week days, and then going down to 40 or 50 during Sunday. Comb honey that has started to granulate can be checked by keeping it at a uniform temperature of 80 or 85. At the last named point, however, there is some danger of the combs sagging and leaking.

A temperature of 75 maintained day in and day out, every hour of the day, is most favorable to anti-granulation.

## TO BEGINNERS

Those who are anxious to commence the practical study of bee-keeping during the winter months can do so by making themselves acquainted with the hive, and learn how to wire frames and put in the wax foundation, to make up sections ready for section honey, the use of the bee escape, queen excluder, and the structure of the super. The hive generally in use in B. C. by the majority of experienced bee-keepers is the Langstroth, invented in 1851. It is either a ten or eight frame one with a division board. It is simply a plain box with a rabbit at the top of each end. The frames and division board hang from the rabbit, on all sides of the frames there is a space called the bee way. This allows a free passage for the bees. If this passage is too large the bees will construct comb in it, if too small they will fill the passage with propolis. When this occurs the novice will find much difficulty in drawing out the frames for examination and occasionally, owing to the frame sticking to the side of the hive, will be pulled apart. The frame is 9 1/8 by 17 1/8. This must be well nailed together and then wired with number 30 tinned wire. The holes are usually ready made in each end of frame to receive the wire, so that when a full sheet of wax foundation is placed in the groove or saw cut on the under side of top bar of frame the foundation will hang parallel with the wire, the wire is then heated with an embedder and pressed into the wax, care being taken that the em-

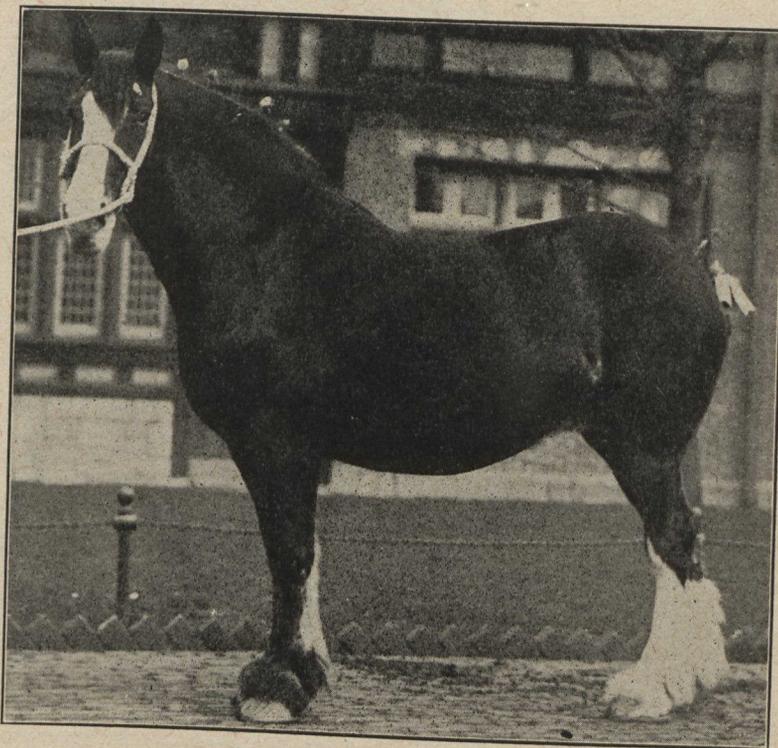
Continued on page 34

# Great Auction Sale of Valuable Horses at Colony Farm, Essondale, B. C., 18th Oct., 1917

Dr. J. G. McKay, the Acting Medical Superintendent of the Mental Hospitals at Essondale and New Westminster, having found it necessary to increase the dairy herd, has decided to offer some 40 head of pedigree horses, including Clydesdales and Shires, for sale by public auction at the farm, Essondale, on Thursday, October 18th, 1917.

In the Hackney class the head of the stud was "Brigham Radiant," a horse having a world-wide reputation in the prize ring, and who won at Olympia as a three-year-old, twice at Madison Square Gardens, New York, also at the International in Chicago; and, in fact, was never defeated.

Among the mares owned by Colony



"Peggy Pride"

Some of the best Clydesdales that Scotland has ever exported were purchased by Colony Farm and include, "Nerissa", "Peggy Pride", "Opall", "Colony Lady Begg", "Lady Cederic", "Moselle", and at the head of the stud "Bow Hill Baron" whose half-brother, "Baron of Buchlyvie", was sold at public auction for \$46,000. Also "Welcome Guest", whose photo is shown in the advertisement which appears on the inside front cover of this issue. A horse of exceptional breeding and individuality, whose colts has been offered this year for sale prove his worthiness as a sire.

Among the Shires originally at the head of the stud was "Tandridge Rambler", whose sire, "King of Tandridge", was one of the greatest prize-winners in England.

These horses were shown at various times throughout the Dominion, especially at the Dominion Fair at Regina in 1912, and at Ottawa in 1913, at which they practically won all the championships to which they were eligible.

Farm there is "Arnia", who won the gold medal at the Dominion Fair at Ottawa in the Breeding Class. Also "Warwick Dora" and "Broxton Gillette".

It was from such stock as the above-mentioned that the horses for sale on the 18th of October came, and such Clydesdale sires as "Welcome Guest" and "Bow Hill Baron" will be offered for sale, while amongst the mares will be found "Melita", "Boquhan Queen", "Lady Cederic", "Moselle", "Nancy Edwards" and "Solway Princess", the pedigrees of these animals representing a combination of breeding that has never before been offered at an auction in any part of Canada, and in addition to the imported Clydesdales a number of their offspring will be disposed of to the public.

There is no doubt but that there will be a very great response from the breeders and dealers of every part of Canada and the United States, and an extra stimulus is added by the fact that it is impossible to import horses from either Scotland or England today; and also the fact that the public will not be given the opportunity of attending a sale where such fine pedigree blood is to be found for a very long time.

# Gardening for the Home

By H. M. Eddie, F. R. H. S., Growing Department B. C. Nurseries

At time of writing advices are that the French and Dutch bulbs are likely to be here on time, and probably by the time this appears, will be on the market. The summer in Europe has been a propitious one for the bulb growers and the quality of their wares are reported to be fully up to standard.

One is loath to pull up by the roots plants that have given so much pleasure during the summer months, so long as there is a straggling flower left, but a sharp snap of frost some morning will put a sudden end to their decorative value so that their need be little compunction in turning them out now and getting the bulbs in while the weather is still good and the soil in good working condition. Before turning out half-hardy plants like geraniums, calceolarias, etc., see that the cuttings you put in of these last month have taken root and are in shape to stand the winter; it is not too late yet even to root cuttings, and it is much easier to keep over winter. Young, well-rooted plants of geraniums, rather than old ones, lifted from the bed and potted and boxed.

Perennial rooted plants such as canna, dahlia and gladioli, can now be lifted and well dried off before storing in a frost-proof place. See that each root or bundle of roots has got a label with the name of the particular variety attached so that there will be no confusion when planting time comes again.

*Lobelia cardinalis* is quite as hardy as *chrysanthemums*, and may be wintered in a cold frame along with the latter. If the beds in which the bulbs are to be planted were well manured in spring, no additional fertilizer will be required, but most bulbs prefer a rich soil and unless the soil is very rich, it may be as well to give a dressing of well-decayed stable manure. When beds are to be filled entirely with bulbs it is a good plan to throw out the soil the depth required, arrange the bulbs on the bottom and return the soil again. If this plan is adopted the simplest way to give manure is to take out the soil two inches deeper than required for the bulbs, place a layer of manure on the bottom, return two inches of soil, level and tramp firm and arrange the bulbs on top of this; the manure will be within easy reach of the roots, and there will be no danger of the bulbs coming in contact with decaying matter.

The depth to plant varies with the different bulbs. Hyacinths ought to be planted not less than four inches deep and not more than six; tulips and narcissi about four inches; small bulbs like snowdrop and crocus to be planted about three inches deep, these depths signifying the distance from the crown of the bulb to the surface. The distance apart to plant varies also, but generally speaking the diameter of the bulb at least will be required, and of course much wider apart if desired.

Clumps of bulbs in the herbaceous border brighten up that part of the garden wonderfully in early spring, and may be planted in just the same way as advised for beds; that is, remove the soil, put manure on the bottom, cover with soil and set the bulbs, then returning the balance of the soil, pressing it fairly firm with the hands or feet.

Snowdrops, crocuses and daffodils are well suited for planting in grass, and in the absence of a proper tool for planting in grass, a hole can be bored with an ordinary dibble

the desired depth, the bulb inserted and the hole filled up with soil from elsewhere.

Bulbs for indoor decoration had better be potted up now as soon as possible. The five-inch flower pot is a very convenient size to use, but the size should be governed by the position it is to occupy when the bulbs are in flower.

Place a shallow layer of small rocks or broken pots over the hole in the bottom for drainage, then a layer of turfy material to keep the drainage clear, and fill up with good soil from the garden. The tips of the bulbs ought to be just on a level with the soil and the soil ought to be at least half an inch below the rim of the pot to allow for watering. To give the best effect bulbs in pots may be set as closely together as possible.

When all are potted they may be given a soaking of water and set in a cool dark cellar, or set on a bed of coal ashes outside and covered overhead to the depth of six or eight inches with the same material.

Coal ashes make the best material for "plunging" bulbs in, as earth worms cannot get through them and into the pots, where they would very quickly upset the drainage. The idea of placing in a dark cellar or plunging is to keep the top growth back and encourage rooting, for to be successful with the pot culture of bulbs it is absolutely essential that root development be well ahead of leaf or flower.

When well rooted the pots may be brought into position of more light and heat, one or two at a time, so that their flowering may be spread over as long a period as possible.

While drainage is one of the first essentials to the successful cultivation of bulbs in pots, they can nevertheless be grown in bowls without any drainage whatever.

This is an artistic use for antique china bowls, but at the same time a method of growing which requires the most careful attention. Instead of soil, moss fibre is used or ordinary *ofbapnum* moss and only enough water given at any time to merely keep the moss moist without having any stagnant water collect at the bottom. Otherwise the treatment is the same as outlined above for pot culture, only that the cellar is preferable to the ash plunge when newly potted.

Other spring flowers which may be planted in their flowering quarters now are forget-me-nots and wallflower. The latter is nearly always left until nearly into flower before being planted out, but much better results will be obtained if transferred to its

flowering quarters by the middle of the month.

In the vegetable garden it is time now to harvest the last of this year's crops, such as potatoes, carrots and beets.

If a perfectly frost-proof root house is available, that is the most convenient storage for those vegetables, but in the absence of that a pit in the open must be resorted to. Where any considerable quantity of these roots have been stored, and on land which is well drained, it is a good plan to dig out a hole in the ground two to three feet deep and cover it with a temporary span roof made by laying rafters and covering with 1x12-inch boards overlapped to shed the rain, the opening at the ends to be boarded up also, and when severe frost sets in, covered with sufficient soil to keep in the heat. If the roots are stored dry and a small opening left at each end of the ridge for ventilation during mild weather, they will keep well and come out through the winter and spring just as fresh as they were put in.

By the middle of the month, or earlier if frost threatens, all green tomatoes should be picked and placed in a drawer, where they will ripen gradually and evenly.

Pumpkins, marrows and squashes must also be taken indoors and stored in a cool, dry place before frost comes.

## Questions and Answers

A subscriber sends us the following queries and we give below the answers to his different questions. Perhaps the information may be useful to some of our other subscribers.

Q. 1. Can you give any information as to the non-fruiting of my walnut tree 20 years old, new growth kills every winter. Will they graft to another bearing kind? What variety is best for this coast?

Q. 2. Will the cultivated Cherry graft onto Wild Cherry stock? And when is the best time to graft?

Q. 3. When is the right time to gather Dogwood Seed? How to keep it and right time to sow it? Can the Dogwood trees be removed from the woods and planted for use? When is the proper time to plant out?

Q. 4. Can you give me any varieties of trees suitable to plant for domestic and farm use?

# RENNIE'S BULBS

THEY DO GROW

THE FINEST IN THE LAND

SEND FOR OUR 1917 SEED ANNUAL

DO IT TODAY

W. RENNIE CO LIMITED

872 GRANVILLE STREET.

VANCOUVER, B. C.  
ALSO AT WINNIPEG, TORONTO AND MONTREAL

A. 1. You do not state what kind of Walnut; but if tree is 20 years old, would say that it is not practicable to re-graft. The Walnut is one of the most difficult kinds of trees to graft. If it is the English Walnut you wish, would advise planting the Franquette variety.

A. 2. Yes, the cultivated cherry will "take" on the native cherry, but the latter is not a good stock to use; in later years its growth is too slow. The best time to graft cherries is early in Spring, just before the sap begins to run. Cherries are not easily grafted.

A. 3. The time to gather Dogwood seed is when the seeds are ready to drop to the ground. Watch the Blue Jays, they know when it is ripe. Sow immediately.

Yes; Dogwood trees can be lifted from the woods and will grow if carefully handled and as much of the root system preserved as possible. Young saplings up to 6 feet high appear to be easiest handled.

A. 4. For trees for domestic and farm use we think you would get the best information from the catalogue of some of the reputable nurserymen figuring in the advertising columns of Fruit and Farm Magazine.

Trusting the above information will be useful to you, we remain,

Questions cheerfully answered.

Yours truly,

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

### VITALITY OF SEEDS

All vegetable seeds have their limit in vitality. Some retain life longer than others, depending upon the condition and the climate in which the seeds are kept. Seeds should never be kept in air-tight receptacles, as seeds need air the same as any other living matter. We give below a list showing the life of seeds. If they are older they are worthless. Also seeds do not keep so well in moist, warm countries as they do in a drier atmosphere. It is not safe to use older seeds than the limits given.

Asparagus, 2 years; beans, 1 year; cantaloupes, 3 years; watermelons, 6 years; beets, 3 years; cabbage, 3 years; carrots, 1 year; cauliflowers, 2 years; celery, 3 years; collard, 4 years; corn, sweet, 2 years; cucumbers, 4 years; egg plant, 5 years; lettuce, 1 year; okra, 3 years; onions, 1 year.

### OFFER FARMING COURSES

University Adds Agricultural Classes to Its Curriculum.

A four-year course leading to the degree of bachelor of science in agriculture and



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Each of these collections contains HYACINTHS, TULIPS, CROCUS, LILIES, NARCISSUS and other bulbs.

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for anything, any time. Does not burn nor stain. Improves growth of foliage. Grade 1, for practically all insect pests; Grade 3, for red spider, mealy bug, mildew and rust, and for farm use on animals, etc. Cans, postpaid, 50c. Double sizes, 85c, \$1.35 and \$2.50. Cash with order. Agents wanted. **Phytophiline Distributors, 1455 Eighth Ave. W., Vancouver, B. C.**

short courses designed to help those engaged in farming have been added to the curriculum of the provincial university. Candidates for the four-year course are required to have a junior matriculation certificate or its equivalent to begin with and the course gives both a scientific and a practical knowledge of agriculture.

The series of short courses will be open to men and women engaged in farming or contemplating it, and includes a special short course for returned soldiers in poultry, husbandry and agriculture. Another course is horticulture will be devoted to commercial fruit growing, vegetable gardening and related subjects. These courses will extend from November 20 to 30 and if the interest justifies it, a course of one week in amateur vegetable gardening and floriculture will be offered.

A course designed to meet the needs of the general farmer will extend from January 8 to January 18, and in this the study will be agronomy, soils and their management, field crops and their cultural requirements.

The courses are open to men and women over 18 years old and a registration fee of \$5 is required of all students except returned soldiers.

### HINMAN—THE UNIVERSAL MILKER.

On another page of this issue will be found an advertisement calling attention to the merits of the Hinman Universal Milker, manufactured by H. F. Bailey & Son, sole manufacturers for Canada, under Hinman Patents of Hinman Milking Machine, Galt, Ont.

The Hinman Milking Machine is a proven success and Messrs. H. F. Bailey & Son have secured a Gold Medal, Waterloo, Ia., 1911; Gold Medal, Covington, La., 1912; Diploma, Sacramento, Cal., 1912; First Award, Sacramento, Cal., 1913; Gold Medal, Meridian, Miss., 1913; Gold Medal, Panama-Pacific, 1915.

While coming near home it may be stated that the Hinman Universal Milker, which was shown in Mark Dumond's display of Farm Machinery and Implements at the Vancouver Exhibition, a cut of which appeared in the September issue of Fruit and Farm, caused widespread interest amongst the farmers in attendance, and the agents in British Columbia are receiving numerous inquiries for this successful and popular milking machine.

FOR  
A  
SUCCESSFUL  
GARDEN

# BRUCE'S BULBS

**723 ROBSON ST. VANCOUVER, B. C.**

CATALOGUE  
AND GUIDE  
FREE OF  
CHARGE

**PRESERVE THE VEGETABLE**Synopsis of Address to Vancouver Council  
of Women.

(By Prof. Clement)

Little thought has been given to the production of vegetables by the urban consumer, and still less thought to their intelligent storage for winter use. A few, of course, conserve to the utmost every year, either as a habit or a necessity, but the great mass of the consuming public has taken little thought of the source of supply. The time has now come, however, when all are vitally interested. The source of supply is running very low. The situation is very similar to that with regard to water in some of the best fruit sections of the province this year. As long as water was running at full height in the irrigation flumes but little thought was given to the supply in storage on the mountains, but as soon as it began to run lower and lower and the hot weather continued and the maturing fruit demanded increased supplies the cry immediately went up for more and more water; but in one or two centres it was not available; the supply in storage was not adequate, and as a result the crop has suffered to some degree.

I cannot say to you as consumers, eat less, nor can I say to the farmer, the great producing class, produce more, because I believe under present conditions of labor it is impossible to increase total farm production to any appreciable extent. At the same time the most, if not all of us, as consumers, are conserving our food to the greatest degree possible under our particular conditions. But I can say to the farmer, produce a little more wheat if possible, a little more beef and more pork, even if you have to curtail on something else.

And knowing also that we are short some four million bushels of wheat and that all the available surplus of meat is required for men in the field, I can say, eat less wheat, less beef, less pork if possible.

And here is where the formerly insignificant onion, beet, turnip, cabbage, potato and possibly some other vegetables also come to the rescue. Every pound of these vegetables is required for home consumption. A great many of us have grown than than is required for immediate use, and in order that they may be available for food at a later date must be stored intelligently.

It is possibly more important that this province should conserve than any other, because we are quite largely a food importing province. The average agricultural production for the last three years is approximately thirty-two million dollars. The three year average of importation is approximately sixteen million dollars per annum. Of this amount almost one-half is for meat products. In other words, if we lived on our own meat production only we would have three or four meatless days a week instead of two. Some other part of the Dominion is assisting to feed us.

Vegetables are to a large degree water, and this is the first point that must be taken into consideration in intelligent storage. For instance, potatoes, edible portion, contain 78.3 per cent water, onions 87.6 per cent water, egg plant 92.9 per cent water, tomatoes as much as 94.3 per cent and celery 94.5 per cent. Beets and carrots contain approximately 87 per cent and 88 per cent water respectively. This water must be retained in storage if quality in the root is to be maintained.

All vegetables, like the concentrates, that is grain or cereals, contain the usual food constituents—protein, the bone, flesh and blood producer; fat that produces heat and

energy; carbo-hydrates or starches and sugar that produce fat, heat and energy; ash for bone and tissue formation and crude fibre; in this connection it is well to remember that animal digestion cannot produce the proteins, the flesh and blood producers. It is a product of the life processes of plants and can only be transformed by animals, not manufactured by them. It is, however, the latter product, crude fibre, that we are quite largely interested in from a storage point of view. Crude fibre is really the carbo-hydrates that form the woody or straw-like frame-work of the plant. These are not only indigestible, but hinder digestion by keeping the digestive juices away from the soluble materials. Their presence, indicated by stringiness in the vegetable, is an indication of slow growth and lack of soil moisture.

**ON APPLE EATING**

Do you know what you are eating when you eat an apple? You are eating gallic acid, one of the most necessary elements in human economy. You are eating sugar in the most assimilable form, combined carbon, hydrogen and oxygen caught and imprisoned from the sunshine. You are eating a gum allied to the "fragrant medicinal gums of Araby." And you are eating phosphorus in the only form in which it is available as the source of all brain and nerve energy. In addition to all these, you are drinking the purest of water and eating the most healthful and desirable fibre for the required "roughness" in food elements. The acids of apple diminish the acidity of the stomach and prevent and cure dyspepsia. They drive out the obnoxious matters that cause skin eruptions and thus are nature's most glorious complexion makers. They neutralize in the blood the deleterious elements that poison the brain and make it sluggish. The contained phosphorus is not only greater than in any other form of food, but it is presented in a shape for immediate use by the brain and nerves, where it may flash into great thoughts and great deeds. The ancients assigned the apple as the food for the gods, and its juices the ambrosial nectar to which they resorted to renew their youth. Men are the gods of today, and the apple is their royal food, the magic renewer of youth. Eat a rich, ripe apple every day and you have disarmed all diseases of half their terror.

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# POULTRY SECTION

## IN THE POULTRY RUN

Layers vs. Show Birds.

(By M. K. Boyer)

To build up a strain of great layers calls for as much scientific knowledge and care as it does to produce superior show birds. But in the work of building up champions of either class far different treatment is required.

To have strictly first-class egg producers, it is necessary that they be bred exclusively for that purpose, and after the strain has been established it must be followed by judicious and scientific mating.

It is not so much a matter of breed as it is the way the hens are handled that makes them prolific layers. It was said at one time that Leghorns and the rest of the Mediterranean class were the champion layers, and that the Asiatics were the poorest.

Yet we have proof that in very many cases Brahmans outlayed Leghorns. The secret is to breed only from the best layers of the flock, and to have all hatches early. Early layers will as a rule produce early layers. Good layers bequeath their powers to their offspring.

Another point is to stick closely to pure bred stock. Of all the phenomenal records that we have heard of, not one was credited to a common scrub hen.

Trap nests must be used in order to become accurate in the work. There is no other positive way of telling how good a hen is. The ability of each hen should be annually noted, and from the cream should come the next generation.

It is important, too, that the stock be strong and rugged. No matter how good utility blood is in the veins of the selected bird, if she is not from a hardy race she will not be able to show her physical powers.

It is a rule among marketmen that a pullet that will not lay before January and a hen that delays operations until February are poor investments from a laying standpoint. They cost more than they are worth.

It is not always the early layer that gives us the best record. I have had pullets that began laying in October and quit in December and did not restart before February. On the other hand I had pullets begin in December and keep up right along.

In creating our laying strains we should aim to have good winter laying rather than a good year-round record. A dozen eggs in winter are worth two dozen in summer. It is not the number of eggs we get but rather the amount of money that we receive for them that counts.

So much for producing our layers. What about our show birds?

The fancier mates according to the standard requirements. He does not for a moment stop to inquire how good laying powers the hen has. He does not concern himself about an early egg yield; in fact he does everything to prevent it. A fancier breeding for shows in January takes pains that his pullets do not lay before the exhibitions take place. It is therefore not possible to secure an early and consequently prolific egg strain from stock hatched for these January or even early February shows.

## Winter Eggs Spell Big Profits for the Poultryman

With "New Laid" retailing at high prices in the beginning of October, there are **BIG PROFITS IN SIGHT** for the careful, Scientific Poultryman.

**MAKE YOUR PULLETS LAY NOW.** They're likely to be a dead loss if they do not.

### DARLING'S HIGH PROTEIN MEAT SCRAPS

is an ideal food in that it possesses more digestible protein and less fat, moisture and waste, than any other brand of meat scraps.

One-half of one per cent. is the minimum amount of fat contained in **DARLING'S HIGH PROTEIN MEAT SCRAPS**, and by the same guaranteed analysis the minimum of Protein is 55 per cent.

It is all clean meat, thoroughly cooked, and of great importance, it is uniform, so your hens will not get too much protein at one time and too little at others.

## Vancouver Milling & Grain Co., Limited

Vancouver

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Victoria

So breeding, it has been proved, the two strains must be bred separately. Egg-strain fowls are not show birds, and neither are show birds egg strains. One authority tells us that chickens hatched for early shows, November and December, may be much better layers than those hatched for January and February shows, but they will be poorer show birds, and in fact, if pullets, for the falls shows they would hardly be able to win in mid-winter shows, the laying having developed them into hen shape.

### WHAT TWO YEARS' TRAP-NESTING HAS ACCOMPLISHED

(By Wm. Tozer, Sunnypark Poultry Farm, Milner, B. C.)

Four years ago we commenced poultry farming and bought about 250 pullets, mostly White Leghorns.

The egg yield soon showed us that we had a very indifferent set of layers, so we bought some breeding roosters from a well known breeder, the roosters having dams that had laid from 209 to 242 eggs in their pullet year, hoping by this means to materially increase the egg production.

Our egg book shows that at the end of the first year the eggs laid amounted to 20,989, or an average of 83 eggs per bird per annum.

The second year was better, due no doubt to the new blood we had introduced, and from a flock of about 300 birds, all White Leghorns, we obtained 27,056 eggs, or an average of 90 eggs per bird per annum.

This increase being far to slow, we decided to instal trap nest, and to trapnest the whole of our pullets for the entire year to enable us to select good layers from, for breeders, and from the time we took this step the improvement has been very marked.

I will not burden this statement with too many details, but the following table, comparing the egg yields for the years 1915 and 1917 speaks for itself.

Months	Year	Eggs	Year	Eggs
October	1914	40	1916	1,568
November	1914	43	1916	2,402
December	1914	802	1916	2,343
January	1915	1,246	1917	2,629
February	1915	2,034	1917	3,615
March	1915	4,502	1917	5,777

(Winter months) 8,667 18,334

April	1915	6,230	1917	6,007
May	1915	5,148	1917	6,385
June	1915	2,973	1917	5,319
July	1915	2,272	1917	5,021
August	1915	1,421	1917	3,446
September	1915	345		

27,056 \*44,512

\* 11months.

We had approximately the same number of birds in 1917 as in 1915, so the comparison is in all respects an accurate one.

With the infallible records gained by using trap nests, we have been enabled to select our breeding stock from the highest layers, and to cull out all poor layers and drones, and by further using the Hogan method as well as their dam's record, for the selection of our breeding males, we have been able to get together a fine lot of breeders, and by continuing on these lines I hope we will be able to improve greatly on the results already obtained.

Up to the end of August, fifteen of our pullets have already laid over 200 eggs, the top scorer having laid 252 eggs, and with four days still to go before her pullet year is up.

In these days of abnormally high prices for feed, one cannot afford to keep any poor layers, and the trap nest is the only

certain way of finding out what your birds are doing; all other ways are only guess-work.

Comparing the past season's winter egg yield with that of two years previously, we got nearly 10,000 more eggs from about the same number of birds, which after allowing for higher cost of feed, means about \$250 more money, and during the hatching season we sold all the hatching eggs that we did not require for our own use at prices ranging from \$6 to \$8 per 100, and for special settings from our highest layers we obtained \$3 for 15 eggs. Formerly we used to sell them for only 10 cents above the price at which fresh eggs were selling.

During the moult the trap nest records are very useful, as in a few minutes you can get out a list of the birds that have quit laying and are not worth keeping for a second season, and this without fearing that perhaps, you have shipped a good layer.

Of course trap nesting means more work, but surely it is worth it. I calculate that it absorbs from one and a half to two hours of my time each day to go the round of the nests, as I clear them six times a day, three times in the morning and a like number of times in the afternoon. Another good thing is that the eggs are far cleaner than when laid in open nests, where perhaps half a dozen hens have sat on them during the day, and again in hot weather the chance of incubation having started, where males are allowed to run with the females (a practice not to be recommended) is entirely avoided.

Perhaps this account of two years trap nesting may be a help to someone who is starting in the business, and may be an encouragement to persevere, as I believe there is a reward for those who stick to it and take pains.

### DUCK GROWER GIVES HINTS

I find it easier and less expense to raise ducks than chickens, and they do lay nice eggs. They are not bothered with lice or mites and do not get sick. In a small yard enclosed with poultry wire, I can raise 95 per cent of all ducks hatched. Rats are the only thing that have killed any of mine. As soon as I found out how well the rats liked the young ducks, I fixed my roosting coops so they could not get in. Take four planks a foot wide of any length and fasten them securely at corners, making a door in one side. Then cover both top and bottom with fine wire netting, but do not cover with boards. In bad weather I throw an old sack over one end.

I feed a mixture of one cup corn meal, one cottonseed meal and three wheat bran, moistened with water. Then I sprinkle sand over the top. They like this and grow well. I feed the same to laying ducks. For the first two weeks I do not let the little ducks get in the water, but after this I give them deeper water. They do not need water for swimming. Keep plenty of sand around their drinking place, and have water deep enough to dip their heads under, as they sometimes get food in their eyes. For this reason I do not give milk to drink.

If there is no grass in their runs, cut up lettuce leaves and onion tops in their food. If they are without water all night, they will drink too much in the morning and have "colic" unless you give food first. Always let them have water to wash down the food.

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Fruits, Honey and all farm produce in carload lots or less.

We have for sale sacks of all descriptions in large and small quantities, also twine.

We have to offer splendid storage facilities at the Torry Storage Company, 1230 Hamilton Street, Vancouver, with a capacity of 100 carloads. Inquiries solicited.

## J. L. Torry & Co.

606 YORKSHIRE BUILDING.

VANCOUVER, B. C.

I begin to set eggs, in March and continue until July. They do not hatch so well after the weather gets hot and dry. The eggs need to be wiped off with a warm, damp cloth every other day for the last two weeks of incubation. It takes four weeks for them to hatch.

### NOTES OF THE BARNYARD

There is little use trying to keep turkey chicks on a limited range. They love to walk and also to roost in the open. The turkey hen is an ideal sitter, but a bad mother unless confined, as she drags her young after her, she does not wait for those that fall out by the way so long as one is left.

A young turkey is like a cat—its power of recuperation is remarkable. You are never sure that it is dead. They can often be picked up to all purposes cold, inert corpses, and held in the hand and warmed, and then comes a gasp and a return to life, and the bird is quite ready for breakfast the next morning.

Of all the French breeds, the Houdan seems to be the best for our changeable climate. They lead in France in every particular except for table use, in which capacity they are classed second to only

one variety—the Greve Coeur—but the latter breed does not thrive well with us. The Houdans are large, heavy, short-legged fowls, with small, light bone, a remarkable absence of offal. They are of the highest order as table fowls.

Liver troubles are caused either by a lack of sharp grit, or by feeding too rich or stimulating food. Care must be taken in that particular. In the early stages of the disease the birds show dropiness, have a poor appetite, and seem still in their joints. One or two good family liver pills will very often correct the trouble.

Fowls laying brown or dark brown eggs as a rule have yellow skin and orange-yellow legs, while those laying light colored eggs have whitish skin and light (lemon) colored legs. By selecting the dark eggs to hatch from, and breeding from the yellow-skinned and yellow-legged birds, the quality of the dressed poultry will be greatly improved.

Roup may be apparently cured, but it cannot be entirely eradicated from the system. It is apt to break out again, and also be transmitted to the young. Under no circumstances should fowls ever be used in the breeding pen that ever suffered from contagion in any form.

## Canadian Northern Railway



### TRANSCONTINENTAL



#### LEAVE VANCOUVER

9:00 A.M. SUNDAY..... WEDNESDAY..... FRIDAY, 9:00 A.M.  
SCENIC ROUTE BETWEEN VANCOUVER AND TORONTO, SHORT LINE TO  
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7:00 p.m. Leave.....VANCOUVER.....Arrive a.m. 11:00  
9:45 p.m. Arrive..... Chilliwack ..... Arrive a.m. 8:15  
11:00 p.m. Arrive.....Hope..... Leave a.m. 7:00  
Full particulars may be obtained from any Canadian Northern Agent.  
DISTRICT PASSENGER OFFICE 605 HASTINGS ST. WEST  
Telephone Secy. 2482.

Writers do not agree on the point that roup can be carried in the air or on the clothes of a person attending to the stock. Here are two cases that the writer has personal knowledge of, and which might be good evidence. A Mr. Seely got his first experience with roup in his brooder house. It began with but a few chicks in the first pen. In less than a week it had crept through all the pens. Now those germs either travelled in the air, or he carried the disease in his clothes. Another case in point happened in our neighborhood. A Mr. Hopping, who was conducting a brooder house and keeping hens for eggs, one day had a bad case of roup break out in his hennery. In order to better treat his sick bird, he placed it in a coop, which he stood in the brooding house where it was warm. About a week after that the chicks caught the trouble, and in less than a month he lost nearly all his stock of broilers. Yet those chicks did not drink out of the same vessel, and in no way came in contact with the sick bird.

One of the most successful broiler raisers that ever lived said the credit for his success belonged to "eternal vigilance." A man must always be at his post. In the same town lived another poultryman who possessed as much knowledge on the subject as did he, but who had a lazy vein in his body, and was in the habit of "putting off until tomorrow what he should do today." He was the biggest failure.

## HOW TO MAKE APPLE CIDER VINEGAR

The season for making cider vinegar is approaching. See that your press is in good order. If you have no press, by all means order it in plenty of time to assure its being on hand when the apples are ready. A government bulletin gives the following excellent instructions for making high-class apple-cider vinegar:

When possible, select such lots of apples as contain the most sugar. Do not use unripe fruit. The apples should be clean. All rotten fruit, moldy grass, sticks, and leaves should be removed. Wash the dirty apples, but do not wash the clean ones, as you may wash away too much of the yeast.

### Making the Cider.

The grinder and press should be clean, if not, make it so. Grind the apples as fine as possible and press slowly but firmly. Do not add water to the pomace with a view of obtaining a "second pressing," as such second pressing does not contain enough sugar to make good vinegar. Allow the freshly pressed cider to stand for one or two days in order that the sediment may settle out. When a large quantity of cider is made at one time it is a good plan to have a large receptacle into which the cider may be run for settling. On a small scale barrels may be used for the purpose. Keep the cider covered while settling. As soon as the cider is clear it is ready for the fermenting barrels.

### Alcoholic Fermentation.

Select, if possible, clean whisky or grain alcohol barrels; these will need but little cleansing, as the alcohol they hold does not interfere. All other barrels should be thoroughly cleaned with warm water and rinsed with scalding hot water. Use plenty of water. Do not sulphur them. Do not use barrels which have contained paint, oils, turpentine, wood or denatured alcohol, as it is impossible to clean them.

Place the clean barrels in the cellar or other places selected for the purpose, and fill about three-quarters full of the settled cider. Do not add sugar, water, or any

other substance. Do not add "mother" or vinegar at this time.

The bungholes should not be closed, but should be loosely covered with a double thickness of cheese cloth tacked in place.

If the cider is made during a period of warm fall weather there will be no difficulty experienced by the failure of the fermentation to start promptly. On the other hand, if the cider is cold at the time it is placed in the barrels to ferment, a starter should be added to start the fermentation.

The starter may be made by withdrawing about three gallons of the cider from the barrel and warming this portion to a temperature of 85 to 90 degrees F., and then keeping it in a warm room, protected from dust and dirt, until active fermentation has been going on for two or three days, at the end of which time it is returned to the barrel and mixed with the rest of the cider by shaking.

If there are any barrels of cider made earlier in the season, in which fermentation started promptly and which are still in active fermentation, five gallons from one of these barrels may be used as a starter.

As soon as fermentation has started the barrels will need no further attention except to see that they do not get too cold until fermentation is completed. This will be in about six months.

### Acetic Fermentation.

When the alcoholic fermentation is completed, which may be told by the fact that the bubbles of gas are no longer given off—told by placing the ear to the bunghole; the liquid being still—the now hard cider should be carefully drawn off into clean barrels so as not to disturb the sediment. Fill the barrels only about three-quarters full. Add to each barrel from one to two good gallons of good finished vinegar containing "mother" and keep as near a temperature of 65 degrees F. as is possible.

Block the barrels so that they will remain perfectly still. The bungholes should be up and open, but covered with a small piece of well-painted screen to keep out the flies.

Allow the barrels to remain until 4.5 to 5 per cent of acid is produced. This will require from 12 to 18 months.

### Aging.

Draw off the vinegar and place in barrels made sweet and clean by a thorough washing and scalding. Fill the barrels full, drive in the bung, and place the barrels in a cool cellar for two or three months to age.

The vinegar is then ready for use or for the market.

### Causes of Failure.

The principal causes of failure are summed in the following don'ts:

Don't use green apples; they are deficient in sugar.

Don't use dirty or decayed apples; they contain foreign ferments.

Don't add water; this constitutes adulteration.

Don't use any but perfectly clean barrels.

Don't add vinegar or "mother" until the alcoholic fermentation is complete.

Don't fill barrels more than three-quarters full.

Don't sell vinegar without labelling it.

Don't forget that cleanliness is essential to success.

While the directions here given may seem rather lengthy, they are sure to produce a vinegar of standard strength and good quality. It is true that some of the details of the method may be disregarded, but the quality of the product may suffer as a result.

## THE C. P. R. GIVES YOU TWENTY YEARS TO PAY

An immense area of the most fertile land in Western Canada for sale at low prices and easy terms ranging from \$11 to \$30 for farm lands with ample rainfall—irrigated lands up to \$50. One-tenth down, balance if you wish within twenty years. In certain areas, land for sale without settlement conditions. In irrigation districts, loan for farm buildings, etc. up to \$2000, also repayable in twenty years—interest only 6 per cent. Here is your opportunity to increase your farm holdings by getting adjoining land, or to secure your friends as neighbors. For literature and particulars apply to Allan Cameron, General Superintendent of Lands, Department of Natural Resources, 931 First Street East, Calgary, Alta.

Or D. E. Brown, Limited, C. P. R. Land Agents, 709 Dunsmuir St., Vancouver, B. C.

## OPPORTUNITIES FOR THOSE WITHOUT BUSINESS TRAINING

You, young men and women, who have secured a good average education without specializing along practical business lines.

With your present education, how long do you suppose it would require to secure a good position with a business concern?

Except in rare cases you would have to seek a long time for one. You would be astonished how unmarketable your education really is. You would be equally surprised to learn of the eagerness with which your services would be sought after if you had a business education.

There is no fault to find with your education—it is excellent—but incomplete from a practical standpoint—that is all.

To verify these assertions you have only to go from one office to another and make application for a situation. "Can you write shorthand or keep books?" is the question almost invariably asked. It is almost sure to be followed by a request to "put your application into writing so we can see a specimen of your penmanship."

Then why not meet the conditions as they exist? Why not get a business education?

Your excellent English training gives you a very great advantage over the average young man or woman, but it counts for nothing unless you make use of it. Why not supplement the education you already have with a knowledge of bookkeeping, shorthand and other commercial branches? You will then have something to sell that the business world wants and is willing to pay for.

There is a great difference between the courses offered by different business schools—in the number of branches taught as well as the manner in which they are taught. The Sprott-Shaw maintains well balanced courses—courses that are planned to qualify its students for the best grade of positions.

SPROTT-SHAW BUSINESS INSTITUTE,  
336 Hastings St. W., Vancouver, B. C.

# WOMEN'S SECTION

## British Columbia Women's Institutes

Motto—"FOR HOME AND COUNTRY"

### CRANBROOK WOMEN'S INSTITUTE

Arrangements Made to Entertain Delegates  
—To Take Charge of Refreshment  
Booths at the Fair

The regular monthly meeting of the Women's Institute was well attended on Tuesday afternoon, September 11, at the Parish Hall, presided over by Mrs. W. B. McFarlane. Owing to the illness of Mrs. J. W. Burton, Mrs. J. W. Spence kindly acted as secretary. Arrangements were made for the comfort and entertainment of the delegates who will visit Cranbrook at the forthcoming convention on September 25, 26 and 27 at the Parish Hall, and the president hoped to see a full attendance of members and friends at the reception on the first afternoon. The program is a very full one, dealing with home economics, child training, health science, patriotic work, etc., etc., and all the subjects will be given by capable men and women specialists on the several questions. The visit of Mr. W. E. Scott, the superintendent of W. I. for B. C. is eagerly anticipated, together with other dignitaries of the advisory board. Music will be interspersed and several popular ladies of Cranbrook have volunteered their services for the several sessions.

The advisability of serving refreshments at the fair was discussed and finally it was decided to do so. Mrs. George Smith was elected as convener. It is expected that there will be on sale tea, coffee, cake, sandwiches, ice cream, candy, fruit, pop corn, cigars, etc., and all proceeds will be used for patriotic work. Donations of candy and come-cooking will be gathered in at the I. O. D. E. rooms on Norbury avenue as early as possible on the morning of September 12. The president earnestly requested the co-operation of the members towards making this effort a big success, not only for the reputation of the institute, but equally for the good of the fair generally and the debt we owe to "our boys" who are constantly "carrying on" the war.

Mrs. Hersey varied the program with a capital demonstration on tomato canning and the making of tomato jelly which was handed around with refreshments later on. The music was in the hands of Mrs. Jack Thompson. Mrs. J. Kennedy kindly assisted.

For "Our Boys" parcels to be sent for Christmas, 19 pairs of socks were handed in.

Votes of sympathy were expressed on behalf of Mrs. W. H. Brown and Mrs. Christian, Sr., in their bereavement sustained by the loss of their respective sons.

The meeting closed with the singing of the National Anthem.

### WOMEN'S EFFORTS COMMENDED

The inclement weather had its effect on the combined flower show and exhibition of women's work held under the auspices of the Women's Institute on September 12 at Strawberry Hill. There was not a large ex-

hibit, but what there was, was a good sample. The attendance at the show was small. Councillor King opened the fair and commended the ladies, who had worked hard to make the show as creditable to the district as was possible under the circumstances. In the flower display, Mr. McDougall was the chief prize winner, while Mrs. Olson also won recognition. The bread exhibit of Mrs. Huntley came in for much favorable comment from those attending the exhibition. Mr. Dashwood-Jones of this city judged the flowers and vegetables, and Mrs. Bradshaw judged the women's work. During the afternoon a demonstration of the Wearever Aluminum ware was given by Mr. Lomer of Vancouver. The casserole which was raffled in connection with this exhibit was won by Mrs. Wakefield, of Tacoma, who is visiting her aunt, Mrs. Henry Hornby, of Cloverdale.

### COWICHAN W. I.

The Cowichan Women's Institute meeting on Tuesday, September 11, was the first since the holidays. Much time was occupied in making plans for the conference of Island Institutes, which is to be held in Duncan, October 3-5. Sub-committees brought in satisfactory reports. Through Mrs. Watts, well known as an institute organizer here some years ago, the local institute is now linked with the Women's Institute of Hearst Court, Berkshire, England, and will exchange ideas, programs of work, etc., with it. Mrs. Watts has been organizing institutes in Great Britain and linking them with Canadian organizations.

### TYNEHEAD NEWS

The monthly meeting of the Women's Institute was held at the Cedars, the home of Mrs. L. W. Davis. There were 12 members present and three visitors. The prizes were given out by the directors; beautiful books were given by the government, and cash prizes by the institute.

Two pairs of socks were knitted and donated by Miss Bourne, and Mrs. G. W. Atcheson has been authorized to send for more yarn for socks for our soldiers. At the close of the meeting dainty refreshments were served by Mrs. Davis, assisted by her daughter, Mrs. R. D. McKenzie, Clover Valley.

### UPPER SUMAS W. I.

The Upper Sumas Women's Institute met at the home of Mrs. McMurphy on September 13. The following ladies were present: Mesdames Bartlett, Cameron, Cox, Fadden, Fraser, Hart, McGillivray, McLean, McMurphy, Michaud, Munroe, Murphy, Porter, Purvis, Skinner, Winson, F. York and T. York.

It was moved by Mrs. Porter, seconded by Mrs. Cameron, that the institute respond to the appeal of the Y. W. C. A. at New Westminster by a shipment of fruit.

Mrs. Porter reported sending fourteen pairs of socks and four suits of pyjamas to Red Cross headquarters.

## Fall Styles in Gossard Corsets



"They Lace in Front"

THOSE who prefer the Gossard Corsets will find our stock replete with the most popular models, including styles for all normal figures.

Gossards come in good quality fabrics, are well designed and at the various prices are considered good value.

Shown in sizes for women at **\$2.00** a pair and up.

*Gordon Doyle*  
LIMITED

575 GRANVILLE STREET  
VANCOUVER

Two quilts made by the ladies of Huntingdon were received. Seven cents were found in the postoffice collecting box.

Mrs. Hart reported sending five dollars to the prisoners of war.

Mrs. Fraser York read an interesting paper on "A Trip to Cariboo, 42 Years Ago."

While refreshments were served a collection was taken amounting to \$2 for the Y. M. C. A. and \$1.65 for the Prisoners of War.

### FAIR DISPLAY AT HAZELMERE Fruit and Flower Show Was Most Successful—Pleasing Entertainment

HAZELMERE, Sept. 22.—The Hazelmere Women's Institute held a most successful fruit and flower exhibition in the Hazelmere hall on Wednesday afternoon and evening. There was a fair display of flowers, fruits, vegetables and home cookery, and several entries of home canned fruits, pickles and relishes. Mesdames Berry and Fish, with Messrs. Lamerick and Alderson, acted as judges and gave general satisfaction. Mrs. Chamberlayne, of White Rock, won the prize for most entries.

About 6:30 a sumptuous tea, under the able convener'ship of Mrs. Holt, was served to the judges and guests. The lovely weather induced a large attendance from the neighborhood of White Rock, Cloverdale and Langley. The evening programme was begun by the singing of the Maple Leaf and a short address by the president, Mrs. Green.

Mr. J. W. Berry gave a synopsis of the Red Cross organization in Langley, and showed the benefits of co-operation among the different societies in the municipality working under and through a central committee. Mr. Kendall and Master Cranston Wilson, of Cloverdale, gave patriotic solos, Mrs. Wilson acting as accompanist. Mr. Berry presented the prizes to the winners, and then auctioned all the fruit, vegetables and home cookery which were on exhibition, with the exception of the canned fruit and potted plants.

The girls' auxiliary to the institute had apron, cake and candy stalls, which brought in the handsome sum of \$73.15.

Miss Elsie Perchke, as "novelty girl," had eager demand for her goods, while both adults and children liberally patronized the ice cream table. Mr. Webb was kept very busy as auctioneer's clerk, the total results of the sale being \$85.80.

The meeting closed with hearty votes of thanks to Mr. Berry, the judges and soloists from Cloverdale.



Little  
Miss  
**MAIDEN**  
CANADA  
Legend

## Nourishment!

During the convalescent stage after sickness, the body is craving for wholesome nourishment. There is nothing more soothing to the nerves or agreeable to the digestion than Perfection Brand Cocoa. It is, in itself, a splendid food and next time there is any body-building to be done, try it.

Good at all times

# COWAN'S COCOA—

A-63 "Perfection Brand" Purest and Best

### WIMMIN

(How more than one conservative English farmer has been converted to ardent approval of war-time women workers on his land is humorously told in these verses from a recent number of Punch.)

BEHIND wi' the sowin',  
An' rent-day to meet,  
For first time o' knowin'  
John Buckham was beat;  
Torpedoed and swimmin'  
An' fairly done in,  
When someone said, "Wimmin  
Would suit ye at Lynn."

Dal Midwood, at Mutcham,  
Who runs by old rules,  
Said, "John, don't 'ee touch 'em—  
A pa'sel o' fules  
Aye dabbin' and trimmin'  
Wi' powder an' pin;  
No, don't 'ee have wimmin  
John Buckham, at Lynn."

Well, hack wi' the sowin',  
An' rent day to meet,  
I had to get goin'  
Or own I were beat.  
The banks needed trimmin';  
The roots wasn't in;  
'Twas either take wimmin'  
Or walk out o' Lynn.

They came. They was pretty  
An' white o' the hand,  
But good-heart an' gritty  
An' chockful o' sand;  
Wi' energy brimmin'  
Right up to the chin—  
An' that sort o' wimmin'  
Was welcome at Lynn.

At ploughin' they're able,  
Or drainin' a fen,  
They'll muck out a stable  
As well as the men.  
Their praises I'm hymnin',  
For where would ha' bin,  
If it weren't for the wimmin',  
John Buckham, at Lynn?

### IMPORTANCE OF WOMEN

#### Recognized at Last

A writer in the Ottawa Citizen, of recent date, gives a description of the publicity campaign looking to more effective war service by the Canadian people, that is being carried on by the National Service Board. He notes in particular the close attention that is being paid to the potential ability of the women to assist in the battle against Germany.

From the newspaper advertising she notes these days, says this writer, woman is reminded of how even in casual shopping she may conduct her business so as to place the maximum pressure against the enemy. From hospital nursing and knitting comforts, woman has graduated into a place in the effective fighting lines of the nation. This writer puts it as follows:

"That these vital facts are engaging the attention of the Government of Canada is apparent from a series of appeals now being published in the daily newspapers. These announcements form part of a comprehensive publicity campaign which has been undertaken by the National Service Board and, while they are not addressed exclusively to women, they are largely of that character."

It is pointed out that this publicity cam-

aign is designed to reach to all parts of Canada, no method of reaching the public having been overlooked. Even bill-boards are used in the larger centres. Shortly the National Service Board will issue a pamphlet on economy and thrift in the preparation and use of food, of which over 1,500,000 copies are being prepared.

### HOME SAVINGS BANKS

#### Family Investments Would Give Millions for War.

If the families of Canada would save five dollars a month for investment in war bonds, the nation would be strengthened financially by \$72,000,000 a year. At a low estimate there are a million and a quarter families in the Dominion. Some could not save \$5 a month, some could save 5 times \$5 a month. Every man, woman and child could give his or her bit to the war by such co-operative home savings. Canada needs those bits. The need for universal thrift and economy is imperative. Every dollar in the Dominion is required for war purposes. By investing your dollars in War Savings Certificates, you can help yourself, help the man at the front and help your country. Are you satisfied with your position on the financial line?

## HOUSEHOLD HINTS AND SUGGESTIONS

### Preserved Plums.

Weigh the plums and allow one pound sugar to one pound plums. Put a layer of sugar in a stone jar, then a layer of plums, and so on alternately until they are all in, finishing with sugar; now put them in a moderate oven, and leave them until the oven cools, or put them in at tea time, and let them stay all night; then boil and clarify the juice after straining it from the plums; put the fruit in glasses; pour on the hot syrup, and tie up.

If you cannot get new rubber rings for the fruit jars, dip the old ones in melted paraffine, or a mixture of paraffine and sealing wax, and when cool they will do duty as well as new ones.

### Honey Salad Dressing.

Beat together three tablespoonfuls of olive oil, two tablespoonfuls of honey, a tablespoonful of lemon juice, and a few grains of salt. Use at once.

Milk which has been burned should be poured at once into a jug and then placed in a basin of cold water. Leave it until cool, when all trace of the burnt taste and smell will have disappeared.

### A Hint re Tomatoes for Soup.

Wash the tomatoes, cut in pieces, add a few onions, some whole cloves, cinnamon, a few peppercorns and a bay leaf or two. Boil real well, strain through a colander and bottle piping hot in small-necked bottles; cork immediately, then paraffine or wax the corks over. This is a great saving on gem jars, and also a saving in time when the tomatoes are needed for soup, as all that is necessary is to make a thin white sauce, heat the tomatoes, add a pinch of soda, blend sauce and tomatoes together, and you'll find the soup of a delicious flavor. Put some of the soup in medicine bottles. A small bottle is handy for making a little tomato sauce to serve with meat balls, etc.

### Drying Beef.

The following is a very good method of drying beef: Brown salt until the color of coffee, and while the salt is still hot, roll each piece of beef in it. Then pack in a crock and let remain for five days, after which it should be taken out, washed well and hung up to dry. For pickling beef, the following is a good method: Nine ounces of salt, four ounces saltpetre, two ounces of salcratus, two quarts of molasses. Add water enough to cover the meat. This brine should be scalded and skimmed and then let cool before pouring over the meat.

### Peanut Butter Cookies.

Two cupfuls sugar, 3-4 cupful peanut butter, 3-4 cupful milk, 2 eggs, 5 cupfuls flour, 2 teaspoonfuls baking powder, 1-2 teaspoonful salt. Cream together sugar and nut butter, then add eggs and salt. Mix together the baking powder and three cupfuls of the flour, and add alternately with milk. Work in the remaining flour, roll thin, shape, and bake in a moderate oven about six minutes. If desired, each cooky may be brushed over with slightly beaten egg-white and sprinkled with chopped peanuts.

### Butterless One-Egg Muffins.

Two cupfuls flour, one teaspoonful salt, four teaspoonfuls baking powder, two

tablespoonfuls sugar, one egg, one-half cupful milk. Sift together flour, salt and baking powder. Beat up egg with sugar until very light and creamy. Add milk and pour into the flour mixture. Bake in well-greased tins.

### Mystery Pickle.

Run one peck of green tomatoes, six medium-sized white onions and nine small green peppers through a meat chopper, stir in one-half pint of salt and let the mixture stand twenty-four hours. Drain, put on vinegar enough to cover and cook half an hour. Add one-half pint of vinegar, one-half pound of sugar, two tablespoonfuls of ground mustard, mixed with a little vinegar, two tablespoonfuls of celery seed, one teaspoonful each allspice, cinnamon and cloves and a half pint of grated horseradish. Bottle.

### Peach Puffs.

Cream together one-half cup each of butter and sugar, add two eggs, one cup milk and two cups of flour into which has been sifted three teaspoonfuls of baking powder. Butter cups and slice into them one good-sized peach, or an equal quantity of any other kind of fruit or berries, then half fill the cups with batter. Set the cups in steamer or in kettle with enough water in it to come halfway up the outside of the cups. Steam forty minutes. This recipe will serve ten people. Serve with the following sauce: Beat the white of one egg very light and whip into it one-half cup of powdered sugar and an equal quantity of rich cream. I prefer this sauce with the puffs to any other, but when I am hurried I often serve simply with sugar and cream or with fruit juice, says the lady who submits it to the Rural New Yorker.

### Ammonia for Shoes.

A few drops of ammonia put into the water that is used for dampening the sponge when applying cleaner to white shoes, leaves them beautifully clean, and takes out any kind of a stain.

### Washing Brushes.

In washing brushes of any kind, add a little ammonia to the water; there will be less danger of the bristles dropping out.

### Cleaning Mahogany.

Ordinary mahogany tables can be cleaned by rubbing them with a rag dipped in vinegar, and when dry rubbing them over with a cloth dampened with paraffine, which will give an excellent polish. Ink stains can be taken out of mahogany by touching with a feather dipped in a very weak solution of nitric acid and water. When the ink disappears, rub the marks at once with cold water and finally polish with olive oil.

### To Stiffen Hair Ribbons.

To stiffen ribbons and make them look like new, dip them in slightly sweet sugar water and iron. The sweetened water gives just enough body to the ribbons to make them look well.

### Removing Tar.

Fresh lard will remove tar from either hands or clothing. Wash well with soap and water.

### Easy Way to Erase Ink From Cloth.

Ink spots on linen can be removed by dipping the article in melted beef fat. Wash out the grease and the ink will come with it.

**EARN \$10 \$2 A DAY AT HOME**



Help to meet the big demand for Hosiery for us and your Home trade. Industrious persons provided with profitable, all-year-round employment on Auto-Knitters. Experience and distance immaterial. Write for particulars, rates of pay etc. Send 2 cents in stamps. Auto-Knitter Hosiery Co., Inc. Dept. 311 E; 147 Franklin St., Buffalo, N.Y.

## BEEKEEPING

Continued from page 25

bedder is not too hot or holes will be made in the wax. There are many advantages in having the frames wired, there will be no fear of the drawn out comb falling away from the frame during hot weather, or when manipulating the full frame and it is almost impossible to ship hives full of bees without wired frames. Above the brood chamber or main body of the hive is the super, in this is placed shallow extracting frames or sections on section holders. The novice should commence with sections. They will find it to their advantage if they put full sheets of thin foundation in the sections instead of starters. Here let me say there is a right and a wrong way to put in comb foundation. This must always be put in with the apex of the cell towards the top of the section. Before folding the section, dampen the joints, this will prevent the joints breaking. The beginner should purchase a 10 or 8 frame hive and super complete in the flat. This is called in the trade a 1 1/2 story hive; examine every portion thoroughly, and before putting together, all the external parts should have a prime coating of paint, build the several parts into a complete hive with the aid of a carpenter's square. You will find when this has been accomplished that you have commenced the business of bee-keeping on a good foundation. Now practice the manipulation of the frames as mentioned in Bulletin 30, issued by the Department; by doing so you will see the advantage gained when you commence in the spring with a colony of bees, then you have ready a hive to receive the first swarm. The super can be placed on the colony when the honey flow commences.

You will have the pleasure of knowing there is little or no mystery in making your own hives, and to the man away in the bush, this is a great consideration, when he realizes he only need purchase wax foundation, a reel of wire, the brood frame and sections.

## ARE YOU SAVED?

Acts, xvi.: 30-31.

### THE GOSPEL DEPOT.

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VANCOUVER, B. C.

151 Broadway E., Vancouver, B.C.

Splendid Gospel Literature.  
Send for Catalogue.

# Fundamental Needs for Farm Tractors

Head of Farm Management Bureau States in What Respects the Farmers Especially Demand Service.

One question which has been bothering tractor manufacturers as a fundamental starting point of their design to a great extent was settled at the S. A. E. meeting of tractor men, when A. P. Yerkes, of the United States Department of Agriculture Bureau of Farm Management, told them that after a canvass of 32,000 tractor users throughout all parts of the United States, it was found that the three and four-plow sizes of tractors were available on the greater number of farms.

Another point which was new to most of the manufacturers is that belt power is of greater importance than any other one item of tractor work. This was embodied in Mr. Yerkes' statement that the farmer will use the tractor for driving other farm implements by belt, even to a greater extent than it will be used for plowing. This work includes such operations as silage cutting, threshing, corn shredding and shelling, wood sawing and other farm operations where light power is needed.

The general impression, he said, that farms are growing smaller is wrong; that while the intensive farming movement is spreading, it is more confined to truck

farms, and that while the small farms under 20 acres have increased, the small farms of from 20 to 50 acres are decreasing in total number and in acreage. All the larger ones, however, are increasing. It is in this field that the tractor had its greatest use. These deductions were made from a government census which included the states of Illinois, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas, and the Department of Agriculture is certain that intensive cultivation in the shape of truck farming need not be considered in the tractor field at present.

In elaborating upon the finding of the Bureau of Farm Management that the three and four-plow size are available on a greater number of farms, Mr. Yerkes brought out the fact that the government census showed that the majority of farmers having tractors of larger size bought smaller ones when they got new equipment, and those with the smaller sizes got larger ones. This, of course, does not apply to the big ranches of the west where the big ten and twelve-plow gangs are utilized.

### More Tractor Attachments.

Another feature which was brought out by Mr. Yerkes was the distinct and immediate need of more farm implements designed especially for tractor attachment.

He said the field of the tractor at the present time is limited to some extent by difficulties in applying horse-drawn equipment to the tractors. In many of these equipments the efficiency is low, as, for instance, in the mowing machine and binder, in which rotary motion is needed, and which in horse-drawn equipment is obtained by transforming the linear motion obtained from the horse into rotary motion. When applied to the tractor, where we start with rotary motion of the engine crankshaft, it must be transformed to the mower, and changed back into rotary motion for cutter operation—a very indirect way when we have rotary motion as a first motive effort.

Tractors are a success with mowers, provided they cut a large enough swath. Some tractor and agricultural implement concerns have brought out special power equipment for the tractor, such as binders for oats, corn and wheat, corn pickers, etc.



*A Breeder's Card this size will cost only \$1.25 per month. Advertise the stock you may wish to sell.*



## "A Dollar Saved is a Dollar Earned"



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Are British Columbia's Leading

**PRINTERS**

THERE'S A REASON

## Special Value in Lamps For All Rooms



### RAYO LAMP

—heavily nickel plated on brass body. These lamps are perfect in construction, and give the maximum of light with the minimum oil consumption. Obtainable in two sizes—complete with shade, chimney and wick. Price ..... **\$4.25**  
Rayo Junior ..... **\$3.75**

### BRACKET LAMP

Complete with fount, reflector, chimney, burner and wick ..... **\$1.30**



### STAND LAMP

Large glass stand lamp, complete with chimney, burner and wick. Stands 18 inches high ..... **90¢**

## Men's Wool Tweed Suits \$15.00

We can supply you with a suit that will give you lasting satisfaction at this price, with same trimmings and linings as go into our higher grade suits. Good shades of browns and greys; no off colors.

Send chest, waist, inside leg and sleeve measure when ordering. Young men's models as well as business saques. All sizes to 46 ..... **\$15.00**

The First Street  
Commercial Block  
Vancouver, B.C.

## Men's Underwear

### STANFIELD'S UNDERWEAR

Well known for its hard wear-qualities. It is unequalled for those who require a woollen garment that will stand the rigorous wear for those who are out of doors. **Guaranteed** durable.

Blue Label, medium weight, a garment ..... **\$2.00**  
Blue Label, heavy weight, a garment ..... **\$2.50**

### HANSON SOX

Manufactured from pure Nova Scotia wool, in three weights, at per pair .... **50¢, 65¢, 75¢**

### KHAKI WORK SHIRT

Made from a strong olive green khaki drill, which will give splendid wear—is large and roomy—double stitched, and made with buttoned down collar. Sizes 15 to 17½ ..... **\$1.50**



## A Splendid Winter Boot for Men \$5.00

This boot, as illustrated, is particularly adapted for hard wear, made of the best materials to withstand the hard service. Solid throughout, heavy sole, standard screw, combination of black kip and grain, bellows tongue, full fitting, suitable for mill, shipyard, logging and farming. Sizes 6 to 11. Price ..... **\$5.00**

# Hudson's Bay Company

VANCOUVER, B. C.