

FARM AND DAIRY & RURAL HOME

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DEVOTED TO
BETTER FARMING
AND CANADIAN
COUNTRY LIFE



Peterboro, Ont., Nov. 12, 1914

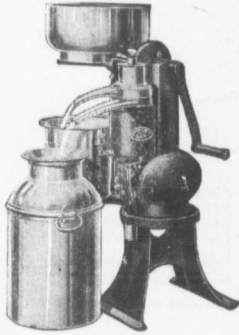


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WE WANT AGENTS IN A FEW UNREPRESENTED DISTRICTS

Newsp Notes from British Columbia

(From Farm and Dairy's Own Correspondent)

THE Chinese and certain dairymen are about the only British Columbia farmers who in the past have successfully marketed produce direct to the consumer. Peach Grove Farm of Langley, producing poultry and general farm truck, has put on a paying basis a direct marketing scheme. The farm hires a stall every Saturday at the False Creek Public Market, Vancouver, advertises a little in the city papers, and gets quite a considerable trade as a result. The other stalls at the city market are mostly occupied by commission dealers. The market management, headed by Mr. John McMillan, also sells on commission.

The owner of Peach Grove Farm told of his experiences in the following words: "Before taking the stall, I shipped a good deal of produce to commission men and to a well-known retailer, but the 'shrinkage' was too great. I found I was losing money, and tried others, but after a few successful shipments the eternal 'shrinkage' again developed. With poultry it appeared the only way out of the difficulty was to ship the fowl dressed. Then I discovered that the dealers much preferred to have poultry shipped alive. I decided to market my own produce, and for five months have rented this stall each Saturday." The number of householders appreciating the fresh local produce Peach Grove Farm sells is large, but they complain a good deal of the location of the public market. Vancouver's public market, built in a somewhat odorous place over False Creek, has always had to work against tremendous odds, and sometimes has been considered a white elephant. It is far from the centre of the city, and there has been much talk of building on a more central site. If the location was more advantageous, doubtless scores of Fraser Valley farmers would make use of the market.

Hogs, Alfalfa, Silos

Opening the fall fair at Armstrong the other day, Hon. Price Ellison, Minister of Agriculture, gave words of trenchant advice to the farmers. The Minister himself made his mark in farming just about fifteen miles below Armstrong, in the Vernon district, and so spoke with an intimate knowledge of conditions. "My advice," he said, "is for you to go in for hogs, alfalfa hay, and silos. Corn grows here 10 to 12 feet high, and for everybody can grow it if they have the silos. If you wish to get the full value out of your land, bear in mind

that you can't take things out continually without putting something back. You may accuse me of telling something you already know, but remind you again that barnyard manure is the thing to put back on the land if you wish to get the best results from it."

Alluding to the low prices being paid for apples, the Minister said it was a pity that some of the sweetest and best fruit was being brought to the market for less than one cent a pound. He believed that "everything would come out all right" however, and speaking of the high potato prices, mentioned that in 1913 many thousands of tons rotted in the ground.

The Minister complimented the Armstrong district on the size and quality of its potatoes. He told of their popularity on the C.P.R. dining cars, where they sold for one cent each. "Recently with several friends I ordered these big potatoes on a dining-car," he said, "and I was told they were all sold within five minutes. He believes that they had no ovens big enough to cook the potatoes in the quantity demanded." The speaker observed there has been in recent years a big improvement in the quality of Armstrong potatoes.

A Practical Beekeeper

L. Harris, of Vernon, is the inspector who safeguards the interests of the honey industry in western British Columbia. Besides being a competent inspector, Mr. Harris is a very successful beekeeper himself. He conducts an apiary with his son in South Vernon. The writer saw while in Vernon recently, a fine exhibit of comb honey from Mr. Harris' apiary. There was one tall column weighing 112 pounds, which was but half the product of one hive. I will not mention the honey production per hive unit in British Columbia, but anyone who has an inkling concerning it will appreciate the nature of Mr. Harris' achievement. He is a good preacher who practises well his own precepts.

Farm Items

A. E. Burke of B. X. Valley, is getting three tons of alfalfa on a third cutting. Mr. Burke appreciates the timeliness of the slogan, "Increase the Live Stock," and is purchasing several hundred head of pigs to 12 weeks old. Convent quarters have been prepared for them. The lust for land is strong in some men's hearts. Applicants for pre-emptions in the Powell River district have commenced a six-week vigil on the steps of the Courthouse, Vancouver. The land will be open for entry late in November. It is in 10-acre blocks and is considered very valuable.

The Situation as it Appears to the Grain Growers



THE FARMER MUSTER SHOULD FEEL THE HEAVY BURDEN OF THE GRAIN GROWER'S SITUATION. THE GRAIN GROWER'S SITUATION IS BEING CRUSHED BY THE INTERESTS OF THE OTHER INDUSTRIES OF THE PROVINCE. THE GRAIN GROWER'S SITUATION IS BEING CRUSHED BY THE INTERESTS OF THE OTHER INDUSTRIES OF THE PROVINCE.

EVIDENCE OF VALUE

AS FEED FOR

Dairy Cows, Young Cattle, Colts

CHEMICAL ANALYSIS OF

DRIED BREWER'S GRAINS

By Thos. Hays & Sons, Inland Revenue Dept., Yonge St. Arcade, Toronto.

(Information for Feeders.)

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FARM AND DAIRY & RURAL HOME



We Welcome Practical Progressive Ideas

The Recognized Exponent of Dairying in Canada

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham.

Vol. XXXIII.

FOR WEEK ENDING NOVEMBER 12, 1914

No. 46

Balancing the Ration of the Dairy Cow

Information on Feeds and Feeding that will Assist the Inexperienced Feeder

SOME of the best feeders of dairy cows never heard of such a thing as a scientifically balanced ration. Through long experience in the handling of dairy cattle for milk production, they are able to produce results without scientific aid. One of the best feeders I have ever known, a Scottish herdsman, had never spent a day in an agricultural college, and although he had some knowledge of the difference between protein, carbohydrates, and fat, he never made use of it when devising rations. He had been brought up on a big dairy farm in Scotland and, as well as his own long personal experience, had also inherited the knowledge gleaned by his father and his father's father in feeding 80 milk cows on the same farm. But what of the young man who has had no such practical training?

The writer of the following letter for instance: "Will you tell me something about compounding rations? Father has turned the farm over to us boys, and my brother and I are going in for winter dairying, shipping our milk to Toronto, a distance of 55 miles. We have 12 cows freshening this fall and early winter. I want to know how to feed them right. Please start telling me from the beginning. I do not know the meaning of any such terms as balanced rations, nutritive ratio, carbohydrates, fat, and so forth. I have seen all these terms in Farm and Dairy in the six months I have been reading the paper. You take it for granted that your readers know all about them. Here is one who doesn't. I want to be a scientific feeder. Will you help me?"

A Good Starting Point

This young man was probably brought up on a farm where the stock were just roughed through the winter. He had not been taught anything of the value of feeds or their mixing. For such a one as he, a knowledge of scientific feeding will be invaluable. I do not pretend that knowing how to balance a ration properly is all that is necessary to good feeding. It is merely a starting point, but it is a good place from which to start.

Let us start at the beginning. The substances that enter into the composition of plants and of animals may be divided into three grand divisions, protein, carbohydrates, and fats. The protein substances differ from the other two in that they contain nitrogen. When it comes to purchasing feeding stuffs the price will be dictated largely by the proportion of protein that it contains. Flesh or lean meat is almost pure protein and the muscular tissue of the body is built up altogether from the protein in the food consumed. The starches and sugars are exam-

ples of carbohydrates. There are only traces of these in the animal body, but they are used to supply energy, heat, and to produce fat. For instance, the fat in milk comes largely from the carbohydrates and fats contained in the food. In plants the fats generally take the form of oils. The carbohydrates and fats perform largely the same functions in nourishing the animal body, and hence they are interchangeable in balancing a ration for a dairy cow, one pound of fat being considered equal to 2.4 pounds of carbohydrates.

What Balancing a Ration Is

A certain proportion of both of these groups of food nutrients, the protein on the one hand and the carbohydrates and fat on the other, are

necessary to the feeding of any animal. If we could determine how much of both of these are necessary to keep up the body of the cow and to enable her to make milk and could also determine how much of these ingredients are found in all the food stuffs commonly used, we could then figure out in what quantity and in what combination the various food stuffs should be given. This is what we call balancing a ration.

Chemists have determined for us the composition of all food stuffs and the digestible nutrients in all of the common ones are given in the table on this page. Take corn ensilage, for instance. We find that it contains only 20.9 pounds of food material in 100 pounds of ensilage; the rest is water. Of this 9 per cent. is protein; 11.3 per cent. carbohydrates, and .7 per cent. fat. It will be seen that the protein content is very small. Cotton seed meal, on the other hand, has a very high protein content; 37.3 or over one-third of its whole weight is protein.

What a Cow Needs

Various investigators have figured out just how much a dairy cow needs of all of these substances to be properly nourished. Two of these investigators, Messrs. Wolf and Lehmann, figure that a cow giving 22 pounds of milk daily and weighing 1,000 pounds, should have a ration composed as follows:

- 20 pounds of dry matter
- 2.5 pounds of protein.
- 13 pounds of carbohydrates
- .5 pounds of fat.

This ration is said to have a nutritive ratio of 1 to 5.7. That is, for every pound of protein in the ration there are 5.7 pounds of carbohydrates, or its equivalent. To find the amount of carbohydrates, we multiply the fat by 2.4, and add it to the carbohydrates. It has been proved in the experience of hundreds of good dairymen that the Wolf-Lehmann standard is approximately correct and a good feeder aims to have a combination of feeds that will have about the same quantity of each of the ingredients as determined by Wolf and Lehmann.

Why Net Ensilage Alone?

A ration that has a lot of carbohydrates, but very little protein, will not give good results. Neither will a ration in which there is too much protein and too little carbohydrates. For instance, if a man were to attempt to feed mink cows on ensilage exclusively, and I have seen men foolish enough to do this, the cows will fail in milk flow immediately, and in flesh as well. If we refer to corn silage again we find that it contains only .9 per cent. of protein, while according to the Wolf-Lehmann standard a cow requires 2.5 pounds daily. In order to get enough protein from corn ensilage alone, a cow

(Continued on page 9.)

Digestible Nutrients in Common Feeding Stuff

Name of feed	Digestible nutrients in 100 lbs.		
	Dry matter in 100 lbs.	Protein.	Carbohy. hydrates. Fat
Corn	89.1	7.9	66.7 4.3
Gluten meal	91.8	25.8	43.3 11
Gluten feed	92.2	29.4	45.4 8.8
Wheat	89.5	10.2	69.2 1.7
Dark Feeding Flour	89.3	13.5	61.3 2
Wheat bran	88.1	12.2	59.2 2.7
Wheat shorts	88.2	12.2	59 3.8
Wheat middlings	87.9	12.8	53 3.4
Rye	88.4	9.9	67.6 1.1
Rye-ry	89.1	8.7	65.6 1.6
Brewers' grains(wet)	74.3	11.9	8.3 1.4
Brewers' grains(dried)	81.8	13.7	36.3 5.1
Oats	89	9.2	47.3 4.2
Buckwheat	87.4	7.7	49.2 1.8
Linseed meal—			
Old process	90.6	29.3	37.7 7
New process	89.9	28.2	40.1 2.8
Cotton seed meal	91.8	37.2	16.9 12.2
Pans	89.3	16.8	31.8 7
ROUGHAGE			
Fodder corn (cured)	57.8	2.5	34.6 1.2
Corn stover (cured)	59.3	1.7	35.4 5.7
Timothy hay	88.8	2.8	43.4 1.4
Wheat straw	91.4	4	36.3 4
Oat straw	88.3	1.2	36.6 4
Barley	83.5	7	41.2 6
LEGUME HAY			
Red clover (med.)	84.7	6.6	35.8 1.7
Red clover mammoth	78.8	5.7	32 1.9
Alsike clover	80.3	5.4	47.5 1.5
Alfalfa	71.8	11	39.6 2.6
Pea vine straw	86.4	4.3	32.3 3.8
SILAGE			
Corn	28.5	9	11.3 7
Clover	28	2	13.5 1
Alfalfa	27.3	3	8.5 1.9
ROOTS AND TUBERS			
Potato	21.1	8	16.3 1
Mangel	9.1	1.1	3.4 1
Blue turnip	9.5	1	7.2 2
Butatubana	11.4	1	9.1 2
Carrot	11.4	8	7.8 2
MISCELLANEOUS			
Beet pulp	19.7	6	6 7.3
Cows' milk	12.8	3.6	4.9 3.7
Separator skim milk	9.4	2.6	2.3 3
Butter milk	9.9	3.8	4.1 1.1
Whey	6.8	.8	4.7 3

Value and Conservation of Farm Manure

C. E. CONNELL, DUFFERIN CO., ONT.

THERE was more value in the manure produced on Canadian farms in 1913 than in the gold dug from all the mines of our country in the same year. Prof. S. E. Connor of Purdue University estimates that there is more manure wasted in the United States each year than the value of all the gold dug from all the mines in the world in any one year. These are staggering figures, but Prof. Connor has proved his case.

Dairy farmers, as I have found them, are too inclined to regard manure as an unimportant by-product. At the same time our agricultural colleges are telling us that the manurial product of a single well-fed dairy cow in one year is worth at least \$20. A cow producing \$80 worth of milk, therefore, has a three-figure income when we add the value of the manure. The old estimate that the manure will pay for the labor involved, in looking after the dairy herd, is nearer correct than some of us have been inclined to think. That it will if it is well cared for.

Where Dollars Are Lost.

But it isn't. I have seen a year's supply of manure thrown through a hole in the side of the barn and allowed to leech under the eaves and ferment until it was hardly worth carrying out and spreading on the land. In addition, it was rotting the building and adding to the expense for repairs. Other farmers still pile manure carelessly in the barnyard, where it is exposed to the rain, the sun, and perhaps is right in the way of the water running off the roofs of surrounding buildings. This is almost criminal negligence. From a business standpoint it is rank foolishness. Manure is too valuable to be treated in such a way.

The disposal of the summer manure has always been the most difficult point with us. We are so some with the manure spreader to portions of the pasture, but as pasture is limited, and as cows will not feed on the part so manured for some weeks after, we cannot follow this practice extensively. In the fall, however, our manure shed is thoroughly cleaned out and applied as a top dressing to the new seeding. When binding the grain I always watch the seeding carefully, and when I have got over a field I know just where the weakest parts of the seeding are and where the manure is most needed. A light application of not more than three or four loads to the acre, applied with our spreader, will do wonders in reviving a weak catch of either clover or alfalfa.

Throughout the winter the manure is carted to the fields each day and spread as made. In this way loss through leeching and fermentation are both reduced to a minimum. In fact, there is no loss from fermentation. All of our winter manure is applied to the land intended for corn and roots the following season. To indicate just where we have manure, stakes are planted in the snow and moved each day.

Where the Fields are Hillsides

This plan might not be so advisable on steep hillsides. Were my farm not level my plan would be to haul the manure at intervals through the winter and pile it in the fields, so it would be right handy for spreading in the spring. One advantage of this plan would be that the manure

spreader could be used in the spring, and I regard manure spread with the spreader as 10 per cent. more efficient in the feeding of the plants than the manure that is thrown out more or less in lumps by hand. In field piles have the sides steep and the manure well tramped down to reduce losses to a minimum.

Here is another point I would emphasize. Perhaps you have not put cement floors in your cow stable because you did not think you could afford them as yet. Experiments conducted at the Ohio Station showed conclusively that the amount of manure lost in one season through not having tight floors was of sufficient value to have paid for cementing. It is only with cement floors and tight gutters that the liquid portion of the manure can be conserved, and the liquid excrement contains two-thirds of the value of the manure.

Why Ventilation is Necessary

APPROXIMATELY one-half of the weight of an animal's body is composed of oxygen. What would seem more natural, therefore, than to conclude that the most important function of ventilation in the cow stable is to supply the



Manure is Here Well Conserved by Drawing Daily to the Fields

Three loads of manure are produced daily on this dairy farm, near Ottawa, Ont. The illustration shows all the manure there was around the buildings when the farm was visited by an editor of Farm and Dairy. Losses through fermentation and leeching are avoided by hauling to the fields and spreading each day through the winter.

cattle with lots of oxygen and remove the carbon dioxide which they cannot use, and which is believed to be decidedly injurious. Dr. Lipp of South Dakota, however, in a recent address, claims that this old reasoning is altogether wrong. His conclusions after much careful investigation extending over a period of years are summed up in the following paragraph.

"That lack of ventilation, instead of being injurious in the usually accepted manner, is harmful for another reason, namely, that excessive stall temperature and humidity interfere with the elimination of heat from the skin, and water from the respiratory organs. . . . All present information leads to the final conclusion that ventilation is but a matter of air movement, for the elimination of body heat and water. Any satisfactory system of ventilation secures these three requisites, namely, air movement, and proper regulation of stable temperature and humidity. These requisites lacking, all the evil effects of poor ventilation or lack of it at once become evident."

Dr Lipp's conclusions do not minimize the importance of ventilation in the least. So long as the results are satisfactory the practical stock man will not worry about the why and wherefores.

Seed Corn for Ensilage Production

IN Ontario alone 400,000 acres of corn are grown annually for ensilage. The amount and quality of this ensilage is largely dependent upon the variety or strain and the fertility of the seed. In most districts in Canada early maturing varieties and strains is essential to a full stand. The unsatisfactory crops produced by many growers throughout the country provide abundant evidence that such seed is not available, or if it is available is not used. In order to procure more definite information in regard to the seed corn being planted, an investigation was conducted in Ontario and Quebec last spring under the direction of E. D. Eddy, B.S.A., Chief Seed Inspector at Ottawa. Over 1,700 samples of seed corn were collected from farmers along with information as to its source, methods of planting, and so forth. The following table summarizes the inspector's reports respecting the origin of seed, how it was shipped and how planted.

Corn Used in Ontario and Quebec

Origin of Seed: From dealers	85 per cent.
From growers	11 per cent.
Home grown	11 per cent.
How shipped: On the ear	22.46 per cent.
Shelled	77.54 per cent.
How planted: In drills	71 per cent.
In hills	28.71 per cent.

"It will be noted that a large proportion of the seed is procured through seed dealers," says

Mr. Eddy in discussing the results of the investigations. "A little of this is Ontario-grown corn shipped on the ear, but nearly all of it is shelled and a large proportion is imported from the central and western states. Naturally much of this seed is of varieties and strains not suitable to Canadian conditions. During the past few years some of the best ensilage growers have purchased corn of known varieties direct from growers in south-western Ontario. It is usually shipped on the ear and as a rule is much better, both in suitability for local conditions and in germination, than that handled by local dealers.

"Purchasing seed corn on the ear has many advantages, but less than one-quarter of the farmers visited procure it in this way. When on the ear the quality can be much more easily determined. The poor ears can be discarded, the butts and tips removed before shelling, and a much better sample of seed procured. The poor-quality corn sold for seed is nearly always shelled as its inferiority can be less easily detected. The butts and tips, off-type ears and nubbins may be included. Unless the corn has been well dried before shelling it is more liable to heat and lose its vitality than when on the ear. Some first-class seed is sold shelled. It is characterized by large, well-dried, uniform kernels, the result of shelling selected ears that have been properly cured and the butts and tips removed. Corn on the ear costs more on account of the extra work in handling and the transportation charges, but as a rule the increased cost is many times repaid in the larger yield and superior quality of the crop.

Best Growers Plant in Hills

"Many of the best growers plant in hills; they claim that a larger yield of grain in proportion to stalk and leaf is obtained in this way as well as better facilities for cultivation. It will be noted, however, that about three-quarters of the farmers visited follow the drill method."

All the samples selected were submitted to a
(Concluded on page 6)



Why Not Select the Best for Seed Production Next Season. Scene in Huron Co., Ont.

Will Field Root Seed be Scarce in Canada?

It Depends on the Foresight of Canadian Farmers. Some Directions on the Growing of Our Own Seed.

BY M. O. MALTE, DOMINION AGRICULTURIST

PRACTICALLY all of the field root seed sown by Canadian farmers is imported from Europe. With normal conditions in the field root seed growing countries in Europe this dependence on the old world is generally not much felt, simply because the Canadian farmers have got used to looking for their seed supply from abroad. With the European seed supply partly or wholly cut off as a result of the gigantic struggle between the Powers, the question of Canada being adequately supplied with field root seed takes on quite a different aspect. Even should there be no immediate danger of Canada facing an actual severe famine, the mere shadow of such a risk ought to set Canadian farmers thinking over the possibilities of making Canada independent of the European markets and of producing at home what now has to be bought from abroad.

It is the opinion of the writer that Canada should and could produce her own supply of field root seed, including turnips, mangels, and carrots. There are countries in Europe, for instance Finland, where the conditions are far less favorable for the successful raising of the country's supply of field root seed, but where not only this feat is accomplished, but also large surplus quantities are raised for export. And there is no reason, to the writer's mind, why Canada should fail to do what semi-Arctic Finland has admirably succeeded in. For the guidance of farmers, the writer will endeavor to give a few recommendations regarding the selecting, harvesting, and storing of field roots to be used for seed production.

Selecting the Roots

For seed production should be chosen only perfectly healthy roots which are smooth and even, and which come as close as possible to the ideal type of the variety from which they are picked. Roots having undesirable characters, such as roughness and rootiness, should be avoided. It is often claimed that the very largest roots should be set aside for seed production, it being thought that these are capable of producing the largest quantity of seed of the best quality simply because they contain more nourishment, and therefore are apt to develop stronger seed stalks than smaller roots. This is, however, a

misconception which is not borne out, neither by experiments nor by experience of farmers. All facts indicate, on the contrary, that medium-sized roots produce just as good seed as large ones, both as far as quantity and quality are concerned. This being the case, there does not exist any special reason why the largest roots should be selected. On the contrary, there are several reasons why they should not be chosen.

Medium-sized roots generally keep better than fully matured ones. They require less storing room than the largest ones, and are easier to handle. By selecting medium-sized roots, and in consequence thereof saving the largest for stock feed, the farmer will have a larger supply for feeding purposes. In order to obtain good seed, it is necessary, when the roots are planted in the spring, to cover them well. In fact, they should not be allowed to appear above ground at all, because, if they do, the seed-bearing stalks will not develop properly. Therefore, the use of very large and long roots necessitates much deeper planting than if medium-sized roots are used. This, of course, means more labor and higher cost of planting in the spring.

The quantity and quality of the seed produced by a turnip, mangel, or carrot plant depends, among other things, on the proper development of the seed-bearing stalks. The best seed is produced from plants having only one main stalk from the crown of the root. If a plant develops several stalks from the crown the seed raised from the same will generally prove inferior. Such roots, which at harvesting time show numerous buds developing from the sides of the crown, should not be selected. Only such roots which show a clean crown free from additional shoots, should be chosen.

Trimming Seed Roots

Granting that every precaution has been taken as far as selecting of the seed roots is concerned, the next question will be: Should roots, intended for seed production, be harvested in the same way as roots intended for food?

To this we must answer a most emphatic NO.

Remember that the seed roots when planted in the spring should be able to make a vigorous start immediately. This they will be unable to do if the roots and rootlets have been chopped

off. Seed roots should, therefore, be left with their root system as intact as possible.

Remember also that the seed-bearing stalks are developed from the crown of the roots. Consequently, to trim the roots so close to the crown as to injure its seed stalk developing ability, must necessarily be guarded against. Simply twisting the tops off mangels and turnips may be a time and labor saving method when the roots are harvested for feed, but is hardly to be recommended when the roots are to be set aside for seed production. A much safer way is to use a topping knife of the type generally used for trimming of turnips, and cut the tops off about three or four inches above the crown.

Generally speaking, the seed roots should be trimmed in such a way that the crown is left intact. Roots, if trimmed so that the root and rootlets are chopped off, do not as a rule, produce a single seed stalk only, but are induced to develop several ones from the mutilated crown. As stated above, the seed produced on such stalks is not nearly as good, as far as quality is concerned, as seed produced from a single main stalk.

Storing During the Winter

When storing the seed roots two factors which are apt to influence, to the greatest extent, the following seed crop should especially be carefully considered, viz.: The storing of the roots in such a way that they are not injured by frost, and to prevent heating and consequently rotting.

To protect the roots from freezing is a comparatively easy matter; to prevent them from heating is a far more difficult problem, especially when the roots are kept in large quantities. Both difficulties can, however, be successfully overcome, whether the roots are stored in cellars or pitted outside.

A good root cellar should be dry and well ventilated. It should also keep a uniform temperature slightly above freezing point. A most essential thing is that good ventilation is provided for and that the temperature can be kept fairly low in the spring. This is of the critical period when the good qualities of the cellar are put to the severest test. It is during this period, when the mild weather sets in, that there is most danger of the roots heating and beginning to decay.

Where no root cellar is available the roots can be stored very successfully in the open, especially in districts having long winters, with steady, cold weather. Here again the main problem is to provide for enough covering of the pit so as to prevent the roots from freezing. On the other hand, the cover should not be made too heavy as then detrimental heating may be caused.

Successful Storing Essentials.

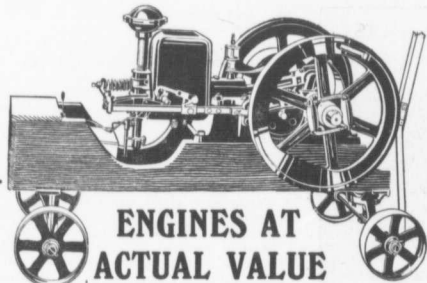
Essential for successful storing of the roots is to select dry, well drained ground for the pit, to cover the pit properly, to regulate the covering according to climatic changes during the storing period and to provide the necessary ventilation. A slight elevation or a hillside, where water will not accumulate, will prove the best location for a pit. The building up of the pit may then be varied according to the local requirements.

Whether a shallow trench should be dug or whether the pit should be started on the surface of the ground is rather immaterial. If the pit is started in a trench, however, it is essential to provide for good and thorough drainage so as to prevent any water from staying in the trench.

A convenient sized pit should be made five or six feet wide, with the roots piled up three or four feet above ground level. If the roots are piled higher it will be difficult to regulate the temperature in the pit, especially in the spring.

When the roots are stacked they should be covered with a layer of straw; later in the season, when the cold weather sets in, a layer of earth

(Concluded on page 6)



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1 1/2 Horse Power	\$39.00
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I am offering this month a fine lot of Young Pigs, six to eight weeks old, from large stock of quick maturing strains of the best breeding. Pairs and trios supplied not sold. Also sows in pair to a show boat.

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264 Eggs per year from one hen

and course that is a world's record, but a hen has to keep up a pace not behind that to make money for you as she should. Egg records are not as much a matter of breeding as they are a matter of feeding.

INTERNATIONAL TONIC POULTRY FOOD

MADE IN CANADA

—is a mixture of roots, herbs and spices which supplies to the system of the hen the element necessary to maintain the highest state of health. It acts as a tonic, particularly to the egg producing organs and the digestive tract. It makes them less liable to any disease, its value is indisputably proven by the sale of over five million boxes. It is absolutely guaranteed to increase egg production or the price will be refunded. Sold in 25c. doz and 4 lb. packages by dealers everywhere.

We have just got out the "International Poultry Guide," a book which contains about all there is to know about chickens. Send for it —Free.

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Value of Hen Manure

A recent bulletin of the Maine Agricultural Experiment Station shows that the poultryman or farmer can materially add to the profits of his business by properly caring for the droppings of his fowl. For example it is shown that the droppings from 1,000 fowls if preserved without needless loss are worth at least \$300 per annum, and this estimate is based on the assumption that less than half of the droppings, or only 30 pounds a hen a year, can be collected.

According to the Maine station the droppings should be collected daily, and mixed with substances which will (1) prevent loss of nitrogen, (2) add sufficient potash and phosphoric acid to make a better balanced fertilizer, and (3) improve the mechanical condition of the manure so that it can be applied to the land with a manure spreader.

This can be done as follows: To each 30 pounds of the manure add 10 pounds of sawdust, good sized loam, or peat, 16 pounds of acid phosphate, and eight pounds of kainit. Such a mixture will contain about 1.25 per cent of nitrogen, 4.5 per cent of phosphoric acid, and 2 per cent of potash, which used at the rate of two tons per acre would furnish 50 pounds of nitrogen, 185 pounds of phosphoric acid, and 80 pounds of potash, and at the present prices of fertilizing ingredients, is worth about \$10 a ton. The mixture would furnish a well balanced stable fertilizer, which although not fine enough to work well in drills, can be successfully applied with a manure spreader. The treated manure should be well sheltered until time to apply to the land, that is, shortly after plowing.

Seed Corn for Ensilage Production

(Continued from page 4)
germination test. It was found that corn shipped on the ear germinated on an average nearly six per cent better than that which was shelled, while the proportion germinating 90 per cent, and over was much higher. A number of the samples on the ear were low in germination, but in nearly all cases this corn was not planted. Some of the shelled corn was dead, but this could not be detected as in the case of ear corn, and it was planted. The results of the covering crops. All of the standard varieties were grown, but among the 50 varieties represented in the inspector's reports, many of them are very inferior.

Will Field Root Seed be Scarce in Canada?

(Continued from page 5)
should be added to the straw. In order to provide for ventilation, however, the straw on top of the stack should be left uncovered in spots about four feet apart, or the pit be provided with special air shafts. The thickness of the covering layers of straw and earth will depend upon the severeness of the winter. For colder parts of Canada a 12 to 18 inch layer of straw covered with a layer of earth six to nine inches deep can be recommended for the coldest part of the winter. In the spring the layer of earth should be removed and, generally speaking, the thickness of the covers be modified according to the temperature.

The Equivalent of 2 Tons of Bran For \$30.00

You get this and more when you buy a ton of our "Good Luck" Brand Cotton Seed Meal. This meal is guaranteed with the Dominion Government to contain a minimum of 41 1/2 per cent protein. You take no chances.—Place an order to-day and commence using this high-quality feed.

Prices: In ton lots, \$1.50 per 100 lbs. In 5 ton lots, \$1.35 per 100 lbs. In 10 ton lots, \$1.20 per 100 lbs. Terms—Cash with order.

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FOR SALE AND WANT ADVERTISING THREE CENTS A WORD, CASH WITH ORDER

FOR SALE—A Cholee lot of Silver Wyandottes at a bargain.—Frank McDermott, Tavistock, Ontario.

CLEARING SALE—To make room for offering Blue Andalusian and Silver Campine stock at greatly reduced prices. Satisfaction guaranteed.—W. E. Pakenham, Norwood, Ont.



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Gunn's Shur Gain Beef Scrap furnishes animal matter rich in easily digested protein. Ten pounds in one hundred pounds of grain will balance up your rations. Try Gunn's "Shur Gain", Shell, Grit, Poultry Bone, Charcoal, Alfalfa Meal, Scratch Food, and laying Mash.

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Foot
The epidemic that United States such as the worst that country discovered. It is stated in the Chicago and for disinfecting prime. But have have to be out of the country.

An unfortunate break in the show in the yards, Chicago has received exhibition hope is expected to exhibit low to the business of America's check the business yards amount \$1.00 000.

The I
This volume by Chicago... program, the opening the attention record by interest. Students' National Dairy Contest consisted of 16 different and coming of the east to result was the Ohio idea of the various when we scholarship to cups.

In the juvenile presenting steins and... There was stein class widely distributed. Algonquin grand champion Korndyke, shown by Iowa, Wis. male champions were Ohio; M. Keshu, Wis. Ill.; J. Lewan F. E. K. Hermon S. E. C. Sch...

PURE
Be... PEOPLE 402 Page

CON
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Full (Not ha... Your demand... F. W... OWL BRAND THE O... WEST

Foot and Mouth Disease

The epidemic of foot and mouth disease that has broken out in the United States has already spread to such an extent as to be recorded as the worst attack in the history of that country. The disease has been discovered all the way from the corn states in the west to Massachusetts in the east. The stockyards at both Chicago and Buffalo have been closed for disinfection, and much of the prime finished Canadian cattle that had been going to the other side will have to be marketed at Toronto and Montreal.

An unfortunate feature of the outbreak is that it should have occurred at the time of the National Dairy show in session at the Union Stockyards, Chicago. Already word has been received that two of the herds on exhibition will be slaughtered, but hope is expressed for the other animals on exhibition. It would be a hard blow to the pure-bred dairy cattle business of America were the cream of America's herds to be sacrificed to check the spread of the disease. The business suspended at the Chicago yards amounts to 100,000 head and \$1,200,000 of trade daily.

The National Dairy Show

This year's National Dairy Show at Chicago surpassed itself in attendance of exhibitors, in the number of the program, and in attendance. During the opening days of the first week the attendance exceeded last year's record by 10,000.

Interest centered first in the Students' National Contest in Judging Dairy Cattle. The contestants consisted of teams of three representing 16 different colleges of agriculture, and coming all the way from Maine in the east to Oregon in the west. The result was a win for the team from the Ohio State University. Some idea of the value of the prizes going to various students will be grasped when we state that there were several scholarships of \$400 each in addition to cups. The competition consisted in the judging of eight classes representing Ayrshires, Guernseys, Holsteins and Jerseys.

There were 12 exhibitors in the Holstein classes and the awards were widely distributed. R. E. Haeger of Algonquin, Ill., had the senior and grand champion bull in Paul Calami Korndyke. The junior champion was shown by N. Dickenson, Lake Geneva, Wis. Haeger secured both female championships. Other exhibitors were: L. E. Connell, Fayette, Ohio; M. W. Downing & Bro., Waukesha, Wis.; M. R. Evans, Hincley, Ill.; Iowa Farms, Davenport, Iowa; F. J. Knolls, Auburn, Mass.; M. Hermon School, Meads, Hermon, Me.; E. C. Schroeder, Moorhead, Minn.;

F. L. Stone, Benson, Minn.; J. A. & W. W. Watson, Youngstown, O.; and Alexander Watt & L. M. Williams, Novely, Ohio.

The Ayrshire classes were contested by Adam Sykes, Waukesha, Wis.; Stratshaw Farm, Port Chester, N. Y.; and Barclay Farms, Rosemont, Pa. Sykes was on top with his last year's champions, Bargoenoh Gay Cavaler in the male classes, and Nilatodd bull 3rd in cows.

In the Brown Swiss classes, J. P. Alva, Delavan, Wis., won most of the first prizes.

It was in the Jersey exhibit that the Canadian herd of R. Fleming, Toronto, came into competition with 11 of the best herds in the United States. Some of his winnings were: 3rd on aged bulls with Fairy's Noble Jolly; 1st on senior bull calves with Trump's Poly 28th; 3rd on large cows with Meadow Grass 2nd; 2nd on four-year-olds with Mossie and 2nd on three-year-olds with Brampton Noble Sultan 2nd. Mrs. Nettie Fabyan, of Geneva, Ill., had the senior champion bull, and the junior champion cow was shown by Allen Dale Farms, a village, Ky. F. K. Prescott, of Rockville, Conn., secured the senior female champion, and Elmdorf farm, Lexington, Ky., the junior grand champion ship.

The Guernsey breeders were on top in number of entries by a considerable margin, for which they might be justly proud. W. W. Taylor, Waterloo, Ia., secured most of the championship. Other exhibitors were: F. L. Ames, North Easton, Mass.; Wabasha, Ia. Other exhibitors were: F. L. Ames, North Easton, Mass.; Bailey Farm, Oglethorpe, Ill.; Dr. W. Brophy, Edin Park, Ill.; W. Butterworth, Moine, Ill.; Maple Farm of Middleton, Tinley Park, Ill.; A. G. Cox, C. L. Hill, Rosendale, Wis.; J. W. Howe, Bedford Mills, N. Y.; O. W. Lehmann, Lake Villa, Ill.; F. R. Sanders, Mesa, Ariz.; M. H. Tischer, Oconomowoc, Wis.; University of Maryland, Poo, Minn.; Village Farm, Grass Lake, Mich.; E. A. Walter, Walworth, Wis.

The Provincial Plowing Match

Plowing is a fine art. Anyone who has had any doubts on the subject could have carried them beyond a visit to the Ontario Provincial Plowing match on Major Kilgour's farm at Edlington, Ont., on Friday last. Thirty-three of Ontario's best plowmen met to test their skill. In age they ran all the way from the boy of 15 to the old veteran of 82. The majority were young men, not a few of whom were the recipients of much advice from their fathers who had been champions long since.

The chief interest centered in the plowing of Mr. Cameron Walkington, winner of the provincial championship last year, the best plowman in the great Scarborough match of the previous Saturday, and again the winner on Friday, making his own fine trophy offered by Canadian Farm. Mr. Walkington received many congratulations before the banquet of the evening was over. At the same banquet the visiting plowmen donated \$118 to the maintenance of a military hospital. A ripple of excitement was started when Dr. Hanson, M. P. P., severely censured the Federal Government at Ottawa for refusing to include the Plowmen's Association within the list of those entitled to a grant as an educational association. The awards in full follow: Sweepstakes trophy by Canadian Farm, valued at \$75; Cameron Walkington, King, Walkington, Ont., open to all; Cameron Farm, Walkington, Ont.; W. G. Woodbridge; Stanley, Dryden, Richmond Hill. Second class, open to those who have never won a prize in this class prior to 1914: Clarke Young, Hagersham, S. Baird, Wabara, W. G. Woodbridge. Third class, soil, jointed, plow, G. G. Waldron, W. G. Woodbridge. Fourth class, soil, boys under 16: Fred. (Concluded on page 15)

Farmers Behind New Company

A new condition of affairs has been proved very interesting reading introduced in the sheet metal business and give in a concise way some idea of the methods that are being used to the most modern factories at Sarnia, keep our company and the farmers by the Sarnia Metal Products Company, limited, for the manufacture of the following lines of sheet metal building materials: Plain Galvanized Iron, Corrugated Iron, Plain Black metal Sidings, Eave Troughs, Conductor Pipe, Valves, Culverts, etc.

The above concern is the outcome of an investigation as to the cost of manufacture of sheet metal building materials, conducted by Lloyd Lott, formerly connected with The Sarnia Fine Company, at the request of many leading farm organizations throughout the Dominion of Canada.

The system of marketing used is rather unique in itself, for it is the first time that a company has been organized to manufacture commodities used by the farmers whose output, not only as to the quality of the materials used, but the price at which they are selling, is under the control of the farm organizations themselves, with which we will be under contract to supply their entire requirements.

It is no surprise to us that this arrangement and idea of selling has caused much consternation among the other sheet metal manufacturers in Canada, and it must be remembered that the success of this enterprise will depend largely upon the support that is given our company by the individual farmer himself. Every farmer, whether he belongs to a farm association or not, should take into consideration the fact that it will be folly for him to purchase his requirements from any other source, except our company, unless he himself favors the ordinary methods such as are used, selling through dealers, jobbers, etc.

We have in our possession and are sending to all interested persons, copies of confidential letters that have been mailed by some of our competitors in the sheet metal business to dealers throughout Canada. These letters show the success of this enterprise will depend largely upon the support that is given our company by the individual farmer himself. Every farmer, whether he belongs to a farm association or not, should take into consideration the fact that it will be folly for him to purchase his requirements from any other source, except our company, unless he himself favors the ordinary methods such as are used, selling through dealers, jobbers, etc.

Yours cooperatively,
THE SARNIA METAL PRODUCTS CO., LTD.
LOYD LOTT,
President.

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Show your appreciation by giving her the best. She will cooperate with her best after eating
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Full 41% protein guaranteed
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THE BISS DISC HARROW
will do a better day's work for you tested in the field alongside any other. We know the Bissell will outclass the others, but you want you to see the Bissell at work. But first ask Dept. R. to mail you our Disc Harrow Catalog.
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Our Inward Registry Office for the year ending May 1, 1914, shows that 3,116 cows (nearly one-quarter heifers), produced within a seven-day period 3,672,251 pounds milk containing 130.3 pounds butter-fat, averaging 3.55 per cent. The average for each cow in milk (not including the calves that sold at from \$10 to \$20.00 each) was 27 quarts of milk a day and 101 pounds of butterfat. These figures show why the dairyman prefer Holsteins.
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AND RURAL HOME
PUBLISHED EVERY THURSDAY



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The paid subscriptions to Farm and Dairy exceed 16,000. The actual circulation of each issue, including copies of the paper sent subscribers who are but slightly in arrears, and sample copies, varies from 17,000 to 18,000 copies. No subscriptions are accepted at less than the full subscription rate.

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

OUR GUARANTEE

We guarantee that every advertiser in this issue is reliable. We are able to do this because the advertising columns of Farm and Dairy are as carefully edited as the reading columns, and because to protect our readers, we turn away all unscrupulous advertisers. Should any advertiser herein not honestly with you as one of our paid-in-advance subscribers, we will make good the amount of your loss, provided such transaction occurs within one month from date of this issue, that is reported to us within a week of its occurrence, and that you find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state: "I saw your advertisement in Farm and Dairy."

Agents shall not ply their trade at the expense of our subscribers, who are our friends, through the medium of these columns; but we shall not attempt to adjust trifling disputes between subscribers and honorable business men who advertise, nor pay the debts of honest bankrupts.

The Rural Publishing Company, Limited
PETERBORO, ONT.

"Read not to contradict and to confute, nor to believe all that is for granted, but to weigh and consider."—Bacon.

The Feeble Minded

IN a recent issue The Weekly Sun says editorially:

"We have noticed the statement attributed to a professor of mind reading in the University that 25 per cent. of the people of Toronto are feeble minded, and among these we have been including the Single Taxers. Speaking for the farmers of Ontario we should be glad to see farm lands treble in value, because such an increase would involve a fortunate improvement in the welfare of land owners, a vast increase in the production of farm wealth and a profitable employment of many thousands who though not in legal fiction owners, would nevertheless enjoy an undeniable access to the soil, and in a just economic sense the ownership and use of it. This is a point to which we would invite the consideration of those Single Taxers who are sure that their minds are strong."

The Weekly Sun has stood so unwaveringly by the farmers' interests in so many hard-fought battles, that we are sometimes surprised at its inability to grasp the true principles of taxation reform. In classifying as feeble-minded all those who would place the burden of taxation on the unimproved value of land, The Sun is casting a slur at some of its own best friends. In the list are practically all the foremost men in the farmers' movement in Ontario to-day, the great majority of the farmers of Western Canada, practically all the voters of Vancouver, over two hundred members of the British House of Commons, and a great proportion of the people of Scotland and New Zealand. It will come as a shock to most people to learn that the farmers of Denmark, famed the world over for their intelligence in solving production and marketing problems, must be classified as feeble-minded, because almost to a man, through their national organization, they favor the taxation of land values and insist on believing that the high land values of Denmark are a burden, and not a blessing to the working farmer.

Effect of High Land Values

BELIEVERS in the taxation of land values are able to advance some pretty good reasons for their belief. The principal one is that great increases in land values, unless accompanied by an equal increase in earning power, leads to tenantry, with all the evils that accompany landlordism in its varied forms, that instead of increasing the farming population they lead to a decrease, and instead of increasing production lead to the withholding of large areas from their best use for speculative purposes. Single taxers can support their belief with the very best of logic. They can do more. They can claim to have the logic of cold hard facts on their side.

In the United States we find that in the States where land values are lowest, the proportion of farmers who own their own farms is the highest. In Maine, for instance, where land values average from \$20 to \$40 an acre, only four per cent. of the farmers are tenants. In central Illinois and central Iowa, however, land has already experienced that wonderful increase in value that The Sun would like to see in Ontario; land there sells at \$300 an acre and over, and the proportion of tenants is the highest of any section of the Northern States, ranging as high as sixty-seven per cent. And one of the great problems of these states with high priced land is rural depopulation. High land values have necessitated larger farms and, consequently, fewer farmers. In Ontario we find that the proportion of tenants in each county is in almost exactly the inverse ratio of the price of land in that county.

We would ask The Sun if it is not reasonable to infer from these facts that there must be some close and vital connection between the price of farm lands and the proportion of tenant farmers? Have we any reason to believe that in Ontario a trebling of land values would not be accompanied by a corresponding increase in the proportion of tenantry even as has been the case in other countries? Or does The Sun consider the diversion of our rural population into two classes—that of landlord and tenant—the ideal state of society?

'Land Values and Wealth Production

ONE more point: How can a mere increase in the price of land lead to increased production of farm wealth from that land? There are three factors in wealth production, land, labor and capital. Increased interest rates would not be welcomed by the farmer; in all truth they are high enough now. A further increase in the cost of labor would not increase production. Farmers contend that cheaper capital and cheaper labor would both enable them to produce more. Is it quite reasonable, then, to claim that an increase of the price of the third agent of production, land, would cause an increase in wealth making power?

Land is as necessary to the growing of crops as is machinery. Why, then, in the production of wealth, should not cheap land be as desirable as cheap machinery? In fact, it is not to get this same cheap land that so many thousands have left Ontario farms for the new provinces of the west? Those who have left must have failed to grasp the advantages of high land values, which The Sun claims to be so advantageous. The records of all movements of population show that just as water seeks its level so people with money to invest in land, leave the sections where land values are high and flock to sections where land values are low. For decades the people of Great Britain left the Mother Land, where land values are high, and emigrated to Eastern Canada, where land values were low. During the past 30 years the movement of population has been from eastern to western Canada for the same reason. Now the great Peace River District is

filling up with people seeking for free land. Thus the tendency is for production to increase on cheap land at the expense of other sections where land values are high. How, therefore, an increase in land values will make it possible to increase the production from the land so enhanced in value is a statement not easy to figure out. Generally, increases in value follow increased production, not increased production from increased value.

Militarism at the O. A. C.

IT is regrettable that militarism should have gained a foothold at the Ontario Agricultural College. In resigning his position as acting president rather than become personally responsible for the formation of a corps of military engineers drawn from the student body, Prof. Zavitz stands on high ground. His action should receive commendation.

On economic grounds alone, Prof. Zavitz has shown his wisdom. The man behind the plow is going to play a large part in this war. There will be need of agricultural leadership as well as of military leadership, and from where are agricultural leaders to come if not from our agricultural colleges. Those members of the student body at Guelph who desire to take an active part in military operations have at hand an armory in the neighboring city of Guelph, which affords better facilities for the purpose than any of the buildings on the college campus, and at the same time the removal of military activity to the same city would leave the college free to conduct uninterruptedly its most important work as a centre of agricultural activity. To commence drilling operations in the college buildings would be certain to interfere with the routine of class work to a serious extent and to set back the students in the studies which they went to the college to pursue. Prof. Zavitz has proved himself more farseeing than his critics, and we have faith enough in the fairness of mind of the student body at Guelph to believe that cool afterthought will lead them to see the high ground on which he stood.

Wasted Time Well Spent

THE word "wasted" is here used advisedly, as wasted time according to one may be time well invested according to another. One of the most slovenly farmers we have ever known, whose stock was always the thinnest, crops the shortest, and buildings the most in need of repair of any in the locality, was continually talking of the time his neighbors were wasting. The time spent at Farmers' Institutes, fair fairs, or agricultural demonstrations, was all classified as wasted. He fairly boiled with indignation if anyone suggested taking a day off to go for a picnic.

It always struck us as funny that this man never noticed that those of his neighbors who wasted the most time in the ways mentioned were the most prosperous in the community. Had he noticed this apparent paradox he probably would not have wasted any time thinking on the problem. Poor misguided man! Had he wasted a little more time informing himself on the problems of his calling he might have learned how to farm. Had he found time to meet with his fellow men, even if only at the annual Sunday school picnic, he might have learned something of how to live.

Character is a matter of eight hours' sleep, fresh air, fresh water—without being personally fresh—good books, good companions, right intent, and a desire to bless and benefit the world, realizing that to thus, and only thus, can you benefit yourself.

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Balancing the Ration of the Dairy Cow

(Continued from page 3)

would have to eat 280 pounds of silage daily containing 68.52 pounds of dry matter. No cow can eat this quantity of silage, and no matter how liberally you might feed her she would still be starving because of the lack of protein.

Contrast corn silage with alfalfa. Alfalfa tests 91.4 per cent. dry matter, 11 per cent. protein, 39.6 per cent. carbohydrates, and 1.2 per cent. fat; 23 pounds of alfalfa hay would supply all of the protein necessary to a cow, giving 22 pounds of milk daily. It would also supply 12.9 pounds of dry matter, 9 pounds of carbohydrates, and .276 pounds of fat. If we compare this with the Wolf-Lehmann standard we will find that it is a little short in dry matter, carbohydrates and fat. It is, however, not far off, and alfalfa comes the nearest to being a complete feed for dairy cattle of any crop grown on our farms. If we were to feed more alfalfa hay, however, and thus bring up the other constituents to the standard, we would be feeding more protein than necessary, and protein is too valuable to waste. It would also be a great drain on the cow's system to get rid of the excess protein.

The Ideal Combination of Roughage
Alfalfa, Lowerer, is rich in the very point where corn silage is poor. Why not combine the two? Let us start with a ration of 40 pounds corn ensilage and 20 pounds alfalfa. Here is the way it would figure out:

	D.M.	P.	C.-H.	F.
40 lbs. silage ..	8.136	.360	4.52	.28
20 lbs. alfalfa ..	16.302	2.20	7.92	.540
Wolf - Lehmann Standard	24.438	2.56	12.44	.820

If we balance this up we find that the nutritive ratio is 1 to 6.35. Although not agreeing exactly with the standard, it is nevertheless a good ration, and one that has proved to give fine results when fed to cows giving a moderate flow of milk. If the ensilage were of extra good quality, with a large proportion of well-matured cobs, the slight deficiency in carbohydrates would be made up. Milk, however, is rich in protein, and if a cow is milking heavily, she would need to have more protein than is supplied in this ration of ensilage and alfalfa. Although the cow's stomach is capacious, all of her requirements could not be supplied by increasing the amounts of ensilage and alfalfa, as she simply would not have room for them. The extra requirements of the heaviest milking cow must be given by adding foods very rich in protein and the extra carbohydrate requirements will be supplied in part by the protein concentrates added, and by such concentrates as corn meal, which have a high per cent. of carbohydrates in a very digestible form. A reference to the table on page three will show which foods will best meet this purpose.

A Choice of Many Foods

Everyone, however, may not have both ensilage and alfalfa, and it may be necessary to combine various foods in order to get a properly balanced ration. Let us suppose that we have a choice of clover hay, oat straw, alfalfa, ensilage for roughage, and of bran and oil cake for concentrates. The combinations of these will be determined somewhat by the supplies that we have on hand. After considerable calculating we might determine that such a ration as the following is most satisfactory for our purpose:

	D.M.	P.	C.-H.	F.
12 lbs. clover ..	12.7	1.02	6.37	.25
15 lbs. oat straw ..	4.84	.06	1.93	.04
20 lbs. ensilage ..	16.30	.27	5.39	.21
5 lbs. bran	4.405	.61	1.96	.135
2 lbs. oil meal ..	1.21	.266	.654	.014
Total	39.725	2.546	13.304	.664

(Concluded on page 13)

See and try a DE LAVAL Cream Separator

YOU can't afford to take any chances when buying a cream separator.

It is important that you get a machine which will stand constant wear twice a day for many years to come.

It is important that you get a machine that will run easy and be easy to wash and clean.

It is vitally important that you get a machine which will save all your cream instead of losing enough in a year to amount to more than its cost.

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Any De Laval agent will be glad to set a machine up for you on your own place on trial, and if you want to keep it and it isn't convenient to buy for it now, we have an arrangement with our agents whereby you can buy for an easy term so that it will actually save its cost while you are saving for it.

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On a Pedestal

Those things we value most highly, as symbolizing the best in Art, in Science or in Literature, are fittingly placed upon a pedestal, where we can look up to them.

Figuratively speaking, we also place upon the pedestal of our imagination, those high ideals, those lofty aspirations, by which, in our more thoughtful moments, we would wish to guide our conduct.

Among those guiding principles, why not place upon a pedestal of its own, an ideal that may be better described as "Canada First," rather than "Made in Canada."

The "Made in Canada" movement stands for far more than mere commercial patriotism. Pride of country, pride of national resources, pride of national accomplishment in the realms of literature, art and science, pride of virile citizenship, and pride of national destiny, are all embraced within the broad sweep of this deep seated and soul stirring movement.

Future generations will look back to 1914 as an epoch marking year in Canada's history if you, in common with all her citizens, will only resolve, from this day forward, to be guided by the motto

"CANADA FIRST"



OPINIONS shape ideals and it is ideals that inspire conduct.—John Morley

When the Whippoorwill Calls

(From O.A.C. Review)

By ROY L. VINING

"NENA, I've loved you ever since as she packed his trunk. He was the first I knew you. I can't live without you. Won't you—?" "You don't love me, Jamie," doubted the maid, "you just think you do. When you go away you'll meet some other girl and forget all about me." "No Nena, never," he protested. "To-morrow I'm going away for a long time. Won't you say you'll let me work for you and for the home we have some day?"

The September moon peeped over the tree tops and stepped hill and dale in melon light. Weird shadows lay across the white roadway. A wandering breeze toyed with the leaves. Farmhouses where the occupants also had slept made darker shadows here and there. A single light burned in a distant window like a watchful eye. A dog barked. Then all was quiet.

"Won't you say 'yes' Nena?" Still she demurred. "I do not know you yet, Jamie. How can I know that I love you? And besides, I couldn't marry a farmer."

The well-groomed driver pranced gingerly along. His sleek coat shone in the light. His alert ears were intent on the roadway and bushes, but turned back inquiringly when the low voices reached him.

"But I love you. How often must I tell you before you will believe?" She smiled. "Oh, a thousand times," she said, "perhaps two thousand." "Won't you make me happy to-night, Nena?" Won't you say the word that will make the long days bright when I'm away from you, Sweetheart? Won't you say "I can't to-night, Jamie; not to-night."

The moon climbed higher. A pull on the reins quickened the walk to a trot. The rubber tires spun noiselessly over the smooth roadway.

CHAPTER II.

It is the old story. The wise man has said there is nothing new under the sun. Lovers have often parted thus; the youth pleading his love, the maid half-consenting, yet unwilling to surrender.

Jamie McIntyre was going out into the world, as many youths have gone from Ontario farms. The call of the city was in his blood. Roy dreams of the future filled his brain.

It did not matter that an ageing father would be left alone to manage the farm. It did not matter that real friends had counselled him to stay. It did not matter that his mother wept



Beautiful Effects May be Secured by the Use of Ferns in Shaded Corners

In this fern bed there are bleeding hearts, umbrellas ferns and iris. There is hardly a home that has not some corner around it that could be made beautiful with ferns such as these, grown by Mr. J. W. Harper, Centerville, Co., Ont.

will come to live in town with me and leave the old farm." His mother sighed. Always when she spoke of his staying at home he urged this excuse and pleaded this inducement. He never talked with his mother after the day when he had broken the news: "I'm going to work in the city this fall, dad. I'm tired of the farm."

The old man had not urged him to stay. Like all his kind, the most independent people in the world, he would not do this. He had seen the day coming for a long time. He had watched the growing discontent, and indifference to the interests of the farm, ever since Nena Clarke had come to teach in the corner school house.

She was a city girl. She did not understand the ways of the country. She did not sympathize with the life of country people. But she had won Jamie's love. She had sown the seed of discontent in his heart, had taught him to long for city life, as she had taught the school children to read and write.

no had visited at her home during the holidays. Now she was back to school next year in the school. And Jamie was leaving the farm.

III.

Moments passed. He had begun to learn the seasons. What long seasons in a city here, he saw a grim taskmaster, chasing long hours of toil from those who served. There had been a little freedom. He was a stranger and city hospitality was not nice and money was scarce he had known in the country.

From the window of his room, he looked out over the street, one evening more than two years later. The dirt snow flakes were in the air. Delivery wagons passed, splashed with frozen mud. Electric lights twinkled here and there. The cold gray darkness of the November night came down like a pall.

Two letters lay upon his table. He turned and picked up one. The address was in the old-fashioned hand he knew so well.

"Makes me wish I were home to-night," he mused, as he read it again. "I'm lonesome. Home-sick, I guess. But never mind. I'm going home at Christmas. This city life isn't what it seemed a couple of years ago. Those restaurant meals aren't like mother's used to be."

toys sat around to grow clearer, like the holidays. Now she was back to school. As she saw the shining stove and the clean, white walls, she saw the same old lamp that had given service as long as he could remember. The colorless young stock by the window it seemed to him to have come home and rest. It was all as if it used to be and he turned to the other letter. Nena had he drifted apart after he had gone to the city. This was her first letter in many weeks. He had often wondered why she did not write. Her letter brought the answer. She had been very busy with the school work. He wondered at all she had written.

"I believe she's becoming a farm enthusiast. What's all this about a school fair? Her school has won the township prize for the best exhibit. Her school garden is the best in the county, so the inspector says. I should worry."

He read on. Farm life was very interesting. There had not been a dull time all summer. She had spent part of her holiday visiting in the section. She had helped the children with their gardens. She had enjoyed the work so much and the children had been so interested.

She just liked the lambs and colts, and calves, and little pigs, the chickens and the ducks, and the big-kind-eyed cows. The fields had been so green in spring. They had been golden at harvest. Now they were freshly plowed and brown and ridgy.

The leaves had fallen from the trees. She and the children had just come in from their part of their nature study traps. They had played "Babes in the Wood" and "Hide and Go-Seek." They had gathered acorns and chased the squirrels. They knew most of the trees by name, and had studied the habits of the birds all summer.

She had been telling her father about the farm. She had advised him to buy some land a few miles out of the city and get started right with some chickens and bees and an orchard. She knew it would pay. He had never been strong. Farm life was just what he needed, and she thought he would come. Her mother was willing.

A smile slowly broke over Jamie's face, and the gloom that had been gathering for weeks scattered in the sunshine of it. "Guess I know why she didn't write. It's so long since she's seen me. I see there's a mistake over leaving."

He remembered the details of a drive one September evening more than two years ago. His face grew serious again. He had been wonderfully earnest that night, when Nena had said: "And besides, I couldn't marry a farmer." He recalled the words perfectly. Now he smiled. "Bunny," he mused, "but dad always said you could never know what a woman might do next."

IV.

"We'll sell the cows in the spring. Mother. We can't do the work any longer. It won't be as good for the farm, but what's the use. Someone else will own it before long anyway." "I'm sorry to see it go, father. We've lived here all these years. But Jamie's gone, and I suppose we can't keep it much longer."

"The boy could have had a good home here he'd stay. Now, I can't pose some stranger will have these splendid acres. We've spent the best of our lives clearing them. And

I always ho when I was his is in Ontario homestead toil and pe hands of st have gone to some ne man pins I has been ac many of years.

His pat ion when mas. He father had and the w deeper.

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"Mary," stay do yo "I can't ha "I don't sad his w mind, there

Father - "Dad was I father to

"Well, I th but my wif by-swing of ce, quar us so th

I always hoped to leave them to a son when I was through with them."

This is one of the tragedies of rural life in Ontario these days. The old homestead that has cost so much of toil and patience is passing into the hands of strangers because the sons have gone from it. The old folks go to some neighboring village. The old man pines for the freedom to which he has been accustomed all his days. The inactivity shortens his span of life by years.

His parents were facing this situation when Jamie came home at Christmas. He was quick to note how his father had aged. His hair was grayer and the wrinkles in his face were deeper.

One evening he talked it all over with the mother. She told him of the plan to sell the stock in the spring. "Father can't do the work any more," she said. "It won't be long before we'll have to sell the farm too. We don't want to Jamie, but what else can we do?"

There followed a long silence. Jamie did not find it easy to ask what he had come home to ask. Pride makes our duty hard at times. He had fought his way to an admission to himself that he had made a mistake. He found it very hard to tell even his mother that he knew he had made a mistake and was willing to begin over again.

"Do you think dad would be willing to let me come back?" he asked at last.

"I've learned that the farm isn't so bad a place after all. And I don't want to see the old home sold."

And so it was arranged. The boy who found the farm so irksome was glad to come back to it as a man. He took up the work in real earnest. The glow of health returned to his cheek. It muscles hardened and his strength increased. He was happy. He knew himself to be a man.

V.

A crescent moon hung low in the west. The bright stars twinkled above. A whippoorwill called out of the shadows of the woods.

Two young people sat on the school house steps. They had been silent a long time. There are occasions when words seem unnecessary.

Then the young man spoke.

"Nena, do you remember that drive the night before I went to the city?"

"Yes, Jamie."

"And do you remember what you told me then? And what you said you couldn't tell me that night?"

She smiled but did not speak.

"Would your answer be the same now, Nena?"

Still she was silent and looked away toward the shadowy wood. The whippoorwill called.

"Nena, will you marry me? Will you marry a farmer?"

She turned. He read her answer in the eyes she raised to his before she spoke.

"Yes, Jamie," she said.

And the whippoorwill called again out of the shadowy wood.

Doubtful Consolation

"Mary," complained the husband, "why do you suppose it is that people all say I have such a large head?"

"I don't know, I'm sure, John," said his wife consolingly; "but never mind, there's nothing in it."

Farmer Jones (over the fence): "Does your cow give a lot of milk?"

Father Town (lately from the city): "Well, I think she would give a lot, but my wife and I agreed we would be saving of it, and I only milk a pint or a quart, or just what we want to use, so there won't be any wasted."

The Upward Look

"Our Poor"

"Only they would that we should remember the poor: the same which I also was forward to do." Gal. ii 10.

How like Paul these last few words were; Paul, so impetuous, whole-souled, eager to help and do! In the verse before we learn that James and John with Cephas, who as he said seemed to be pillars, had given him the right hand of fellowship, and had expressed their wish that he should be the heathen. This did not arouse the same enthusiasm with him, as the suggestion in the above verse.

So much is implied in the word "only," which is peculiarly applicable now, in the dread times through which we are passing. Our hearts ache with pity and sorrow for those closely connected with the war; those lonely and sorrowful left behind; those wounded and dying on the field; those maimed and tortured through no fault of their own.

Only our generous and responsive sympathy with those far away, we must not overlook the poor and suffering in our own land. This and the next winter will mean untold misery for many; some who have felt the pinch of poverty before, others who have never done so. A little boy was overheard saying to-day: "Daddy is only spare-man on the road now; I don't know how we are going to get along but I suppose we can manage somehow. It isn't as if he was put off altogether." This makes us think of all those that have been "put off," or are going to be.

Have you ever been to a rummage sale, where are all things of every description, which have been given, and then sold? If you have, you will never forget, when the doors are first opened, the wild rush to the counters containing what each one needed most. At one we recall the greatest need seemed to be boots, as two young, ragged lads, who reached there first, literally threw themselves upon them to get the first choice of that varied assortment of all sizes and conditions. You would never forget the eager, anxious search through the overcoats and cast-off dresses. That will make a dressing gown for my missus, and something else for little Johnnie," was one man's satisfied remark.

You would never forget some of all those faces, with such sad marks of sin, poverty, dirt, neglect. Many also bore bare traces of conquest, patience, resignation. It made one think of the needy everywhere.

Each of us must remember those who are our neighbors, or have some claim upon us, and do our utmost to help, wherever we know help is needed, and do it in as kindly and as brotherly a way as one would that others would do to us, if we also needed assistance.—I. H. N.

It is the life of every day from which elements of a better life must come.

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NO ALUM Styles that Please the Home Dressmaker



THIS WASHER MUST PAY FOR ITSELF.

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but I didn't know anything about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right," and I'll pay you first, and I'll give you back your money if the horse isn't all right." Well, I didn't like that. I was afraid the horse was "all right," and that wasn't what I wanted. My money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now, this set me thinking.

You see I make Washing Machines—the "1000 Gravy" Washer.

I used to read, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it. But I never knew, because they wouldn't write and tell me. You see I sell my Washing Machines by mail. I have sold over half a million that way. So, though it is only fair enough to let people try my Washing Machine for a month, before they pay for them just as I wanted to try the horse.

Now I know what one "1000 Gravy" Washer will do. It will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in six minutes. I know no other machine ever invented can do that, without wearing the clothes. Our "1000 Gravy" Washer does the work so easy that a child can run it almost as well as a strong woman, and it doesn't wear the clothes, fray the edges, nor break buttons, the way all other machines do.

If just dirty soap water clear through the dress of the clothes like a force pump might. So, and to myself, I will do with my "1000 Gravy" Washer what I would like to do with the horse. Only I never wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1000 Gravy" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it for a month, I'll take it back and pay the freightage. Surely that is fair enough, isn't it?

Doesn't it prove that the "1000 Gravy" Washer must be all that I say it is? If you can pay me for it, I'll let it save for you. It will save its whole cost in a few months and will continue to save you for the rest of its life. I will save you 75 cents a week over that in washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of the money it saves you. If it saves you 60 cents a week, I'll send me 60 cents to let you pay for it. I'll take that cheerfully, and I'll wait for my money until the machine has served the household.

Drop me a line today, and let me send you a book about the "1000 Gravy" Washer. This book explains it all.

Write me personally: J. H. MURPHY, 1900 Washer Co., 357 Yonge St., Factory, 281 Portland St., Toronto, Ont.

Richard's QUICK NAPHA THE WOMAN'S SOAP

Farm and Dairy patterns shown in these columns are especially prepared for Farm and Dairy's Women Folk. They can be relied upon to be the latest models and include the most modern features of the paper patterns. When sending Farm and Dairy your order please be careful to state, but in usual measure, for address, age for children and the number of pattern desired. Price of all patterns is Our Folks, see each Address all orders to Pattern Dept., Farm and Dairy, Peterboro, Ont.



1107-Lady's House Dress—This house dress is novel and practical. Notice the way it is fastened, one front crossing over the other and a strap at the back where it fastens as well as formin the belt. This style of dress would be splendid for slipping on in the morning when one is in a hurry. Cut in six sizes: 32 to 44 inches bust measure.

1101-Girl's Dress—This little dress is quite smart with its long blouse effect, and finished with a belt which may be either fashioned from the same material as the dress or some contrasting goods, or perhaps a leather belt. Buttons and stitching form the trimming for this frock. Cut in four sizes: 4, 6, 8 and 10 years.

1100-Lady's Slip—Combination Corset Cover in Basque Style and Skirt with Ruff!—The old-time basque effects in gowns are coming into favor again this season, and when wearing such a gown it is well to have the under garment fashioned somewhat similar in order to have a perfect fitting costume. Herewith we show a style especially suited for such gowns. Cut in six sizes: 34 to 44 inches bust measure. It requires 4½ yards of 36-inch material for a 36-inch size.

1089-Boy's Blouse Suit with Straight Trousers—The Russian blouse style never seems to lose favor among our home dressmakers, and in this style we show one of the leading favorites. The pockets below the belt make a unique trimming,

and will also be found very handy, for what boy does not like pockets in his clothes? The trousers in this style are straight, but if one preferred the bloomers could be worn with the blouse to equally good advantage. Cut in four sizes: 2, 4, 6 and 8 years.

1091-1096-Lady's Costume—This dress has a style all its own, and there is always room for a new model such as this one. Note the yoke effect as seen in the small illustration of the back. The yoke and sleeves are cut in one and make a very neat and comfortable dress. The lace quinsie shown always gives a chic flack to the dress intended for fall and winter wear, although if one preferred the high rolling collar as shown in the small illustration might be used without the quinsie. This style requires two patterns, 10c for each. The waist is cut in sizes from 34 to 44 inches bust measure, and the skirt from 22 to 32 inches waist measure.

1092-Lady's Kimona—As the cold weather approaches a warm kimona is an almost indispensable article in the wardrobe. It is especially convenient to slip on when one wishes to rest in their room, and is also very essential in the sick room. This style is very pleasing, and may be fashioned from any of the popular kimona materials such as crepe, flowered flannelette or silderdown. Cut in three sizes: small, medium and large.

1083-Girl's Dress in Tunic Style—For the young girl this style of dress made from goods of contrasting material will be very attractive. If desired the skirt, body and vest might be made from plain goods, say blue or green, and the tunic and blouse portion of a contrasting material. Four sizes: 8, 10, 12 and 14 years.



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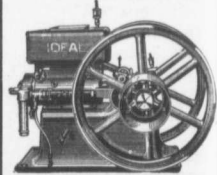
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OUR KNACK: The burning of things that count.
Anything you want to know about fitting up your home, ask
SMALL HOUSE DECORATING CO.
11 LIBERTY ST. - NEW YORK, N. Y.

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REALLY DELICIOUS
THE DAINTY MINT-COVERED CANDY-COATED CHEWING GUM

GASOLINE ENGINES
14 to 60 H.P.
Stationary Mounted and Traction



WINDMILLS
Grain Grinders, Water Boxes, Steel Saw Frames, Pump, Tanks, Etc.
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The Secret of
good butter
making is
the Salt used

Windsor
Dairy Salt

Tonight Plan whom you will use about making FARM AND DAIRY.

CREAM

We say least and pay most.
Money talks.
Let us talk to you.
Write NOW.

Belleville Creamery Ltd.

References: Tolson's Bank, Belleville

CREAM WISDOM

The old statement that "no juggling of figures in January will retrieve the losses of June" may be applied to cream shipping. Our prices have been just a little higher than the rest through out the past summer. Dismissing shippers' patronage us.

Valley Creamery of Ottawa, Ltd.
519 Sparks St., OTTAWA, Ont.

SWEET CREAM

WANTED

Highest Prices paid throughout the year.

Write for Particulars to

S. PRICE & SONS, LTD.
TORONTO

The Makers' Corner
Butter and Cheese Makers are invited to send contributions to this department. To ask questions on matters relating to cheese making and to suggest subjects for discussion.

Some Hot Shot

We all make mistakes, and occasionally it does us good to be told about them. The following paragraphs are from an address of Mr. G. G. Pablow, Chief Dairy Instructor for Eastern Ontario, in which he talked in a heart-to-heart fashion with the Eastern Ontario dairymen who composed his audience.

"We need to wake up to the seriousness of the green cheese situation. In many factories that I have visited we could not find cheese over four or five days old. Such green cheese reaches Montreal in the very worst condition and age for trying. We tell the boys what is right, but they go away and do just exactly what they know, and what we tell them, is wrong. They complain about bad weights and rind going wrong, but these are defects due to green cheese."

"We cheese makers should have a little higher ideal for our occupation. If we don't get this ideal we won't work up. We should all be inspectors of our own work. Don't wait for the inspector to come around and find fault. Look for the faults yourself. If you hear of a neighboring maker who is doing better than you are, go and see why it is and then go home and imitate him."

A new subsection in the Dairy Industry Act deals with the weight of butter as put up in prints or blocks. This subsection reads as follows: "No person shall sell, offer, or have in his possession for sale, any butter moulded or cut into prints, blocks, squares or pats, unless such prints, blocks, squares or pats are of the full net weight of one-quarter pound, one-half pound, one pound or two pounds at the time they are moulded or cut. Nothing in this paragraph shall be held to apply to butter in rolls or lumps of indiscriminate weight as sold by farmers."

Balancing the Ration of the Dairy Cow

(Continued from page 9)

This ration meets all the requirements of the scientifically balanced ration and has a nutritive ratio of 1 to 9.87. In calculating such a ration it is well to have before one a price list of all the common, concentrated feeds on the market. We may find that by substituting one foodstuff for another we will still have a ration that balances properly, is not too bulky, and which will cost less. The fluctuations for market prices of food stuffs may make it advisable to change the constitution of the ration.

It would hardly be practicable for a dairyman to work out an exactly-balanced ration for each cow in the herd, as each cow must be fed a little differently in proportion to the amount of milk that she produces. The best plan in practical work is to work out a balanced ration for a cow of average production, say 22 pounds daily, mix the grains in that proportion and then feed the grains in proportion to the milk given, say one pound of grain to every three or three and one-quarter pounds of milk. Where the roughage fed is largely alfalfa the proportion of grain feed need not be so large.

Through a study of scientific feeding the inexperienced man may avoid costly errors and become a skilled feeder in less time than the art could be learned in any other way.—F.E.E.

CREAM WANTED

Patrons of Summer Creameries and Cheese Factories. We want your Cream during the winter months. Highest prices paid for good cream.
Drop us a card for particulars
Guelph Creamery Co., Guelph, Ont.

When writing to advertisers say you saw their advertisement in Farm and Dairy.

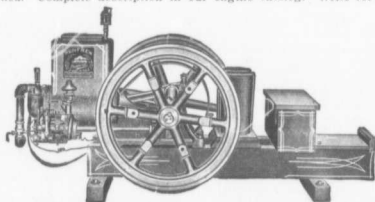
CREAM

Markets have advanced and we are now paying War Prices for Good Quality Cream.
We need yours—write us (cans supplied)

Toronto Creamery Co., Ltd.
13 Church St., TORONTO

Renfrew Standard
The Three Top-Notchers

The tremendous popularity of the Renfrew Standard gasoline engine is proof of the satisfaction it is giving. No engine could attain such a large sale unless it had exceptional merit. And when you run one you'll know why. No trouble to start it. No cranking necessary, no matter how cold the weather. Can be regulated as closely as a steam engine. Very little water required. Nothing complicated. Easy to understand. Ruggedly built, yet highly finished. Complete description in our engine catalog. Write for it.

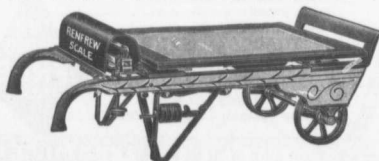


The top-notch among cream separators is surely the 1915 Model Standard. Here is a machine with a remarkably wide margin of strength, of over capacity, and with interchangeable bowls, no matter what size. This interchangeability is attained by making all capacities with one size frame and gearing. This frame is built strong and rugged enough to support gearing heavy and powerful enough to drive a 2,000 pound capacity separator. This means an enormous margin of strength and safety on the 350 to 1,000 pound machines, and you are charged nothing extra for this feature. Neither do you pay anything extra for the over capacity feature, though it means that with the Standard you can skim 30 per cent. faster and still skim as close as with other separators. And when skimming at its rated capacity the Standard establishes records. Write for latest separator catalog and records of skimming results at Government Dairy Schools.



THE RENFREW TRUCK SCALE

is another top-notch. It soon pays for itself. Our scale booklet tells how. And you can wheel it around anywhere. Weighs anything alive or dead, small or large, from 1 pound to 2,000 pounds. Strongly built, Government inspected, guaranteed.



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Serves every power purpose on the average farm. Easy to operate, simply and durably made, reliable at all times and will run on cheap fuels. Of the 166,000 Fairbanks-Morse Engines built during the past 45 years, 90% are still in active service. The best possible evidence of their dependability.

Many types and models. Vertical and horizontal—portable and stationary—1 to 200 h.p.

Send for free booklet, "Farm Power."

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L. J. Williams			

MARKETS

Toronto, Monday, Nov. 9.—The Grain Growers' Grain Company seems to gain when all others lose. At their annual meeting held Nov. 4 a net profit of \$15,000, was declared on the year's operations, or approximately 30 per cent. A 10 per cent dividend was declared, and the balance placed in the reserve fund. During the year the company handled 30,000,000 bushels of grain. The Ministry Government elevators handled by the company showed a profit for the first time of over \$400,000 at a time when reports of falling prices were common. The success of this cooperative enterprise is heartening.

In the market news of the week from a farm standpoint shows wheat, oats and corn on a stronger basis, with dairy produce and live stock holding their own.

WHEAT

The farmer who still complains features the grain outlook for the autumn. The advances that might have been expected, however, have been held down by the knowledge that unless harvest comes evenly early in the season and that their foreign requirements will not be so great. No. 1 Northern is now quoted at 87¢; No. 2, 84 1/2¢; new crop, 20 cents less; Ontario wheat, \$1.08 to \$1.16.

COARSE GRAINS

Oats are in an abnormal demand on account of the grain market. Oats have shown little rise here in the price of 50¢ to 51¢. The supply of grain from last year's production: Oats, C.W.N. No. 2, 45¢; No. 3, 43¢; corn, 87¢; peas, 83¢ to 81¢; 82¢; beans, 87¢; mulling, 65¢ to 67¢; 66¢ to 67¢; buckwheat, 45¢ to 47¢. Montreal quotations: Oats, C.W. No. 2, 60¢; No. 3, 58¢; 1 foot, 61¢; local, white, 56¢ to 55¢; corn, 56¢; barley, 52¢.

MILL FEEDS

Brain is owing to mild weather, but with cold weather an advance is expected. Bran, 82¢ to 83¢; shorts, 82¢ to 83¢; midlings, 82¢ to 83¢; feed flour, 82¢ to 83¢. Montreal quotations: Bran, 82¢ to 83¢; shorts, 82¢ to 83¢; midlings, 82¢ to 83¢; feed flour, 82¢ to 83¢.

EGGS AND POULTRY

Eggs are selling at a price not the price noted last week. Wholesalers sell to the trade as follows: New laid in cartons, 36¢ to 38¢; foreign, 34¢ to 35¢; from England, 38¢ to 39¢; straw, 28¢ to 32¢. Montreal quotations are: Fresh, 34¢ to 35¢; selected, 36¢ to 37¢; 1 stock, 26¢ to 30¢. 2 stock, 25¢ to 26¢.

POULTRY QUOTATIONS

Lvs spring chickens, 10¢ to 12¢; old, 6¢ to 5¢; ducks, 5¢ to 10¢; geese, 3¢ to 8¢; turkeys, 15¢ to 16¢.

MISCELLANEOUS

No. 1 hay is selling at \$6 to \$16.50 and down to \$11 for No. 3; baled straw, \$7 to \$8. At Montreal No. 2 hay is \$16 to \$17.50. Potatoes, there are 45¢ to 50¢ a bag for Ontario; 60¢ for New Brunswick's and at Montreal 60¢.

DAIRY PRODUCE

Were it not for the long season of non-production abroad, butter would have tendency toward lower quotations on butter. The supply is keeping in surprisingly well and there is but little opportunity for profitable outside shipment. Wholesale dealers in Toronto quote creamery prints at 25¢ to 30¢; dairy prints, 25¢ to 26¢ and bakers, 26¢ to 28¢. At Montreal whole milk dealers quote chocolate creamery 27¢ to 28¢; seconds, 26¢ to 27¢.

The cheese market is a weak market; prices paid at country boards have showed a tendency to decline. This recession is not so much to be ascribed to the market to the "fodder quality of the cheese." The make is practically completed, and prices are closing at a level that is satisfactory to the producer. Bulk of finest Westerns are reported to have been shipped in Montreal at 15¢; and finest Eastern, 15¢.

LIVE STOCK

After the low quotations that have been ruling on Toronto live stock markets, the tops in the past week would seem to indicate greatly improved demand. Advance quotations on choice steers, however, are not due so much to a rise in receipts. The Buffalo market has been placed under quarantine and choice steers that were specially fitted for the United States trade have had to come this way. The accumulation of demand in the receipts of all grades of cattle during the latter part of the week, then, is a reflection that the market was somewhat stronger, even taking improved quality into consideration.

Quotations: Choice heavy steers, 87 1/2 to 89 1/2; handy steers, 87 1/2 to 88 1/2; butcher's, good, 87 1/2 to 87 1/2; firm, to med., 87 1/2 to 87 1/2; heifers, 86 to 87 1/2; choice cows, 86 1/2 to 87; come to good, 85 to 86; cow butchers, 84 to 87 1/2; feeders, 86 1/2 to 87 1/2; steiners, 84 1/2 to 85 1/2; and canners, 83 1/2 to 84 1/2.

Choice milk cows continue in good demand at \$20 to \$30; cow to med., \$20 to \$20; heifers, \$20 to \$30. It is notable that the best animals are the ones easiest to dispose of. Cows range from \$5 to \$10 1/2.

Lambs are a trifling firmer, going at \$6 to \$6. Other grades are steady. Light ewes \$6.

"MAPLE LEAF" OIL CAKE MEAL

FINE GROUND OR NUTTED

FEED IT WITH EVERY MEAL

Great Britain could never have attained its eminence in beef and dairy products without Linseed Cakes. On the larger farms, one to one and a half tons per acre is expended in these cakes. In the famous Darrington beef and dairy farms, the fattening ratios for cattle is from 7 to 14 pounds of Linseed Cakes a day; for sheep, a mixed feed of roots, oats, barley and mill feed, sheep and milch cows both get Oil cake to the extent of about 2 pounds a day.

Shurt, M.A., Chemist of the Dominion Experiment Farm, Ottawa, submitted a table showing proportionate fattening and flesh-producing qualities of the following feeding substances in general use:

Feeding Substance	Protein (Per cent)	Carbohydrate (Per cent)
Linseed Cake	32.9	71.1
Buckwheat	10.0	2.5
Corn	10.0	70.0
Oats	11.9	50.0
Wheat	11.9	21.7
Barley	11.9	68.8
Shorts	14.9	4.5
Beans	23.1	68.8
Midlings	15.6	40.4
Pea Meal	21.2	1.4
Pea Hay	15.6	10.5

Protein is the most costly, necessary, and valuable element in feed. *Write today for our free booklet "Facts to Feeders."*

FREE OFFER TO BOYS!! GIRLS!! LADIES!!

We are giving away ABSOLUTELY FREE to boys, girls and ladies, the best and biggest Premiums ever offered, for settling just a few of our Beautiful, Emblematic, Picture and Art Post Cards. Our Cards are POSITIVELY THE BEST ever offered. You have just to show them and take in the money. Beautiful assortments of Xmas, New Year, Birthday, Greeting and Art Cards in packages of sell at 6 for 10¢.

Send in your order NOW for a package of cards to sell and win. ABSOLUTELY FREE, any one of our beautiful Premiums, including Carving Sets, Boys' Tooth Cases, Gold Jewel Cases, beautiful Gold Rings and Brooches, Ladies' and Gentlemen's Gold, Plain and Wrist Watches, Boys' Association Football, Air Guns, Scout Outfits, Fountain Pen, Sleeping Duds, Silverware Sets, Tea and Dinner Sets, Ladies' and Gentlemen's Toilet Sets, and many beautiful presents too numerous to mention here. Main list of pleasant work in your spare time.

When sending in your order, say "I have you all in the 'Farm and Dairy' and would like to sell your cards and win a Premium FREE." We will then send you a package of cards and our Big Illustrated Premium Catalog, showing many more beautiful Premiums than those mentioned above. DON'T WAIT ONE MINUTE. Send in your order NOW and be first in your locality to get our cards.

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WHY? WE SATISFY OUR SHIPPERS.

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CANADA LINSEED OILS LIMITED

TORONTO AND MONTREAL

MILITARY OVERCOATS

Heavy Military Grey Overcoats, made of Government Waterproof Cloth, High Storm Collars, Flannel lined, buttons and pockets out of service for the new Khaki Pattern, \$2.00, \$3.00 and \$4.50. Capes to match \$3.00 extra. British Army Grey Overcoats made of the very best Melton cloth. Made in Canada.

Khaki Overcoats with Capes, \$2.00, \$3.00 and \$4.00.

Heavy Grey Army Blankets, weight 8½ lbs. per pair \$3.50.

Light Grey Army Blankets, weight 6½ lbs. very best quality, per pair, \$3.00.

Military goods of all kinds in stock. Money returned if not satisfied.

A. W. LYNES & COMPANY, ARMY & NAVY CONTRACTORS
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Deafness

Thousands who were formerly deaf, have been restored to normal hearing by our "Little Wireless" Drums.

Senior I. WELLD P. FREESTON
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Thousands who were formerly deaf, have been restored to normal hearing by our "Little Wireless" Drums. The impeded or packed eardrums in the ear have been removed and replaced by our Little Wireless Drums, scientifically constructed for that special purpose.

Willson Common-Sense Ear Drums often called "Little Wireless Phones for the Ear" are restoring perfect hearing in every case of deafness or defective hearing from causes such as Catarrhal Discharge, Relaxed or Stenched Eardrums, Thickened Eardrums, Ruptured or Perforated, Wholly or Partially Destroyed Eardrums, Discharge from Ear, etc. No matter what cause or how long standing it is, testimonials receive show marvelous results. Common-Sense Drums stop the nerves of the ears and concentrate the sound waves on one point of the natural drum. Thus successfully restoring perfect hearing when other methods fail to help. They are made of a soft, sensitized material, comfortable and safe to wear. They are easily adjusted by the wearer and do not hurt when worn.

What has done so much for thousands of others will do for you. Don't delay. Write today for our FREE 168 page Book on Deafness, giving full particulars of the

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AYRSHIRES

Gladden Hill Ayrshires

Two choice Bulls for sale from R.O.P. cow 20 and 20 months old. Bred by Tam O' Menie. Dam of one 10,000-lb. cow. Also Bull Calves from record cows. LAURIE BROS. - MALVERN, ONT.

Burnside Ayrshires

Winners in the show ring and dairy tests animals of both sexes. Imported or Canadian bred, for sale. Long Distance Phone in house. R. R. NESS - HOWICK, QUE.

HOLSTEINS

LYNDENWOOD HOLSTEINS

Two young Bulls fit for Service, and four Bull Calves from 6 to 8 months old. These are all from officially tested dams, and winners of dairy tests. W. J. BAILEY, Hagersville, R.R. No. 4.

FOR SALE—A Registered Holstein Bull, 2½ years old, bred by Mount Hengrove, Fayette De Kol, from Bestie Hroonfeldt. He is perfectly marked and a sure stock getter. Apply to Box 1, Hroonfeldt, Ont.

FOR SALE

Two sons of Changeling Prince Joe, son of Changeling Butter Hen, who is out of a son of Changeling, the first cow to make 100 lbs. of milk in 1 day, and 29 lbs. of butter in 7 days. One from a Pontiac Heifer, the other from a daughter that milked 100 lbs. in one day. Also Pontiac Butter Boy, one of the best bulls of the breed. Prince's dam is a daughter of Tidy Ahebert. Prince, who has 5 daughters with records over 20 lbs. in 7 days. Altona Bros. of N.Y. own the dam of our bull and expect her to make 30 lbs. or over at next freshening. Price delivered \$50 a piece. This pair have been suckling two cows all summer.

CHAS. E. MOORE, PRYON ST'N, ONT.

AVONDALE FARM OFFERS

Grand Young Heifer, perfect individual, from Pride of Orchard Hill, a 27th show cow, sired by King Pontiac, Artie Canada; also Yearling sired by the great King Walker, 14 months old, dam first prize winner Western Fair. Also several others, six to twelve months old, at lower prices. We want to clear these for new crop of calves and are offering at special prices. A. C. HARDY, AVONDALE FARM, ORCKVILLE, ONT.

A SPECIAL OFFER

Of Cows, due to freshen from Sept. 7 to December and some early in the spring. Also 20 Heifers and an entire crop of Bull and Heifer Calves of this year's raising. Write to

WM. HIGGINSON
INKERMAN - - - ONT.

Lakeview Holsteins

Senior herd bull, COUNT HENGEVELD FAYNE DE KOL, a son of PIERRETS HENGEVELD, BOYD DE KOL and GRACE FAYNE 2ND. Junior bull, DUTCHLAND COLLAN, TRU SIR MONA, a son of COLLANVIA JOHANNA LAD and MONA PAULINE DE KOL. Write for further information to E. F. OSLER, - BRONTE, Ont.

BULLS FIT FOR SERVICE

One sired by King Pontiac Artie Canada, and by Prince Hengereid Prince, the greatest Canadian sire; 7 of his daughters a junior Yearling have records of over 20 lbs. of butter each in 7 days. We are offering 7 Young R. M. Cows, due in Oct. BROWN BROS. - LYN, ONT.

KING SEGIS, KING OF THE PONTIACS, and the GREAT MAY ECHO

I am offering several grandsons of these great animals from my High-Land herd. They are fine individuals, 4 to 15 months old, and are priced, when reasonable. If you are looking for young bulls with the richest breeding come to High-Land. Will meet you at Peterborough by appointment. Trip to my farm can be made in 25 minutes. BROWN BROS. - ENNISMORE P.O., ONT.

\$5.50 to \$6; heavy sheep and bucks, \$4 to \$5; culls, \$3 to \$4. Hogs dropped below the \$7 mark during the week, but are now again quoted \$7.00.

BUTTER AND CHEESE

Napane, Nov. 6.—Cheese boarded 600 boxes; all sold at 14½¢. Ottawa, Nov. 6.—At the final meeting of the Ottawa Cheese Board 189 boxes colored cheese were sold at 14½¢. Cornwall, Nov. 6.—884 boxes cheese were boarded, all selling at 14½¢. The sales for same week last year were 1,234 at 12½¢ and 12 15-16¢. Watertown, N.Y., Nov. 7.—Cheese sales; 1,000 boxes at 14¢. The season ended to-day. London, Ont., Nov. 7.—Cheese offered, 1,230 boxes at 14½¢. Gowanville, Que., Nov. 7.—At the Dairy Board here to-day eight factories offered 21 packages of butter. All sold at 26½¢. Hamilton, Nov. 7.—Offerings, 1,150 white; sales, 900 at 14½¢. Balance refused at 14 1/2¢. Monticello, Que., Nov. 7.—At the Cheese Board to-day 1,500 boxes sold at 14¢.

OUR FARMERS' CLUB

Correspondence Invited

PRINCE EDWARD ISLAND

PRINCE GEORGE, P. E. I. KENSINGTON, Nov. 2.—It has been ideal weather since the 1st of October. There are quite a few turnips dug and crop is about done. The potato crop is better than in any previous year. Dealers are paying for potatoes 20¢ a bush; catts, 44¢; pork, 9½¢ to 10¢; hams, 11¢. Horses are plentiful, with no demand.—T. G.

QUEBEC

MISSISSAUGA, QUE., Nov. 2.—A considerable amount of plowing has been done, and the weather is still favorable for all field work. Large numbers of cattle are being fed on account of the scarcity of hay and the high prices that have been ruling. Lately prices have dropped on all lines of stock and also on hay. Stock hay is now selling at \$11 to \$12. The hog market has broken, and is 47¢. Being offered this week—C. A. W.

BASKATCHEWAN

SASKATOON, CAN., 8-15-14. BLUETTER Nov. 2.—Splendid weather for fall plowing and a great deal of it being done. All farm produce, such with the exception of hops, which are very low. Choice hogs, 1.00; Winchester, 86.50 live weight; potatoes, \$1 to \$1.25 a bush; good butcher cattle scarce; horses low. \$150 to \$250.—W. H.

BRITISH COLUMBIA

NEW WESTMINSTER, C. B. C. CHILLIWACK, Oct. 27.—Catcher has been a lovely month for the farmer. There have been no frosts, not even to kill the tomato vines. Potato digging is about over. A few have started to harvest their root crops. Apple picking will soon be general among the farmers. Pheasant shooting opened on the 15th. There appears to be an abundance of these feathered creatures but are very hard to shoot.—J. C.

PROVINCIAL PLOWING MATCH

(Continued from page 7) Hostrawser, Woodhill; Stanley Watson, Agincourt; Harvey Coathup, Ellesmere. Fifth class, stable, hogs under 14: Joseph Richards, King; Hector Patterson, Dollar. S x h class, riding plow: W. G. Warren, Bunnbrook Farm.

Specials Silver cup to oldest plowman on field: Mr. Milken, Toronto. Best team and equipment: W. G. Warren, Bunnbrook Farm; W. G. Warren, Bunnbrook Farm. Youngest boy plowing, silk flax from Mrs. Kilbour: Hector Patterson, Dollar.

THE O. A. C. SALE

At the sale of dairy Shorthorns, Holsteins and grade heifers at the Ontario Agricultural College last week, the prices were really good for the dairy Shorthorns. A bunch of beef steers brought 1¢ a lb. which is a high price for a record price. The largest of these were 1,000 lbs. and were averaged two years.

Prices realized for the dairy shorthorns were as follows: Ford, yearling bull, purchased by W. H. Crothers, Welland, \$260; Burton bull, purchased by John Bryden, London, \$200; Golden Duke, senior bull calf, H. K. Smith, Madawaska, \$115; Battinson, record bull, purchased by J. H. H. Smith, \$100; leased for 10 months for \$125. The following calves followed: Bontate Butler, A. Barber, Guelph, \$81; Beauty's Lad 2nd, Anthony Gies, St. Jacob's \$40; Tottville, Ltd. M. Hudson, Guelph, \$42.50. Grade dairy heifers sold from \$30 to \$61. Some of the best Shorthorns were also acquired.

Auction Sale of 35 Pure Bred 35 Holstein-Friesians

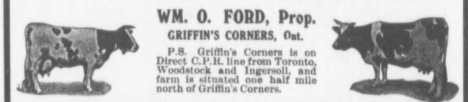
Head of Rosedale Dairy Farm GRIFFIN'S CORNERS

ON NOVEMBER 18th, 1914

This is a model young herd with good backing. There has never been a tester on the farm, so what you buy is to your advantage. This is the first time that sons of King Johanna Pontiac Korndyke have ever been offered at public auction in Canada. Most of the cows are in calf to King Segis Posch Veeman, the balance to Segis Prilly Veeman, two of the most promising young sires in Canada.

Write for a Catalogue any time after Nov. 5th, to TERMS—10 months given on approved bankable paper with discount of 6% for cash.

THE ROSEDALE DAIRY FARM



W. M. O. FORD, Prop. GRIFFIN'S CORNERS, Ont.

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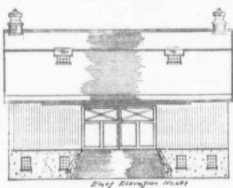
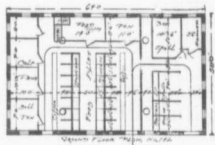
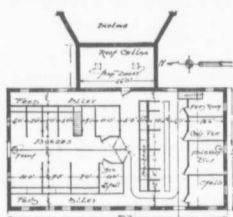
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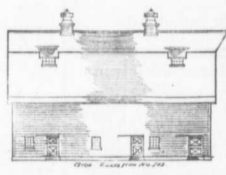
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