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The Farming World



AND CANADIAN FARM & HOME

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“Still she was honest in her quest and went straight to the flowers growing abundantly beneath the maples and pines.”—Page 781.

THE
Farmer's Handy Book
 OF
USEFUL INFORMATION

THE various branches of the science of agriculture have occupied the foremost minds of the world in all ages. The discoveries made have been preserved and handed down to us through numberless books and papers, many of which containing most valuable information, are quite inaccessible to men engaged in the active practice of farming, while others again are so voluminous that a long search through their pages is necessary in order to obtain some desired information. To avoid this difficulty many encyclopedias, etc., have been published, none of them, however, applying solely to our Canadian conditions. The time has come when a concise work of ready reference thoroughly up-to-date is absolutely essential to every farmer in our land, if only to enable him to recall important facts which may have escaped his memory.

In issuing this book the object has been to give all the information possible, in the most concise and accessible form. With this end in view, the various facts and principles dealt with have been carefully classified and indexed.

The following outline of the contents of the book shows how wide its scope is, and how useful it is likely to be in the hands of people engaged in rural occupations.

SYNOPSIS OF CONTENTS

SECTION I.

Almanac.—Besides the usual information contained in all up-to-date calendars, the dates of all events of interest to farmers which have been fixed for the coming year will be given.

Progress of Agriculture.—An historical chapter showing the advance in the practice of agriculture, with other matters of interest to Canadians.

Canada.—This is a wide subject in general; but here only such facts relating to the Constitution of the Dominion and of the various Provinces, and the trade, area and resources of each of them as will be useful to farmers will be dealt with. Special regard will be paid to the newer Provinces in the West which are now so rapidly filling up with people who are not conversant with our institutions and government.

SECTION II.

The Soil.—All things begin with the soil. It is the real source of all the wealth, civilization and comfort of the world, consequently we cannot know too much about it. This chapter contains a great deal of information in the fewest possible words. The classification and constituent parts of soils are dealt with and the natural indications of good and bad land pointed out. Connected with this are tables showing the effect of growing various crops and the best method of keeping up or restoring fertility. The rotations of crops which by long experiment have been found successful and which are adapted to our climate are also shown.

Manures.—This very essential matter is thoroughly discussed and the very best analysis of all forms of fertilizers, both barn-yard and commercial, are given. To be grown successfully, plants must be fed; why, when and how to do it are here told in detail.

Water.—A soil may be rich in plant food yet crops cannot be produced upon it. This may arise from a variety of causes, the principal ones we have to contend with being the want of water or an excessive quantity of it. The absence of water is a difficult problem to deal with, but it is one which we are now called upon to solve and only in certain natural arid districts, but even in those parts of the country which were originally well watered. The question of irrigation in arid districts and the conservation of soil moisture in districts where the supply is now likely to fail, is fully covered, and the best methods of overcoming the difficulty pointed out.

Drainage.—When water is in excess, drainage is necessary. Several methods have been practised successfully for a long period. The simplest of these are described clearly, so that any farmer can apply them to his own circumstances.

Alkali Land.—In what is known as the "North-West" there is a large extent of land now unproductive because it is so heavily impregnated with certain salts that the crops usually cultivated will not grow upon it. Many experiments have been tried for the purpose of redeeming this land, and some of them have been successful. The methods adopted which have given good results are here set forth, together with a list of forage plants which have been found capable of establishing themselves upon soil of this character.

SECTION III.

FARM CROPS.

How Plants Grow.—In order to profitably grow a field, garden or orchard crop, it is absolutely necessary that the grower should know the processes involved in the production of a plant from seed to maturity. Here the story is told in simple language, technicalities being avoided as far as possible.

Cereals.—This is a most important chapter, for not only are the requirements, method of cultivation, and varieties of all our principal grain crops described and discussed, but the average yield per acre of all the principal countries is compared with our own. This, if studied thoroughly, should serve as a salutary lesson, and lead to results which would add enormously to the country's wealth.

Pasture and Forage Crops, clover, grasses, etc.—This covers a very wide field and one that deserves more attention than it has hitherto received in Canada. There are many plants of easy cultivation in this connection which would undoubtedly be more generally grown if their value was understood.

Root Crops.—A new branch of farming industry has arisen in growing sugar beets. This promises to be very useful and profitable. Special attention has therefore been paid to the method of cultivation of the beet and the uses to which its by-products can be put.

Minor Crops.—Of late years tobacco, flax, etc., have been made a specialty in some districts and have proved profitable. The effect of these crops upon the land and their requirements as plants are pointed out.

SECTION IV.

Orchard.—Although the fruit-growing industry of Canada has now reached large proportions, its maximum from a profitable standpoint has not yet been attained. The facts and hints here given will be useful to many people who have not been as successful as perhaps they ought. Even to the most expert fruit grower in the country, difficulties will sometimes present themselves which are new to him. In such cases the experience of others who have met the difficulty before will be of value. (See Insects and Fungi.)

SECTION V.

Live Stock.—The greatest possible attention has been paid to this most important branch of agricultural industry.

Every form of domestic animal kept on Canadian farms has been considered; the type form described and its special purposes pointed out.

There are two distinct branches of this subject, viz.: breeding and feeding, both of which have been dealt with exhaustively. As feeders, the generally of Canadian farmers are fairly successful, so much however cannot be said of their system of breeding. That animals of the highest class in all breeds can be produced in this country is exemplified on every show ground by the few who give the matter the attention it demands. The laws of nature which govern the production of animals under domestic conditions are in this chapter clearly explained, sufficiently so to enable anyone who will study it, to easily keep up his stock to type form, or to bring up a herd from a low grade to high quality.

Feeding is a science; upon it depends the profit derivable from an animal, whether it is kept for its work or its flesh or for any other product. Tables of the best and most economical rations for all purposes are given here, the judgment of the feeder must do the rest.

SECTION VI.

Dairying.—A large part of Eastern Canada is indebted to dairy farming for its present prosperity; in most branches of it we are holding our own with the rest of the world. In some few we are not. None of our failings are due to defects in soil, climate or the habits of our people; they are therefore easily overcome when understood. In this chapter the system of feeding, housing and breeding dairy animals adopted by successful men are pointed out, together with their methods of caring for milk, butter, etc., so as to obtain the best results. So much of the success or failure in dairying depends upon this latter branch of the business that special attention has been given to it.

SECTION VII.

The Silo.—While the silo is an established institution in many districts, there are others in which it is almost unknown, and there are still a lot of farmers in the country who have doubts as to whether or not the silo would be profitable to them. The various methods of building a silo are here shown and the advantages and disadvantages of the different styles pointed out.

Ensilage.—The various crops grown for ensilage are here considered and compared and the best methods of saving them discussed.

SECTION VIII.

Poultry.—A great many people have tried to keep poultry for profit and have failed. Some because they are not fitted

for it and others because they did not get the right idea at the start. Poultry can be made to pay reasonably well, and the method of doing it is not very difficult if right principles are followed. This chapter shows how it has been done, and can be done again, by those with the necessary qualifications for it.

SECTION IX.

Weeds.—A very useful chapter is that giving the history and best method of destruction of the prevailing weeds of the country. Most of our injurious weeds were introduced from Europe and have been allowed to establish themselves by reason of the want of knowledge of the people on the subject. If not checked these will spread, and much injury will ensue.

SECTION X.

Insects and Fungi.—It is impossible to say just what the loss incurred by farmers, gardeners and fruit growers every year amounts to, by reason of the damage done by insects and fungus diseases, but it certainly exceeds ten per cent. of the gross value of the crops produced. Much of this loss may be prevented by the use of simple remedies if properly applied. In this chapter the subject is fully dealt with in such a way as to enable even inexperienced persons to protect their property against either of these destructive agencies.

SECTION XI.

Transportation.—In this chapter a vast amount of miscellaneous information will be given which cannot all be set forth in detail here. Tables showing the distance in miles between all the important points in Canada, the freight and passenger rates over the various railways, express and telegraph charges, and a synopsis of postal regulations will be among the items included under this head.

SECTION XII.

Household.—Under this section a lot of information is given which will be found invaluable to every woman who wishes herself upon keeping her house on correct principles. Recipes for cooking and methods of dress-making are omitted as not within the scope of this work, but in place of them will be found many hints for the saving of time, labor and money.

SECTION XIII.

Legal-Business Forms.—There are certain contracts entered into by farmers in the ordinary course of their business which should always be reduced to writing; a very simple form generally suffices for this. This section contains forms for such agreements and contracts as are most often required to be executed on the farm.

In cases of difficulty or doubt it is always best to consult a lawyer, but it is not always possible to do this just at the moment. The hints here given will be found of service and may prevent misunderstandings when dealing with neighbors, buyers, farm help, etc.

SECTION XIV.

Statistics, etc.—Under this section will be gathered statistics showing imports and exports of agricultural produce, etc., etc. Tables of weights and measures, money values, etc. Descriptive lists of institutions, in which agriculture may be studied. List of officers of farmers' institutes and of all societies connected with any branch of agriculture, list of all officials charged with agricultural interests in Canada and the British Empire, and a chapter or two on rural life, in which every one will find something to interest them.

In presenting "The Farmer's Handy Book" to the public, we do so with full confidence that there is in it somewhere, something that will be interesting and profitable to every man engaged in rural occupations, and that it is so arranged that he will be able to find that "something" just when he wants it.

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The Farming World

A Paper for Farmers and Stockmen

G. W. WHEATON B. A.

Editor.

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Entered according to act of Parliament of Canada in the office of Minister of Agriculture by Dominion Phelps, Limited, in the year one thousand nine hundred and three.

PUBLISHER'S DESK

How the Tubular Grows

The remarkable business being done by P. M. Sharples, manufacturer of the Sharple's Tubular Separator, at West Chester, Pa., is witnessed by the fact that he is again enlarging his plant. It was only last year that large additions were made which it was supposed would meet all demands for manufacturing and storage. But the inability to keep up with their orders during the past year quickly determined the necessity for the buildings now being erected with all possible speed. They are a brick boxing and storage building, 272 feet by 32 feet in size, and a blacksmith and tool maker's shop with room for tinning furnaces, 45 feet by 100 feet. The West Chester factory was already the largest in the country. Nothing short of a phenomenal demand for the popular Tubular could make necessary the extensive enlargements at this time. The prospects for the Tubular would seem to be exceedingly bright, and from a letter just received from the factory and home office we are informed that this is the case. The outlook for the immediate future gives promise of taxing to its full capacity the great plant with all its superior facilities.

Of Value to Horsemen

Do you turn your horses out for the winter? If so, we want to call your attention to a very important matter. Horses which have been used steadily at work, either on the farm or road, have quite likely had some strains whereby lameness or enlargements have been caused. Or perhaps new life is needed to be infused into their legs. Combault's Caustic Balm applied in per directions, just as you are turning the horse out, will be of great benefit, and this is the time

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ON WEDNESDAY, NOV. 15th

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Particulars will be announced later.

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Secretary.

Misses Gold Chaply & Miss G. Dea

No acknowledgment to the Society is required.

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when it can be used very successfully. One great advantage in using this remedy is that after it is applied it needs no care or attention, but does its work well and at a time when the horse is having a rest. Of course it can be used with equal success while horses are in the stable, but many people in turning their horses out would use Caustic Balsam if they were reminded of it, and this article is given as a reminder.

Won a Silver Medal

After most exhaustive tests, the Melotte Cream Separator has just won a Special Silver Medal (the Highest and only Award) at the great London, England, Dairy Show, held October 6th to 8th. A similar medal was awarded to this machine at the 1898 Show, but the manufacturers are evidently not satisfied to live on their past reputation. The new Skimming Device, consisting of only two pieces, is much admired by those who have seen it, and will serve to make the "Melotte" more than ever a favorite.

New Branches

We notice that The Bank of Toronto has opened new branches during the past month at Goldwater, Ont., taking over at that place the business of J. L. Ross & Co., private bankers, also at Maisonneuve, a suburb of Montreal.

The Chartered Banks are certainly doing all in their power to bring banking conveniences within reach of all our people, as there are now nearly a thousand offices of these banks within the Dominion. The full advantage of our Branch System of Banking is only seen when the important fact is remembered that one of these thousand offices has behind it the resources of a strong Chartered Bank with its large capital and ample Reserve Fund.

Homes for Children

The Children's Aid Society has a number of boys from four months up to nine years for adoption, but no girls. None of these children are for hire.

The Society's Shelter is greatly in need of the following articles for boys: night stockings, underwear, shirts, pants, night shirts, shoes; for girls: wear: print and flannelette dresses, pinafores, stockings, drawers, night-gowns, shoes. These should be in a good state of repair.

There is also pressing need of quilts, blankets, etc. Fruit will also be most acceptable.

Communications should be addressed to The Secretary Children's Aid Society, 229 Simcoe Street, Toronto.

Color Schemes in Farms

A man who goes in for a color scheme in farming may fairly be said to have a hobby. Lord Armingham has such a hobby, which he calls his white farm. Everything about the place that can be white is white. He has white horses, cows and donkeys, a white bull and white lambs from Siberia. The hens are all white, and so are the geese, ducks and hogs. The fences and farm buildings are painted white, and so are the farm wagons. White flowers grow in the gardens, and the farm laborers wear suits of coarse white cloth. Lord Armingham dresses in white when at the farm, but in spite of his example the vegetables insist upon coming up green and the trees still have green leaves in summer. Even a British peer cannot change that.

In New South Wales there used to be a black farm, which was an object of interest to strangers. The settler who owned it had everything painted black, and would allow no animal on the place which was not black. He even went so far as to have all the farm laborers negroes.

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The Farming World

And Canadian Farm and Home

Vol. XXII

TORONTO, NOVEMBER 2, 1903

No. 19

Begin to Read It Now

Our new serial story, "Hickory," begins on page 774 of this issue. Don't fail to read the opening chapters. You will be at once interested and benefited. It is a most fascinating tale of love and adventure. The story is essentially Canadian and should be read by every lover of his country. To miss the opening chapters would be something that you would very much regret afterwards. The story is bound to create interest and become popular.

They Want to Know

THE experience and views of every reader of this journal are of value to someone else. If you have had an experience in the practical farm work of the year that is drawing to a close, that has ended successfully or otherwise, you should let your brother farmer have the benefit of it. Of course, you could not be expected to write directly to your neighbors and friends telling them all about it, but you can, through the columns of THE FARMING WORLD tell your experience to thousands of farmers in all parts of Canada who would be interested in knowing what you are doing and who would profit thereby. This is your opportunity and your privilege. Let us then have, during the next few months, short items from you bearing upon the work of the year. If you have opinions to express upon any of the subjects appearing in these columns, we shall be glad to have them also.

To open up the way and to give this matter definite shape the following twelve are topics of interest and importance to every farmer. Let us have your views on any or all of them during the next few weeks. It will be in your interest to send them along:

- (1) Soil Fertility—What is your plan for maintaining and increasing it and has it proven successful?
- (2) Rotation of crops—What rotation do you follow, and has it been successful?
- (3) Breeding and raising horses—What kind do you raise, and what success have you had?
- (4) Breeding and feeding beef cattle—What is your plan, and how has it succeeded.
- (5) Feeding and caring for the dairy cow—What is your experience?
- (6) Is sheep raising profitable in Canada?
- (7) The bacon hog—How have profits and prices for 1903 compared with the year previous?
- (8) Poultry for market—Are you doing any special fattening this fall, if so, what plans do you follow?

- (9) What about rural telephones?—Would they be of advantage to you?
- (10) Rural free mail delivery.
- (11) What important legislation, if any, did you learn from the fall fair?
- (12) What have been your receipts per cow from the cheese factory and creamery during the season just closed?

A Long But Fruitful Session

The long session at Ottawa has closed after an unprecedented period of nearly eight months' duration. That it has been fruitful in important legislation goes almost without saying. While there has, comparatively speaking, not been much added to the statute books bearing directly upon agriculture, the third session of the ninth parliament of Canada has been productive of much that is of vital importance to every citizen of the Dominion.

The legislation secured of first importance is that providing for the construction of the new transcontinental line, the Grand Trunk Pacific. This line will be built from Moncton to Winnipeg by the Government and thence to the Pacific by the Grand Trunk Pacific. It will form, when completed, another through highway from ocean to ocean. The next of importance is the enactment of a law that creates a railway commission to regulate rates and to deal with all important matters affecting railways in which the public are interested. These with the redistribution bill form the three outstanding pieces of legislation. Then there is the German surtax, settling railway disputes by conciliation, increasing poll tax on Chinamen to \$500, the suspension of the canal duties, etc., all of which are of importance to the future development of the country.

The legislation of more direct importance to the farmer is that referring to the contagious and infectious diseases of animals. The law in this particular has been overhauled and improved and the general inspection act amended in various ways. The prohibition of the manufacture of what is known as renovated butter by adulteration with butterine or oleomargarin is of importance. It prevents the entering of the thin edge of the wedge into our reputation as producers of honest dairy products. Other important measures were before the House, but were held over for further consideration. One of these was the bill regarding the seed trade and providing for a higher grade and more honest seed marketed. Wisdom has, no doubt, been shown in holding this matter over for another session. We believe, however, that some legislation of this kind is needed.

These are the main fruits of this over-long session, though we should not

forget the railway bonuses granted. The mileage of railways added in the several provinces is as follows: Ontario, 1,652; Quebec, 1,696 1/2; Nova Scotia, 632 1/2; New Brunswick, 500; Manitoba, 154; Northwest Territories, 2,147; British Columbia, 1,084.

One may well ask where the bonusing business is going to end. Is not Canada big enough to secure railways without a bonus? One would think so, especially in the older settled districts.

The United States Gets It

We are living in stirring times. In last issue we gave an outline of Chamberlain's scheme for a preferential tariff within the Empire, and which may have an important bearing upon the future of agriculture in this country. Since then the decision of the Alaska Boundary Commission has been given out. And while it will not cause us to produce one bushel less of wheat or to raise one animal less of live stock, the decision has stirred the people of Canada as they have not been stirred for many a day. The territory we have lost, while not of very great value in itself, was important as furnishing a possible gateway from the Yukon to the Pacific. All possibility of this is now at an end and Canadians will have to go down in their pockets to the tune of several millions of dollars to build a railway to that part of the Dominion. The Portland canal comes to Canada, but the value of this concession is very much lessened by the cession of two small islands of strategic importance to the United States.

As loyal Canadians we will have to submit. At the same time it is difficult to remain unmoved, while what has been shown to be judiciously our own, is given away to gain, as it would seem, the good will of our big neighbor to the south for the mother land. The decision will do much to counteract the growing feeling of the past year or two in favor of closer trade relations with Great Britain.

Ontario Should Keep Him

There have been several items in the daily press the past day or two to the effect that Mr. G. C. Creelman, Supt. of Farmers' Institutes for Ontario, had resigned and would accept a similar position in one of the Southern States. Mr. Creelman was out of town at time of writing, but on inquiring at the Department of Agriculture we learned that the report was incorrect and that his resignation had not been received. We understand, however, that Mr. Creelman has received a couple of tempting offers from the United States which he is considering. If possible, his services should be retained for Ontario.

Manitoba and the West

An "Overpowered" Company—Creamery, Company Fails— The Western Stocker Trade

(By Our Western Correspondent)

Winnipeg, Oct. 26, 1903. Not often in Manitoba is a company incorporated and given such powers as have "The Union Stock Yards of Winnipeg, Limited," notice of which incorporation is given in today's issue of the *Manitoba Gazette*. "For the purpose and with the object of —," takes up nearly four pages of the *Gazette*, and a person who has the patience to wade through the list is troubled to find what power has not been asked for.

The name would lead a person to suppose that the intention was to carry on the business of exporters of cattle and live stock. This will be apparently only a small part of their business as they have the power to carry on the business of commission merchants, also to transact a general mercantile business. They can print, publish or conduct newspapers and other publications, and can carry on the business of general printers, lithographers and engravers. They can manufacture and sell bricks, tile, drain and water pipe and any article of commercial value that might be manufactured from clay. They can carry on a hotel business, also the business of a tavern, beer-house, refreshment room and lodging-house-keepers, licensed victuallers, wine, beer and spirit merchants, brewers, maltsters, distillers, importers and manufacturers of aerated, mineral and artificial waters and other drinks, purveyors, caterers for public amusements generally, coach, cab and carriage proprietors, livery stable keepers, farmers, dairy-men and ice merchants, importers and brokers of food, live and dead stock, and domestic and foreign produce of all descriptions, hair dressers, perfumers, chemists, proprietors of clubs, baths, dressing rooms, laundries, reading, writing and newspaper rooms, libraries, grounds and places of amusement, recreation, sport, entertainment and instruction of all kinds, tobacco and cigar merchants, agents for railways and shipping companies and carriers, theatrical and opera box office proprietors, entrepreneurs and general agents, and any other business which can be conveniently carried on in connection therewith. They can carry on a real estate business and build and operate railroads, telegraph and telephone lines. They can conduct a cold storage business and engage in the butchering and packing business. They can manufacture and deal in oils, grease, lard, tallow, and fertilizers of all kinds, and in fact can conduct and operate any and all kinds of business.

The names attached to the application for the charter were Frederick L. Bascom, live stock and commission merchant, of Chicago; Thos. L. Metcalf, barrister-at-law, Burt Rebaston; William J. Clearhue, real estate broker, of

Winnipeg, and Walter Ross, a rancher, of Milk River, Alberta. The company is to have a total capital stock of half a million dollars, divided into ten thousand shares of fifty dollars each.

The failure of the Winnipeg Creamery Co., of which Mr. S. M. Barre is the principal shareholder, as well as manager, president and director, is the most notable event of this nature that has ever occurred in Western Canada. Mr. Barre was one of the pioneer dairymen of the Province and in the early days did much to build up the industry by exhibiting products in Eastern Canada and by opening up a number of cheese factories and creameries throughout the province. During the last few years all the local factories under his management were closed up and their business concentrated in Winnipeg where, in addition to the operative creamery, the company created a Commission and Dairy Supply business. It may seem somewhat remarkable that while other firms doing a similar business were and are making money, Mr. Barre has never achieved any great financial success. His failure, announced last week, caused no surprise in business circles, but was a serious surprise to hundreds of farmers who had been shipping cream to his company during the summer. It is said that his liabilities to farmers alone are in the neighborhood of \$15,000, in amounts ranging from a few dollars up to \$300 and \$400. In addition to this there is considerable liability to the Banks, but these creditors, of course, have ample security—they always do. Just here a point suggests itself to the disinterested reader. These farmers have been shipping cream to Mr. Barre, who made it into butter and mortgaged the butter to the Bank. Who has a prior claim upon this butter? The farmers who have not been paid for their cream, or the Bank to which Mr. Barre hypothecated goods that did not in right belong to him. However the law may stand on this question, there is no doubt that in equity the farmer has the prior claim. A gentleman having considerable knowledge of the affair informed your correspondent that after the Bank claims were satisfied there would be practically nothing left for the smaller creditors, which includes the farmers. If there is no legislation governing cases of this kind it is certainly time that something should be done to protect farmers who patronize such creameries as that operated by the Winnipeg creamery company from dishonesty or business incompetence on the part of the management.

I am in receipt of the following interesting communication from a correspondent in the ranching country: "The trade in stockers between the Eastern provinces and the North-West

Territories is just now in a very unsatisfactory condition, and it is said that Eastern shippers of young cattle have been very much disappointed in the prices realized this season.

"There are several reasons for this condition of affairs. In the first place the low price obtained for the finished cattle has been unprecedented. It is stated on good authority that the entire output of one of the largest ranches in Southern Alberta was sold at \$30.50 per head for three and four-year-old cattle. Naturally, men that paid \$22 a head for yearlings two and three years ago and have sold them this year at an advance of \$10 on the cost price are not anxious to buy more this fall at anything like the prices that they have been paying during the past two or three years.

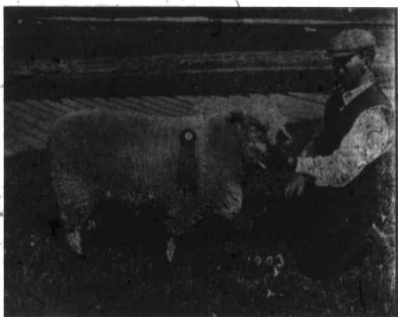
"Another reason for the unsatisfactory condition of the stocker trade is the poor quality of a large proportion of the young cattle that have been placed on the market during the past few years. Many of these were as far removed as possible from the right kind of raw material for producing finished beef at a profit. They were purchased during a period of high prices when markets were naturally not so discriminating in the quality of the goods purchased. Now that prices have gone down buyers are more careful in making their selection. A fair price can always be obtained for first class products but when markets are weak as at present the inferior stuff is bound to go, if sold at all, at prices more or less disappointing to the sellers.

"Winter feed is scarce on the ranches this fall and consequently cattlemen are purchasing a much smaller number of stockers than usual. In fact, many of them have very little more than enough hay to carry their breeding stock through the winter.

"Ontario breeders should note that the majority of ranches have at last discovered that they must be more careful in the selection of their bulls. It is said that during recent years Ontario breeders have saved every bull calf that was eligible for registration expecting to sell him at some sort of price to the ranches. Now that the ranchers have discovered the importance of quality and breeding first class stock will fetch better prices and registered scrubs will go for what they are worth. It is safe to predict that in a very short time it will be practically impossible to sell inferior animals for breeding purposes in Western Canada."

U. S. Beet Crop

The number of beet-sugar factories in the United States has increased from 44 in 1902-03 to 55 in the present season—6 of the new factories being credited to Michigan, 3 to Colorado, 1 to Utah, and 1 to Idaho. The area sown to beets shows an increase of upwards of 12 per cent. The production of sugar cannot be satisfactorily estimated for a month or two yet, but it is expected that the yield will show a large increase over last fall. Michigan now has 22 factories and an acreage of 104,077 as compared with 80,500 last year. The total yield for the United States for 1903 is estimated at 233,000 tons.



The Shropshire Maresell Ram, Marauder, owned by Lloyd-Jones Bros., Burford, Ont. He won Second at Toronto, in 1923, First and Sweepstakes at London, beating there the silver medal ram at Toronto.

Stamping Out Tuberculosis in Cattle

The experience of the Hon. Senator Edwards with the Bang system for the eradication of tuberculosis is worthy of careful consideration by every breeder of pure-bred cattle. Even, as Mr. Edwards says, if Prof. Koch's theory that bovine and human tuberculosis are not communicable, one to the other, proves to be correct, which many good authorities doubt, it will pay breeders to take some trouble to eliminate the disease for the sake of their own herds. Healthy animals will always pay better than unhealthy ones. We have heard it stated that the average breeder is not favorably enough situated both financially and otherwise, to undertake the system so successfully carried out by Mr. Edwards at Pine Grove farm. While this may be quite true, the average breeder is in a position to do more than he is at present doing towards cleansing his herd from tuberculous animals. But education will do a great deal, and now that more rational measures have been adopted in nearly every stock-raising country for the eradication of bovine tuberculosis, we may look forward to a time when breeders, even in Canada, will heartily co-operate with the proper authorities in their efforts to make the Dominion the healthiest country in the world from which to procure pure-bred live stock of all kinds.

There is an agitation on in England, headed by Principal Williams, of the New Veterinary College, to have the sale and use of tuberculin regulated. He claims that the test is often used as an instrument of fraud. An unscrupulous seller may have his animals tested a few days before the veterinary surgeon employed by the buyer comes to test them, thus vitiating the latter test. He also states that sedative drugs, such as laudanum, morphia and acetate, have been surreptitiously administered a few hours after the injection of the tuberculin with the result that the animal's temperature would not rise. The Principal also reports that he has known

an enema of cold water to have been surreptitiously administered about the tenth hour after the injection of tuberculin, also rendering the test useless. For these and other reasons the plea is made that the Board of Agriculture in Great Britain should control the sale of tuberculin and that it should be sold only to qualified veterinary surgeons, who should be bound to keep careful record of all cases in which they have administered tuberculin.

While a regulation of this kind would prevent the vitiating of a test by the use of the tuberculin itself it would not prevent such practices as Principal Williams states have been carried on in the old land to render the veterinarian's test non-effective, such as the administration of drugs, etc. In Canada the tuberculin test, with a few exceptions, has been used only in the case of animals sold to go to the United States, and of course no one but a qualified veterinary surgeon, authorized by the government, is allowed to make the test. Whether it would be wise to regulate the sale and use of tuberculin, as Principal Williams proposes, is another matter, and may be worth while considering if any concerted effort is made to stamp out the disease in all Canadian herds. However, we have every faith in the integrity of our breeders and believe that none of them would stoop to do such acts as have been credited to some breeders in Great Britain. Since the present head of the Veterinary department at Ottawa assumed office a new order of things prevails. Formerly stringent and almost prohibitive quarantine regulations were adopted and put in force without taking the wishes of the breeders even into consideration. Now the practice is to consult the breeders and obtain their views before any important step is taken. In this Dr. Rutherford has acted wisely and has, we believe, more the confidence of the breeders than any other official who has preceded him.

The Institute Meetings

We publish elsewhere in this issue the list of Farmers' Institute meetings for November and December. These meetings are of the greatest importance to the farmer. No farmer can afford to be absent from the meeting in his district. If he is not present he is sure to miss something that will be of direct advantage to himself. The speakers who will address these meetings are well informed, practical men and women and if they do not give the information specially suited to your case ask for it.

In sending in the list of meetings, Supt. Creelman states that for the year ending June 30th, 1923, the membership of the Institutes was 23,754. The number of meetings held was 837 with an attendance of 126,459 persons. Women's Institutes, which two years ago were practically unknown, are now well established with a membership of over 4,565. The meetings addressed by the ladies last winter were most helpful.

There are many important questions to be discussed at the coming meetings and secretaries should make every effort to get the people out. One subject that might well be taken up is the rural telephone, which is becoming almost universal in its use in many of the country districts of the United States. The rural telephone will do a great deal for the farmer and its cost is not large. Another question that might also be considered is that of travelling rural libraries. Why should not each local institute have a travelling library of its own? There is an opportunity here for most useful and effective work during the winter months.

The O. A. C. Overcrowded

The attendance at the Ontario Agricultural College keeps growing apace. The applicants for the year number 220, which makes nearly fifty more than the College dormitories will accommodate, and who have to secure board outside. This state of affairs should not continue. More dormitory accommodation is badly needed. A dormitory large enough to accommodate 100 would be none too big to meet the present needs of the College. Farmers do not care to send their sons to the College if they have to board outside. Though it is an expensive time to build, the best interests of the College should not be sacrificed on that account. The government should come to the rescue and have a new dormitory erected for the fall term of 1924. In the meantime we shall be glad to have the views of any of our readers in regard to the plan outlined in THE FARMING WORLD of Sept. 1st, for making the College of service to the whole Dominion. Let us know what you think of it. Have any of the O. A. C. graduates an opinion to offer?

Goes to South Africa

Mr. W. J. Palmer, manager of the City Dairy Co., Toronto, has been appointed Director of Agriculture for the Orange River Colony, South Africa, at a salary of \$6,000 a year. Mr. Palmer is a graduate

of the Ontario Agricultural College of ten years' standing. He took an active part in the establishment of the travelling dairy in Ontario some years ago and had charge of one for a couple of seasons. Since that time he has been actively connected with dairying, more especially in connection with city milk supply. He established the Kensington Dairy in Toronto several years ago and worked up a large business in milk, cream and butter. A couple of years ago his business was taken over by the City Dairy Co., Mr. Palmer becoming manager of the latter concern.

Mr. Palmer comes of Prince Edward Island stock, his father being one of the leading citizens of Charlottetown. He is just in his prime and should give a good account of himself in the Orange River Colony. He will leave for South Africa about December first.

The Mating Season for Sheep

By A. W. Smith.

A majority of sheep breeders will have made their selection of rams for this season, and it is wonderful how easily so many of those breeding for sale to the butcher are satisfied when they are making their choice. Some will use any kind of ram, without any kind of attention as to the breeding, or ancestry, or the individual merit of the ram himself. Others conclude that if they get a good-looking sheep the ancestors do not count, while many make as bad a mistake by selecting a poor individual with good ancestors. And yet if we are indifferent as to our selection of a sire the chances are very great that the lambs also may be indifferent. For best results we should have a nice combination of good individuality and good ancestry. We surely can expect lambs of good mutton form if our ram is one with a strong indication of constitutional vigor, indicated by full, deep heart girth, short strong neck filling smoothly to the shoulders, and both head and neck carried up boldly, with back and loin strong and well covered, with nice firm flesh, a deep flank and a leg of mutton. At least we have better reason to expect good results than if mating our ewes with a ram of indifferent character, perhaps a long weak neck, or a long weak back which is even worse. And it is just of equal importance almost that he should have a good dense covering of wool, and the quality of wool is of much importance, for the lambs are much more saleable if carrying a coat of dense, lustrous wool. Then if we can, along with the correct form in the ram we choose, have knowledge that his immediate ancestors were of the same good stamp we can expect his lambs to be good and uniform.

The number of lambs we may hope to raise is very largely in our own hands. I mean that by proper treatment of our flocks we can increase the percentage of lambs produced by our ewes, and their vitality and likelihood to grow to maturity. I firmly believe we can by having our ewes and ram in strong, healthy condition each year increase the number up to about 200 per cent., which is plenty, although I believe there is one man in New York State who is endeavoring to establish a flock of ewes with four fully developed teats, in case of success, I suppose, he will place his maximum at 400 per cent. increase.

A frequent change of pasture, or of feeding ground, from a good crop of clover to one of rape, or fall rye sown early, a feed of grain even might be profitable, although I have never found it necessary. Again, for the results the ram should not run constantly with the ewes. I am satisfied we can get as many, and much stronger lambs if the ram is allowed with the ewes for only an hour or two each day, and he then can be fed grain, when separated, and which he always should have. Oats give the best results.

And now just a word about the lambs. They have been weaned two or three



Men's Black Suits

This is the time of year when we sell lots of black suits. A black suit is a Spring suit, Summer suit, Fall suit and Winter suit. You can wear it when a business suit isn't appropriate, and it is the staidest suit for business, too. Always in good taste, appropriate on all occasions, becoming to everybody—a good, stanch, refined old friend, that one can always fall back on. Men's single and double breasted Sack suits and Frock suits in black Vicuna, black Serge, black, rough-faced, Worsted, Cheviots, etc., \$8.50, \$10.00, \$12.00 and \$15.00. If we don't satisfy you at every point, come back for your money.

OAK HALL

J. COOMBS, Manager

King Street East

Right Opposite St. James Cathedral



Canada's Best Clothiers.

Neck and Shoulders above all Competitors.

months and generally have had a chance to run all over the stubble fields, picking up lots of the weeds that will grow, and choice bits of clover and full privilege of the aftermath in the clover fields cut for hay, and besides all this which they have saved to the farmer he could very profitably provide a few acres of rape for them, on which they will get fat and heavy. Then ten minutes to each lamb in trimming them a little, squaring their tails, etc., will be worth as much to him in their better appearance as he could earn at any other job almost in half a day.

Unfortunately for the farmer, the number of farmers keeping a flock of sheep is decreasing each year, and all the time the demand for mutton and lamb is increasing, and the price as well, so that they are the most profitable meat producers we have, and even wool is increasing in value steadily.

Pork Packing Plant to Open

The plant of the Farmers' Co-operative Pork Packing Co., of Brantford, has been sold to George Matthews & Co., Peterboro, for about \$60,000. The deal was effected by the Bank which held a mortgage on the entire property. The new company will overhaul the premises and re-open the factory, which has been idle for six months.

The Farmers' Co-operative concern has proved a disastrous enterprise. The company was formed two years ago with a capital of \$200,000. The chief stockholder was an English capitalist, who had \$25,000 in the concern, he is coming the selling agent in Great Britain. It is said that his commission on sales will about reimburse him for his outlay, though this seems doubtful. The balance of the stock was held by farmers throughout the Province, who will get nothing. It is reported that nearly a quarter of a million dollars was lost in the venture.

We understand that some parties are looking after the Palmerston factory, which has also gone out of business. The Harriston factory is still doing business.

A cheese-factory, binder twine factory, etc., the products of which are sold here may be run satisfactorily on the co-operative plan. But any concern, the products of which must be sold three thousand miles away had better be left for the capitalist to finance and manage. By averaging the losses with the gains he usually makes it go.

Farmer's Course at Winnipeg

The course of practical instruction in agriculture established by Wesley College, Winnipeg, last winter will be continued this year and somewhat enlarged. The lectures commence Nov. 16th and the course will conclude on March 13th, 1904. The fee is \$20 and with economy a student can work through a course for \$100. In addition to the regular courses there will be ten lectures on soils, crop rotations, etc., by S. A. Bedford, Supt. Brandon Experimental Farm; ten on stock and stock raising; four on fruit and fruit growing and five on farm sanitation and hygiene.

Coming Events

Conference of Dairy Instructors, Ottawa, Nov. 4-6, 1903.

Ontario Fruit Growers' Convention, Leamington, Ont., Nov. 24-26, 1903.

Ontario Experimental Union, O.A.C., Guelph, Dec. 7 and 8, 1903.

Provincial Winter Fair, Guelph, Dec. 7-11, 1903.

Maritime Winter Fair, Amherst, N. S., Dec. 15-18, 1903.

Eastern Ontario Dairymen's Convention, Belleville, January 6-8, 1904.

Western Ontario Dairymen's Convention, St. Thomas, January 12-14, 1904.



Building a Log House in New Ontario.

Temiskaming—What it Has for the Farmer

New Ontario has been dealt with frequently in these columns. But the Ontario press excursion to the Temiskaming a few weeks ago furnished an opportunity for obtaining information from an independent source as to the agricultural possibilities of that district, which could not be allowed to pass by. We have pleasure, therefore, in publishing the following, written specially for the *Farmer* Woman, from some of the excursionists. More may follow later:

THE SETTLERS' CHANCES

The clay belt in New Ontario is said to be between 50 and 60 miles wide and 500 miles long, and contains about 16,000,000 acres of fertile soil. Before many years this region in its consumptive and productive capacity, will be as important to Toronto as the North-West is at present.

In the vicinity of New Liskeard the clay is covered with a rich black mould from four to eight inches deep, which is very productive. If this is mixed with the clay underneath, and with proper rotation of crops, the farmers' chances are magnificent. We saw oats that would harvest 40 bushels to the acre. Potatoes planted in May produced at the rate of 250 bushels per acre; and some planted in the end of June turned out 50 bushels to the acre. Fall wheat, spring wheat, peas, clover—in fact, everything grows well.

Any man who has had some experience in Old Ontario, and is willing to work, can do well in New Ontario. The land is covered with small timber, mostly spruce. Stumping is easy; cut the big roots with an axe and a span of horses will pull them up.

On the road to Milberta, about six miles from New Liskeard, we came to a settler who had gone in three years ago and now has 35 acres cleared and under cultivation, good frame house, log barn with shingle roof, orchard set out, and wire fence more than half way along the front of the clearing.

The settler without capital can obtain immediate return for his labor in the sale of timber. One man that we heard of sold \$200 worth of spruce off his farm last winter. It is said that the timber on a 160 acre lot will sell for from \$500 to \$1,500.

The general opinion expressed was that as soon as the new railway reaches New Liskeard, and the many advantages of that part of the Province become better known it will be quickly

filled with settlers from Old Ontario and other places.

L. G. JACKSON.

The *Era*, Newmarket.

EXCELLENT SOIL

It is, of course, impossible to form much of an idea as to the agricultural capabilities of any country in a couple of days, which was all the time that the Press Association spent in New Ontario, although, owing to the courtesy of Mr. Thomas Southworth, Director of Colonization, we were able to see more than we could in twice the time had we gone as individuals.

Going up the Blanche River we could see from the exposed banks that the soil was excellent, and there was a good deal of cleared land from which fine crops had been taken. The fact that several fields were absolutely free of stumps and the crop had been cut with a reaper showed that the land was not hard to clear. On the road to Milberta, which is somewhat more recently settled, not so much progress had been made, but there were some fair clearings, and a few good barns, which seemed to be well filled, also some very comfortable frame houses, with not a little

taste evident in the surroundings. The splendid leading roads built by the Government are a great boon to the settlers and are object lessons as to the kind of highways they should build for themselves.

The fair at New Liskeard was a revelation, the quality of the roots and vegetables and grain being equal to those at most of the fairs in Old Ontario. There was not much stock, but the quality was excellent, though the condition of the cattle was rather poor, owing to the lack of pasturage. The flowers shown by the ladies and the taste with which they were arranged was evidence of culture and refinement.

On the Huntsworth place, in the east end of Liskeard, there is an orchard of apple trees which seem to be thriving and a considerable space under cultivation of strawberries, raspberries and currants, which yielded well this year and produced quite a revenue.

Altogether the Temiskaming district as far as we could judge, is ideal for settlers, and especially for poor men, who can get profitable work at good wages for all the time they can spare. No complaints were heard; everybody seemed satisfied, and the appearance of the crowd on the fair grounds showed they were well-to-do.

There was hardly any chance to judge of the country along the Temiskaming railway, as there is no clearing except the right of way for more than a few miles out of North Bay. The quality of the timber, however, showed there must be good land underneath, and the soil taken out by the steam shovel in a ballast pit would be a fortune to a farmer if there was enough of it. There was, however, a good deal of broken land, which would never make farms until all the rest of the country is crowded.

C. M. YOUNG.

The *Freeholder*, Cornwall.

A VERITABLE REVELATION

That part of New Ontario known as the Temiskaming district has surprises in store for all visitors. A tour of inspection will inevitably dispel prejudices and command at least a measure of wholesome respect for that section, because of its resourcefulness. This characteristic is manifest even on a hurried trip through the country.

During the recent visit of the Canadian Press Association a very fair opportunity was afforded for judging of the advantages of the country from an agricultural standpoint. We travelled



The Hunting Season is on.

by boat up the Blanche River through the townships of Harris, Casey, Brethour, Hilliard and Armstrong, and drove over the Government roads through Digmond, Hudson, Kerns, and into Armstrong, in all covering about 100 miles.

In making this circuit we found hundreds of settlers doing well in their new homes, well satisfied with their prospects, and full of confidence as to the future of this new and recently discovered section of our resourceful province.

In conversing with the farmers on their farms, and also at the Township of Digmond Fall Fair, which was held at New Liskeard on the 25th September, they invariably expressed the opinion that the soil of the greater part of the Temiskaming district is fully equal in fertility to that of any part of Southern Ontario. Judging from the quality of grain and roots shown at the exhibition there was certainly no reason to doubt the assertion.

As is well known, this country is in the great northern clay belt, and the soil is a rich, heavy surface of black vegetable mould. It does not, like the clay in the countries bordering Lake Ontario, between Toronto and Hamilton, and in the other parts of older Ontario, become hard when exposed to the air, but is friable when dry and easily worked.

The agricultural fair was a veritable revelation to visitors from outside. The exhibit of stocks was very creditable, and the fact that it included a number of pure-breds and several imported animals, showed that the settlers are determined at the outset to stock their farms with the best strains obtainable. It was, however, the display of grain and roots which created most genuine surprise. The wheat, rye, corn and oats were exceptionally fine and, the judges assured us, were of superior quality. The potatoes were magnificent, and the 35 entries gave proof that the settlers were interested in the competition. Manure, guano and carrots were also excellent, while for garden vegetables there was a long list of splendid products. The twenty-one entries of apples were also that dairying is being given decided attention even at this early day in the country's history.

The Temiskaming country is well watered, easily drained, has abundance of timber for fuel, building and other purposes. Lumber, brick and lime are manufactured in the district, and building materials, farming implements and settlers' supplies are all obtainable at New Liskeard, Haileybury and other points at prices surprisingly reasonable. There are also superior farms and roads in all directions, and a ready cash market for all the products of the farm and forest. The advantages of churches, good schools, daily stages and regular mails are also enjoyed.

In view of all this and the added fact that next summer will see the completion of the Temiskaming and North Ontario Railway from North Bay to New Liskeard, thus bringing the district within twenty-four hours of Toronto, I have no hesitation in recommending prospective settlers to secure their new homes in the Temiskaming district in preference to the open prairie wheat lands or ranches of the far West.

H. P. MOORE.

Free Press, Acton.

THE ROADS AND SOIL

The land is now taken up as far as it is surveyed, but on most of the claims very little work has been done. Of the clearings we see in a twelve mile drive to Milberta, some were nice level locations, although the country resembles Old Ontario more than Maple or the Territories. Some whips speak

of it as being "undulating" but not hilly. I call some of it hilly—decidedly. The Ontario Government has built some main roads (which is more than the settlers in Old Ontario had done for them sixty years ago), and these roads are as good as any in Old Ontario. In fact I have bumped over as bad spots in Toronto roads as you find in these. When a team of horses pull nine people twelve miles in two hours, you can conclude that they are pretty good for colonization roads. It had rained the night before, but stretches of the road were quite dry. The settlers are expected to build the side roads, and these at first will probably not be so good.

As I said, many locations as yet have no clearings and this is a drawback. Where two or three owners have made a start on adjoining lots it is all right, but where a man has miles of almost impassible bush between him and the next settler, it is discouraging in some cases. It will be years before some of the locations will be accessible by road. To facilitate clearing, the owner of a good timber lot sometimes sells his timber to a saw miller. I cannot say what the range of prices is, but I met one man who was selling his for \$300.

The soil produces everything that we grow down here—just as good grain, roots, vegetables, flowers, grapes, apples, etc., but it is not very suitable as a rule for apples or kindred fruit. Wild fruits are abundant. The soil crusts thinly, but does not cake like our heavy clay. Potatoes grow very large, but like the crop here are showing signs of rot.

W. H. KELLER.

The Journal, Uxbridge, Ont.

HAS GOLDEN OPPORTUNITIES

On Friday, Sept. 25th, the Commissioner of Crown Lands and the visiting pressmen drove twelve miles out into the country over colonization roads which had been built during the past two years under the supervision of A. W. Cambell, Deputy Minister of Public Works. The writer drove the first of four loads. To the surprise of everybody these roads were found to be in every respect equal to the best of the country roads in Lambton, and as Mr. Davis remarked, "there are streets in Toronto not as good." At the new village of Milberta, 12 miles north-west of, and 200 feet higher than New Liskeard, the party had dinner and then returned. The country passed through was mostly good farming land, and is being rapidly settled. It is covered with mixed timber all of which finds a ready market, so that the settler has an income from the moment he puts the first axe into the forest. One of the surprises of the visitors was the number of wire fences along the farm fronts. Oats, clover and vegetables are the settler's first crops, and all yield abundantly.

The general opinion expressed by the visitors was that as soon as the new railway reaches New Liskeard and the many advantages of that part of the Province become better known, it will be quickly filled with settlers from Old Ontario and other places. New Liskeard is 175 miles south of the latitude of Winnipeg, and the winters, though cold and already, are shorter and milder than the Manitoba winter and free from the sweeping winds of the prairie country, and also free from the dampness of the Southern Ontario winter, in short the climate is admirably suited to the requirements of vigorous and progressive people. Then the settler without capital can obtain an immediate return for his labor in the sale of whatever kind of timber he may have. And this is only the fringe of the great timbered clay belt of over sixteen million acres which stretches away to the north and west, the heart of which will only be

24 hours from Toronto by rail. The building of the new railway north from North Bay within the Government is now pushing forward will do wonders to build up the trade in Toronto and, in fact, in all the whole Province. The movement of population and wealth to New Ontario has only commenced, and its golden opportunities only beginning to be appreciated, even by our own people.

H. T. PETTYFLEX,
The Free Press, Forest, Ont.

Wire Fencing and Fall Fencing

Wire fencing has many points of advantage over most other styles.

Its cleanliness, doing away with the associates of the old rail fence—corner, the weeds, brush and bushes, the straight and the narrow line permitting the land to be cultivated much closer without fear of injury to the fence, team or implements, are points that commend it to general approval. It is also a fence that, if well constructed, is of the best degree reliable. How often has the reader on arising after a night of storm and wind and rain found the whole of his rail fences laid low, his own and his neighbor's stock roaming at will over the whole of his crops and doing more damage to the standing grain and to themselves than the cost of many fences. The light handsome fence of wire can be depended upon at all times; it has only to be built once, and if built well, will stand all tests.

In this connection the query arises, "Why is the erection of the new wire fence invariably commenced, or as it may well be put, deferred until spring?"

This is usually of all time the question of the busiest. Is not this a work that can be done to as good advantage as in the Fall of the year when the ground is in equally good condition for the placing of posts solidly in place, and when less fully occupied time gives better opportunity to make sure that the work is well done.

By making arrangements now to do at least part of that fence this Fall instead of waiting until next Spring you will not doubt be able to find time and it will then be so much that is off your mind, and, if it is a fence that runs near the buildings or a road, you will be well repaid by enjoying through the coming winter an immunity from the drifts of snow that are the winter associates of the old rail fence.

The Victoria, B.C. Fair

Large attendance, good weather and keen interest from commencement to close, characterized the Victoria Exhibition, held early in October. A programme consisting of horse-racing and other attractions added the fine nature of the stock, grain, vegetables and fruits. A characteristic feature of the Exhibition was the exhibits of agricultural products made by different localities, such as Saanich, Chilliwack, Cowichan and Okanagan. They were tastefully planned, and showed to good advantage the natural products of these localities. First place was awarded to Saanich and second to Chilliwack. In live stock there was a strong aggregation from the mainland, particularly in beef and dairy cattle, sheep and swine from the Fraser River Valley. Alex. Galbraith, of Chilliwack, had on exhibition a fine class of draught horses. The exhibits of J. T. Wilkinson in light horses were also excellent, as also in Southdown sheep.

Mr. Hayseed—There ain't nothin' (het) Si P.ers love more'n newspaper notwiter.

Mrs. Hayseed—Whal's he bin a-doin' now?

Mr. Hayseed—Paintin' his barn agin, an' there ain't no occasion for it, 'cept twer git his name in the paper.

A Familiar Scene at the Victoria, B.C., Exhibition.

Pedigree and Improved Seeds

Every Canadian farmer is more or less interested in the breeding and selection of live stock with a view to the improvement of his herds and flocks. But the breeding and selection of seeds with a view to the improvement of the grain crop is very little known. In many ways the one is just as important as the other. No farmer who wanted to breed a high-class animal would think of using a scrub sire, or dam for the purpose. And yet there are hundreds of farmers who are every year sowing "scrub" seed and expecting to reap a large crop of grain of the best quality. One practice is just as absurd as the other, and an awakening is necessary if we expect to reap the best returns from our fields and crops.

The breeding and selection of seeds is a science that has reached its highest development in Europe and especially in Great Britain. In the old lands the high price of land makes it imperative upon the farmer to sow only the best seed to be had. In this way he has been able to increase his crops and make his farming a profitable venture. The seed merchants recognizing this principle have done much to help the English farmer and to put him in the way of securing the best quality of seeds. The pioneer in this work has been the well-known firm of Garton Bros., Warrington. In fact the great improvement that has taken place in the quality of the seeds offered to the British farmer has been largely due to the work of this enterprising and reliable firm. Not only are they seed merchants but breeders and growers of the seeds they sell. Garton's experimental grounds at Newton-Le-Willows are the largest of their kind in the world and are gradually working a revolution in the seed trade of the United Kingdom. A representative of Messrs. Garton has recently been in Canada in the interests of their large business. To the FARMING WORLD he gave some interesting facts about the work being done in England. All seeds are sent out under guaranteed percentages of purity and germination and that their efforts to supply only pure wholesome seeds are meeting with success is shown by the fact that during the past four years their sales have increased by over 300 per cent.

The chief work of this firm and the kind that is making for better and more improved seeds is carried on at their experimental grounds at Newton-Le-Willows. Here the results obtained by breeding and selection are nothing

short of marvellous. The tendency of new breeds of grain is to deteriorate. To arrest this deterioration and to bring these new breeds back to their original productiveness, the Garton system of improvement is each year applied to a number of individual flocks, and from the grains thus produced a stock is raised known as "regenerated" stock. For instance, Garton's stock of "Abundance" oat is practically eleven years younger than the original stock and is consequently more vigorous and productive. Experiments conducted by the Highland and Agricultural Society of Scotland show that Garton's regenerated "abundance" oat yielded 68 bushels per acre as against a yield of 55 bushels for the original stock of the same variety, an increase in favor of the regenerated stock of 13 bushels per acre. Other equally notable instances might be given. An effort is being made to produce an oat with less husk and consequently a larger percentage of grain. The new oat, "Goldfinger," is an example of what can be done. It shows from 1 to 4 per cent. less husk than several of the leading oats sown in England. This has been accomplished by breeding with a special object in view. Messrs. Garton hope in the near future to have a hullless oat splendidly adapted for the oat meal milling trade.

It would take too much space to go into detail in everything that is being done by these people to develop new and improved seeds of all kinds. An interesting piece of work is that connected with the new class of farm plants known as Turnip-Swedes, the aim being to combine the good quality of both in one new vigorous plant. In this Messrs. Garton have been singularly successful, and a class of plants has been produced, intermediate in character between the turnip and the Swede, possessing the vigor and quick growing habit of the former, combined with the hardiness and high feeding value of the latter. This new class which will be known as the Turnip-Swede, marks a new era in this class of farm plants and is the most important addition to the turnip family since the advent of the Swede over a century ago. A leading variety of this class is known as the "Pioneer," a variety with skin bright purple, bulbs globular in shape, foliage robust and vigorous, with purple-colored leaf stalks.

Work of this nature in seed improvement is new to the Canadian farmer.

So far he has had to depend upon other countries, for his turnip and similar seeds, while in seed grain he has been dependent upon the ordinary seeds of the country unimproved and unselected. He should therefore welcome any movement looking to the improvement of the seed which he uses. We understand from Mr. A. G. Turner, Messrs. Garton's representative, that, if a company can be formed in Canada to undertake similar work, they will lend their name, influence and experience towards making it a success. In other words, Messrs. Garton will undertake to introduce their methods of breeding and selecting seeds into Canada. That the establishment of experimental grounds similar to those at Newton-Le-Willows in Canada would materially improve the quality of our seeds cannot be doubted. It is to be hoped therefore that a company will be formed and arrangements made to introduce the Garton system of producing pedigree seeds into Canada.

Know the Seeds You Buy

Parties buying seeds, especially vegetable and flower seeds, should know approximately what percentage of them is likely to grow. To obtain some definite information in regard to the quality of Canadian vegetable and flower seeds, the Seed Division, Ottawa, collected upwards of five hundred samples and tested them for vitality. The samples were secured at about twenty different points in the Dominion and were considered representative of the seeds on sale. About one hundred of the packages bought were of seeds held over from last year. The most approved method was used in making the tests, two hundred seeds being used for each single test and each being conducted in duplicate. Where the number of seeds in the package would not permit of this, all the seeds were used.

The following table gives a summary of tests of a few of the common seeds:

Kind of Seed.	No. of Min.	Max.	Aver.	
Union.....	27	1.3	95.5	55.7
Lettuce.....	10	41.	95.3	82.9
Celery.....	11	1.5	50.5	18.2
Carrot.....	24	26.	93.	66.
Cauliflower..	9	2.5	87.	51.5
Radish.....	17	12.5	90.	71.0
Tomato.....	18	27.	95.7	77.
Cabbage.....	14	40.5	95.8	72.
Farsnip.....	15	11.3	97.8	49.
Morning Glory	5	99.	61.5	50.8
Sweet peas..	5	69.	91.3	85.4
Pansy.....	6	9.5	75.	54.2

The most noteworthy point in the results is the great variation in the results of different samples of the one kind of seed. For seed of this average is in most cases fairly reasonable, a considerable number of samples germinate so poorly that a poor stand would be inevitable. The samples of the extremely low vitality doubtless were principally old seed held over from year to year. Some kinds of seed depreciate in value very rapidly and in a few years are valueless, so that the practice of some seedsmen on leaving seed packages in the hands of retailers year after year cannot be commended.

It is important that a buyer of seeds should know at least approximately what per cent. is vital, but owing to the limited amount of seed it is impossible for him to make a test. The case is different with the wholesale dealer, who has seed in bulk and should know within at least five or ten per cent. the vitality of the seeds he handles. A stamp the vitality on each package would entail some little trouble to seedsmen but not necessarily any risk, as no objection could be raised to a reasonable margin. Such a practice would be of inestimable benefit to the users of the seed.

In the Dairy

The Dairy Conference

Arrangements for the Dairy Conference to be held at Ottawa, on Nov. 4-6 next, have been completed by J. A. Ruddick, Chief of the Dairy Division, Ottawa. The meetings will be held in the Imperial building, Queen Street, Ottawa, and the attendance will be limited to invited delegates and representatives of the press.

Among the subjects to be discussed are: co-operation of dairy farmers; instruction to farmers; export trade; preservation and transportation of dairy produce; common defects in cheese and butter in 1903; pasteurization in creameries; syndicate work in Ontario; cool curing of cheese; sanitation in factories; caring for milk, etc. Some important resolutions will come up for discussion. Any delegate wishing to present a resolution should notify Mr. Ruddick at an early date.

Light and Pure Air in Dairy Stables

Before the winter sets in and the cows are confined almost constantly to the stable see that proper provision is made for light and ventilation. We were in a stable the other day, supposed to be a model, that in our opinion was lacking in this one respect of light. Light could only get in from one stall and as the stable was wide the farther side was dark and gloomy even at midday. If your stable is not well-lighted now, have windows put in. The more light and especially sunlight, the healthier the stock to light and ventilation. There is less danger of tuberculosis in the herd if the stable is well lighted and ventilated. If the ventilation has not been good have it attended to at once so that the cows will breathe only pure air. Good air to breathe will lessen the amount of food required and increase the returns.

The dairyman should think to light and ventilation more, perhaps, than the beef-raiser, though they will help both industries. Get light and ventilation into your stables in some way. Light and pure air are free to all and should not be kept away from man or beast.

Good Dairying Pays

Canadian dairymen have had a good season, especially those who patronized the cheese factory. Below is given the result of a 500 census made by Mr. C. P. Goodrich, of Wisconsin, chiefly of creamery patrons. The figures show the value of ensilage or better good feeding or care. Mr. Goodrich says:

"There are five creamery patrons who feed ensilage: No. 4 who made on butter \$39.18 profit per cow. No. 7 who made on butter \$14.05 profit per cow. No. 17 who made on butter \$11.50 per cow. No. 21 with \$20.17 profit per cow. No. 25 with \$27.79 profit per cow. One cheese factory patron fed ensilage, whose profit on milk delivered was \$22.23. These six silo men averaged \$21.02 profit per cow, while the average profit of creamery patrons was only \$5.94 per cow. The gross returns for the silo men averaged \$52.52 per cow, while those who did not feed ensilage received on an average of but \$34.00 per cow, a difference of \$18.52 in favor of the ensilage men."

"Can any one doubt, in face of these facts, that it will pay to build a silo? Is it possible that all this gain in gross receipts and profits is because these men feed ensilage? Or is it, in part, because these men are more progressive, up-to-date farmers, have better dairy cows, study to feed a balanced ration, and in short have less old fogysm than many of those who do not have silos? These are questions for you to ponder on and answer."

"My own opinion is that, although I think any man is making a great mistake who keeps a herd of dairy cows without

having a silo, the feeding of ensilage did not and could not of itself make this astonishing difference of over 54 per cent. in gross receipts and more than 50 per cent. in net profit."

These figures speak for themselves. Can any of our Canadian dairymen show better results? We believe they can. Send them along.

Udder Massage in Milking

We have referred in these columns to the method of manipulation of the udder in milking or what is known as udder massage in milking. A dairymen of New Zealand, Mr. H. Graham by name, who has tried it reports results as follows:

"Our test was standing at 3.5, and the last seven days of December we tried the manipulating scheme and we jumped up to 3.8, just making a difference of .28. per day extra to us. My neighbor, Mr. C. Walker, also tried it, and his test rose from 3.0 to 3.9. The new method made an increase of .28. a day on a herd of twenty cows or about 12 per cent. The tests rose an additional point the second week. The total increase is therefore .4."

Have any of our Canadian dairymen tried this new plan? If so, we would be glad to hear from them as to the success of the experiment.

A New Milk Tester

It is reported that the city bacteriologist of Atlanta, Ga., has ordered an instrument from Germany by the use of which he can tell whether milk has been watered. With this new instrument, no matter how rich the milk, if the slightest water has been added it will be revealed. What kind of a milk tester is this anyway?

North-West Dairying

The Dominion Department of Agriculture, through its Dairy Division are operating eighteen creameries in the North-West Territories. Three creameries were closed in 1902 because the farmers who formerly patronized them had got into a position to raise stock and grain. This was not because of lack of confidence in dairying, but because they preferred the former method of making a living.

Last year five carloads of butter from the government creameries were exported to Great Britain, one carload to Queensland, Australia, and shipments were also made to China, Japan and the Yukon. Up to Oct. 1st, 1903, the output of butter from these creameries exceeded that of last year for the same period by 10,000 pounds, this increase being mainly in Alberta. This year no butter has been sent to Great Britain, all of it being sold in Canada or exported to the Orient. The exhibit of dairy products at the Japan Exposition at Osaka, has already borne fruit, three customers for Canadian butter having already been secured as a direct result of it. The trade in butter for the Orient is for the European residents, and Mr. J. A. Ruddick, chief of the Dairy Division, hopes to develop an extensive trade with the wharves touching at Nagasaki for coal. Part of the butter shipped this season was sent forward in tins and also in boxes. In the latter it stands the journey very well.

Mr. Isaacstein, of New York, returned home very late one night and Mrs. Isaacstein asked:

"Shakey, where you got all dot to bacco stane on your shirt front?"

"Blaying draw poker mit three shiente-mans from New England, Rachel."

"Vet, couldn't you turn your head to one side ven you spit?"

"Not mit dose fellers."

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Our English Letter

Weather and Crops—The Dairy Show—Adulterated Butter— Admixture of Margarine—The Markets.

London, Oct. 17, 1903.

Rain and wind, wind and rain have been the burden of the present year and farmers have had a most trying season. The "black year" of 1879 is eclipsed by the rain that has fallen since January last and agriculturists have suffered severely. Floods have been frequent and in many parts of England at the present time there are acres of corn uncut, as the wet weather has precluded any attempt at harvesting. The quality of home-grown corn, as may be supposed, has suffered from exposure to the elements and prices are steadily and relentlessly on the down grade. Grass is still plentiful, but there is not much feeding value in it, while mangolds and swedes have principally run to top and are full of weeds, the bulbs being diminutive and of low feeding value. Stock of all sorts are doing well and many farmers find beef very dear to buy in, for in most parts of the country there is an amount of hay although its quality is quite another matter, for much of it was greatly damaged by the heavy downfall of June.

THE DAIRY SHOW

Last week the annual Dairy Show was held in the Agricultural Hall, Islington, London, and a magnificent collection of dairy produce was again brought together. Cattle at this show are only one in number and are of the milk type. Elaborate butter tests and milking trials are carried out during the four days the exhibition is open and the results give some useful information as to what picked cows are able to do in the direction of pail filling and butter yielding. The pedigree Shorthorn butter test was won by a cow belonging to Mr. J. Evans, which produced 10 pounds of milk in 24 hours which produced 1.34 ozs. of butter, which gives a ratio of 23.67 lbs. of milk to 1 lb. of butter. The second prize winner gave 53 lbs. of milk from which was made 2.14 lbs. of butter.

The Jersey butter test was an interesting one, for it included Dr. Watney's renowned cow Sharab, which is supposed to be, and that with great reason, the most remarkable cow alive, yielding 45 lbs. 5 ozs. of milk which was manufactured into 2 lbs. 9½ ozs. of butter. This is a remarkable record considering she calved so long ago as June 19. The second prize Jersey also did well; this was Queen's Fancy belonging to the same owner. She gave 32 lbs. 2 ozs. of milk in the twenty-four hours which yielded 1 lbs. 3 oz. of butter, having calved on May 21 last. In the milking tests the best cow was a non-pedigree Shorthorn, Modre Maid, which gave 2.89 lbs. of actual weight of butter fat in 24 hours and 6½ lbs. of solids other than fat in the same period. In this test Sharab, the Jersey, gave 4.20 lbs. of butter fat and 4.07 lbs. of solids other than fat.

Cheese and butter makers are always to the fore at the Dairy Show. Of Cheddar there was a fair display but the prizes mostly went to Scotland and few of the Somersetshire exhibitors received more than barren honors. Butter was capital and made up an excellent display, had the pleasure of sampling were about as near perfection as is possible. Bacon, hams, roots, honey, bread made up an excellent show, while there was also a capital collection of fancy poultry and pigeons.

ADULTERATED BUTTER

Lord Onslow, the Minister of Agriculture, visited the Dairy Show, and spoke at the annual meeting of the members when he promised to re-introduce the water in butter bill in the next session of parliament and endeavor to get it passed into law.

The bill is one that dairy farmers urgently desire to see upon the statute books but had to be dropped last session owing to pressure of business. I see that the Canadian legislature have set us a good example in the matter and I hope that we shall shortly have the sale of "milk-blended" butters put a stop to.

One of the latest frauds upon the butter consumer is the admixture of margarine and pure butter in such a manner that chemical analysis is defied, and it is impossible to detect which is genuine butter fat and which is animal fat from other sources. At the recent dairy conference at Brussels the subject was widely discussed, and a way was suggested which will get out of the difficulty easily. It is proposed that all margarine factories should be under government inspection, and that all manufacturers should be compelled to state to their product a small percentage of oil of sesame, which is not only innocuous as regards flavor, but is really of food value.

Where the addition of oil of sesame is beneficial is in this way, it appears that a simple chemical test will quickly show that any mixture containing this oil will quickly react and assume a pale rose or light pink color. If all margarine manufacturers were compelled to add this substance to their product detection of unfair competition would be at once evident. I understand that at the Brussels Conference a resolution adopting this suggestion was unanimously adopted, the only rift in the lute being that the Dutch delegates retired without voting, as it appears that it is their country which is the principal sinner in this respect, although the practice is also pretty general in Denmark.

THE MARKETS

We are just now in the throes of the fiscal question, which receives greater attention than it otherwise might owing to the general slackness of business. Butter is slow and prices are inclined to be easy, while the slight reductions recorded for Canadian bacon have brought about a better feeling, and larger quantities have changed hands. The reverse is the case for Canadian cheese, which is at such prices that buyers will not pay much attention to it.

Canadian and States apples are reaching us in enormous quantities just now, and a good clearance is effected, although to bring about this prices have fallen about 50 cents per barrel. The result of the Canadian Fruit Marks Act has been a decided improvement in the grading and packing since the measure was enforced, and the trade and the public are beginning to appreciate the advantages of the Act. The fruit that is reaching us is in excellent condition, but from advices received the impression is gaining ground that prices will go back further yet as there is such an enormous crop in other parts of the world, although, unfortunately the English grower has had a really disastrous season.

There is very little moving on this side at present, and until we get colder and more seasonable weather foodstuffs of all sorts will remain dull. An early winter would do a great deal to put the provision market on good terms with itself. I hear privately that a great number of factories are partly shut down, hence unless trade improves during the next two months the purchasing power of the people will be considerably curtailed.

The World's Grain Crops

The Hungarian Minister of Agriculture estimates the world's total yield of wheat for 1903 as 3,022 million bushels as compared with 2,868 million bushels in 1902.

The yield of rye as 1,513 million bushels as against 1,376 in 1902; barley 1,211 in 1903 as against 1,174 in 1902; oats as 3,515 as compared with 3,272 in 1902; and corn as 2,835 million bushels as compared with 3,042 millions in 1902. The following is the rank of the leading countries in wheat production in 1902: United States, 639 million bushels; Russia, 523; France, 338; India, 285; Hungary, 163; Italy, 139; Germany, 130; Spain, 121; Canada, 93; Argentine, 91; Roumania, 68; Great Britain, 53; Austria, 47; and Bulgaria, 37 million bushels.

The Paris, France, *Bulletin de Hallé* makes the estimate of the world's wheat crop much less, or 2,897,859,000 bushels as against 2,967,383,000 bushels in 1902, a shortage of 69,524,000 bushels or a reduction of 2.34 per cent. The Bulletin credits the exporting countries with a surplus of 498,300,000 bushels and the estimated requirements of importing countries 477,866,000 bushels, thus showing a surplus over requirements of 20,431,000 bushels. These estimates are for the crop year extending from August 1, 1903, to July 31, 1904, inclusive.

According to these figures the world's supply of wheat is likely to be equal to all requirements.

Selecting and Storing Seed Corn

Though comparatively little corn is grown in this country, in some of the sections, notably in Essex County, Ontario, where the bulk of the corn is grown as a grain crop. Where this is done it will pay to give some attention to the selection of corn for seed. Corn for seed should be fairly firm while it is still on the stalk before picking. The grain seems to be plumper after drying, than when picking is done shortly after the leaves and husks are turned in color. Where only a few bushels are required for next year's seed supply, it will pay to go through the corn field after the grain has become thoroughly hard and pick such portions as most nearly approaches the best. There is some advantage in choosing ears from stalks which are of good size and that bear the ear well up from the ground. This will conduce to more uniformity, not only in the size and shape of the stalk, but also in the size of the ear. The ears selected should be well filled with well matured kernels, right off the top, reasonably large, pure in color, and fairly good depth of kernel. Only the plump, well developed grains should be planted.

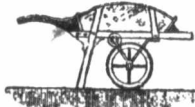
After selection, the corn should be stored where there will be every natural advantage for drying. Inexpensive racks may be constructed by erecting uprights (one inch by six inches) from the floor to the roof of the corn crib, or in any structure where ventilation is good. These uprights should be spaced evenly and be placed four or five feet apart, being joined by laths nailed on each side at a distance of about six inches apart. In between these laths the corn may be stored. In this way the conditions are ideal for drying, while at the same time the pressure due to the weight of the corn is not great on any part of the seed. The advantage of storing seed corn in a pile is that it does not dry out perfectly, and hence is liable to be more or less damaged by such freezing and thawing as take place in the winter. If corn is properly stored in this way, the conditions are ideal for drying, while at the same time the pressure due to the weight of the corn is not great on any part of the seed. The advantage of storing seed corn in a pile is that it does not dry out perfectly, and hence is liable to be more or less damaged by such freezing and thawing as take place in the winter. If corn is properly stored in this way, the conditions are ideal for drying, while at the same time the pressure due to the weight of the corn is not great on any part of the seed. The advantage of storing seed corn in a pile is that it does not dry out perfectly, and hence is liable to be more or less damaged by such freezing and thawing as take place in the winter. If corn is properly stored in this way, the conditions are ideal for drying, while at the same time the pressure due to the weight of the corn is not great on any part of the seed.

Farm Implements and Conveniences

Novel Wheelbarrow

The accompanying sketch is that of a rather novel novel wheelbarrow invented in England.

The wheel, instead of being fixed at the extreme front, is taken back underneath the body of the vehicle, and instead of the load being supported by the axle of the wheel as heretofore, it is carried by a smaller wheel under the body of the barrow, which rests upon a tire of the larger wheel, and revolves upon it. A brake may be added if de-



sired. It is claimed for the new barrow, which is an improvement on a home-made barrow on a similar principle, that it is easier to wheel, that the load, being better balanced, is much lighter in the hands of the user, and that for ease in tipping there is nothing to equal it.

A Milking Tube

A novel milking glove tube is in use in Australia, which is illustrated here-with. A valve fits over the teat, and from the valve extends a long narrow tube, which conveys the milk from the teat into a covered pail. The orifices in the cover of the pail are just large enough to receive the tubes. Many of the troubles of dairying are caused by the injurious microbes that are carried by dirt into the milk, and it has been

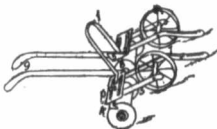


recommended by various authorities to groom the cows and wash their udders with soap and clean water, and wipe them with a clean towel; to require the milkers to wash their hands and heads, to brush and trim their nails, to wear clean clothes, to put on white overalls and caps at the time of milking; to construct the floor of milking-yard and shed of asphalt, to wash and sweep it after each milking, and to tar and lime-wash both it and the lime-work of the shed frequently. This milking tube would make all this unnecessary.

Adjustable Cultivator

An improved cultivator for use in gardens and nurseries for the cultivation and weeding of small plants has been invented South Dakota. The improvement lies in the provision of means for adjusting the cultivator discs relative to the main frame, or to the rows of plants, so that the soil may be thrown toward or away from them, as occasion may require. The ground wheels and beams may also be shifted

laterally to a sufficient degree to permit passage of large plants or bushes. The construction of the cultivator will be readily understood by a glance at the accompanying illustration. The frame comprises the usual arch 1, which connects the angle plates 2, and the handles 3, secured to the vertical portions 3 of the plates. The plates are provided with lateral slots 10, through which the pivot bolts of the bearing sleeves for the cultivator discs 8 project. The bars or beams, 5 and 6, supporting the ground wheels, 7, are similarly secured to the frame by bolts projecting through slots in the plates. Now, according as the rows of plants to be cultivated are close together or far



apart, by loosening the nuts on the pivot bolts, the pairs of discs may be shifted to a corresponding distance from each other. By swinging the bearing sleeves about on their pivots, the amount of soil broken up by the discs, and the direction in which it is thrown, may be governed at will. The scrapers, 4 which swing with the bearing sleeves, serve to remove any soil that may collect on the discs. It will be observed that the beams, 6, are extended and curved downward to the ground. These serve to stir up the soil adjacent to the rows of plants, thus rendering them more susceptible to the disintegrating action of the discs.

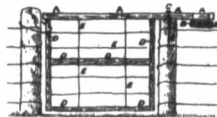
Farm Mechanics

The Iowa Agricultural College has established a new department to be known as Farm Mechanic and Agricultural Engineering. This should prove a most useful and valuable course.

The statistics of the U. S. Department of Agriculture show that in 1830 it required 17 3/4 cents worth of labor to produce a bushel of wheat. In 1866, this was reduced to 3 1/2 cents. In 1890, the time representing the production of a bushel of corn was 4 1/2 hours. In 1900 it was reduced to 34 minutes. This saving was largely brought about by the introduction and use of improved farm machinery.

A Good Swinging Gate

Here is another handy gate and more substantial than the other shown on this page. It dispenses with the ordinary material for swinging a gate, and as it only presses downwards on post c, the latter does not leave the perpendicular, and consequently the gate does not drop at the foot. Moreover, the structure may be quickly made as it hangs, and



consequently need not be so solid or heavy as the ordinary contrivance. The pole a is balanced on the post c, and the pin c driven through both, so as to hold in position. The gate is made by

merely binding on the battens and the wires e. The heavy piece of wood x may be used for balancing purposes.

Binders and Cream Separators

Editor THE FARMING WORLD:

I have been favorably impressed with the account given in the *FARMING WORLD* of Sept. 1st, of the Clostry binder about to be put on the market by the Farmers' Co-operative Harvesting Machine Co. Binders are being introduced here. There are four different kinds sold here by agents and every one of them is represented as the best. They will all work at first, but have not been long enough in use to test the durability of any of them. One of the strong objections to the binder is the great weight to take onto the soft fields that we often have here in harvest time. Reapers are filling in quite fast. If a binder can be produced that two horses can handle under ordinary circumstances it will doubtless take their place. For the surrounding country here we want a small sized light binder. A four-foot cut is all that is wanted in a large number of the fields. The binder puts the grain in a much better condition to stand the rainy weather. When grain is tied and properly stooked it will stand a large amount of rain before it is damaged. The grain is free from all contact with the earth. The grain, as left by the reaper, is nearer the ground; the straw at the cut end of the sheaf or pile being always higher, the consequence is that the grain sprouts in much shorter time in rainy weather than when put up in stooks.

Another article that is being introduced somewhat fast is the milk separator. And we are altogether at sea as to their qualities. I don't know how many have agents here representing them, not less, perhaps, than six or eight different kinds. And each agent represents the one he is selling as the best. When we look into the agricultural papers we find about the same confusion. Miss Rose, when here with her milk-tester, has shown us that in many cases the old system of separating the cream in water is very defective, with heavy losses to the dairyman. A better system seems to be found in the cream separator. I believe any of those that are now placed before the public will answer the purpose for a while. They are all about the same price for the same capacity. We think the price very high as compared with other articles put on the market here. Perhaps the company that is getting out the new binder will take up the cream separator also.

If this new light binder is put on the market next season, I hope Nova Scotia will not be overlooked as a field of labor, and that the farmers down by the sea may have an opportunity of seeing and examining it. Doubtless the large binders that are at present on the market are all right in the large fields with the level, smooth, hard bottom. But here, where we have small fields with uneven surfaces and frequently wet harvests and soft bottoms, we cannot hope to make a success with those heavy binders. We need something lighter, which I hope will be found in this new one to be put on the market next season.

JOHN McGEORGE,
Colchester Co., N. S.

The Way Out of It

A certain member of parliament was to make a speech in V—, but was unable to do so on account of the heavy rains having washed away a portion of the little railroad. So he sent this telegram:

"Cannot come—wash-out on the line."
In a few hours the reply came back:
"Come anyway—borrow a shirt."



The Jersey Cow "Dentonia's Island Queen," property of Dentonia Park Farm, Coleman, Ont. (Note splendid dairy form and length of udder.)

The Bang System

For Stamping Out Tuberculosis in Cattle

BY THE HON. W. C. EDWARDS

At the annual meeting of the American Association of Veterinary Science, held at Ottawa early in September, a valuable paper was read by the Hon. Senator Edwards giving his experience with the Bang system for the eradication of tuberculosis as practised at his farm at Rockland, Ont. This paper we are privileged to publish for the benefit of our readers. After some introductory remarks, Mr. Edwards said:

"Coming to the subject on which I am to occupy your time for a few moments and referring to a remark made in a former sentence of this paper, viz., the close alliance and association between human beings and domestic animals, and recalling the statement made by the great German scientist, Dr. Koch, about two years ago, the question of tuberculosis in our domestic animals would appear not to have the same significance as affecting human beings as was formerly generally supposed.

The relation or similarity as between human and bovine tuberculosis and the communicability from one to the other is, however, one for scientific and professional men to thresh out. I will not presume to express any opinion on this complex question. I will be permitted, however, I am sure to say that for myself I regard the safest course, while doubt still remains, is to allow the doubt to rest on the side of the greater security and continue to assume that there is danger until it is unconsciously proven that there is no danger of human beings contracting tuberculosis in various ways from domestic animals so diseased. But even if finally it is proven that the disease is not communicable from animal to man, there is no reason why the efforts being made for the eradication of the disease in our animals should be stayed for a moment. In our best interests, having regard to the animals only, it is most highly desirable that the disease should be eradicated. It is to be found to the greatest extent in our pure-bred herds, the source from whence sires are obtained for the general improvement of the herds the world over, and unless our pure-bred herds are cleansed of the disease, the process of spreading it will go on until it pervades the entire live stock interests of each country where it is not eradicated, and the extent to which it will be injurious to the live stock of each country will be measured by surround-

ing conditions and the loss of animals will be measured largely by the general sanitary or unsanitary and other conditions prevailing, so that regardless of the matter of the danger to human life, it is highly in the best interests of the stockmen that his herds and flocks should be free from disease of every nature, and the question arises—can tuberculosis, one of the most constant diseases present in animals, be eradicated?

My answer is, "YES," most emphatically. It can be done and once eradicated, by reasonable care, healthy herds and flocks in this respect can be maintained; and the system we recommend is the Bang system which has been rigidly practiced on our farm since the year 1898. In the Spring of that year, intending to ship some young bulls to Wisconsin, we asked our Dominion veterinary authorities to test them, and to our surprise and regret it was found that all responded to the tuberculin test.

This was our first knowledge of the existence of the disease in our herd. For a few days we were undecided what course to pursue, but on consultation with Hon. Sydney Fisher, Minister of Agriculture, who recommended testing the whole herd, and who further urged upon me the advisability of adopting the Bang System for the eradication of the disease, and on our consenting, he at once placed us in communication with Dr. McEachern, then Chief Dominion Veterinary Inspector, who immediately had the entire herd tested and gave us full information and instructions as to the Bang System. The greater part of the herd responded to the test and a separation was at once made of the healthy from the diseased animals. The decision was to weed out and kill all but animals of desirable pedigree and individuality and the slaughtering took place under veterinary inspection. Of the 50 to 60 animals slaughtered, only three proved unfit for human food, but in all traces of the disease in a more or less degree were found, but in most cases, very trifling traces of it. The stables formerly occupied by the herd were most thoroughly disinfected for the reception of the healthy animals and entirely new premises were erected for the diseased animals we retained in our herd and in like manner the diseased animals have been kept in separate and distinct pastures from the healthy ones since that

time and have never mingled in any way.

RAISING THE CALVES

In the inception of our experiments, we sterilized the milk from the diseased cows as directed by Dr. McEachern and fed the calves from the pail. This plan we found successful in so far as raising sound calves were concerned but it is a somewhat troublesome one, and further, we lost a few calves as we believe from the fact that they were so fed at once without first taking the mothers' milk in the natural way. This plan, while successful, we have discarded entirely and we have adopted the plan of raising the calves on nurse cows, allowing the calf always to suck the mother once before making the change. This plan we have found most successful in every particular and in the practice of either of these plans described, we can vouch for it from our experience that healthy calves can be most successfully raised from diseased dams of diseased sires and dams, and if all is carefully carried out, the percentage of diseased calves raised will be very small indeed, so small that it need hardly be considered in our management. Everything has been entirely satisfactory to us and we strongly recommend the practice to our brother breeders, many of whom we are sorry to say have, up to this time, resisted the advice in this respect of our veterinary authorities both in the United States and Canada and the subject has been a most controversial one. We can only say we are convinced that after a very considerable experience we are firm believers in the Bang System and we are believers in the tuberculin test as the only present means, so far as we are aware, in the management of animals of the disease. The only failure, so far as we have knowledge of, is in cases where the disease is in such an advanced stage that reaction does not take place in the majority of such cases will be few and far between.

Further, we have experienced none of the unfavorable results that are put up by those opposing the test. In no case have we known of an abortion in any animals we have had tested of an injury to the animal, neither have we experienced any trouble in abortion in cows tested and we have had them tested at all stages of pregnancy.

We are firm believers in the tuberculin test, as we have described, and we are also firm believers in the Bang System, and until these are improved upon—if they can be improved upon—we shall practice both in the management of our herd. No matter what the practice and requirements of our government authorities be, we on our part shall not relax our efforts in the direction I have stated until all our herds are absolutely free from the disease and until better means are known, we shall always use the tuberculin test to ascertain the conditions of the health of our herds.

EDUCATION AND UNITED EFFORT NEEDED

Having given our practice on the farm, I may now be permitted, perhaps, to make a few general remarks. The discovery of the extent of the disease in the herds of various countries a few years ago caused such a commotion that rigid enactments were passed by several legislative bodies; extreme conditions were imposed, doing unfortunately, in our opinion, a great deal of harm, arousing the antagonism of breeders and stockmen. Much of this legislation has been rescinded and more reasonable measures are now adopted as a result of a greater knowledge of the subject. Mistakes, however, have been made, were not willful but well intended on the part of the authorities of each country, but we submit that if the disease is to be eradicated from any country it must be done by a course of education and united effort on the

part of the breeders of the country. The exclusion of importations will never help to eradicate the disease just so long as the disease exists in the herds of the importing countries and our veterinary authorities will do well to show the simplicity with which the disease may be eradicated, rather than impose unnecessary conditions.

Apart from the test and the application of the Bang system and sanitary conditions, good ventilation and plenty of sunlight, and as much outdoor life as possible are the requisites. To the beginner in stock breeding we would advise great care in seeing to it that he begins his operations with animals free from disease and that he attends well to his ventilation and sanitary conditions, and if at any time he buys to strengthen his herd to see to it to a certainty that he does not buy disease with the animal.

To the breeder, small or large, who discovers the disease to exist generally in his herd, if the animals are inferior pedigree and individuality, we recommend turning off to a butcher to be killed under veterinary inspection, all animals that respond to the test, and ~~being~~ ~~anew~~, but no wise would we recommend the slaughtering of valuable animals where they are still in good breeding form and vigorous appearance, but we advise the system of separation we have described in this paper. The same full measure of separation may not always be possible, but the best that can be done should be done in each instance and under no circumstances neglect the matters of ventilation, good sanitary conditions, plenty of sunlight, and as much open air life as possible. I am fully convinced of the reasonable possibility of eradication of tuberculosis from our herds and of the maintenance of sound herds, and my earnest hope is that our breeders may at no distant day be so educated in the direction I have endeavored to describe that they will put into practice the only present known means of ridding their herds of a disease which in the past has been so destructive in its consequences.

Ottawa Winter Fair Building

Contracts aggregating \$13,764, have been awarded by the Ottawa city council for the erection of a suitable building for the Eastern Ontario Fat Stock and Dairy Show. The new building will be located in the grounds of the Canada Central Fair. It will be a two story frame structure, 241 by 135 feet, with stone foundation and cement piers, and sheeted with galvanized iron sidings. The internal arrangements will be such that an open space 70 feet by 158 feet from the ground to the roof will extend down the center, leaving 32½ feet of room on each side for stalls and pens. This will be an excellent ring for judging, and the space above and the sides will give ample opportunity for visitors to watch this part of the show. The part that is to be devoted to a lecture room is adjacent to this, and the architecture of the building is so planned that, should it ever be necessary, the piers in that part of the building can be removed together with seating, etc., and thus allow an open space 70 feet wide, the entire length of the building. The lecture room itself will be of sufficient size to seat at least three hundred, and in order to give the speaker all possible advantage, the seats have an amphitheatre arrangement. Behind the lecturer's platform and between the lecture room and the judging ring are doors which may be raised when no lecture or demonstration is in progress to allow people to remain in their seats and still be able to view the judging ring, and the advantage of what may there be in progress.

The killing and cooling room will in all probability, be in the opposite end of the building to the lecture room, so as to obviate any noisy interruptions of lecturers,

that are frequent and troublesome when the two rooms are close together. Any illustration carcasses required in the lecture room may easily be transferred by means of overhead tracks. It is expected that the dairy room will be at the same end of the building as the lecture hall. The upstairs will be used for live and dressed poultry, and for this purpose there will be a space of 1½ feet on each side and 4½ feet at each end of the central open space.

The Autumn County Show.

You may talk about St. Louis, an' your big Chicago Fair
Where the world is out on show, an' all creation comes to stare,
But for real intense enjoyment, there's a place I'd rather go,
Tis the annual celebration of the Autumn County Show.

When the summer time is over, an' the harvest's gathered in,
An' the Autumn's golden glory shines as only Autumn ken
Then comes the crowning climax, an' we load our stuff an' go,
To maintain our reputation at the annual County Show.

Mother brings some home-made butter, all done up in rolls an' prints,
And a fat, red-faced professor, with the funniest of squints,
Tastes it, sort o' calculation, tastes some more, an' says he's duried
If the butter that can heat this piece of goods was ever churned.

Over t'other side the showing, in the horse an' cattle stalls,
Dad has just been nailing several big red cards upon the walls,
Susie's calf has got the ribbon, Sue's as proud as she can be,
An' the champion yearlin' filly is the one dad gave to me.

Folks that go to Exhibitions, just to set down in the shade,
Flirt an' fool around the side-shows, buyin' sweetsies an' lemonade,
Can't have any true idea of the roarin' load of joys,
That the annual County Show day brings to all us farmer boys.

J. W. Sangster.

Uppermill and Collynie Bull Sale

On Oct. 13, the first of the great annual series of Shorthorn sales in the north of Scotland was held at Tillycairn, when the bull calves from Collynie and Uppermill were sold. Both Scotch and English breeders were out in strong force and as full of activity as ever. There were no United States buyers present. Mr. D. C. Platt, Hamilton, Ont., was the only Canadian buyer present. The Argentine boom more than made up for the collapse of the American demand, and the demand from that quarter was extraordinarily keen. The top price of the day was 500 guineas (\$3,000) paid by Mr. Taylor, of Pitivie, for the Uppermill calf, Imperial Favorite. The top price in the Collynie lot was 450 guineas (\$2,950) paid by Mr. Garue, Aldsworth, for Nonpareil Champion.

Mr. Marr had a small number of bull calves this year, and his average for the eight sold was the splendid figure of £21,198. 4d. (about \$1,053). Mr. Duthies' twenty-two bull calves made the high average of £144 2s. 6d. (about \$700) or about \$130 more than in 1902 and about \$60 less than in 1901. Marr's average was over \$450 more than in 1902 and over \$400 higher than at any previous sale held by him. None of Marr's lot were purchased by Mr. Platt, but he succeeded in getting three from the Collynie lot which should give a good account of themselves in Canada. Proud Edward, a red by Royal Edward, was purchased for the Trout Creek Herd for 200 guineas (\$1,000).

Another purchase by Mr. Platt was Rosy Morning, a roan, by Merry Morning for 86 guineas (\$430). He also purchased the red roan bull calf, Gold Cup, by Nonpareil Courtier, for 110 guineas (\$550).

Fall Management of Ewes

There is no such thing as "bad luck" in the management of live stock, though many unsuccessful breeders seem to think there is. Nearly all cases of so-called "bad luck" may be traced to bad management at some stage of the game. No line is this more noticeable than in the management of ewes, especially in the fall of the year. The breeding ewes are often neglected in the fall and the breeder or farmer wonders why he has not a better crop of lambs in the spring.

A serious mistake is often made by not feeding the ewes liberally during the breeding season. Often ewes are weak and thin from nursing and are turned into a bare pasture where they have no chance to gain in strength and vitality. When in this condition the ram is turned in with them and of course unsatisfactory results will be sure to follow. The ewe is weak, thin in blood and flesh, while the ram is in no better condition on the spare fare provided. His breeding powers are overtaxed and the result is that many lambs where two strong healthy ones might have been obtained.

All ewes should be in strong healthy condition when the breeding season begins. Between the weaning and the mating time the ewe should have some feed in addition to the pasture. Rape is very good for this purpose and every sheep raiser should grow a little for feeding at this time. If rape is not to be had then feed some grain in addition to the grass and clover pasture. If the pasture is short hay should be fed. A little cabbage at this time is good. A ration is a mixture of from one-half to three-quarters of a pound of a mixture of equal parts of whole oats and bran fed to each ewe daily. This generous feeding of the ewe should continue until the ewe is bred and also through the winter, substituting roots for the rape or silage for roots if the latter cannot be had. Careful feeding of this kind will keep the ewe in good strong healthy condition and the lambs dropped will be healthy and strong.

The ram should be given extra food months before the mating season begins. A quarter of a pound of mixed oats and bran daily along with rape pasture, cabbage and other ordinary farm foods will enable him to enter upon his fall work in the best of condition. This condition should be retained by sensible management. If the ram is turned into a large field with fifty ewes this condition will soon vanish. Even if other rams are turned in with him it will make no difference. A plan is to divide the ewes into three to divide the ewe flock into lots of fifty or fifty-five at the most and bring the ram among this flock night and morning. As a rule not over five ewes will come in heat at one time and of these he should serve three in the morning and two at night. If left to himself he might overserve some and neglect others. But under careful direction he will serve all in rotation and the results will be satisfactory.

Everybody Takes It

I have been taking **FARMING WORLD** for many years, and I like it well. The advice which was given has been of great use to my family, both in the house and on the farm, for the boys and girls are always waiting for the paper, and now that you have combined the two papers in one, we think it is well worth the increase in price. We would have tried to get some new subscribers, but we would have to go away from home for a week or two for it so not know of any who are not taking the paper. Write me, whether you ever success, SAMUEL TREMEE, Victoria Co., Ont.



Spicy Louise (Imp.)—Sold at Bright's sale for \$420—She was bought at Platt's sale last spring for a high figure.

Shorthorns and Clydesdales Sell Well

Brisk Bidding, Fair Prices, A Satisfactory Sale

The dispersion sale of the Clydesdale and Shorthorn herds of Mr. J. Bright, of Myrtle, held on Oct. 14th and 15th, was a very successful one considering the time of year, and, though in few cases were fancy prices reached, yet the general brisk run of the sale was a practical demonstration of what a solid basis the Shorthorn business of Canada rests upon, a basis too solid and deep laid to suffer the least noticeable reaction after the late boom. Very few indeed are the industries of which as much can be said, and the way in which the sixty head of cattle went through the sale ring in a little over four hours should go a good way to reassure those who were disconsolately knocking their own line of business by saying sadly that it was overdone, and that the business was likely to experience a long period of depression. This is a growing time in Canada, and in no sense more so than in the appreciation of the importance of improvement of farm live stock. The prices at which the entire herd was run off may be taken as a fair indication of current values among the pure-bred beef cattle today, values at which there is an unlimited demand for this kind of animal. None of the animals sold were in anything like show condition, being taken directly from the field to the sale ring, but all showed quality and were backed by good pedigrees in popular strains. Quite a number of really choice animals were among the number, and it was among the best of these that there was some sacrifice made, and it is quite possible that, had these been brought forward in higher condition, somewhat better prices would have been offered. The herd bull, a fine two-year-old roan, Royal Archer, bred by Robert Bruce, Hetherwick, Scotland, and of the famous "R" was certainly a half-price bargain to W. Bright, of Myrtle, General Ramsden a good looking Miss Ramsden five months' calf, was also a bargain day snap to Maw Bros., Myrtle, for \$85.00. There was some spirited bidding when Spicy King, a ten-months' imp. bull by Chance Shot (80660), dam Spicy Louise, was brought in, and he finally went to Allan Bros., Bowmanville, for the sum of three hundred dollars. Clemency 4th, a fine scotch-topped imported three-year-old heifer, went to J. Baker, Selina, for \$210.00, and W. Bright, of Myrtle, got a real gem in imp. Rose,

for \$330.00. The choice young cow, Spicy Louise, was sent up to four hundred and twenty dollars and dropped to Mr. W. B. Gardner, of Elmvale. She is bred to Royal Archer and the dam of Spicy King can scarcely fail to produce from the famous "R" strain a calf worth more than that when weaned. About seven hundred were present at the sale, almost all the leading breeders of Ontario being among the number.

The sale of Clydesdales was also very satisfactory, the bidding being very brisk, and all offered going to at least a fair mark, while in some cases good prices were reached. The horses offered were of good quality, and though not fat were in good healthy condition. The first offered was a six-year-old mare, Tillie Granger—5959—, sire Granger, dam by Prince Imperial. She was bred to McQueen, and is a fine mare with fair limbs and good style, and was landed by Graham Bros., Claremont. Her team mate was next offered. She is ten years of age, a daughter of old Sir Walter, and a mare of the finest kind of conformation and good size and quality, and carrying a colt to Lavender, W. Farrot, of Columbus, got this one at \$255. Royal Erskine, a two-year-old stallion, with two registered dams, a good strong colt of fair quality, good limbs and feet and fine top, went to T. W. Ross, of Myrtle, for \$325.00. This fellow is a lot of old Erskine, dam by Hercules; gr. dam by Netherby, while such horses as Merry Farmer and Loudon Tom, also figure in his pedigree. A two-year-old filly, Sweet Briar, by Eastfield Laddie (1715), dam by Goldfinder (714), was sold to J. Gardhouse. Her mate, Lady Erskine—4414—, sire Erskine Style (2190), dam Dolly Brock (4473), went to \$205.00 and was dropped to John Gordon, of Bella Duff. This was one of the best animals offered, of good size and grand proportions, fine limbs and feet, nicely sprung pasterns, a well rounded shapely body, well coupled, and showing lots of muscle, with a very fine toppy head and neck. She is altogether a fine type of animal, and promises to be a profitable investment to the purchaser. Ingraham's Rosebud—5074—, a good upstanding filly of good substance and quality went to J. Ward, of Bella Duff, for \$300.00. Lina 2nd, a good looking two-year-old by

Thistle, dam by Prince Imperial, was sold to H. M. Douglass, the well known stockman from Markdale. Dolly Carrington, a good thick blacky sorrel, of good style, a little deficient in feather, but showing good action and eligible for registration, being a daughter of Sir Erskine, and from a registered mare, went to Jas. Cook, Myrtle, for \$200.00. Jessie Lynedoch—5072—, sire Lynedoch and from the grand brood mare Columbus Jess—2043—, went to D. Moore, of Columbus, for \$200.00. She is a yearling of considerable promise, a large strong colt. Rosada—5072—, one-year-old, sire Eastfield Laddie—1712—, (6719), a good growthy kind, of fashionable type, went to W. Cassey, Ashburn. One-year-old Lady Cairnton—5057—, sire Royal Cairnton—4019—, dam Rose—5076—, was perhaps one of the best animals offered in the entire sale. She has splendid action, lots of quality to satisfy anybody, and good size. She was good enough for the stables of Graham Bros., Claremont, and went to them for \$210.00. Dolly Cairnton, another representative of the Cairnton family, a nice filly light bay in color, went to Nelson Wagg, Claremont, for \$200.00. Patrick's Prince 2nd, a promising colt by Prince Patrick, dam Nellie Erskine, by Erskine, was sold to F. W. Hodson, Myrtle. Several unregistered horses were also sold, among others a fine two-year-old gelding by Prince Patrick brought \$150.00. The ten-year-old mare Kate, of Raglan—3956—, sire Sir Erskine, a mare of good quality and style was sold to John Gordon, Vroomantou, for \$210.00.

The following is a list of the principal animals sold, with the purchaser and prices paid:—

COWS AND HEIFERS.

Imp. Clemency 4th.—48371— (vol. 49E), calved Dec. 25th, 1900, J. Baker, Selina, \$210.00.
Imp. Rose.—(Vol. 48, p. 601E), Feb. 25th, 1901, W. Bright, Myrtle, \$330.00.
Imp. Border Lass.—48406— (vol. 38, p. 671E), Mar. 22, 1901, John Ross, \$170.00.
Imp. Spicy Louise.—48486— (vol. 49 E), July 22, 1900, W. B. Gardner, Elmvale, \$420.00.
Maud.—(Vol. 29), Sept. 15th, 1898, J. C. Lawrence, Myrtle, \$120.00.
Sophia Ramsden.—(Vol. 20X), Aug. 4th, 1899, R. Miller, Stouffville, \$125.00.
Miss Ramsden 5th.—(Vol. 20), Mar. 15th, 1903, R. Philip, \$95.00.
Bertie Ramsden.—(Vol. 20), June 28th, 1900, J. Bonnycastle, Campbellford, \$140.00.
Miss Ramsden 11th.—(Vol. 20), May 11th, 1903, A. R. Johnson, Balsam, \$90.00.
Kitty Wells.—June 20th, 1900, W. Maw, Myrtle, \$175.00.
Miss Ramsden 13th.—(Vol. 20), May 29th, 1903, W. Maw, \$100.00.



Mr. John Bright.

Laura Ramsden.—(51154). July 14th, 1900. John Birkett, Balsam, \$125.00.
 Queen of York 4th.—(39344). Aug. 4th, 1896. W. Maw, \$100.00.
 Queen of York 5th.—(39345). May 10th, 1899. John Scott, Altoona, \$130.00.
 Miss Ramsden 10th.—(Vol. 19). Oct. 1st, 1902. J. D. Housh, Whittby, \$155.00.
 Blanche Ramsden 10th.—(Vol. 19). July 2nd, 1901. Graham Bros., Claremont, \$170.00.
 Gloster Annie.—(44457). July 15th, 1900. A. Dawson, \$200.00.
 Duchess of Gloucester 16th.—(Vol. 20). May 4th, 1903. Col. McGillivray, Uxbridge, \$100.00.
 Duchess of Gloucester 15th.—(Vol. 20). May 4th, 1903. J. Dryden & Sop, Brooklin, \$105.00.
 Crimson Jennie 2nd.—(33557)—, Dec. 3rd, 1894. H. Halton, Columbus, \$50.00.
 Crimson Jennie 3th.—(Vol. 20). Mar. 26th, 1903. W. Smith, Columbus, \$705.00.
 Crimson Jennie 3rd.—(41768)—, Feb. 15th, 1898. John Gordon, Vroomant, \$210.00.
 Crimson Jennie 4th.—(Vol. 20). June 30th, 1902. W. Bright, \$90.00.
 Crimson Edith.—(33556)—, Jan. 15th, 1895. W. Watson, Balsam, \$115.00.
 Crimson Edith 2nd.—(Vol. 20). May 14th, 1903. J. Dryden & Son, \$180.00.
 Crimson Maud 2nd.—(Vol. 19). April 1st, 1898. A. Dawson, \$190.00.
 Crimson Maud 3rd.—(Vol. 20). April 26th, 1903. Col. McGillivray, \$85.00.
 Village Bride 2nd.—(4866)—, Dec. 25th, 1894. R. Miller, \$155.00.
 Village Bride 6th.—(49286)—, Mar. 31st, 1902. J. Dryden & Son, \$160.00.
 Stamford Lucy 3rd.—(33561)—, Sept. 25th, 1896. A. Dawson, \$75.00.
 Stamford Lucy 10th.—(Vol. 20). May 26th, 1903. B. Burke, Brougham, \$110.00.
 Stamford Lady 4th.—(51863)—, Mar. 25th, 1893. W. Parrott, Columbus, \$125.00.
 Stamford Lady 5th.—(Vol. 20). Nov. 26th, 1902. Col. McGillivray, \$80.00.
 Stamford Lucy 11th.—(Vol. 20). June 2nd, 1902. J. Johnston, Myrtle, \$95.00.
 Sonnie.—(49225)—, Feb. 27, 1893. R. Miller, \$80.00.
 Sonnie 2nd.—(49284)—, Aug. 3rd, 1902. J. Muirhead, \$125.00.
 Havilah 2nd.—(3436)—, Nov. 26th, 1894. W. Wilson, Brougham, \$180.00.
 Uptergrove May.—(Vol. 20). Jan. 24th, 1902. W. Bright, \$70.00.
 Uptergrove May.—(Vol. 19). March 10th, 1898. W. Pollie, Seagrave.
 Brooklyn Queen.—(46201)—, R. Morgan, \$165.00.
 Flossie.—(49273)—, Sept. 7th, 1901. A. Johnston, \$140.00.
 Fannie Fairfax.—(44661)—, Feb. 2nd, 1897. W. Maw, \$100.00.
 Roan Lily's Choice.—\$100.00.

BULLS

Imp. Royal Archer.—(Vol. 19).—82128—
 Apr. 9, 1901. W. Bright, \$300.00.
 Imp. Spicy King.—(Vol. 20). Jan. 17, 1903. Allan Bro., Bownville, \$300.
 General Ramsden.—(48412)—, May 31st, 1903. Maw Bro., Myrtle, \$85.00.
 Duke of York.—(48412)—, June 21st, 1903. Jas. Cook, Myrtle, \$105.00.
 Stamford Lad.—(4767)—, April 7th, 1902. Col. McGillivray, Uxbridge.

The Port Perry Swine Sale

The first annual sale of pure-bred Swine, under the auspices of the Dominion Swine Breeders' Association, was held at Port Perry on October 16th, and turned out quite satisfactorily. Thirty-seven animals were sold for \$265.00, an average price of \$17.71. The highest priced animal sold for \$41.00, and the lowest for \$6.00. Hy. Glendinning & Son, of Manilla, sold twenty animals for \$245.00, an average of \$12.25. J. E. Broomer, of Burford, sold ten animals for \$262, an average of \$26.20. J. G. Foster, of Moles, sold three animals for \$49.00, an average of \$16.67; and Chas. Caldwell, of Bowman, sold four animals for \$91.00, an average of \$22.75. All of the animals sold were under one

year, with the exception of one which was about eighteen months, a very fine sow, winner of second place at the Winnipeg Exhibition, bred and sold by Mr. Bresthour. This sow brought the highest price at the sale.

Before the opening of the sale Mr. F. W. Hodson, Dominion Live Stock Commissioner, delivered a short address, in which he pointed out the great value the establishment of auction sales has proved to the country, their growth during the seventy-five years in the Old Country, and what the various Departments of Agriculture purpose concerning these sales in the various Provinces. He set forth the desirability of holding a quarterly or half-yearly sale at Port Perry. In the Spring a stallion, bull and fat cattle show should be held, at which prizes should be given, and after the prizes were awarded the animals which had competed should be put up at auction and sold. Besides bulls and breeding stock, dairy cows and perhaps a few pigs should be offered. In the Fall of the year pure-bred animals for breeding purposes, especially sows, and some of the best should be offered for sale. Dairy cows and store animals for fattening purposes might also be offered. The remarks well received and we understand that a sale of this sort will be established at Port Perry among the animals, whether for breeding purposes, for butchers, or for dairy purposes are bought and sold at public auction in the Old Country. Such a thing as a drover running about the country picking up animals here and there, as they do in this country is almost unknown in the Old Country. The auction sale principle was introduced from seventy years ago to one hundred years ago, and it has gradually increased and overspread the country so that it is in general practice today.

An excellent lesson was emphatically taught by the recent sale at Port Perry. Nearly all the pigs offered were of excellent quality in point of breeding, but only those that were brought out in good condition, large and growthy for their age, sold for high prices. The boys that sold for low prices were, in many cases, excellent individuals of superior breeding; but they were small for their age, because they had not been properly fed. With good management, many of these will, in time, develop into quite as useful animals as those selling for higher prices; but the buyers judged the pigs by their present appearance, taking no chances on future possibilities, and gauged their bidding accordingly.

The lesson to be learned is that, if farmers wish to obtain the best prices for their stock at either public or private sale they must see to it that their animals are properly bred but also well fed from birth. Neither breeding nor feeding is sufficient of itself. No amount of feeding will make an ill-bred animal valuable for breeding purposes, or on the other hand, the best of breeding is insufficient in itself if the animal be indifferently fed. A well-bred, well-fed animal will always command a good price.

Prince Edward Island

Fine weather. Very little frost. The recent rains have helped to fill the springs, and the land is now in good condition for plowing. Potato digging is finished, and a fair crop is reported. The turnip crop is said to be below the average. Shipping is brisk; quite a number of schooners are loading at Montague. Markets are well attended. On October 16, hay sold for from \$12 to \$13 per ton; oats, 39 to 34c; potatoes, 25c; chickens, 50 to 65c; geese, 75 to 90c; ducks, 80c per pair; butter, fresh, 24c per lb.; eggs, 16 to 17c; beef, small, 6 to 12c; plums and green grapes, 8 to 10c per qt.; apples, \$1 per bushel; cranberries, 35c per qt.; honey in comb, 25c per lb.; pork, 7 to 8c, small, 12 to 16c; flour per bbl., \$3.50 to

\$5; oatmeal, 2 1-2 to 3c. per lb.; tomatoes, per bus. \$1; fresh fish very scarce.

The Manchester Shipper arrived in port on Oct. 15. She left again on Oct. 16, direct for Manchester, with the following cargo: 350 sheep, from Carvell Bros. and Henderson & Sellar; 600 cases of eggs, from Auld Bros. and J. A. Farquharson & Co.; cattle, from Henderson & Sellar; some hay, cheese and sundries.

It is said that Mr. James McLeLLan, of Springfield, is the owner of a hen which laid an egg weighing 5 ounces, and measuring 6 1-2 inches.

The grist and saw mill of Paul Thompson, Lot 14, was destroyed by fire on Oct. 15.

C. A. Zuleit, Dairy Supt., arrived on the Island on August 11. After consulting with Mr. Anderson, Secretary of the Dairy Association, it was decided that Mr. Zuleit should make a tour of the factories and examine their conditions closely so that he might be better able to offer suggestions for their improvement. Accordingly, in company with Mr. Morrow, Instructor, he set out from the city on August 12, to do work on Sept. 9, after visiting 51 factories, and addressing several meetings. He reports these factory buildings mostly well constructed, good caring rooms, well located, good drainage, with the exception of a few that are rather defective.

Flavor of cheese was fairly good; body and texture generally good; stylish in appearance, well bandaged, and uniform in size. The curds had a tendency to lose fat shortly after milking. The makers were using four ounces of rennet for one hundred pounds of milk. During a few hot days the cheese examined showed a distinct weakness in body. The use of less rennet (2 1-2 per 1000 lbs.), was tried and found to be much more satisfactory. One brand of rennet, salt and color were used by the makers.

One thing lacking is the scarcity of milk. Only a limited amount of butter is made, whereas cheese is sold locally. It is fairly good, though rather heavily salted.

The regular meeting of the Cheese Board was largely attended. The buyers present were Messrs. Hayward, R. E. Spillet, and A. J. Biffin. 426 sold to Mr. Hayward at 10-18 cents; 2080 sold to Mr. Spillet at 10-13-16; and 740 boarded but not sold. A. R.

New Brunswick Institutes and Fairs

Mr. Dan Drummond, who is addressing institute meetings and judging at the fall fairs in New Brunswick, writes as follows:

"At Sussex, according to arrangement, I acted as judge of all the cattle classes. The show there is very strong in dairy cattle; in fact one of the strongest to be found in any of the provinces, both in quantity and in quality. In the pure breeds we had two herds of Jerseys, three of Guernseys, three of Ayrshires, one of Holsteins, and a very strong competition in best five grade milk cows. I followed the same course as last year and gave reasons for my decisions in nearly all classes. Apparently the exhibitors knew better what would be required this year, as the exhibits were of a more uniform nature as to type.

Leaving Sussex, I came to Edmundston and commenced the institute meetings. So far we have had six meetings with an attendance nearly double that of last year. Four in the French districts were well attended, 60, 70, 150 and 60 being present, respectively. At the other two in the Danish settlements 60 and 30 persons were present, respectively, a good percentage of a total of 50 families in the whole settlement."

Nature about the Farm

Winter Birds—A Migratory Butterfly—Life History

EDITED BY C. W. NASH

The summer birds have nearly all gone, and the woods are almost silent now. In fact, one may walk a long distance without hearing a bird note. Then perhaps you may meet a merry crowd of chickadees, or a foraging party of bluejays. These birds are never silent long at this season. In the summer, when they have their young to occupy their attention, they are quiet birds, the jays particularly so, and their notes, when they do utter them, are not noticeable amidst the melody of bird music that fills the air everywhere. Now they are care free; food is abundant and the weather perfect; so the little chickadee eats and grows fat, keeps up a musical chattering all the time, and leads a happy, jolly life. Then perhaps you are just as happy as any other bird, but somehow he does not act like it. He always appears to have some reason for keeping out of sight of or at a safe distance from human visitors. Should you by any chance manage to come upon a party of them suddenly, their fright and disgust at the intrusion is very plainly shown. The first one that sees you gives the alarm, and scolding, rattling screams ring out all around, and they are off. They always remind me of a crowd of hoodlums when they see a policeman. In a moment they scatter, not because they happen to be doing any wrong at that particular time, but because they are afraid they may be "wanted" for some wickedness they have previously committed.

On the 5th of October I saw a flock of redpolls in the birch trees near Scarborough. These are winter visitors, rather irregular in their coming and going, but I have seldom before seen them so early in the year. Weatherwise people would probably say that this betokens an early and severe winter. So far as my experience goes, I do not think any predictions as to what the coming season will be can be based upon the movements of the birds. They may move early from their summer quarters because the food supply is scanty, or stay late when it is ample. In some seasons we scarcely see redpolls at all, in others they are abundant; and the same thing occurs with all the other migrants from the north, but I have not been able to observe that their abundance or scarcity was in any way influenced by the weather conditions here.

INSECTS—A MIGRATORY BUTTERFLY

The monarch butterfly has always appeared to me to be somewhat out of place in Canada. It has a distinctly tropical appearance. Its large size, brilliant coloration and magnificent powers of flight, mark it at once as very different from any other of our butterflies. Not only is this remarkable in the perfect insect, but also in the larva and chrysalis. The larvae are to be found in all stages of growth upon the milkweed (asclepias), which seems to be their only food plant. They are peculiarly marked with alternating bands of black, white and yellow, and have two black threadlike horns near the head and two near the tail. When full grown they are about one and a half inches in length. The larvae attain their full development in from about eighteen to twenty-one days from the egg. Upon reaching this stage they usually leave the milkweed upon which they have fed and crawl off to some fence or low dead bush to which they first suspend themselves by their posterior end, and in that position bend downward and transform into chrysalids. The chrysalis is at first of a beautiful translucent green color, exquisitely studded with metallic gold. As the insect develops within, it gradually becomes darker, until towards the last its

transparency is lost. This stage lasts about twelve days, when the butterfly emerges. During the chrysalis stage there is a great mortality among these insects. In 1900 I kept a large number under observation both in the house and out of doors under natural conditions and found that but a small proportion of them produced a living butterfly. They were not parasitized, but after having nearly reached the perfect stage they dried up in the shell. During the same year I saw the most marked migratory movement among these butterflies that ever came under my notice. In the early part of the season there was no unusual abundance of them, but early in August they appeared in vast numbers and were evidently congregating. On the evening of the fifth of August I walked through the woods east of Toronto and watched some of the flocks gathering. When I first went amongst the trees I saw many small parties of a dozen or two clustering upon the ends of the twigs and along the smaller branches. Others were fluttering



The Monarch Butterfly.
(One-half natural size.)

around them. As the sun went down the parties grew into great flocks of hundreds in each, packed together so closely as they could stir themselves. During the daytime the butterflies scattered about as usual and seemed to take no more interest in each other than is usual among insects of their class, but at the close of each afternoon for about a month, collected in crowds and roosted upon the trees.

On the fourth of September a great movement took place. All through the afternoon the monarchs were streaming along the lake shore in myriads. I travelled through the flock for about five miles and in that distance there was no break in the flight. All of them were flying from east to west. At times individuals would rest upon the ground always with their heads pointing westward. After resting a few minutes they would get up again and go on with the flying crowds. The wind was from the north-west, very light, in fact, scarcely perceptible. Just after sunset I went again to the trees upon which they were in the habit of roosting and found a great many still there. On the sixth of September they had nearly all disappeared and from that date until the end of the season only a few stragglers were seen.

There are several very interesting questions connected with the life history of this common but mysterious butterfly which have not yet been cleared up. It has now been well ascertained that the monarch cannot survive the winter in Ontario in any stage of its existence. Each winter sweeps the country clear of every representative of the species and a fresh supply comes in every spring from the south. Just how far south they have to go before they can hibernate, or live actively through the winter months is still in doubt. It is certain that they are found in Florida in great swarms from about November to February and that they are quite active during the whole

period. Do they then gradually work their way northward? If not, where do they spend the time between February and June, in which month they generally arrive here.

Most butterflies are short-lived creatures, the term of their active existence rarely lasting more than a month or two at most (I exclude periods spent in hibernation). The monarch however must live for ten or eleven months at least; that is if the individual survives the winter. The spring are the same that were had here during the previous summer. And all this time is spent in activity. It is marvellous how so frail a creature as a butterfly can support its life for so long a period amid all the dangers to which it is constantly exposed during its long journey.

BOOKS AND BULLETINS

SYSTEMATIC POMOLOGY.—Book by F. A. Waugh, Massachusetts Agricultural College. Geo. N. Morang & Co., 90 Wellington St. W., Toronto. Price \$1.00. The book treats exhaustively of the methods of describing fruits, of the perplexed systems of nomenclature, of the practical and scientific classification of varieties, of the sowing and judging of fruits, of the laboratory study of long life. The arrangement and treatment are such as to make the book particularly helpful to students and to all who want to learn more about pomology. This is not so much because the book deals out information as because it gives one the method of finding out things for himself. It will be of great value as a text book and laboratory guide, as a manual for committeemen in horticultural societies, and as a guide to nurserymen and fruit growers who care anything for varieties.

COMMERCIAL FEEDING STUFFS.—Bulletin 101, by Vermont Agricultural Experiment Station, Burlington, Vt.

SEPARATOR CREAM.—Paying for same the creamery.—Bulletin 100, by Vermont Agricultural Experiment Station.

CHEMISTRY OF THE SOIL, as related to crop production.—Bulletin 99, Bureau of Soils, Department of Agriculture, Washington, U.S.A.

KEEPING QUALITY OF BUTTER.—Bulletin 71, by Experiment Station, Ames, Iowa. Edited by G. L. McKay.

SOME WEEDS.—Bulletin 95, Maine Experiment Station, Orono, Me. Deals with Dandelions, Hawkweeds, Ginseng, Cankerworms.

ANNUAL REPORT OF THE Secretary for Agriculture for Nova Scotia for the year 1902.

LIVE STOCK ASSOCIATIONS.—Annual report for 1902, including Dom. Cattle Breeders', Dom. Sheep Breeders', Dom. Swine Breeders', and Ontario Poultry Associations. A. W. Westervelt, secretary.

RURAL SCHOOL AGRICULTURE.—Report of Boys and Girls Experiment Club and the Agricultural Student Union of Ohio. Bulletin 22, Series 7, Ohio College of Agriculture.

THE CORN KERNEL.—The structure of, and the composition of its different parts. Bulletin 87, Agricultural Experiment Station, Urbana, Ill.

SOIL TREATMENT for wheat in rotations, with special reference to Southern Illinois soil. Bulletin 88, Illinois Experiment Station.

REPORT OF THE AGRICULTURIST, Central Experimental Farm, Ottawa, for 1902. By J. H. Grisdale, Agriculturist.

SHADE TREES—Injuries to them from electricity.—Bulletin 91, Hatch Experiment Station, Amherst, Mass.

EXPORT APPLE TRADE.—Bulletin 13, Fruit Division, Department of Agriculture, Ottawa. Compiled by W. A. McKinnon, Chief. This bulletin should be in the hands of every packer and shipper of apples.

PLUM CULTURE.—Bulletin 43, Central Experimental Farm, Ottawa, by W. T. Maxon, Horticulturist. Of practical value to every plum grower.

PRINCIPLES OF PROFITABLE FARMING.—Published by the German Kaff Works, 93 Nassau Street, New York City. A copy will be sent free to any farmer applying for it. The book deals with the broad principles of scientific manuring, and their use in every-day farm work. The farmer to-day needs to give more attention to the science of farming, especially as it relates to maintaining and restoring soil fertility. This little book will help him to understand the ground work of this subject. Write for a copy and when you write do not forget to mention THE FARMING WORLD.

GOOD ROADS. Report of the National Good Roads Convention held at St. Louis, Mo., April, 1903. Published by the U. S. Department of Agriculture.

SUGAR BEET, the Culture of.—Bulletin No. 81, Agricultural Experiment Station, Lincoln, Nebraska.

CARE OF MILK AND BUTTER-MAKING ON THE FARM.—Bulletin No. 96, Vol. XII, Agricultural Experiment Station, Lafayette, Ind., U. S. A.

UNPRODUCTIVE BLACK SOILS.—Bulletin No. 95, Vol. XII, Agricultural Experiment Station, Lincoln, Nebraska.

POTASH AS A FERTILIZER.—Bulletin No. 80, Agricultural Experiment Station, College Park, Maryland, U. S. A.

POULTRY EXPERIMENTS IN 1902.—Bulletin No. 93, Agricultural Experiment Station, Orono, Maine.

Returns From the West

Dr. William Saunders, Director of the Dominion Experimental Farm, has returned from his annual inspection of the branch farms in the West. He reports business active and prospects bright in the West. On the Brandon and Indian Head farms it is expected that wheat will yield from 30 to 35 bushels per acre. At Brandon a field of fourteen acres of oats yielded one hundred bushels per acre, the oats weighing 38 pounds to the bushel. Indian corn cut green for ensilage yielded 28 tons per acre. At Indian Head green corn went 25 tons per acre. At most all the localities visited in the Territories, excepting Indian Head, wheat is averaging about twenty bushels per acre, while at

Indian Head it will go twenty to twenty-five bushels per acre, in Manitoba wheat will average from eighteen to nineteen bushels per acre.

Devoured from Cover to Cover

Allow me to congratulate you upon your success as the publisher of the best farming magazine in the Dominion. Since your paper has come under my observation, I have devoured everything from cover to cover. Every department contains good, sound information. If agricultural papers like THE FARMING WORLD were more widely read, I can confidently say that the returns would be most gratifying.—E. G. FADDER, Noyan, Que.

Conundrums

What tree belongs to the church? Elder.
What is the tree you can never burn? Ash.
What is the most melancholy tree? Yew.
What tree is it that every boy dreads? Birch.
What is the tree that everybody likes? Poplar.
What is the tree that stands nearest the sea? Beech.

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The Farming World, Toronto



Want of care does us more damage than want of knowledge.
Beware of small expenses. A small leak will sink a great ship.
Industry need not toil, and he that lives upon hopes will die fasting.
Early to bed and early to rise makes a man healthy, wealthy and wise.
Buy what thou hast no need of and ere long thou shalt sell thy necessities.

What is a Home?

Four walls, a roof, a floor;
 Some windows and a door;
 Chairs, tables and a bed;
 To rest tired limbs and head;
 Some pictures on the wall—
 And yet that is not all.

Two eyes to watch for me,
 Two lips to smile in glee,
 Two arms to hold me tight,
 A face with love alight,
 A heart as true as steel
 That would no thought conceal
 From me, a merry laugh
 Light as the wind-borne chaff—
 Kisses as honey sweet,
 My hungry lips to greet.

Four walls, a roof, a floor;
 Some windows and a door;
 These near a home would be
 For poor world-worried me.
 These soulless things take life
 From her I love—my wife!

An Expert Wife

A prominent farmer of King's County, New Brunswick, has been greatly assisted in his work of harvesting this fall by his athletic young wife, who with a reaping machine not only cut their entire twenty-three acres of oats but made \$5 per day reaping for her brother as well.

Being fond of outdoor exercises, Mrs. M— delights in being with her husband, and seated on her sulky, plow or her reaper, she is a picturesque sight, and while her husband is using the side hill plow, she is more than a match for him on her sulky. She is equally at home on the mowing machine or rake, and as they own two farms she has ample scope for her activities.

Nor is this all she can do, for she is an athlete with the pitchfork and prefers pitching on to loading, and when her husband begs for her to get on the load and take the easier work, she stubbornly refuses. She is equally as good at picking potatoes, of which the farms have produced in one year 1,500 bushels. When winter comes she, with her horses, hauls load for load of hay with her husband to St. John.

Strange to say, this wonderful woman, now in her twenty-first year, never tires nor neglects her household duties. Business before pleasure is their motto, but when the busy season is over then nothing is too good for his wife—a trip to St. John or Boston or other diversions are indulged in. Being tall, slight and queenly, with a vivacious temperament, she is a universal favorite and a friend to everybody.

From a poor boy her husband has risen to the position of one of the most progressive farmers in our country. Choosing to buy and pay for a good

farm rather than accept a poor one from his father as he has steadily succeeded until now he has \$1,000 worth of improved machinery, including thrashing and wood sawing machines.

Mr. M— is well supplied with fishing boats and nets and has made over forty anchors for them himself. He has a comfortable new house with furnace in the cellar, two large barns, one of them 100 feet long and he expects to make an addition of forty feet to it soon. He has over 100 acres of pasture and has wintered as many as fifty-six head of cattle, and has facilities for wintering between twenty and thirty more. A measure of this prosperity he very rightly attributes to his energetic wife.

Never Become a Household Drudge

A woman should never allow herself to become a mere household drudge, and when she finds she has no time to read an occasional good book, to write a letter to a friend, to read a story to the children, or to walk or talk with her husband she may conclude that

body and improve your mind, keeping your face and heart as fresh as possible, as you value the love of your husband and children.

November

Now, in these Indian summer days, When later comes the morning light, November draws a veil of haze.

To hide the hills from our sight; Another year is growing old, And waits in quiet for the end, The wintry sleet and snow and cold. Toward which her shortening days must tend.

Music in the Home

It is strange that people do not make greater use of music to brighten the home life. There is no place where it is more important, and nowhere else does it shine with a brighter lustre. Even if there be no very marked talent in this direction which would lead to the idea of display before the public, it is well worth while to make the most of such as there may be; and those parents who ignore music because the son or daughter



A Hunter's Home on Salt Springs Island, British Columbia.

there is something wrong somewhere in her domestic economy, and the more quickly she recognizes and remedies the evil, the better it will be for herself and family. If she is obliged to do her own family sewing, every tuck or ruffle that she puts on her children's clothes is a crime. The hour or hours spent in making an elaborate dress that baby will look "lovely" in is a waste of energy that a mother who does her own work cannot afford. Baby will look quite as lovely in her eyes in a plain slip, and if he has only his elaborate dress to recommend him to the eyes of others, he might rather pass unnoticed. Give the matter serious thought, oh tired housekeeper, and see if you do not daily take many unnecessary steps, and do much that you might, without injury to anyone, leave undone. Rest your

ter may give no promise of eminence as musicians are sadly in error.

If right views concerning this subject could generally prevail, we should hear less wailing because young people incline to spend their evenings away from home amid excitements which are not for their best good; and we steadily believe that many a hearthstone is shrouded in gloom simply from neglecting the wonderful power which might have been wielded through music, in making home more attractive and filling it with sunshine.

He stooped to tie her dainty shoe,
 His heart at once was won,
 And thus we see the weightiness
 Of things we leave undone.

—New York Herald.



CHAPTER I.

Elsie Ross drove up the lane with more speed than usual that evening. She had just come from the village, and there was a dash of alertness and annoyance in her manner, as she bounded out of the buggy, which did not escape her mother's observation.

"What's the matter, Elsie?" she asked in an even tone, as she assisted her to take out the things.

The girl's face was flushed, and her full red lips twitched nervously, though she tried to control herself.

"I guess nothing," she replied, turning her face away, while she lifted a basket from the back of the buggy. "It's hot and late, too. Perhaps I hurried too much to be in time for the milking."

"That's not it," said Mrs. Ross, shaking her head. "Something has made you angry. What is it, child?"

There was a gentle firmness in the voice, this time, that could not be ignored, and Elsie knew it.

"I am angry, mother; but I don't want to talk before the girls," came with a sound between a laugh and a sob.

"Well; put off your things. You can tell me while we are milking."

Elsie hastened past her sisters and up the little narrow stairway to her own room. Her young face—she was barely sixteen—told of character; and her tall figure already rounding out into womanhood, promised grace and beauty beyond the average.

Her brother George had taken the horse in; and the mother and daughter were soon in the paddock with the cows.

"There is no one to hear us now," said Mrs. Ross, as the ping-pong of the milk into their respective pails indicated that they were going to be still for a time.

"I'm not as mad as I was then," returned Elsie, "but I think it's something awful the way Mr. Potter treats his son Tom."

"Is there anything new?" her mother asked. There was disappointed patience in the tone this time. The theme was an old one and becoming tiresome.

"Yes, there is. It has come to an open rupture. As I drove home Tom crossed from the north field. He hadn't time to tell me much about it; but he said his father, had ordered him off the place; and he wouldn't give him the chance to do it again."

"I am sure Tom was to blame if his father went that length," said Mrs. Ross; "and I don't think you are wise in taking sides with a son against his father."

"I don't want to take sides, mother," said Elsie, her face flushing up; "but I always thought Mr. Potter was very unjust. Tom works hard, and if he is hot-tempered, it's easy seeing who he gets it from. One thing sure, he doesn't gad around like many of the boys do."

"You seem to know all about it, Elsie," returned her mother, with an up-wad infliction of voice. "How do you know he doesn't?"

"George told me. He says it's a shame the way the old man treats him."

"Old man!" exclaimed Mrs. Ross. "Is that the way to speak? Think of calling your father the old man!"

"Oh, mother! How could you? There isn't one of us would ever dream of such a thing. No one was ever like such a father. But when a boy gets to be as old as Tom, nearly grown up, it can't be nice to be called names and treated like a child, no matter what he does."

"That must be an exaggerated picture, Elsie."

"I don't think it is, mother. Tom says that things have taken a queer turn lately. He never went much to school, even in winter; and now, when he wants to make up for it, his father gets into a passion if he sees a book in his hand; particularly, if there is anything else to be done."

"Is that the special reason why he is going away?"

"No, it's something about a fallow, which Mr. Potter ordered him to cultivate. Tom said he wouldn't do it until he had finished the cows. Then they had words; and it ended in what I told you."

Elsie spoke rapidly. She was getting excited again.

Mrs. Ross sighed. From what she knew of the Potter family, she was not really surprised. Her chief emotion was pain at heart, that her daughter should be so deeply interested. Elsie and Tom had known each other from infancy, but up to now she had only looked up on it as the intimacy of children. Only sixteen last Michaelmas, still in short clothes, and able to romp and play with as keen a relish as ever, the possibility of a new problem gave her a shock that somehow she was not prepared for. Almost with a pang, Mrs. Ross cast a glance at the supple form, bending forward on the lowly stool; realizing, for the first time that the child had become a woman, with a woman's instincts, a woman's emotions, a woman's heart.

Was it possible that she had given it away already to a youth like this—commonly illiterate, without means, prospectively without home, and as far as she could see, without a future. In an indefinite way she had always entertained high hopes of Elsie. She was still at school, possessed of ambition and rapidly acquiring knowledge; and there seemed to be something grossly incongruous in the formation of an attachment with a young man as uncontrolled and irregular as Tom Potter was believed to be.

But Elsie remembered all the past. Tom had played with her times without number. He had always been her champion. Over and over again had she seen a burst of passion or vindictive subsidence at a word or look from her; and although only dimly expressing himself in words, she knew that he worshipped the very ground that she stood upon.

As Mrs. Ross roused from the milking she felt a sudden faintness, not entirely due to the stillness of the air and the June heat.

"Oh, mother! Are you ill?" exclaimed Elsie, rushing to her side. "How pale you look! Wait till I get some

water," and she ran to the spring nearby with a dipper.

"Thank you, Elsie. That water was refreshing—it is lucky I finished milking—it ain't often that I feel that way."

"Can you walk to the house, do you think? If you can, I will carry the milk."

"Oh, yes! I am all right now."

"I wonder what could have caused it?" said Elsie, innocently, as she picked up both the full pails. "I never saw you look like that before."

"It is not likely that you ever did," was the answer. "Better not mention it at the house. It may not happen again. You were talking of your father, weren't you? Yes, he is a fine man. And when you girls grow up, and want husbands of your own, I hope and pray that the Good Lord will give each of you just as good a one as he is. There is nothing boastful or vain about your father. He's a modest man who does his duty, and his honest living and right thinking have always been his mottoes."

"I know it, mother," said Elsie; and although her mother was behind her, she could see the transparent skin suddenly flush as below. "Was it or was it not, from the extra exertion of carrying up the slope the two brimming pails of milk?"

"Patiently waiting for ten minutes," said Mr. Ross, good-naturedly, as the two women reached the house.

"You will have to wait five minutes longer," was his wife's answer. "The milk must be strained."

"Mother seems not feel very well," blurted out Elsie, forgetful of the injunction to say nothing.

With a quick step Mr. Ross was beside them, and lifting the pail that his wife was now carrying, he bore it down the steps to the milk-cellar.

"What's the matter, dearie?" he asked solicitously. "Is it the heat?"

"Perhaps it is a mere nothing—I'm better now."

"Just go right into the house and sit down. Elsie and I can attend to this."

"Nonsense, Robert, Elsie should not have told you. I always do the straining."

"Yes, nearly"; and with a gentle shove from his broad shoulder, he turned her to one side and did it himself. Then, handing the pails to Elsie to rinse, he took his wife by the arm, and they went into the house together.

"I guess you won't be here, that's what's the matter," he suggested.

"Yes," she replied dreamily, "perhaps it is."

"It's all ready. We'll sit down at once," said George.

In another minute the family of six made an interesting group as they gathered round the table.

George was a couple of years older than Elsie, a strapping youth who much resembled his father, and was his only son. Gemie came next, and then there was Alice, the youngest of all, to make up the number.

"So you told your mother's butter and your own eggs at the store," said Mr. Ross, playfully flipping Elsie under the chin as she took her seat.

"Yes, father. Prices just the same—a shilling for butter and eleven cents a dozen for eggs. But you know I wanted money for the eggs, so I took ten cents in cash instead of eleven in trade."

"What! Avaricious already?" he replied, sagely wagging his head.

"You are fooling me, father. I ain't a bit," was her laughing reply.

"No," said Mrs. Ross, for he still continued the wagging. "I explained that to you long ago. Elsie wants to save up enough money to buy a winter cloak for herself."

"And out of my own money, too," Elsie flashed back to her father.

"That's not so bad after all," he responded, his pretended sternness vanishing.

"I like that," said George, "storing up for something she can wear for years and years."

"Humph," cried Genie, across the table. "Why didn't you say forever? I wonder how long boys wear their coats?"

"Boys are different," said George with a drawl, "girls just wear their best things on high days and holidays and bonfire nights, and they never wear out; but boys put theirs on so often that they're gone before they can say 'Jack Robinson.'"

"I didn't know that you posed as a philosopher, George," said Elsie in an amused tone.

"I've been taking lessons from Tom Potter," returned George, "and I can tell you he's got some of the funniest ideas you ever heard of."

Elsie's eyes dropped, and her face became grave again. Only her mother noticed it.

"Tom Potter's not the lad to take lessons of," exclaimed Mr. Ross, glancing sharply at his son. "The doings of that family seem to be getting notorious."

"I was only joking, father," said George; "but I'm sure there is more truth and honor about Tom than most people think."

Unconsciously, Elsie gave him a grateful look. She was glad to hear Tom defended, though she preferred not to say anything herself before her father.

Genie, however, had no personal interest in the youth; and, as was the rule in the Ross family, spoke out her mind.

"I believe Tom has had a pretty hard time of it," was her comment. "The girls at school say his father was never a bit kind to him, and he was always his favorite; and, ever since he was a child, he never sent Tom to school more than three or four weeks in a whole winter."

"That's true," said George, "but I know that he studies at home now, and has done for one year of a year. The worst is that his father grumbles even at the light he burns."

"Can't we find something else to talk about?" said Mrs. Ross, wearily. "Surely we need not discuss the Potters the whole evening through."

"Suppose I tell you about Jennie Watson," said Elsie, glad of the suggestion. "I met her at the store and gave her a ride for more than a mile on her way home. She is studying to be a teacher at the County school, and she told me a piece of news. The trustees there have decided to offer two scholarships a year, one for girls and one for boys, to be open for competition to the best students in all the section schools of the county. The examinations are to take place at the meeting—each winner to receive a year's free tuition and a sum of money besides. I just thought that, as Genie usually stands at the head of her class, in another year or two she might carry off the girls' prize."

"Are you sure the competition will be open every year?" Genie asked excitedly.

"That is what she said."

"It is a good thing," said Mr. Ross, smiling at his second daughter. "Will you go in to win, Genie?"

"I can only try," was her answer, but there was courage and determination in the expression of her face that boded ill for coming competitors.

That evening, when the work was all done, the girls took down their books to prepare their lessons as usual. Genie worked diligently, her whole mind centred upon her allotted tasks. Alice, too, though in brief, she committed her recitations to memory; but with Elsie it was different. She read and re-read the page from top to bottom; and some-

how, concentration of thought seemed impossible. The sentences, one after another, riddled through her brain like a sieve; and when she had finished, not an idea had been gained. Finally, she closed the books and put them away. She would drop the subjects until Monday morning, and then rise with the sun to complete her preparation.

After a while she went up to her own little room, and turning the light low sat down to think. The gauze in the open window kept the mosquitoes from coming in; and as she looked out at the pale moon, she heard the gentle rustle of the leaves of the orchard in the wind. How long she remained in that position she did not know. At length she started; the whole house was still; and turning up the light, she seemed almost afraid, as she glanced around the room. Her face had a perplexed look on it, but finally, she took her purse from her pocket, and counted the money she had received for the eggs, noiselessly into her lap. Then laying it on one side, she stepped on tiptoe to the drawer, and taking out the reserve bag which contained her little treasure, together counted the whole.

By this time her face was calm again. She had decided what to do. Very quietly she slipped the whole of the money into the purse and not into the bag. Then dropping the two into her drawer, and putting out the light, she knelt down to say her prayers. But they were long in saying that night—once she sobbed—and many minutes glided away before she rose to her feet. At last she got into bed, and although the moon exposed a diamond dewdrop on her cheek, it revealed a smile also as she dropped off to sleep.

CHAPTER II.

The next day being Sunday, the Ross family, according to rule, were represented at the morning service at the Meeting-house. Mr. and Mrs. Ross did not go this time, and the two seats of the light wagon were occupied by George and his three sisters. Merrily the horses dashed along over the two-mile drive, for the air was cool and the dust had been allayed by a shower in the early morning. The fragrance of summer flowers saturated the air with aroma; while birds filled it with music; as the young people drove alternately through clearing and wood on that bright June morning.

The preacher who was to occupy the pulpit was not the settled pastor, but a minister from the city, who had won for himself a high reputation for spirituality and eloquence, and was welcomed by other denominations, as well as his own, whenever special or unusual services were needed. His name was widely known in the province; and when it was announced that the Rev. Maclean Naylor, D.D., would preach the Anniversary sermons, morning and evening in the little Linbrook church, and that the forenoon service would be especially for young people, they came in unusually large numbers. By the time that George and his sisters had arrived, the meeting house was full.

Still, service had not begun, and Elsie passed by the family seat to take her place in the choir. In another minute a hymn was given out, and as the people rose to their feet, she caught sight of Tom Potter. He was standing near the door and casting eager glances in her direction.

Tom had told her over and over again, that his chief reason for going to "meetings" was to hear her sing; though how he could distinguish her voice from so many was a puzzle she did not try to solve. Still the thought often brought a smile to her face; and

(Continued on page 781)



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SUNDA / AT HOME

What Do You Do With Your Sundays?

Keep your Sundays free for earnest reading. Burn up the Sunday newspaper. It is an indefensible, intolerable creature. It exists simply and solely to swell the income of wealthy and greedy newspaper proprietors. A Christian ought to be ashamed to have it in his house. Is not a man sufficiently secularized by six days' contact with the world without dipping his mind on Sunday morning once more into the muddy stream in which he has dipped himself on the preceding six days? What can be expected of a Christian in public worship who comes to church with a newspaper stuffed into his mind? He is cold as a clod to the touch of the preacher and lowers the spiritual temperature of the entire congregation. William E. Gladstone was an ideal worshipper in God's house. He consecrated all his great powers upon the sermon. He was interested because throughout life he had made diligent use of his Sundays. He declared in old age that he would not have lived so long had he not always kept his Sundays quite apart from his political life. It was pure refreshment to him to turn to holier things on that day. It enabled him to learn more of religious subjects than perhaps any other layman of our century. It gave him that firm and splendid ground which ennobled and hallowed all his actions. "Go thou and do likewise."—Charles E. Jefferson.

An Hour at a Time

God broke our years to hours and days.
That hour by hour
And day by day,
Just going on a little way,
We might be able all along
To keep quite strong.
Should all our weightings of life
Be laid across our shoulders, and the
future, etc.
With woe and struggle, meet us face to
face
At just one place
We could not go.
Our feet would stop, and so
God lays a little on us every day,
And never, I believe, on all the way.
Will burdens bear so deep.
Our pathways lie so steep,
But we can go, if by God's power
We only bear the burdens of the hour.

The Will and Its Culture

The will is the most potent and glorious power resident in man. In the will resides the soul's power of self-direction. It is the mainspring of all powers. It is the measure of human achievement. History is the record of will. If you have the will of Napoleon you, too, may exclaim: "There are no Alps!" If you have but half the will of Napoleon the Alps are measurably high. But if you have no will at all, the Alps tower insurmountably. As will goes up, the Alps come down. As will comes down, the Alps go up. "Be it unto thee even as thou wilt" is written on the portal of every realm open to endeavor. The hopeful fact is that the will is subject to culture. We give attention to the culture of the reason, the memory, the imagination, why not more direct and purposeful cultivation of the will? It is strengthened by use, demoralized by misuse, lost utterly by disuse.

For these times, as always, God wants great-willed men, the bigger the better. Even a little talent, if directed to work by a great will, accomplishes wonders. Surrendering to God does not mean, as some

think, having our wills paralyzed by the will of God. It means, by His help, swinging our wills around into parallelism with His holy will. The man whose will is coincident with the will of God is the only man in the universe who gets his own way. A great will is made greater by being thus in league with God. Grace can empower a weak will, but it cannot use a nonevent. We owe it to God that we bring to His service a cultured will, that we may put into our Christian life those virile, positive qualities needed for this iron age.

Losing the Way

To the soul conscious of the perils that are around it how sweet the words of Jesus, "I am the way!" This means a great deal more than "I will show you the way." The best compass that was ever placed beside the captain and the best chart that ever lay upon the table in the captain's cabin would be of little value to the landsman. The soul, crippled by sin and weakened by indulgence, needs something more than knowledge. He who sees Jesus only "a teacher comes from God" sees not what the world most needs, a power outside ourselves that makes for righteousness. The soul needs to find One who is Himself the Way. This is only true of Him who takes upon Him our weaknesses and bears our infirmities, and so, by His almighty power and Heavenly grace, brings us to our desired haven. Not "I will show you the way," but "I am the way," is the joyful message of Jesus to a lost world.

The Sympathy of Christ

The gospel story of Christ closes with the account of his ascension. He was received up into heaven and sat down at the right hand of God. Does he think of us up there in his glory? Does he know anything of us down here in our struggles, our toils, our cares, and our sorrows? Is he interested in our lives in this world—in our joys and griefs, in our hopes and fears?

The answer to these questions is that in heaven he is touched with the feeling of our infirmities. He sympathizes with us in all the experiences of our lives. The word sympathy means suffering with. If two musical instruments, standing near each other, are tuned to the same key, and a performer plays on one of them, the chords of the other respond, too, as if invisible fingers were playing the same music on the strings. When two friends are side by side, and one of them is passing through an experience of either joy or pain, the other shares the experience. So Christ in heaven sympathizes with his friends on the earth in their experiences, is touched with the feeling of their gladness and their grief.

If we were conscious that Christ cares, feels with us, is actually interested in our large and small affairs, it would change the meaning of all life for us.

Sunshine

By Nixon Waterman
Ow, if you can, one of those welcome faces
That brings the sunshine to life's shadowed places.

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Do you know where the summer blooms
all the year round,
Where there never is rain on a picnic
day,
Where the thornless rose in its beauty
grows,
And little boys never are called from
play?

Oh! hey! it is far away,
In the wonderful land of Nowhere
Would you like to live where nobody
scolds,
Where you never are told, "It is time
for bed."
Where you learn without trying, and
laugh without crying,
Where snarls never pull when they
comb your head?
Then ho! hey! you must live away
To the wonderful land of Nowhere.

If you long to dwell where you never
need wait,
Where no one is punished or made to
cry,
Where a supper of cakes is not follow-
ed by aches,
And the little folks thrive on a diet of
pie,
Then ho! hey! you must go, I say,
To the wonderful land of Nowhere.

You must drift down the river of Idle
Dreams,
Close to the border of No-man's Land;
In a year and a day you must sail away,
And then you will come to an unknown
strand,
And ho! hey! if you get there—stay
In the wonderful land of Nowhere.

A New Game

Percy Saunders had come up to Per-
ryville to spend a week. He had been
there just twelve hours, having come
the night before, and he had already
been classified and pigeonholed by the
Goodrich twins, his country cousins,
whom he was visiting. He couldn't
climb a tree; he couldn't swim; he
threw a ball like a girl; the delights of
using a sling were unknown to him;
and—he had to go to bed at half-past
seven. As he was a year older than
the twins, who were eight, this last
stamped him as a mally-oddie.
After breakfast the three boys went
out to the barn, where the twins ran
up ladders and walked the narrow cross-
beams thirty feet above the floor as un-
concernedly as if they were on the
ground.

Percy caught his breath. "Oh, I wish
I could do that! I'd love to do those
things, but mama won't let me, because
it makes me dizzy."
"Oh, it's as easy as pie. See me fly."
And Albert took a flying leap of fifteen
feet into the hay, followed by his bro-
ther.

Then they compared muscles, and
found that Percy's were "awfully flab-
by." Their own were like iron. But
showing off soon palled on all three
boys, and they began to wonder what
they could play.

"I made up a game the other day,"
said Percy, in the slow, sober tones that
had struck the twins as so curious.
They chattered as fast and as shrilly as
monkeys themselves, in spite of their
mother's hourly protests.

"Did you?" said Albert.
"Out of your own head?" said Her-
bert.

"Oh, it's easy. I often make 'em up,"
said Percy, delighted to have made an
impression on these athletic boys, who
could do so many things which he
could not, although he was so much
older.

"Tell us how you play it," said the
twins, together, eager for some novelty.

"Well, it's a kind of tag. I'll be it,
and I'll start to run after you just the
same as I would in tag." As he spoke,
the twins, who had been lying in the
hay, jumped to their feet and ran out
of the barn. "Hold on," said Percy, "I
must tell you something about it first.
As I run after you I hoiler out a letter
of the alphabet, like C, and then if you



Products of New Ontario: an eight-year-
old farmer, six-foot oats, and five
and a half foot timothy.

think of an animal whose name begins
with C, and about it, I can't tag you;
but if you don't shout, then I tag you,
and you're it, and must run after the
others and hoiler out a letter. It must
be some animal, or if you choose you
can call out flowers. But it must be
either animals or flowers or countries
or fruits; you musn't mix them up in
the same game. Now you start and I'll
follow."

"I hope he says the same letter again,
because I've got a bully animal all
ready," said Herbert to Albert.

The boys had not run fifty feet be-
fore they found that, whatever else
Percy could not do, he certainly could
run. He was almost upon Herbert be-
fore he shouted, and then he yelled
"C!" as before.

Herbert waited until Percy reached
out his hand to tag, and then he shouted,
"Seal!"

"Tag!" said Percy, with a burst of
laughter.

"That's not fair," said Herbert. "I
said 'seal' before you touched me."

"But seal doesn't begin with a C; it
begins with an S," said Percy, soberly.

"How about sealing? Isn't that
c-e-i-l-i-n-g?"

"The plaster one is, but hunting the
animal isn't," said Percy, with authority.
"He's right, Bert," said Al, who had
run up. "You're it, fast enough."

"Very well," said Bert. "Ready!"
And the two fled before him. He pur-
sued Percy, who ran fleetly out into the
road. After a long chase Percy stubbed
his toe, and Herbert gained enough on
him to call out "G!"

"Gnu," yelled Percy. But, with a
derisive laugh, Herbert closed on him
and tagged him.

"I didn't say N. I said G."
"As I said gnu—g-n-u," said Percy,
simply.

"Say, a fellow doesn't ever get caught,
if he spells that way," said Bert, angrily.
"Gpony, pony. That's dead easy." But
again Al came up and declared that
Percy was right.

They played the game for over an
hour. Sometimes even Percy did not
think fast enough to avoid being it, and
after a while they gave variety to the
game by changing from flowers, and there-
fore they rather got the best of Percy, who
was not familiar with as many varie-
ties as the country boys were. Bert
made many laughable mistakes in spell-
ing, and Al gave "ploix" as an F
flower.

At last, when they grew tired of the
sport, they all went up in the hayloft to-
gether. The twins helped Percy up the
ladder. They tumbled into the hay.

"You're all right," said Al. "You can
run fine, and that's a bully game."

"And you can spell 'out of sight!'"
said Bert.

"I'd rather be able to climb a tree,
like you fellows, than spell any word I
ever saw," said Percy, modestly.

"Come on out then and we'll teach
you," said the twins, in unison.—St
Nicholas.

Plate and Marble Puzzle

Here is a puzzle, or game, if you please,
in the manipulation of which you may
become quite expert by constant practice.
The puzzle is something like the once
popular "pigs in clover," but has two ad-
vantages over that puzzle. It is homemade
and the trick, which is well nigh impossible
for those who do not know how to do it, is
very easy for those who do. In the centre
of a cardboard disc as big and thick as a
half dollar cut a round hole as big as a
dime. Paste the cardboard ring so formed
on the centre of a china plate and lay a
small marble beside it. The trick is to
hold the plate in your hand and make the
marble roll up on the cord, drop into the
hole and stay there.

There is quite a knack in getting the
marble to roll just right to do the trick,
and this knack you want to acquire before
you spring the puzzle on your little friends.
Then show them how easily you can do it,
and enjoy their desperate but futile efforts
to hoie the marble.

Cat and Chicken

A New Brunswick farmer has a cat
which has adopted a chicken. It came
about in this way: Tabby had suffered the
loss of quite a family of kittens and was
inconsolable. An old hen had a large
brood of chickens and when they retired
for the night in some way Tabby enticed
one of the chicks, and it was found snugly
cuddled under her protecting forearm, and
had ever since associated and slept with
the old cat, which claims it as her own.

If you've tried and have not won,
Never stop for crying;
All that's great and good is done
Just by constant trying.

HEALTH IN THE HOME

Damp Beds

The peril of sleeping in a damp bed is of the greatest and it is almost ever present. The experienced traveler rarely hazards the risk of sleeping between sheets which are nearly sure to be damp until they have been thoroughly aired under his personal supervision at a fire in his bedroom. If this be impracticable, he wraps his rug around him or pulls out the sheets and sleeps between the blankets—a disagreeable but often prudent expedient. The direct mischief may result from the contact of an imperfectly-heated body with sheets which retain moisture. The body heat is not sufficient to raise the temperature of the linen or calico to a safe point and the result must be disastrous if, as is sure to happen, the skin be cooled by contact with a surface colder than itself, and steadily abstracting heat all the night through. There is no excuse for the neglect of proper precaution to ensure dry beds.

Checking a Flow of Blood

If the wound be situated on one of the extremities, wrap a strip of dense, strong fabric (a stout handkerchief serves well) around the injured member and, inserting a stick between the bandages and the flesh, twist it around several times.

In a lacerated wound with small streams of blood issuing from several points, lint, cold water and ice dropped into the wound, together with a slight pressure over the region from which the blood issues, will be sufficient.

Should a large vein or an artery be severed in a locality where a pressure bandage cannot be applied, find out by experiment at what point pressure with the finger will cut off the supply of blood and continue to apply the pressure until skilled hands have tied the several vessels. For instance, a wound in the temple, which indicates an injury to the temporal artery, should lead the operator to press upon each side of it separately until he has located the artery.

Simple, superficial cuts require nothing more than cold water and lint, the patient remaining quiet.

Walking With a Child

A physician, discussing some of the ills from which children suffer, said, "I am of the opinion that many of the deformities and weaknesses of children are caused by the dreadful habit that some grown people have of taking small children out to walk and dragging them along at a fast pace.

"Only a few days ago I saw a man taking a child, not over four years old, along the street. He was holding the little one's hand, and walked at his usual gait. The child jumped, ran, and stumbled along, frequently losing its feet and being brought up to the perpendicular by a jerk of the arm.

"I had a little curiosity to keep track of them, and when the man stopped, as he shortly did, at a store, I stepped in and spoke to the child. His father was busy and paid no attention to me.

"The child's temperature was at fever heat and every nerve and fibre of the little body was quivering from the overstraining of the muscles. If that child doesn't have an attack of rickets or some kindred trouble, I shall be very seriously mistaken in my estimate of the injury it received in that dreadful dragging over a rough walk.

"Adults are, as a rule, altogether too careless about matters of this kind. They seem not to take into consideration the

fact that a child's length of step is relatively so much shorter than their own.

"I believe that many cases of rickets are brought on by this habit of pulling children by the arms. It necessarily is a strain on the spine and must be productive of unpleasant if not dangerous results.

"Children should never have their arms stretched above their heads. It is sometimes difficult to know just how to manage in leading them, but this point should always be kept in mind and no unnecessary pulling must ever be indulged in."

A Health Hint

Good digestion commonly means good health. A hundred causes impair digestion. A very common cause, little thought of, is bad teeth. Improperly chewed food means imperfect digestion. Not only must solid foods be subdivided and masticated, but many must be mixed with saliva for proper preparation to suitable digestion. One without any, or with an insufficient number of molar teeth—the broad grinding teeth—cannot chew food properly. Have your teeth looked over regularly; once a year is enough. An examination often discloses incipient disease in time to save the teeth. Filled, plugged or repaired natural teeth are always better than artificial substitutes. Try to keep your teeth sound as long as you can, not only for looks but because they are needed for health.

The Children

Give no laudanum, no paregoric, no teas. Never tempt the appetite when disinclined.

Take care that the child's food is well cooked.

Wine, beer and confections should never be given.

Avoid a too nourishing diet in a violently tempered child.

Vary the food from day to day, but avoid variety at one meal.

Insist on thorough chewing. A child who eats too fast eats too much.

Give no food between meals. The stomach requires a rest, like any other organ of the body.

Secret of a Long Life

You sometimes see a woman whose old age is as exquisite as was the perfect bloom of her youth. You wonder how this has come about. You wonder how it is her life has been a long and happy one. Here are some of the reasons:

She knew how to forget disagreeable things.

She kept her nerves well in hand, and inflicted them on no one.

She mastered the art of saying pleasant things.

She did not expect too much from her friends.

She made what ever work came to her congenial.

She retained her illusions, and did not believe all the world wicked and unkind.

She relieved the miserable, and sympathized with the sorrowful.

She never forgot that kind words and a smile cost nothing, but are priceless treasures to the discouraged.

She did unto others as she would be done by, and now that old age has come to her, and there is a halo of white hair about her head, she is loved and considered. This is the secret of a long life, and a happy one.

"Health and Vigor depend upon the quality and quantity of the blood."
—Dr. Carson's Testimonial.

The Liver is the great secreting organ of the body, and when it fails to perform its office bile accumulates and the blood becomes poisoned, causing many unpleasant symptoms, such as: dull, heavy feeling, indigestion to attend on eating, pain in the neck or shoulders, sour stomach, constipation, dryness of skin, restlessness at night, etc. If these symptoms are not promptly dealt with they become aggravated so as to induce severe illness. To relieve at once and cure permanently.

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IN THE KITCHEN

How to Make Corn Bread

Corn bread, to be made properly, should be prepared from good, honest water-ground meal, unbolted. Your flour meal, bolted, or the "pearl meal," contains but little else than starch. The gluten and phosphates, which sustain life, are taken out in the process of manufacture. Take one cup of good corn meal, sift out the coarsest of the bran and add a cup of boiling water, cold water, or milk. Beat well and add another cup of corn meal mix well and add salt sufficient and soda and buttermilk enough to make a thin batter. Have a thick iron baker hot, pass a bacon rind or greasy paper over the surface of the baker and sufficient fat will adhere to prevent the corn meal batter from sticking, put no lard, butter or other fatty substance in the dough before it is baked. Place the baker in a hot oven and let it remain for thirty minutes, and you will have a delicious cake.

The old-fashioned "hoe-cake" was made with corn meal, egg and cold water, no grease, and baked on a board or stone, before a hot wood fire, or in a "Dutch oven," or oven and lid, with coals of fire in the lid or underneath the oven. The putting of shortening of any kind into corn meal dough, or even into flour dough before baking, is a very serious mistake, from a hygienic standpoint, for the reason that the fat combines with the water of the flour or meal and forms an insoluble material which is not digestible.

Care of Knives and Forks

To keep knives and forks in good condition, wipe them as soon as possible after being used, as the longer they are left with stains on them the harder they will be to clean. After cleaning, put them into a vessel of hot water and wipe dry with a soft flannel cloth. It is a good plan to rub the steel parts with a flannel dipped in oil, letting it remain on for an hour or so and then wipe dry. Another method is to dust the blades and prongs with quicklime finely powdered, wiping in an hour or two and wrapping in a flannel cloth. This restores their polish to them. Never let the handles of bone or ivory knives lie in water.

Home World Recipes

Steamed Pudding.—One coffee cup of buttermilk, one-third cup of sugar, one egg, a little salt, one heaping teaspoonful of soda, about three and one-half cups of flour, one small cup of raisins, currants or other dried fruit. Steam two hours.

Transparent Pie.—One egg and the yolks of two, a lump of butter the size of half an egg, one cup of sweet milk, half a nutmeg. Bake with one crust and frost. This is excellent.

Stewed Celery.—In preparing celery for the table reserve the outer stalks, not sufficiently blanched to be eaten raw. Clean them thoroughly and cut them into pieces half an inch long. Stew these pieces in water until quite tender. Drain off the water, add butter, a little flour and sufficient milk to make a sauce to cover the celery, besides salt and pepper. Heat up to boiling and serve.

Pickle for Beef.—Boll in four gallons of water one and one-half pounds of brown sugar, two ounces of saltpetre, and nine pounds of salt until dissolved.

Skim as fast as skum rises. Cool the brine, pack the meat closely in a barrel, and pour on the pickle, being sure it is cold. Keep the meat under the brine by a weight of some kind. This quantity is enough for two hundred pounds or less.

Delicious Raisin Cake.—One cup of sugar and one-half cup of butter beaten to a cream, one-half cup of milk, three eggs, saving out the whites of two, one heaping teaspoonful of baking powder, and two cups of flour; bake in layers. Filling: Seed and chop quite fine one cup of raisins, make hard frosting by boiling one and one-fourth cups of sugar with as much water as will dissolve it, until it will string, then pour slowly over the whites of two eggs beaten stiff, stirring until quite cold, then add raisins and spread between the layers.

Baked Apple Dumplings.—Take one pint of flour, a heaping tablespoonful of lard, two heaping teaspoonfuls of yeast powder, a little salt and sufficient milk to make a soft dough. Divide it into twelve portions, rolling each into a thin cake; pare and slice about sixteen apples, put into each piece of dough as much apple as it will hold, add a little sugar and nutmeg, and join, forming a ball. Put these balls into a deep dish or pan, nearly cover them with water, between each dumpling put a small piece of butter and a tablespoonful of sugar, to make the sauce. Lastly, put a small piece of butter on the top of each dumpling to brown it. Bake half an hour. I hope some one will try these as we think them delicious.

In the Absence of Scales

One and one-third pints of powdered sugar weigh one pound.

Two and three-fourths teacups (level) of powdered sugar weigh one pound.

One pint (heaped) of granulated sugar weighs fourteen ounces.

Two teacups (level) of granulated sugar weighs one pound.

One pint of coffee "A" sugar weighs twelve ounces.

Two teacups (well heaped) of coffee "A" sugar weigh one pound.

One pint of best brown sugar weighs thirteen ounces.

Two and one-half teacups (level) of best brown sugar weigh one pound.

Quick Dishwashing

Have ready a large, deep dish pan. File plates, saucers, etc., neatly according to size. Then pour boiling water over and through them, letting them stand for a few minutes, while attending to some other matters. Then take out the water which has removed all the grease, and, as you will find nearly everything adhering to them. Then wash in lukewarm water with nice soap, and rinse with boiling water. Done in this manner dish washing is no drudgery, but nearly as pleasant as any other work. Four boiling water into kettles, spiders, dripping pans, etc., add a little ammonia, and they are nearly clean at once. This method also saves the hands, and if we can keep our hands from becoming red and swollen, and having a parboiled appearance, we certainly have a right to do so. Try it and I am sure you will not regret it.

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IN THE SEWING ROOM

Putting Away Summer Clothing

In putting away summer wash-dresses they must be rough dried, then folded and packed in a box or trunk by themselves. It is an excellent idea to go over each other and take the few mending stitches that are sure to be needed.

Chalices, crepons and summer silks should be carefully shaken and brushed, spots sponged, bows of ribbon taken off and unmade, if possible, or the dust carefully wiped off with a bit of silk dipped in weak ammonia water, and packed away in separate boxes.

The same rule applies where laces trim the dresses. If these are washable, they should be washed, otherwise shaken and wound around a bottle or wooden roll.

It is a good plan to let the dresses hang wrong side out in the air all of a sunny morning. Ruffled, ruches, shields and bent bones should be taken from the waists, and the waist linings should be brushed down every seam with cologne and water.

Feathers and flowers should be taken from the hats and bonnets, wrapped carefully and separately in tissue paper and consigned to boxes where they will not be crushed. The flowers should have each leaf pulled out, and if breathed on before using again will be found as fresh as ever.

May Manton's Hints

WOMAN'S COAT WITH CAPE 4522

Capes that droop over the shoulders make parts of many of the latest coats and are both graceful and generally becoming. The model shown is admir-



4522 Woman's Coat with Cape. 32 to 40 bust.



4526 Woman's Shirt Waist. 32 to 40 bust.

able and the entire coat one to be highly commended. The original is made of zibeline, in the new purple known as Lombardy plum, and finished with stitching in corticelli silk and makes part of a costume, but all cloaking and suit materials can be utilized.

The cloak is made with a blouse portion, that is fitted by means of shoulder and underarm seams, and the skirt, or tunic, which is seemed to it beneath the belt. The cape is seamless but is slashed at the centre back and the shoulders to provide the freedom essential to comfort. Finishing the neck and front edge is a stitched band that forms a flat collar. The tunic is fitted over the hips by means of darts and is laid in plaits at the centre back.

WOMAN'S SHIRT WAIST 4526

Shirt waists closed in double-breasted style are among the notable features of fall fashions and are admirable both for the separate waist and the gown. This one is adapted to both uses and to the entire range of seasonable materials,

but is shown in Nile green French flannel stitched with corticelli silk and held by buttons of dull gold. The waist consists of a fitted lining, which can be omitted when washable fabrics are used, the fronts and the back, sleeves, cuffs and collar. The fronts are tucked at the shoulders and are lapped one over the other, but the back is plain, simply drawn down in gathers at the waist line. The sleeves



4519 Woman's House Jacket 32 to 40 waist. 4524 Child's Dress. 2, 4, 6, years.

are the new ones that are full at the wrists but smaller above the elbows and are gathered into straight cuffs.

WOMAN'S HOUSE JACKET 4519

House jackets are among the comforts which no woman should consent to be without. This one is graceful and becoming at the same time that it is comfortable and appropriately can be made from a variety of materials. The model is of dark red albatross with frills and insertion of twin colored lace and is finished at the neck and waist with ties of red louisine ribbons.

The jacket is simply made with fronts and back and is trimmed to give the best effect. The fronts are gathered at their upper edges and are arranged over a yoke which serves to keep the fulness in place. The back is plain across the shoulders, but gathered at the waist line where it is attached to the belt which passes under it and the fronts to openings cut at indicated points, then through these and over the full front. But, as a simple adjustment is preferred, the trimming outlining the waist can be omitted and the belt passed under the entire fronts, giving the effect shown in the small cut. The neck is finished with a big collar and the sleeves are in one piece each, cut in bell shape.

CHILD'S DRESS 4524

Frocks that are cut with waist and skirt in one are much in demand for the little folk and are both charmingly attractive and simple. This one is adapted to the girls as well as the boys and to a variety of materials, but is shown in a light weight wool mixture, in shades of blue, and is finished with machine stitching in corticelli silk. With the dress are worn a silk tie and a patent leather belt but a belt of the material can be substituted when preferred.

The dress is made with fronts and back and is laid in a wide box plait, with outward turning plaits at each side, at both the centre of front and back, the plaits being stitched to the waist line but pressed to position only below that point. The closing is effected beneath the left edge of the front plait for boys, the right for girls. At the neck is a wide collar and a belt confines the fulness at the waist. The sleeves are full with roll-over cuffs.



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"HICKORY"

(Continued from page 775)

she comforted herself with the idea that the sermon might do him good, even if he did not go to hear it.

This morning the position was too serious for smiling. Tom's difficulty with his father distressed him and his leaving on the morrow seemed so sure, that she felt sorely troubled. More than once their eyes met, though, to retain her composure, hers were at once averted. She felt both sorry and miserable.

When Dr. Naylor, with his broad Scotch accent and thrilling tone, read out the parable of the Prodigal Son, taking as his text the words: "And not many days after, the younger son gathered all together and took his journey into a far country, and there wasted his substance with riotous living," it fell like a bombshell upon poor Elsie's nerves; for Tom was the younger son and there were only two.

Involuntarily she looked at him; but his lips were pressed tightly together and his eyes fixed upon the minister; who, with old-timed vehemence and power, painted the picture of the voluntary castaway.

Tom was poorly clad. His coat was an old one. It had seen the wear of several summers, and was not by any means too large for his growing frame. But he buttoned it up tightly as the speaker told the dismal story; and with set face almost glared upon him, as he poured out in torrents his description of the going away, the life and the fall of the dissolute youth.

Tom was but dimly acquainted with the parable, and in the light of existing facts, took the sermon as a direct and unjust attack upon himself—the garments made out of whole cloth but the suit would not fit. That he was going away was true, but there would be no bestowing of gifts by his father, no wasting of substance in riotous livings. There would be nothing to take away—nothing to waste. The glowing description of the father's generosity, in the division of his patrimony, only embittered him against everyone, but the owner of the sweet eyes, that now and then shot him a glance from among the choir girls.

When Dr. Naylor got to the end of his course, ready to come back on the home-stretch, signalling the return of the wanderer to his father's home, and the restoration of the prodigal to a pure life and holy living—Tom Potter's heart felt like adamant—he was out of the race—the story had nothing for him.

Yet that sermon held the people as never a sermon held them before. A pin could have been heard drop. It was a beautiful, most interesting and a tale well told. It aroused their sympathies, but it did not touch their hearts. They might be backsliders, but they could not be prodigals! Ah, no! It was for other men—not for themselves! What a pity that there were not among them a few real sinners, who could be benefited by its teaching! And Tom—though the preacher did not know him from Adam—believed that somehow it was a direct thrust at himself; and he went out with his head cast down and bitterness in his heart.

Elsie slipped out very quietly. She did not stay to wait for the other girls that day, but felt like getting into the wagon quickly, and driving, no matter where. The expression on Tom's face, as he listened to the sermon, and the preacher, was fixed upon her memory, never to be forgotten.

But while George was getting out his horses from the shed, Genie and Alice gossipied with the neighbors for a moment Tom and Elsie walked on toward the rig together.

"That didn't mean you, Tom," she said in a quick low voice.

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"Yes it did," was his answer, "and it's a darned lie!"

"Ho—sh—sh. Don't talk so. I don't like it."

"I'm sorry, but it's true all the same—and I'm off to-morrow."

"Not for good, Tom?"

"Yes, for good—or bad—as the preacher says; but I'm going—and you'll be gathering flowers this afternoon! Won't you? Do, please, Elsie!"

"Perhaps I will."

"About the old time?"

"Maybe I can't to-day, Tom."

"Yes, you can."

And Tom walked down the road by himself, as George drove up with the horses.

"What did Tom say?" asked Genie, when they were in the wagon. "Is he determined to go after what the preacher said?"

"Yes, he leaves to-morrow."

And the four drove home in silence. It seemed, even to the younger ones, to be a serious business.

It was late that afternoon when Elsie, having put on her hat again, came out of her room. She and Genie had 'redd' up the house after dinner, and now, as usual, she was ready to obey the behests of her own sweet will. Her custom was to wander in the woods for an hour to gather flowers; and ostensibly, there was no reason why she should not repeat the pleasure to-day.

"Going out, Elsie?" her mother asked, looking up quickly from her book. She had a great passion for Pilgrim's Progress and Paradise Lost for Sunday reading. This time it was the latter that she held in her hand.

"Yes, mother, lady-slippers are ready, and so are the buttercups and daisies. I saw a lot of them in the woods the other afternoon, but I hadn't time to gather them."

"Have you time now? It is your turn to get tea, you know. Genie did it last Sunday."

Ross felt uneasy. Somehow, while she had every confidence in Elsie, she did not like the idea of her going into the woods alone that afternoon; although she had done it from childhood without it ever giving her a thought.

"Lots of time, mother. I know just where they are. I'll have tea ready all right; and there's no hurry about milking; you know, for we always do that later on Sunday."

Elsie's logic was sound, and Mrs. Ross could not ask the other girls to go with her, for they had already wandered off in another direction by themselves. Even if they had been present, it is doubtful if she would have ventured the suggestion; for the element of suspicion and never been allowed to come between herself and her children.

"Don't wander too far and forget, dear," she called out as a final appeal, as Elsie tripped down towards the little bridge which spanned the creek.

"Never fear." And the girl turned and threw a kiss to her mother; but her heart was already beating faster.

She knew that before she left the woods Tom would find her. Still, she was honest in her quest, and went straight to the flowers growing abundantly beneath the maples and pines. Soon she had a handful of orchids, and quickly added daisies and buttercups; and was on the lookout for more, when rushing feet greeted her ears. Several twigs snapped, and Tom Potter burst through the dense undergrowth into the open space where Elsie stood.

"I knew you'd come, Elsie," he exclaimed, seizing her hand and holding it tightly for a moment.

"Always do when lady-slippers last," she answered, moving a step backward, while she turned to pull another orchid.

"Sunday's my best day."

"I didn't mean that," he said, taking

off his straw hat, and wiping the perspiration from his forehead with his shirt sleeve. "I was afraid I'd miss you, for I had to go up the fourteenth after dinner and couldn't get back any sooner; though I hurried like mad, I can tell you."

"It is foolish to hurry on a hot day like this," said Elsie, arranging her flowers. She did not think that she ought to feel as she did, and was trying to control herself.

"But if I'd missed you I might never see you again."

"Are you going to be away as long as that?" she queried, looking up at this time into his face.

"It looks like ages to me. A fellow never knows what's going to happen."

"And have you really got to go?"

"Yes, I have. I start before daylight to-morrow. It's like this, Elsie, father and me have had it hot and heavy for a long time; and it's got to that pass that there's no let-up to either of us. There's no use talking about it, but he's just as hard as nuts. And I can't stand it any longer."

"What does your mother say, Tom?"

"It goes against the grain for her, but she agrees that to have any peace at all, I've got to go away for a while, anyway."

"And Jim?" said Elsie.

"Oh! he's easy-going. He don't say much. He allows he'll have to work harder when I'm away, but he expects to make all the more out of it. He's older than me, quite willing to knuckle down—and in the end will get the place. So the sooner he has the chance the better."

The young man compressed his lips tightly as he finished speaking; but he turned to Elsie for words that did not come, his face relaxed again and he looked abashed.

"I'm an idiot to talk to you like this," he continued, hurriedly; "but you are the only one who knows how things are; except my mother, and she's different."

"I want you to tell me everything, Tom," said Elsie, who felt like crying.

"Where are you going to?"

"I know where I'd like to go, but I can't," he exclaimed doggedly.

"Where is it, and why can't you?"

"Cause."

"Cause what? You were going to tell me everything."

"Well, if you must know, Elsie, I can't, because I haven't got a dollar. But I'll get there. I'll only take time. I want to be a sailor on the lakes and work my way up. I've heard say that Detroit was the best place to go to for that. They have steamers and sailing ships and schooners and lake craft of all kinds there; and once on the spot, a fellow would get a chance that he couldn't get anywhere else."

"Why not work with the farmers until you make money enough to take you and then go?" said Elsie, wisely.

"The trouble is the lake season is so short that to get a show at all, one needs to be there early. And another thing, round this section it's only in haying and harvest a man can get money for his work, and it's too soon for either of 'em yet."

Elsie's lip began to quiver. Although she had made up her mind what to do, before she said her prayers the previous night, she found it difficult now to carry out her resolve. Still she was determined to do it.

"Do you care for me a bit?" she stammered out at last.

"Care for you?" he almost shouted. "There isn't a girl in the whole county like you. I'd eat my heart out for you any day in the week. You've got my soul and body every bit of it. I ever loved you, Elsie, as no other fellow ever could."

Elsie stifled a sob.

"Will you do what I ask you, then?"

"I will if I can; but don't make it too hard, please." And he looked down into her face wistfully.

"You can if you will," she said.

"Won't you give me an idea—just an idea, what it is, Elsie?"

"I can't, Tom—only this: I would never ask you to do what I thought you shouldn't do. Will you promise?"

"Yes," he promised.

Seizing her hand, he said:

"Drawing it back, she put it in her pocket and timidly pulled out her little brown purse.

"Oh, no, no, no," he exclaimed passionately, pushing her hand away from him. "Not that, not that."

"Yes," she said, more firmly now.

"You've got to, Tom. It's a promise, the only one I ever had you make since I was little, and you drew me on your sled to school. It's my own money, I earned and saved it myself.

"I don't need it and you do. It will kill me if you don't take it." And the girl's eyes blazed out in eager earnestness.

"But I've no right to take your money," he persisted. "It'd be a cowardly thing for a fellow to do. I'm bad enough, but I don't want to despise myself."

"You would have no reason," she returned, putting her hand upon his arm and pleading earnestly. "I am only lending the money, which you will return some day; and it will please me to have you take it."

"Do your people know?" he stammered, unconsciously receding from his position.

"No, they don't, but after you are gone I will tell my mother."

"And make her hate me!"

"No, she won't. I will tell her I made you take it. Come now, don't be silly, Tom. I've got to go. I can't wait another minute."

Resistance was over, and though he held out his hand, his face flushed hotly, for he still felt that he was doing an unmanly thing.

"The money, but not the purse," he muttered.

"Yes, the purse too," said Elsie.

"You will spend the money, but the purse you will keep in your pocket; and if you ever want to be wicked, it will remind you of someone who will be sorry."

Spite of herself her own face this time flushed crimson. With an irresistible impulse he clasped her in his arms and pressed a passionate kiss upon her lips.

Fainting, and white with terror she struggled herself free.

"Oh, Tom," she exclaimed, "how could you?"

"I couldn't help it," he stammered pently; "and after you've been so good to me. I hope you won't be mad."

"But I am mad," was the hot answer.

"I'll never do it again."

"You'll never get the chance."

"Won't you forgive me?"

"No, I won't."

"Well, I won't have the money or the purse either." And he laid them instantly on a log.

Instantly her manner changed, and with quivering lip she said, "I forgive you then. Good-bye. I've got to go."

And turning, she ran along the path. "Stay. You did not shake hands." And he hurried after her.

Then she stopped and held both out to him. Scarcely knowing what he did, he stooped and kissed them.

(To be continued.)

Aunt Sarah (to nephew from the city) — La Uncle Cyrus through milking yet, Teddy?

Teddy.—Not quite. He has just finished two faucets and has just begun on the other two.—Galveston News.

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Fruits and Vegetables

Export Pear Trade

The export pear trade is becoming an important one. Growers should give some attention to the development of this trade. Hundreds of barrels of pears have been allowed to remain unpicked this season because there was no market for them. By developing the export trade and creating a demand in the Old Country for Canadian pears this loss would be largely overcome. Some valuable information in regard to this trade is given in his bulletin on the "Export Pear Trade," by W. A. McKinnon, Chief of the Fruit Division, Ottawa. He states that Canadian pears have to compete with the best fruit in the world in the British market and therefore should be packed and handled in the best possible way. Pears are sold individually by the retailer, and consequently every single pear is scrutinized both by the retailer and the consumer. A few bad pears will therefore spoil the sale of a whole case.

Mr. McKinnon advises the Canadian packer as follows:

"Grade carefully so as to have only one size in a package, and to exclude rigidly all under-sized or defective fruits. 2. Pack carefully in uniform packages plainly marked with the name and address of the shipper, the variety and grade of the fruit, and the word 'Canada' always occupying a prominent position."

Pointers for Fruit Growers

Attention has been frequently called by us to the scarcity of fruit in Europe this season and that good prices are likely to rule there for first class Canadian fruit. On this point Mr. H. J. Goff, Inspector of the Department of Agriculture at Bristol, England, says: "I feel confident that if our shippers are as particular as they should be, shipping only first-class fruit, properly packed and put up, this season is bound to prove one of high market prices, as there is practically no fruit in England."

Inspector Driscoll, of London, England, advises that the fall varieties should be picked early and shipped in boxes rather than in barrels if satisfactory returns are to be expected.

Fruit Inspector Carey, of Montreal, reports that shippers make a great mistake in holding off shipping until the last moment with the result that often the half or more of the entire shipment of apples is handled, even from the cars, after 8 o'clock the last night of loading. When this is the case, it is impossible to handle otherwise than roughly. Consequently the fruit is often damaged more by the handling the last night loading on the ship, than it is the rest of the week.

Dried Apples

Farmers who are not able to dispose of their apple crops to shippers to advantage should try making them into dried apples. The following valuable suggestions to the dryer are given by a large wholesale dealer:

As soon as the apple is pared it should be cut into quarters, trimmed and thrown into an ordinary sized pail which has been about half filled with water in which a handful of common salt has been stirred. As soon as enough apples have been prepared, drain off the water, which can be used again, and dry in the usual manner. The effect of the salt water is to whiten the apples very much and prevent them from turning dark; Try this way and you will be pleased with the results and

proud of your work with really no more trouble.

Always cut the apples into quarters, this is very important. Sliced dried apples are not wanted.

Do not dry on strings.

Do not offer burnt apples for sale.

Do not expect the merchant with whom you deal to give you good goods for poor apples.

Canada has taken the lead in many other products and we are all interested in having this apply to dried apples as well. A little extra effort on the part of each dryer will accomplish much.

Dried apples are saleable from 1st of October to the 1st of April, but experience has proved that it is the wisest plan to market the goods early while the demand is good.

How to Grow Big Squash

On page 771 in last issue appeared a photograph of a mammoth squash. This was grown at Goderich, Ontario, and weighed 320 lbs.

Goderich is noted for its big squash. In 1863 Mr. Wm. Warnock, of that place, grew a mammoth squash weighing 365 pounds, which he exhibited at the World's Fair, Chicago. Mr. Warnock sends a description of his method as follows:

"My land is made in good condition, being heavily manured every year. It is of a gravelly formation with about sixteen inches of clay loam on top. For each hill I intend to plant, about the first of April I take two good wheelbarrow loads of hen manure and mix with four barrows of good soil taken from some other part of the lot. This is mixed a second time the middle of April. The first of May I add four barrows of well-rotted manure and mix thoroughly, then about the eighteenth of May make the hills and plant, dig out a space seven feet in diameter and fourteen inches deep, fill in my compost mixing, and with it some of the best earth which was thrown out, and when finished the hill will be about ten feet in diameter and six inches higher in the centre than the surrounding level. Then plant the seed. Hills want to be about twenty feet apart; work the ground well until the plants commence to run. When about three feet long I mulch the ground all over for twenty feet in diameter around each hill with horse manure three inches deep and stake the vines down with sticks to keep the wind from rolling them about, so that they may root at every joint. It is of great advantage to keep the vine from fruiting as long as possible by pruning all fruit bloom off until about the last week in July; this will give time enough to mature a 300-pound squash by the first of October, for there must be a big vine to produce a big squash. If possible fertilize a few feet of the principal vines that come when I think the vine is strong enough to grow a good specimen, by cutting off some of the fresh false bloom, trim the corolla or flower leaf off, and rub the stamens in around the fresh fruit bloom. When the first perfect specimens have set well, say four or five inches in diameter, cut all other fruits and blossoms off, and nip the ends off vines and all bloom that shows twice a week, so that the vine is not exhausted with the great quantity of false bloom that would naturally come. While the great growth of the squash is going on, if I use liquid manure twice a week along three or four of the principal vines of each hill, often six pails to the hill if it is in a dry time. Great care must be taken to give plenty of water."

Remove flower-pot stains from window-sills by rubbing with fine wood ashes, and rinse with clean water.



AUCTION SALE OF TIMBER BERTHS

PUBLIC NOTICE is hereby given that pursuant to authority of Orders in Council, the Red and White PINE TIMBER in the following townships, berths and areas, namely:

In the District of Nipissing: The Townships of HUTTON, CHERLAIN, PARKIN, ATYMER, MACKELLAN, MONTAGNY, MERRICK, MELLOW (part of), FRENCH (part of), STEWART, LOCKHART (part of), GARROW (part of), OSBORNE (part of), HAMMER and PERRY (part of).

In the District of Algoma: Berths Nos. 180 and 201, the Townships of KITCHENER and ROBERTS and Block "W" near Chonging Lake.

In the Rainy River District: Berths G19, G21, G23, G29 and G38, and the following Berths with rights to cut and remove the pine, spruce, larch, cedar and poplar: G4, G6, G17, G19, G23, G25, G28, G27, G28, G33, G38, G39, G37, G39, G40, G41, G42, G43, Berths Nos. 81, 82, 83, and 84, will be offered for sale by Public Auction at the Parliament Buildings, in the City of Toronto, on **Wednesday, the ninth day of December, 1903**, at the hour of one o'clock in the afternoon.

Sheets containing terms and conditions of Sale and information as to Areas and Lots and Consessions intended in each Berth will be furnished on application, either personal or by letter, to the Department of Crown Lands, Toronto, or the Crown Timber Agencies at OTTAWA, SAGINAW, ST. MARIE, PORT ARTHUR, RAT PORTAGE and PORT FRANKLIN.

E. J. DAVIS,

Commissioner of Crown Lands, DEPARTMENT OF CROWN LANDS, OTTAWA, ONT., JULY 20, 1903.

N.B.—No unauthorized publication of this advertisement will be paid for.



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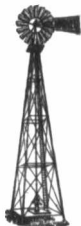
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Hatching and Rearing Chickens

The Hen Contrasted with the Incubator—Some Interesting Figures

By T. A. WILLETTS, TORONTO

In the *FARMING WORLD* of May 15th we considered at some length the possibilities and probabilities of hatching and rearing chicks by the artificial plan. We will now estimate as nearly as possible what may be done by natural incubation and rearing, under the same conditions and with the same number of hens, viz., one hundred, basing our calculations on the same egg yield, the same percentage of fertility and same percentage of chicks hatched and reared, although on the two latter points I am giving the natural plan the best of the argument as I have never found with large numbers of eggs that hens would hatch as large a percentage as first-class incubators, or rear as many of the chicks as good brooders will do. However, for the purpose of this estimate we will assume that there is no difference between the two plans.

We will assume by the advent of March the hens are laying freely, consequently some of the earliest layers are now inclined to set, but in the writer's experience not over ten per cent of them will do so thus early in the season. We will set our ten broody hens during the first week in March and all on the same

eyes of the young chicks and injure the sight. Always provide a dust bath of dry earth or road dust, and place it where the sun will shine on it, and your setters will rid themselves of vermin partially but not entirely. It will be found in hatching and rearing chicks by the natural process that a constant fight has to be kept up against lice as they will increase by millions and ruin your chickens; begin the crusade against them early and keep them in subjection. Don't flatter yourself that your hens and chicks are so clean that you have none. The writer has been raising chickens for a quarter of a century and is fully convinced that there is always a few of them around, and with the least opportunity they increase at a prodigious rate.

GET RID OF THE LICE

Start work at once on the five hens that have charge of the chicks, get a nice soft sponge as large as a man's fist, dip it in warm water, allowing it to soak up all the water that it will, then squeeze it as dry as you can, wrap it in a dry towel and squeeze it again. The sponge is now dry and soft, now dip it in coal oil and squeeze it as dry as you can.

Take your hen and rub her feathers with the sponge, rubbing the under side of the feathers, that is, the side next to the skin. The sponge being dry nothing but the odor of the coal oil is imparted, but this is all that is wanted. The best time to do this is in the evening, just as the birds are setting down for the night. Having given her a good rubbing, return her to her chicks and they will at once go under her to brood. The combined heat of the chicks will intensify the odor of the oil to such a degree that the lice make a hurried departure if they are not overcome by the fumes before they can escape. This is hard on lice, but does not hurt the chicks, and there is no better remedy at any price.

MORE HATCHING

Having domiciled our first batch of 78 chicks in the five separate coops and reared five of the setters, we must now make provision for as many more setters as we can get. It will usually be found that they will come along at the rate of four or five per cent of our flock per week. Thus in the present instance we shall get four or five setters each week, and our calculation is based on a hatching period of twelve weeks ending the first week of June. In this period we will assume that half of our flock have become broody and have been duly set with thirteen eggs each, and that one-half of the fifty setters have been re-set as in the case of the first lot of ten; we have thus set 975 eggs and hatched 585 chickens.

Our hatching period has now terminated. Doubtless during June and July a large proportion of the balance of our flock will make up their minds to go into the hatching business, but they are now too late for our purpose, therefore we have to decline their services, and instead of rearing them with a nest of thirteen nice eggs we consign them to a coop without nests, presided over by a lively cockerel who permits them no access from morning till night. Under these conditions "Biddy" soon changes her mind about setting, and shortly starts to lay again.

WHAT 100 HENS WILL DO

Now let us reflect for a minute on our season's (estimated) work. With our flock of one hundred hens we have

hatched five hundred and eighty-five hens we will assume that they raise five hundred and fifty of them, although this result would be better than the writer has ever had in actual experience, but the result is contingent on the necessary number of hens becoming broody within the prescribed time, and on half their number being patient enough to hatch a second batch of eggs. Now for the result: 275 pairs of chickens bring \$40.62 to which we must add \$20.60 for 2,225 eggs produced which we did not set, valuing them at fifteen cents per dozen. From these sums must be deducted \$68.75, the cost for feed for 275 pairs of chickens; and \$24 for feed for the hens which laid the eggs; total receipts, \$266.68, less expenses \$92.75, leaving as profit \$173.93, which is exactly \$361.57 less than our estimated profit from the same flock under exactly the same conditions, but hatching entirely with incubators and rearing with brooders. In the latter estimate in which all the hatching and rearing is done by natural means, we have had a great deal more work to perform and there has been a great deal more uncertainty about the results, for the reason that although we may have the eggs there is no certainty that the necessary setters will be forthcoming at the proper time; if they are not, the eggs have to be sold for fifteen cents per dozen.

When these eggs are converted into chickens they bring us a fraction over \$2.86 per dozen—just think of that for a moment—two dollars and eighty-six cents per dozen! There is no disputing this as far as I can see, and if any person can show me wherein my estimate is not well within the bounds of reason and probability I shall be glad to hear from them.



A Silver Grey Dorking Hen—1st prize at Manchester, Eng., 1903.

day, according to our former estimate of 25 per cent. unfertile and 80 per cent. hatching, we will hatch 78 chicks, setting 13 eggs under each hen.

RE-SETTING THE HENS

We will now divide the 78 chicks among five hens and re-set the other five, which can be done quite easily without "Biddy" fully realizing the fraud that is being perpetrated at her expense. All you have to do is to remove the chicks as they hatch from the hens you are going to re-set. Don't leave them with her until they are half out or you are likely to have trouble; she will begin to realize that there is a villainous kidnapping scheme afoot, and is quite likely to give you a positive expression of her opinion on the subject by open rebellion and a dogged refusal to set any longer. However, if you are careful there will be no trouble, and each of the five setters will easily hatch a second brood of chicks, but you must dust the hens with sulphur once a week and see that each bird comes off the nest daily for feed, etc.; dusting the hens with sulphur to keep down the lice is very important. Use the common Flowers of Sulphur in a dredging box, dusting it well into her feathers; use it the first time when setting the hen, then a week and two weeks after, but not later than this or it will get in the

A Silver-laced Wyandotte Cock.

An English prize winner.

Hatching and rearing by natural methods over two-thirds of all the eggs produced have to be sold at market rates. But if we have incubators and brooders enough we can hatch and rear them all, and in this way only can we secure all the money that should be made from poultry keeping. I fancy I hear some sceptic remarking that if we all followed this course chickens would be so plentiful and cheap there would be no profit in them. To all such I would say that fifteen years ago when incubators began to come into general use the same alarming state of affairs was predicted, but the market quotations during all those years show that the price of spring chickens has been steadily upward, and was never better than it has been the last two seasons.

From the above calculation, which is approximately correct, it will be seen that less than one-third the profit is secured when hatching and rearing with hens, that might be secured by the use of incubators and brooders.

Farmers' Institute Meetings

Supplementary and Regular Meetings for November and December—Delegates and their Subjects

DIVISION 1—C. W. Nash, 94 Lee Avenue, Toronto: "Chemistry of the Soil," "How Plants Grow," "Breeding of Domestic Animals," "The Value of Our Birds," "The Enemies of the Wheat Plant," "Our Insect Pests," "Nature About the Farm," "The Enemies of the Pea Crop and how to Deal with Them," L. E. Annis, Scarborough: "Corn and the Silo," "Dairying for Profit," "Cultivation of the Soil," "Seeds and Seeding," "Field Roots."

Evening subjects—"Our Country," "The Farm Home," Miss Agnes Smith, Hamilton: "Principles of Cooking with Simple Demonstrations," "Food and its Relation to the Body," "Domestic Science," "The Sanitary Home," "Needs of the Home of the Present Day," "The Labor Problems of the Household."

Meetings—Armow, Nov. 25; Glamis, Nov. 26; Pinkerton, Nov. 27; Paisley, Nov. 28; Chesley, Nov. 30; Desboro, Dec. 1; Chatsworth, Dec. 2; Kilsyth, Dec. 2; Annan, Dec. 3; Leith, Dec. 3; Bognor, Dec. 4; Snyder's Schoolhouse, Dec. 5.

DIVISION 2—Dr. Henry G. Reed, Georgetown: "The Foundation Principles of Successful Stock Breeding," "The Modern Harness and Saddle Horses, and How to Breed Them," "The Relation which exists between Improper Feeding and Disease," "Management of Dairy Cattle, with the View of Preventing Disease," J. H. Smith, Langbank: "Feeds and Feeding," "Clover," "Weeds," "Good Seed," "From Soil to Plant."

Evening subjects—"Choosing an Occupation," "Agricultural Education."

Meetings—Bluevale, Nov. 19; Fordwich, Nov. 20; Moleworth, Nov. 21; Ethel, Nov. 23; Walton, Nov. 24; Harlock, Nov. 25; Constance, Nov. 26; Manley's School House, Nov. 27; Muddle's School House, Nov. 28; St. Columbia, Nov. 30; Londsborough, Dec. 1; Belgrave, Dec. 2; St. Helena, Dec. 3; Holmesville, Dec. 4.

REGULAR MEETINGS

DIVISION 7—T. G. Raynor, Rose Hall: "Feeds and Feeding" (Illustrated), "How to build up a Dairy Herd or Flock," "Soiling Stock," "Dairying as it applies to the Producer," "Some Common Diseases affecting Stock," "The Plant and the Soil," Two Important Crops: Corn and Clover," "The Production of Pork," "The Uses of Concrete."

Evening subjects—"Mistakes in Farming," "Agricultural Development," "Our

Country and its Agricultural Possibilities," Miss Bella Millar, Guelph: "Some Practical Hints in Home Nursing and Emergencies" (Illustrated), "Women's Institutes: Past, Present and Future," "Cleanings and Housecleanings," "A Pound of Butter," "The Farm End of the Dairy Business."

Meetings—Shelburne, Nov. 21; Camilla, Nov. 23; Inglewood, Nov. 24; Streetsville, Nov. 25; Woodbridge, Nov. 26; Weston, Nov. 27; York Mills, Nov. 28; Agincourt, Nov. 30; Millbrook, Dec. 1; Bethany, Dec. 2; Blackstock, Dec. 3; Whithy, Dec. 4; Columbus, Dec. 5.

DIVISION 8—T. H. Mason, Staffordville: "The Hog as a Money-Maker," "Care and Feed for Dairy Cattle," "Growing Corn for Grain and Silage," "Butter Making," "Red Clover," "Sheep Raising."

Evening subjects—"Changing Conditions in Canadian Agriculture," Miss Laura Rose, Guelph: "The Production and Care of Milk," "The Production and Care of Butter—Their Cause and Remedy," "The Making of Breads and Buns," "How Much are we Worth?" "One Eye in the Field; The Other in the Town," "A Rolling Stone Gathers no Moss."

Meetings—Goodwood, Nov. 20; Brechin, Nov. 21; Lindsay, Nov. 23; Oakwood, Nov. 24; Fenelon Falls, Nov. 25; Bobcaygeon, Nov. 26; Peterboro, (aft.) Nov. 27; North Monaghan, (eve) Nov. 27; Lakeland, Nov. 28; Norwood, Nov. 30; Keele, Dec. 1; Warkworth, Dec. 2; Menie, Dec. 3; Stirling, Dec. 4; Madoc, Dec. 5.

DIVISION 9—Major James Sheppard, Queenston: "Macadam Roads; Their Cost and Construction," "Care and Improvement of Common Country Roads," "Planting and Care of Orchards," "Propagating Fruit, Grafting, Budding, etc.," "Tomatoes, and How to Market Them."

Evening subjects—"Transportation as it affects the Farmers," "Three Historic Days on the Niagara River," Charles E. Shearer, Vittoria: "Breeding and Feeding the Dairy Cow," "The Cream Separator and Home Butter-making," "Growing Roots," "Corn, Silo and Ensilage." Evening subject—"The Farm as a Home," "Farming as a Profession."

Meetings—Bowmanville, (aft.) Nov. 24; Courtice, (eve) Nov. 24; Orono, (aft.) Nov. 25; Newcastle, (eve) Nov. 25; Coldsprings, Nov. 26; Grafton, Nov. 27; Frankford, Nov. 28; Walbridge,

Nov. 30; Cannifont, Dec. 1; Marysville, Dec. 2; Newburg, Dec. 3; Centreville, Dec. 4.

DIVISION 10—W. S. Fraser, Bradford: "Corn Growing," "Soil Cultivation," "Clovers: their use and how to handle," "Underdraining," "The Bacon Hog," "Management of Sheep," "Noxious Weeds on our Farms" (illustrated), "Fodder Crops" (illustrated). Evening subjects—"Farm Life," "What Farmers Need," "The Home Dairy," W. C. Shearer, Bright: "Corn and the Silo," "Improving and Maintaining a Dairy Herd," "Breeding and Feeding Hogs for Profit," "Benefits of Soiling Cows in Summer." Evening subjects—"Making Prize Butter," "Poultry," "The Advantages of Farm Life."

Meetings—Napane, Nov. 23; Odessa, Nov. 24; Emerald, Nov. 25; Stella, Nov. 26; Elginburg, Nov. 27; Sydenham, Nov. 28; Mountain Grove, Nov. 30; Sharbot Lake, Dec. 1; Lansdowne, Dec. 2; Mallorytown, Dec. 3; Addison, Dec. 4; Newburgh, Dec. 5.

DIVISION 11—R. H. Field, Addison: "Care and Growth of the Dairy Cow," "Profit in keeping a Dairy Herd," "Corn and the Silo," "Useful Hints on the Bacon Hog," "Soil Cultivation and Clover," "The Plant and what it Feeds upon," "Some Noxious Weeds." Evening subjects—"Farming as an Occupation," "Observation," G. R. Cottrelle, Milton: "Poultry for Profit," "How to get Eggs in Winter," "Preparation for Market," "Poultry Houses," "Hatching and Raising Chickens Naturally and Artificially."

Meetings—Vankleek Hill, Nov. 23 and 24; Navan, Nov. 25; Casselman, Nov. 26; Moose Creek, Nov. 27; Monckland, Nov. 28; Apple Hill, Nov. 30; North Lancaster, Dec. 1; Cornwall Centre, Dec. 2; Moultonville, Dec. 3; North Williamsburg, Dec. 4; Brinston's Corner, Dec. 5.

DIVISION 12—Duncan Anderson, Rugby: "Rotation of Crops," "Manure; its Care and Application," "Green Crops as Fertilizers," "Breeding of Heavy Horses," "Pork Production." Evening subject—"Farming as an Occupation." Miss Blanche Maddock, Guelph: "Science of Butter Making," "Bread Making," "Our Women's Institutes, and how to make them interesting," "A Talk on Digestion with simple demonstration in cooking," "Bacteria and some of their effects on the Home and Dairy," "Domestic Science," "Cultivation of Flowers."

Meetings—Killalee, Nov. 23; Brudenell, Nov. 24; Foresters Mills, Nov. 25; Beachburg, Nov. 26; Carleton Place, Nov. 27; Richmond, Nov. 28; Smith's Falls, Nov. 30; Perth, Dec. 1; Lanark, Dec. 2; North Gower, Dec. 3; Spencer-ville, Dec. 4; Maitland, Dec. 5.

BEFORE going to the North-West in search of a Farm, it will pay to investigate the advantages offered by the free and cheap lands of

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QUESTIONS AND ANSWERS

WEANING PIGS

A subscriber in the West wishes to know how long pigs should be kept with the sow before they are weaned.

It is generally considered advisable to keep young pigs with their mothers as long as possible, without injuring the health or strong condition of the sow. Some interesting experiments were conducted along this line a few years ago by a successful American hog raiser. These experiments showed that a sow and her pigs together will extract more nourishment from a given quantity of food than the weaned pigs will alone. The sows and pigs were weighed separately each week, and any loss or gain of the sow was deducted from the total and the increased weight of the pigs. The pigs were allowed to remain with the mother for ten weeks, then the same course of feeding was carried on with the pigs for seven weeks. The sows and the pigs consumed on an average of 231 pounds of meal and 534 pounds of milk, making the same amount of increase. These results have been borne out by some of the experiment stations which have experimented along this line.

However, some practical common sense and sound judgment are required in the matter of determining just when is the best time to wean pigs. The general rule is about ten weeks. But the breeder will have to be guided largely by his own conditions, the health of the mother, etc. By using care the little fellows can be taught to take a little food when quite young, which will conserve the mother's strength. The question is of some importance and we shall be glad to have the views of swine raisers on the subject.

MEASURING HAY

Please give through the columns of your journal the correct rule for measuring clover and timothy hay in the mow when first put in, and also at different periods until fully settled.—O. G. R., Frontenac Co., Ont.

A ton of newly stored hay measures 500 cubic feet, which is practically a cube, eight feet long, eight feet wide and eight feet deep. Hay that has been allowed to settle for some time is measured by allowing 422 feet to the ton, or a cube 7 1/2 feet long, 7 1/2 feet wide and 7 1/2 feet deep. After the hay has become thoroughly settled 343 feet will make a ton or a cube having sides of seven feet. These figures, however, are only approximate, and that after all a good deal must be left to the judgment concerning the compactness of the hay. Fuzzy clover hay will sometimes not settle very compactly, though it has been stored for some time. In such cases allowance would have to be made in the measuring.

COW NOT HOLDING HER MILK

I have a three-year-old cow that dropped her calf last March, and so far she has not been served again. She continually loses her milk, which keeps running from her teats, even when she is pasturing. Would you kindly advise a remedy?—C. A. M., Kent Co., N.S.

A relaxation of the valve at the end of the teat is of frequent occurrence, and is sometimes very troublesome causing great loss to the dairyman. Animals badly affected are hardly worth keeping for dairy purposes, unless they have some special breeding properties. The milk can be kept from running out by a small clamp, 3/8 of an inch in width, put around the teat after each milking and kept on both night and day. Flexible colloidion (to be had at every drug store) has also been used with

success. After milking, dry the end of the teat carefully and apply three or four layers of the colloidion to the opening. If all the teats are defective each one must be treated. At milking time the layers of colloidion have to be removed and new put on after the milking is over. This will mean a lot of trouble, and unless the cow is a very valuable one we would advise drying her up.

DOES NOT BREED

I have a fine young cow, that I have bred some half a dozen times, but I cannot get her in calf. What can I do for her?—J. F. C.

Nothing much can be done for her. If the cow is very fat you might try reducing her condition by spare feed and exercise, then when in heat have a competent veterinarian open mouth of womb. But this does not always succeed.

SCOURS IN PIGS

What is good for scouring pigs when they are not old enough to eat for themselves?—M. A. G.

Usually when sucking pigs scour, the sow's milk is not agreeing with them. The sow's food, therefore, should be lessened and even slightly changed in character. Sour milk, mouldy grain or any other injurious food should be stopped and the sow kept off pasture for a time. Scours may be sometimes stopped by feeding the sow several raw eggs daily and giving a raw egg to each pig. Where this is not found effective mix half a dram of dried sulphate of iron in the sow's food twice daily for two or three days.

OVER-HEATED COW

I have a cow that was driven when hot and she ran a good deal. She would breathe so as to be heard a good distance. We left her for a time and when we returned we found her lying down and shivering and jerking all over and could not get up.—F. J. K.

In cases of this kind the first thing to do is to give a stimulant of some kind. A pint of whiskey, or two ounces each of aromatic spirits of ammonia and sweet spirits of ammonia, given hourly in water, as a drench until animal improves, will be good. At the same time the body should be showered with cold water from a sprinkling can and ice cold-packs put to the poll of the head. In cattle a one-pound dose of Epsom salts with an ounce of ground ginger root and one ounce of saltpetre may with advantage be given as one dose in two quarts of warm water as soon as improvement is noticed and fever abates.

Killing Market Chickens

The method of killing the chicken by dislocating its neck is different from the old-fashioned way of wringing or twisting the neck. When the chicken's neck is dislocated, and the head is pulled from the neck, the loose, unbroken skin of the neck forms a sack into which the blood of the chicken flows. The body of the chicken is as well drained of blood as if the head were cut off with an axe: the marked appearance of the chicken is improved by killing by dislocation; the flesh of the chicken is more juicy and edible. On the contrary, when chickens are killed by twisting the neck, death results mainly from strangulation. The body of the chicken is not freed from blood on account of there being no space in the neck into which the blood can flow. The appearance of the flesh of the chicken that has been killed by twisting its neck is reddish and blood can be plainly noted in it. In several cities in Canada a law is in force prohibiting the sale of chickens that are killed by twisting the neck.—F. C. Hare.

ABOUT RURAL LAW

In this column will be answered for any paid-up subscriber, free of charge, questions of law. Make your questions brief and to the point. This column is in charge of a competent lawyer, who will, from time to time, publish herein notes on current legal matters of interest to farmers. Address your communications to "Legal Column," The Farming World, Toronto.

FELL OFF A BRIDGE.

Q. I was crossing a bridge during a thunder storm late at night. The night was very dark and the lightning very vivid. Just as I got on the bridge a flash of lightning caused my horse to jump to one side, and his foot went into a gap in the logs of the bridge close to the edge, and there being no railing we were all upset into the river and I was injured. 1. Can I recover damages from the township?—A. S.

A. 1. Yes. It was negligent on the part of the Council not to have a railing on the bridge, and the defect in the logs makes the case even stronger in your favor. The fact of your horse becoming frightened by the lightning and so contributing to the accident makes no difference, as that was one of the ordinary risks which the council should have had in contemplation. You should, of course, give notice to the council of the accident within thirty days of the happening of the accident.

RELIEF AGAINST MISTAKE.

Q. I entered into an agreement with A to sell him my sawmill for a certain price, but he was not to have certain of the machinery. We went to a conveyancer and had the agreement drawn up, telling him what it was and leaving it for him to have everything put in the agreement.

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As a matter of fact, however, he only drew up an agreement for the sale of the mill and the machinery, and did not mention the machinery which was to be excepted from the contract. A has obtained possession of the mill and refuses to let me have the machinery, claiming that it was all sold to him under the written agreement and that nothing was excepted. 1. Can I compel him to deliver up this machinery to me? C. J. M.

A. 1. Yours will be a hard case to prove as the writing was presumed to contain the whole agreement. If you think, however, that you can prove that the agreement is as you say, and that the writing did not properly set it out owing to the mistake of the conveyance, your plan would be to bring an action to have it rectified on the ground of mistake, or to have it declared not binding on you.

HUSBAND RESPONSIBLE FOR GOODS SUPPLIED TO HIS WIFE.

Q. I had been supporting A's wife, who is a relative of mine, with his consent, and he was paying me for this. The wife after a time returned to her husband's home, but was turned out of the house by him without cause, whereupon I again took charge of, and supported her. 1. Can I recover from the husband the amount which I expend in this manner? A. B. G.

A. 1. Yes; the husband, by turning his wife out of the house, sent her forth as his delegated agent to pledge his credit for the necessities of life suitable to her position, and you are therefore entitled to assert a claim against him for your expense in so supporting her.

UNREASONABLE DEMANDS ON APPRENTICE.

Q. I am under twenty-one years of age. I engaged with A as an apprentice. The apprenticeship article provided that during the term of four years of three hundred and ten working days of ten hours each, I should give and devote to A, ten hours of each working day, or "such number of working hours in the morning, without giving me any additional pay." 1. Can he compel me to do this, and to come on my surety if I refuse?—B. C. C.

A. 1. No. Such articles of apprenticeship are unreasonable and cannot be enforced against you or your surety.

ORAL AGREEMENT AS TO BUILDINGS.

Q. I rented a farm from B. After I had taken possession under the lease, I agreed orally with B to erect at my own expense a rough-cast addition to a brick house on the farm, with the privilege of selling or removing this addition. I erected this addition, and afterwards transferred my interest to C. A subsequently sold the farm to D subject to the lease which was assigned to C. C being about to sell and remove the addition, D seeks now to prevent him from doing so claiming it as part of the farm. 1. Is he entitled to do this.—G. H. J.

A. 1. No. D is not only bound by the terms of the lease, but takes the farm subject to any other rights or equities existing between the original lessor and lessee, including the oral agreement to permit the removal of the addition."

Poultry and Pet Stock Show

The eighth annual exhibition of poultry, pigeons, cats, and pet stock, under the auspices of the National fanciers and Breeders' Association will be held at Chicago, from Jan. 25-30, 1904. Sharp Butterfield, of London, Ont., will be one of the judges. Excursion rates will be given on all railroads. For particulars write Fred. L. Kinney, 315 Dearborn Street, Chicago.

The Sugar Beet World

Devoted to Sugar Beet Culture in Canada

The New Sugar Mill at Raymond, Southern Alberta

Reference has from time to time been made in these columns to Southern Alberta as a promising field for the production of beet sugar, and more particularly to the Raymond district where, under the management of Jesse Knight, the Utah millionaire, and his sons, the growing of sugar beets has passed beyond the experimental to the practical manufacturing stage.

The town of Raymond is situated in the centre of an irrigation district. The soil is of great depth and fertility and is friable and easily worked. A great variety of crops including alfalfa, clover and fall wheat are grown. Its capabilities for beet production have been thoroughly tested and the promoters of the enterprise are entirely satisfied with the results obtained. The district is settled by Mormon colonists from Utah, who are skilled in the management of irrigated lands as well as in growing sugar beets.

The coal, lime and water problem here is more satisfactorily settled. Mine some twenty miles distant supply coal of best quality at a low price. Lime is at present brought from Frank a distance of 110 miles and the necessary quantity of water is obtained from the irrigation reservoirs.

The labor problem is likely to prove the greatest obstacle to success. The supply of labor has been somewhat short of the requirements during the present season, though the area under crop is not one-half of what is looked for next year. The introduction of perfected machinery will, it is hoped, relieve the beet growers of their present difficulties.

THE FACTORY

The factory itself is a half million dollar plant. Along with the necessary sheds and outbuildings it occupies an area of between four and five acres. The main building is seventy by three hundred feet, and three stories high. It is absolutely fireproof, being constructed of steel and brick with metal roof and concrete floors. It is of fine design and appearance. In addition to the main building there is a boiler house two hundred feet long and beet sheds one hundred and twenty-five by three hundred feet. The sugar warehouse is fifty by one hundred and fifty feet and will accommodate two million pounds of sugar. There were employed in the construction of these buildings twenty-five cars of steel, fifty cars of machinery, fifty cars of lumber, one and one-quarter millions of brick and two thousand five hundred barrels of cement. In conjunction with the plant, there is a well equipped testing laboratory. Forty tons of coal and twenty tons of limestone will be required daily when the factory is working at its full capacity of four hundred tons of beets per day. For a season of from sixty to eighty days the capacity of the factory approaches ten million pounds of refined sugar. It is not expected, however, that the output for this season will be more than one-quarter of this amount, owing to the impossibility of getting a sufficient area of land in proper shape for beet cultivation this season, labor having been scarce.

The consulting engineer, G. M. Bradwick, who has sole charge of the installation of the plant, states that he has never put up a more perfectly equipped mill or one that commences operations under more auspicious circumstances. The season's manufacturing operations will shortly be commenced under charge of G. M. Hotchkiss, the

expert of the Dyer Company, who has the contract for the erection of the mill. He will superintend the first runs of sugar until everything is in perfect working order.

Russia Gives In

It looks now as if Russia would give her adhesion to the Brussels sugar convention. Domestic arrangements had prevented her doing so previously. This will complete the list and make the regulations of the Sugar Convention of Europe more workable.

Sugar Beet Culture

The co-operative sugar beet experimental work upon the farm of the Standard Cattle Company, at Ames, Nebraska, during the season of 1902, was in part a continuation of previous work where conclusive results had not been obtained, and in part a test of methods of culture and combating disease that had not previously been under investigation. All the work was laid out with a view to solving problems in which the farmer or beet grower was particularly interested. As in previous years, the liberality of the Cattle Company made it possible to carry on the work on an extensive scale, and over 200 acres of selected land was used for the experimental work. The work was conducted upon what would commonly be termed a deep, friable loam, very uniform in physical character and fertility. This almost absolute uniformity of the soil upon the fields made it possible to use very much larger plots than would ordinarily be admissible without danger of varying conditions.

As a test of the effect of varieties of sugar beets, the results from home grown seed compared very favorably with those from the imported seed, which showed quite wide variations. The difference in this as well as in former tests seems to indicate that the quality of the seed is more important than the variety.

An application of farmyard manure of 22 tons per acre seemed to have no effect upon the quality of the sugar beets, nor upon the yield per acre, but in the latter respect this year's results differ from those of previous years.

The use of salt as a fertilizer, if it had any effect, improved the quality of the beets produced but had no effect upon the susceptibility to disease.

A comparison of early and late planting of sugar beets was decidedly in favor of early planting.

A comparison of different depths of horse cultivation of sugar beets was in favor of rather deep cultivation. It should be remembered, however, that the season of 1902 was much wetter and cooler than normal. Experiments in previous years favored cultivation about three inches deep.

The yield of sugar beets was very considerably increased by deep hand-hoeing, when the beets were four to five inches high.

The presence of weeds in sugar beet fields very materially decreased the yield and sugar contents of the beets.

Breaking off a part of the leaves of sugar beets at "laying by" time did not injure them after deep cultivation of the crop. Beets treated in this way were less affected by "leaf spot" disease than those not so treated.

Continuing the cultivation of sugar beets after the leaves were grown considerably increased the yield per acre.—T. L. Lyon, Nebraska Experiment Station.

FINANCE ON THE FARM

Trust Companies

A few years ago it would have been considered highly improbable that any man would entrust the administration of his affairs after his death to a joint stock company. The office of executor was looked upon as of an essentially personal character which one's most intimate friend should be asked to undertake. He might be an elderly man and unlikely to live to complete the administration. He might lack business training, be entirely unfamiliar with the duties of an executor or incompetent in other respects. Nevertheless, he was asked to take charge of his friend's business interests, sell his property, pay his debts, invest the proceeds, provide for the family and in due course distribute the estate. Much suffering and loss have resulted from the work of such executors.

It is now becoming generally recognized that an organized company whose responsibility is assumed by its capital stock, which possesses a board of directors of high standing and trained staff of officers is the proper medium for the administration of trust of all kinds. Such a company brings to the performance of its duties knowledge and experience which in the very nature of the case few private executors can possess. It is not subject to the vicissitudes of health, residence or business and having undertaken a trust will carry it out impartially.

The success which the local companies here are meeting with is not surprising.

Business in Farming

The business end of farming covers a wide field. It covers more than the mere buying and selling. Business intelligence should be carried into every branch of farm work.

Few farmers get the best there is in their farms. There isn't much use in expecting great things on the farm unless you are willing to plan, work and study how to get the best things. The soil must be in good state of fertility. This means that you have carefully saved up every particle of barnyard manure and have seconded this effort by a judicious use of commercial fertilizers. It means, too, that you have not previously cropped the land to death. Then you must plow thoroughly. Not one man out of ten in the country knows how to plow; or if he does he has not the grit and gumption to do it. Once in a while we meet a farmer who insists that this part of the farm work shall be done thoroughly. He is on the way to success. It was an old Scotchman who said, "Ye dinna ken how to plow in this country, ye on'y scratch the ground," and that is about what most of us farmers do; we scratch the ground.

It is good business, too, to use the harrow, not the old-fashioned V-shaped drag, but the harrow of up-to-date pattern. They can be bought cheaply and will do excellent service if properly used. It pays also to use only good, clean seed. It is the height of business folly to sow poor seed full of weeds. It will cost more to get rid of the weeds afterwards than would pay for good seed one hundred times over.

Ontario Veterinary College

The 1923 session of the Ontario Veterinary College opened on Oct. 16th. The attendance was larger than usual, and the registration of first-year students numbered between eighty and ninety. The attendance of students from the United States again shows a marked increase, and they are a very fine and bright looking lot of young fellows.

PROTECTION

AND

PROFITABLE INVESTMENT.

THE necessity of Life Insurance as a means of protection for a wife and family appeals to the heart and intellect of every man. In addition, a good investment can also be secured by means of the Unconditional Accumulative Policy issued by the Confederation Life.

POLICIES ISSUED ON ALL APPROVED PLANS.

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It will also be safe and can be had with interest when wanted.

IF YOU WISH IT we will arrange that your money may be deposited or withdrawn by another of your household as well as yourself.

You will receive COURTEOUS TREATMENT at all of our offices.

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We invite your deposit account, and are prepared to grant the best terms consistent with the absolute safety of the deposit.

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Tolton's No. 1 Double ROOT CUTTER

POINTS OF MERIT

1. To change from pulping to slicing is but the work of a moment.
2. There are two separate wheels, one for pulping and the other for slicing.
3. The united force of both wheels is always used in doing the work in either capacity.
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The Only Double Root Cutter Manufactured.
Fitted with Roller Bearings, Steel Shafting, and all that is latest and best in principle, material and construction.



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Demande Sound Horses Only.

Lame horses sell at less than half their actual value and few suitable candidates for use or sale. "It remedies" is easy. A few bottles of



will work a permanent cure for Spavin, Ringbone, Splints, Curbs, etc., and all forms of Lameness. It cures thousands of cases annually. Such endorsements as the ones following are a guarantee of merit.

Cured two Bone Spavins of Ten Years' Standing.

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Dr. B. J. Kendall Co., Lancaster—Some years ago I used your Kendall's Spavin Cure on a horse that had three Bone Spavins, and it removed them entirely. Three months later he was lame from Ringbone, and was cured of two years' standing. I now have a case of a mare that was injured by falling through a bridge, and am going to give her complete treatment with your Spavin Cure. Please send me a copy of your "Treatise on the Horse," and let me know your terms very truly,
C. L. K. V. FORT, Duxbury.

Price \$1.00 per bottle. A 50-cent bottle for family use. It has no equal. Ask your druggist for Kendall's Spavin Cure, and "A Treatise on the Horse," the best free, or address

DR. B. J. KENDALL CO., Essburg Falls, Vt.

A Boy's Fine Watch Free for a few hours' work. Send for a ticket to the Farming World and learn how.

A Legal Investment

The suspension of two Ontario Loan Companies has been responsible for a very natural anxiety with respect to such institutions generally. It is reassuring, however, that at no time has there been any suggestion of relaxed confidence in the old established mortgage companies; recent occurrences have rather emphasized their stability. The Canada Permanent Mortgage Corporation, one of the largest in the Dominion, may almost be looked upon as a national institution. The financial condition of this company leaves nothing to be desired, and will easily satisfy the most timid. Their four per cent. debentures are a legal investment for trust funds, authorized by Act of the Legislature. These debentures are also a favorite investment of both Fire and Life Assurance Companies.

Quality in Poultry

A pullet that molts out as well as a hen—that is, showing as good quality in color or plumage as when she was a pullet, is more valuable as a breeder than if she shows a falling off in quality, and if in her second year as a hen her good quality is retained her value is even greater as a breeder than the year before, as she has shown a power of retaining quality, that is a very desirable element to establish in any strain. The same is true of a male bird. Too many birds fall off in quality in their second year, showing a lack of "staying quality," and are not as desirable as breeders as birds that retain their quality to a good old age. It is true that birds showing this trait do not always

prove good breeders, but the tendency is in the right direction and should be cultivated to as great an extent as possible.

HORSE COLIC,



Distemper, Founder, Pneumonia, etc., as well as all forms of Lameness, Contracted Cord, Curb, Splint, etc. are instantly relieved, and invariably cured by the use of

Tuttle's Elixir.

Satisfaction guaranteed or money refunded. Used and endorsed by the Adams Express Company. Used by leading breeders and turfmen everywhere. Has cured many valuable horses. May do likewise for you.

TUTTLE'S FAMILY LIVER CURE rheumatism, sprains, bruises, etc. Kill pain instantly. Our 100-page book, "Veterinary Experience" FREE.

Dr. S. A. TUTTLE, 46 Beverly St., Boston, Mass. Beware of cheap Elixirs—some contain no Tuttle's. Avoid all imitations, they offer only temporary relief if any.
L. VAN, KNOX & SONS, Agents, Montreal and Toronto, Canada.

LADY'S ENAMELLED WATCH FREE

for setting only 10 cents. Beautifully engraved Picture, 16 x 20, ladies' watch, "The Angel's Watch," "The Family Record," and "The Golden Ring," all on one watch. Every watch given in the contest. These pictures are all beautifully finished in 18 carats, and could not be bought in any store for less than \$10. This dainty and reliable Lady's Watch has Gold Bands, fancy dial, in men's and set, with jewelled movement and solid metal case will make an even handsomely presented, in natural colors. Agents Patterson, Shannon, S.C. writes: "I was delighted to get such a specimen. It was always my ambition to have a watch, but such a little beauty as you send me took me by surprise. I am going to give it to my wife as a watch like mine." We want every girl and lady who has not a watch similar to write for the picture at once. Address: THE COLONIAL ART CO., Dept. 254 Toronto.



THE INTERNATIONAL STOCK FOOD CO., Limited

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The Yorkshire Stock Food Company

OF ENGLAND

Business will be conducted on a larger scale.

WATCH THIS SPACE NEXT ISSUE

THE YORKSHIRE STOCK FOOD CO.

15 Elizabeth St.,

- TORONTO, ONT.

PURE-BRED STOCK

NOTES AND NEWS FROM THE BREEDERS

These columns are set apart exclusively for the use of breeders of pure-bred stock and poultry. Any information as to importations made, the sale and purchase of stock and the condition of herds and flocks or the status of an advertisement will be welcomed. Our desire is to make this the medium for conveying information as to the transfer of pure-bred animals and the condition of live stock throughout the country. The co-operation of all breeders is earnestly solicited in making this department as useful and as interesting as possible. The editor reserves the right to eliminate any matter that he may consider better suited to our advertising columns.

Andrew Elliott & Son, Galt, Ont., write: "We have a number of young boars that are grand specimens of the Tamworth breed. They are sired by Paymaster, a Blain bred boar, and from Ruberta, one of the best breeding sows we ever owned. She has produced for us nearly all of our prize-winning stuff. She produced for us the first and second prize sows under one litter, the first and second prize barrows under six months, and also the second prize pen of three, produce of one sow, at the Provincial Fair at Guelph, in 1902, in strong company."

We learn that Mr. Alexander Galbraith, who is at present on a visit to this country, has purchased from Messrs. A. & W. Montgomery twenty Clydesdale stallions for exportation to the States. Mr. Galbraith is the most extensive importer of Clydesdales into America, but he has rarely, if ever, taken a bigger or a better lot than this which he is ship in the end of the week. One of the horses in this lot is Baron Robgill, which won second at the Edinburgh "Highland," and had in different seasons the premiums of the Mid-Calder, Kelso, and Whitgaw districts. Another of the most noted horses in the lot is Woodend Gartley, which was a champion at Strirling and had first prize as a three-year-old at Woodstock. Woodend Gartley had the Renwick district premium three years in succession, and he had the Scone, Strathrod, and Murthly premiums this season. Among the others in the lot are Rosalie, a well-known winner at Aberdeen, and winner of many district premiums, and Proud Prince—the Newton-Stewart premium horse. The others in the lot are got by such well-known horses as Up-to-Time, Elator, Prince Thomas, King of the Roses, Prime, Prince Shapely, Sir Christopher, etc. Altogether, the lot which Mr. Galbraith is taking out on this occasion, is one of the largest and best lots that have ever crossed the Atlantic.—North British Agriculturist.

During the period from July 31st of Sept. 2nd, 1903, twenty-two cows were approved for the seven day records for the American Holstein-Friesian Association. The highest record was made by a twelve-year-old cow, commencing 5 days after calving. She gave 537.5 lbs. of milk, 15.05 lbs. of fat, and equivalent butter, 17 lbs. 8.9 oz. The lowest record was made by a heifer, 23 months old, commencing 23 days after calving. She gave 256.2 lbs. of milk, 7.414 lbs. of fat, equivalent to 8 lbs. 10.4 oz. of butter.

The Farming World Man on the Wing

Most of the Short-horn breeders of Ontario attended Mr. John Bright's dispersion sale at Whitby, but there was a number who failed to put in an appearance. There may have been good reasons for their absence, but one of our best men deferred starting on a trip around the world in order to be there. He stayed to good purpose, and that is the way it ought to be.

J. Vignod, Brooklin, Ont., is a farmer who, while not actively engaged in breeding pure-bred live stock, is at least a good example of the kind of farmer who knows the difference in raising that kind from that of wasting his time and

money on scrubs. Years ago he purchased an imported Clydesdale mare, and has around him today an aggregation of her progeny that show all-round good quality, and worth treble the value of the same number of animals eligible to draught classes only. Among his younger stock is a fine 1-year stallion, by Royal Cairnton, that was a prize winner at Toronto Industrial, taking second place in his class. Those who have not yet taken a tumble to this kind of thing cannot begin any too soon. It does not cost much more to raise them than the other kind.

R. F. Duck & Son, Port Credit, Ont., are bending some of their spare energies to getting a bunch of bacon hogs in shape for the Fat Stock Show at Guelph. They are liable to do some scoring as usual.

Veterans in the sheep breeding business are C. and E. Woods, of Freeman, Ont. Their flock of Leicesters show a uniform good quality that should commend their offerings to prospective purchasers in that line.

I. Devitt and Sons, Freeman, Ont., are old and successful breeders of Clydesdale horses and Short-horn cattle. On their well-kept farm are to be seen a number of animals of both classes that only require the fitting to make them strong competitors in any company. Several Clyde stallions, well known and highly thought of as sires in the neighborhood, and quite a number of grand mares and fillies are to be seen on their farm, the progeny of their imported Clyde mare, Belle, by old Good Hope. Nickle Steel, a five-year-old stallion by McPherson, dam Grandeur's Lady, herself a daughter of imp. Belle and old Grandeur, is a horse of the finest quality and proportions, being of strong compact build and the finest finish, with grand limbs and feet. A full brother, George McPherson, is also of good form and fine action, and there are a number of fillies on the farm, all eligible for registration, any one of which would be a prize to the average small breeder. Messrs. Devitt have also a good herd of Short-horns, being mostly bred from the best blood in the herd of W. G. Pettit and Sons.

The people of Burlington will soon have a Dairy Farm second to none. Mr. Chas. Aiywyn is fitting up the stables of his large barn in the most up-to-date manner possible for the accommodation of his large herd of dairy cattle. The barn, which is 120 feet long and 56 wide is a splendidly built one and the location is a very favorable one for the placing of the fine stable under it to the best possible advantage. Mr. Aiywyn's herd of dairy cows consists of a large number of pure-bred Ayrshires and a number of grades of this and other strains, all splendid dairy animals. Situated within a few yards from the railway station, affording immediate transit to the city of Hamilton, the facilities for supplying milk to the city are unsurpassed.

The late importation of Clydesdales by Messrs. Smith & Richardson looks more like a winner for them every day. The World Man on the Wing was quite surprised to see the way in which some of that company are turning out. Ardethan Premier—3071—is fully vindicating the favorable opinions expressed regarding him by leading horsemen at

Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Spilt, Sweeney, Capped Neck, Strained Tendons, Founder, Wind Puff, and all lameness from Bruise, Blows and other heavy tumors. Cures all skin diseases or Parasites, Thrush, Discharge. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, Sea- and Inflammation, Every bottle of Caustic Balsam, sold and warranted to give satisfaction. Price \$1.00 per bottle. Sold by druggists, or sent by express, charge extra, with full directions for its use. For full descriptive circulars, send stamp, etc. Address: The Lawrence-Williams Co., Toronto, Ont.

OAT DUST

IS A GOOD SUBSTITUTE FOR BRAN OR SHORTS, and is very much cheaper. We are offering Out Dust, also other cattle and hog feeds, in our lowest low prices. Can ship by Grand Trunk or Canadian Pacific Railways. Write for samples and quotations to

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EVERY FARMER SHOULD HAVE A 2,000 lb. King Edward Scale

Try it. No better Scale on Earth

Manufactured by
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Just send us your name and address on a Free Card, and we will mail you free of charge a large beautiful colored picture, 2 1/2 by 3 1/2 inches, mounted on a card. The picture is a beautiful scene from the city of Toronto. You will find it very interesting and we will immediately send you the picture. Write for it today. The picture is a beautiful scene from the city of Toronto. You will find it very interesting and we will immediately send you the picture. Write for it today.

Send your name and address on a Free Card, and we will mail you free of charge a large beautiful colored picture, 2 1/2 by 3 1/2 inches, mounted on a card. The picture is a beautiful scene from the city of Toronto. You will find it very interesting and we will immediately send you the picture. Write for it today.

The Farming World stands firm for the improvement of every class of Live Stock in Canada, and for the financial betterment of every breeder. As such, it appeals to all thoughtful, progressive stockmen throughout the Dominion, and its advertising columns become a valuable directory of the best herds in Canada.

the Industrial Fair, is growing well and certainly developing into a horse that will make things warm for all comers in the future. Horses of his size, combined with his quality, soundness, style, action and spirit are not met with every day. Their three-year-old Lavender, who was such a close competitor for first honors in his class at Toronto still continues to improve also, and gives good promise of coming out in his four-year-old form with more finish and bloom than ever. Their other stock are all going into winter quarters in fine shape.

J. G. Clark, of the Woodruff Dairy & Stock Farm, Ottawa, Ont., writes us this week stating that he has a number of real bargains to offer among his stock, as he will need their stabling room this winter. If you want to hear about anything good in Ayshire cattle, Clydesdale horses, or Yorkshire swine drop him a line.

The Breeding Sow

It is commonly believed among breeders of live stock, that if sire and dam be equally well bred, the former has the greater influence on the conformation and the latter on the nervous temperament and feeding qualities of the progeny. Whether this be true or not, care should be taken in selecting the females of the herd to choose only those of a quiet, contented temperament. Few things are more exasperating than a roving, noisy, discontented sow; not only is she a continual menace to fences and gates, but she is cross at farrowing time, and is quite as likely as not to destroy half of her litter in some fit of nervous excitement. In addition to this, a sow of this description is seldom or never a good milker, and every stockman knows that the profit or loss on a batch of pigs is determined largely by the start they give in life during the first six or eight weeks. The milking qualities of the sow is a matter too often overlooked or ignored when selecting the females for a breeding herd. Many men seem to take it for granted that if they can get a sow to produce a large litter she will, as a matter of course, nourish them afterwards. This is a grave mistake. Sows vary in their milking propensities as widely as the cows in an unselected herd. Among pigs the ability to give a large flow of milk is more a family trait than a breed characteristic; that is to say, different families of the same breed differ more in this particular than do the different breeds, each considered as a whole. It is, therefore, largely a matter of selection. A well formed udder is, of course, essential. There should not be fewer than twelve, better fourteen, well developed, evenly placed teats, extending well up to the fore-legs. The sow should be large and roomy, with great length and depth of side; she must, however, be trim and neat in her outlines, showing no tendency to bigness or flabbiness, and though not wild or nervous she must be active in her movements. A heavy, listless, clumsy walk should not be tolerated in breeding stock of either sex; it indicates a lack of vital force; and an animal with this



Live Stock Labels

Send for price and order form before the year.
R. W. JAMES
Newmarket, Ont.

DAVID McCRAE, Jansfield, Guelph, Canada. Importer and Breeder of Galloway Cattle, Clydesdale Horses and Cotswold Sheep. Choice animals for sale.

LLOYD-JONES BROS.

Proprietors BURLFORD, ONT.

Choice Shropshire lambs, either sex, from our Maxwell run, a few ewes being bred to the Tanner ram or Marauder. Prices right.

Woodroffe Dairy Stock Farm.

His grand young bulls still on hand will be sold cheap, if taken before winter.

SEND FOR CATALOGUE OF STOCK.

September Yorkshire ready for shipment.

J. G. CLARK, Proprietor, OTTAWA, ONT.

Pleasant Valley Stock Farm

CANADIAN AND IMPORTED SHORTHORN CATTLE

Ben Lemon (imp.), a grand individual of the famous Killebrew family heads the herd. A few choice young bulls are imported in dam. Also a number of imported and home bred cows and heifers, all sale. Write or visit the farm, one half mile from McFalls Sta., C.P.R. GEO. AMOS, Prop., McFalls Sta. and P.O., Ont.

TAMWORTH SWINE

THE IDEAL BACON HOG

A soap for thirty days in young hogs fit for service, from prize-winning stock; also young hogs of September farrowing. Must be sold to clear out and reduce stock. Write now. Address, ANDREW ELBOTT & SON, Galt P.O. and Sta.

ONTARIO VETERINARY COLLEGE, Ltd.

The most successful Veterinary Institution.
Prof. A. Smith, F.R.C.V.S., Principal,
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DEALER IN

CLYDESDALE
COACH AND
STANDARD
BRED
STALLIONS

MILLBROOK, ONT.

YOUNG MEN, Become Independent

Our English and Veterinary Course is taught in English language, so that during five months of your spare time, you can learn to speak English fluently, and also to read and write English. A heavy, listless, clumsy walk should not be tolerated in breeding stock of either sex; it indicates a lack of vital force; and an animal with this

characteristic is not likely to be so potent as one with a more active, sprightly temperament.

The brood sows should be selected from prolific families. A sow must raise a given number of pigs each year to pay expenses, and each additional pig represents a profit. There is, however, a limit to the number of pigs in a profitable litter; very large litters are apt to be weak and uneven in quality. Few sows can properly nourish more than fourteen pigs, and even a litter of from eight to twelve large, strong, lusty fellows is much more profitable than a litter of sixteen or eighteen weak, flabby, and ill-nourished pigs.

Horses for the Farmer

The sale of one hundred heavy draft mares and geldings to be held at Grand's Repository on Monday, November 9th next, will be one of importance for farmers. These horses have been in use by the Consolidated Lake Superior Power Company at Sault Ste. Marie, for bush and other work and will be sold cheap because of having been in hard work. With a little care and better feeding they will greatly improve and make good useful horses for the farm. As the large works of the company have ceased operation for a time, these horses will be sold without reserve.

The Agricultural College Sale

A large quantity of good stock was distributed throughout the country by the public sale of pure-bred stock held at the Ontario Agricultural College, Guelph, on Oct. 21st. There was a fair turnout of farmers, and all the stock offered sold readily, though prices for a number of lots were low. The Short-horn bull, King Edward (imp. in dam) and bought at a high price at the Hamilton sale last spring, sold for only \$105. The highest priced bull was College Senator, hardly a year old, a neat, tidy roan, a little small but well proportioned, the making of a fine stock bull. He sold for \$125 to D. Talbot, Everton. The Shorthorn females sold reasonably. The cow Amanda and calf only bringing \$120. The Holsteins sold much below their value. The yearling heifer, Lacto-Meg, whose dam made record in one year of 10,737 lbs. milk, 352 lbs. fat and 410 lbs. butter, sold for only \$30. The little 10-months-old Jersey Belvoir College Boy, was practically given away at \$8, not the price of a good grade pig. He was small, but not a bad type. James McKenzie, of Scotch Block, got a bargain. A buyer one of the Holsteins made \$5 on his purchase by re-selling before leaving the College grounds. There were some fine Yorkshire sows sold chiefly of Bretherton breeding, which went off readily at good prices. The boars seemed to hang a bit, and there were some good bargains. The few sheep offered did not bring much, they were worth. The two Oxford Down sold best at \$17 each, to J. C. Mills, Preston, Minn. Messrs. Thos. Ingram and F. Spragg, of Guelph, were the auctioneers. The

SOME ARE FATTENING HOGS
BY FEEDING

CARNEFAC

ARE YOU? The quicker you get an animal ready for the block the greater the profit. By using CARNEFAC you put as much flesh on a hog in two weeks as you can in three without it. This is one of hundreds of testimonials:

TESTIMONIAL

The Carnefac Stock Food Co.,

Lockerby Mills, Paisley, Ont., Aug. 12, 1903.

Gentlemen,—Your Stock Food did me a good turn this spring. I saved the life of a brood sow with it. One died just before I got the food; another one took the same trouble. When I gave her your food she got all right in a few days. I also had some shoats that got stunted in the winter. I fed them some of your food; they picked up and did well, and I got them away when the markets were high and got about \$14.00 more than if I had kept them for another week. So you see I saved one life, got my pigs away when the markets were high, kept the rest of my pigs in good health, all with one pail of your stock food.

Yours truly,

(Signed) Wm. Brown.

There is no magic about CARNEFAC. It is simply a medicinal food tonic. An animal fed with it digests and assimilates properly having flesh on what an animal not so fed wastes. All dealers have it.

CARNEFAC STOCK FOOD CO., 65 Front St. East, Toronto

The Clayfield Stock Farm

J. C. ROSS, Prop.

Importer and Breeder

OF HIGH CLASS STOCK

Clydesdale Horses
Shorthorn Cattle
Cotswold Sheep

JARVIS, - ONT.

...FOR...

Large White Yorkshires

of different ages, imported and Canadian bred; also Imported and Canadian bred Bulls, Cows and Heifers, write

H. J. DAVIS, Woodstock, Ont.

LEICESTERS ONLY—Young Stock for sale from our imported Stock Farms on pure-bred sows of best strains. Write telling what you want and get our prices. C. & K. WOOD, Freeman P.O., Burlington Jet. Station, C.P.R. and G.T.R.

Langdon Hall SHROPSHIRE

My Breeding Flock consists of Imported Stock Only : : : :

We have this year imported more Ewes from leading English breeders.

Now for sale: 8 Ram Lambs by Mansel prize winners out of Imported Ewes.

—Apply—

E. LANGDON WILKS

Blair, Ontario

IMPORTED

Clydesdales and Shorthorns

MESSRS. SMITH & RICHARDSON
Columbus, Ont.

—Importers of—

Clydesdale Horses and Shorthorn Cattle

Stations: Oshawa and Brooklin,
G.T.R., Myrtle, C.P.R.

40 miles east of Toronto.
Long-distance telephone at Residence,
near Columbus. Telegraph,
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MAPLE LODGE STOCK FARM

Scotch Shorthorns, Choice Milking Strains, Prize Winning Leicesters, Young Stock for sale—imported and home bred.

A. W. SMITH, Maple Lodge, P.O., Ont.

AYRSHIRES

A number of choice pure-bred bulls for sale, or will exchange on suitable terms for pure-bred or grade heifers of dairy strain.

C. S. AYLWIN, Freeman P.O., Ont.

GRAHAM BROS.,

CLAREMONT, ONT.

Canada's leading Horse Importers

Clydesdales and Hackneys

Stallions and Mares.

Farm one mile from station on C.P.R.

Write for Catalogue.

following is a list of the sales:

CATTLE

Shorthorn bulls—King Edward, W. J. Meads, Ceylon, \$105; College Conqueror, John Harvey, Londesboro, \$65; College Conquest, John McKellar, Belmont, \$105; College Commander, John Boyes, Churchill, \$110; College Senator, D. Talbot, Everton, \$155; College Hero, G. A. McWilliams, Everton, \$75. Females—Amanda II and calf, Joseph Akitt, Inglewood, \$70; College Queen III, R. Rensselaer, Galt, \$85.

Holstein-Friesian, females—Lacto Meg, D. McLeod, Guelph, \$30; Meg N. Dekol, H. Welch, Weston, \$35; Marjorie Dekol, H. Welch, \$35. Jersey bulls—Belvoir College Boy, J. McKenzie, Scotch Block, \$8.

SWINE

Yorkshire sows—J. Hill, Wellesley, \$16; W. W. Ballantyne, Stratford, \$25; George Elliott, Kirkwall, \$17; McKenzie, Scotch Block, \$24; W. J. Lennox, Newton Robinson, \$30; D. C. Platt, Mill Grove, \$25; G. & E. Thompson, Guelph, \$31; F. Sumner, South End, \$30; S. Pinder, Guelph, \$25; S. Young, Guelph, \$30; Wm. Isach, Sebringville, \$30; J. Wright, Marden, \$21; D. C. Platt, \$23; D. Stewart, Hamstead, \$20; J. Richardson, Rockwood, \$10; M. O'Donnell, Guelph, \$11; Geo. Elliott, Kirkwall, \$6. Sows—G. & E. Thompson, Guelph, \$14; R. N. Crane, Montreal, \$8. Boars—R. Sager, St. George, \$12; T. Little, Kirkwall, \$15; J. Richardson, Rockwood, \$15; W. Kennedy, Erin, \$11; P. T. McIntyre, Mount Forest, \$7; R. Anderson, Eden Mills, \$12. Tamworth sows—A. McKilligan, Galt, \$7; W. Grills, Galt, \$6; R. Gibson, Galt, \$6.

SHEEP

Leicester rams—G. & E. Thompson, \$9; W. Newton, Limehouse, \$9; W. T. Hamby, Drayton, \$2; P. T. McIntyre, Mount Forest, \$7; J. McKenzie, \$7. Shropshire rams—J. M. McKellar, Belmont, \$11; R. Rensselaer, Galt, \$8; W. L. Gordon, Elora, \$9; S. Galbraith, Orangeville, \$7. Oxford rams—J. C. Mills, Preston, Minn., \$17; J. C. Mills, \$17.

The Provincial Winter Fair

We wish to draw the special attention of our readers to the announcement of the Provincial Winter Fair that appears in this issue. Since its establishment twenty years ago the Fair has grown to be an important factor to the live stock and the poultry industries. Being under the control of the Department of Agriculture, and being directed by the Live Stock Associations, all efforts are aimed toward the education of our farmers along the lines of improved and more economical methods of rearing and feeding farm stock. This object can best be accomplished by an organization such as is operated at Guelph, where no material gain is realized by any person officially connected with the Show.

When one remembers, that of cattle, sheep and swine there are in Ontario 6,000,000 head, valued at \$73,500,000, it can be readily understood how greatly the wealth of the country can be increased by producing animals of a higher general average value per head. This average may be improved by one or both of two methods. First, by giving more attention to breeding animals for the particular purpose it is intended to put them; and second, by obtaining the maximum growth or production at the minimum of cost. To intelligently discuss these questions would require volumes, and cause more reading than the usually otherwise busy farmer has time for. Those who have attended the Fair in past years can testify to the practical and concise manner in which these topics are dealt with by the lecturers, who are able to emphasize their points by using animals and charts for illustrating purposes.

Market Review and Forecast

The Trend of Markets—Supply and Demand—The Outlook

Toronto, Oct. 31, 1903.

In wholesale circles the prospects for the winter and spring trades are looked upon as very encouraging. The recent cold weather has stimulated trade in winter goods. The volume of business being done is on the whole ahead of this time a year ago, showing that things are brisk in the country. The stock market has improved and Canadian securities are firmer. Money is a little quieter and some call loans are reported to have been made at 5 per cent, which is fully one-half per cent below what was asked a fortnight ago.

WHEAT

The wheat situation continues in about the same condition as at previous writing. The war scare in the East and the estimated shortage of nearly 70,000,000 bushels in the world's crop as noted elsewhere in this issue, caused a little flurry in speculative circles, but is without any permanent value to the market. The movement among farmers in the western states to hold their wheat for a rise, has had little effect, as there has been less movement of wheat in the country. Aside from this the prospects for dollar wheat in the near future are not very bright. Besides, it must be remembered that over four months of the present cereal year have passed and so far comparatively little of the world's wheat crop of 1903 has been marketed, so that the bulk of it is yet to go forward. Canadian dealers complain that prices here are from 1 to 2 cents too high to admit of a profitable export trade. This prevents a keen, active demand and makes it difficult to get to the local milling market, which is soon supplied if the wheat movement is large. Grain dealers here quote red and white bring 82½, goose 74 and spring 79 steady at 70, and rye steady at 72. On Toronto farmers' market, red and white bring 82-1-2, goose 74 and spring 79 cents per bushel.

COARSE GRAINS

The market for coarse grains continues steady. Oats are more than holding their own considering the large crop there is to dispose of. Prices here are 30 1-2 to 31c for No. 1 white at outside points. On Toronto farmers' market oats bring 34½c a bushel. Barley is inclined to be dull and peas are steady at quotations. The corn market rules steady. In the Western States receipts are reported fair with demand moderate.

POTATOES AND BEANS

Increasing signs of rot are shown in recent arrivals of potatoes. Really sound lots are few and far between and dealers are apprehensive of being able to get a sufficient supply. Some talk of bringing potatoes here from the Maritime Provinces. Good potatoes seem to be more plentiful in Quebec as supplies at Montreal have been liberal. Car lots on track are quoted here at 55 to 60 cents and about 55c at Montreal. The bean market has a quieter tone. Car lots on track at Montreal are quoted at \$1.60 to \$1.65 1-2 per bushel.

EGGS AND POULTRY

Eggs are firm and prices maintain the high level of 20 cents. Prices are about a cent higher than at this time last year. Quite a lot of eggs are being sent to Great Britain. This, with the good local demand, keeps the price up. Straight receipts at Montreal are quoted at 19c and here at 20c in large lots. New laid eggs on Toronto farmers' market bring from 25 to 30c a dozen.

The poultry market keeps good. Receipts are heavier and more market is

easier in tone at quotations. On Toronto Market chickens are selling at 7 to 8c; ducks, 9c; turkeys 10 to 11c; and geese at 7½c, all live weight. Dressed birds have sold at Montreal at 13 to 14c for dry pickled, and 11 to 12c for scalded turkeys; chickens, 11 to 12c; ducks, 11 to 12c; and geese, 8 to 10c, in case lots.

HAY AND STRAW

Though there is little change to report in hay, things are, if anything, a little on the quiet side. Here there is a little more baled hay coming forward though prices remain at \$9 to \$9.50 for car lots on track, Toronto. The export market is quiet. At Quebec points sales of No. 2 are reported at \$7.50 for car lots, L.O.B. No. 1 timothy is quoted at Montreal at \$9.50 to \$10.50 in car lots. The United States market is reported firm for Canadian hay.

The market for straw rules quiet but steady at quotations.

FRUIT

Large quantities of apples continue to arrive in Great Britain from Canada and the United States. Exporters are busy buying up all they can, which is keeping the local supply short. Packers are paying farmers fairly good prices for apples. We heard of one packer who paid \$1.85 per bbl for apples all packed and ready to ship. Occasionally a dealer makes a lucky hit. One dealer reported to have bought an orchard near Toronto for the lump sum of \$450. This orchard turned out 1,000 barrels, and of course the grower was sorry for his bargain. There is a great scarcity of barrels and a pretty stiff price is asked for them. They are hard to get in any quantities. This barrel famine, if it continues, may lessen export and increase the demand on the local market. The bulk of those offering here are wind-falls, which bring from \$1.25 to \$1.75 per bbl. Grapes still continue to come forward in large quantities and prices rule steady. The price varies according to quality from 22-1-2 to 27-1-2c for small, and 35 to 45c for large baskets, wholesale.

DAIRY PRODUCTS

The cheese market has fluctuated somewhat since our last report. About ten days ago there was a little rush on to fill orders, which ran up prices considerably in the country. Since then things have cooled off somewhat and prices at the country are a shade lower than two weeks ago, the ruling figure this week being 10½c with 10½c in some places. Factory men are inclined to hold and most of the local markets report no sales. The milk supply is beginning to fall off somewhat, and with the beginning of November many of the smaller factories may be closing down.

There has been considerable activity in creamery stocks of late owing to a good demand both for export and for local trade. Stocks of creamery are said to be light. Dealers here complain of the scarcity of good dairy butter. The creamery butter is almost of uniform quality and satisfactory to handle. Some go so far as to say that the quality of dairy butter is going back rather than improving. On Toronto farmers' market pound rolls sell at 20 to 23c each.

LIVE STOCK

The live stock markets have ruled fairly steady the last ten days. The ruling feature of this week's trade has been the dullness of the market for both export and butchers' cattle excepting for the very best quality. The quality of the fat cattle offering shows some improvement over those offered for several weeks past. The best exporters at Toronto cattle market sell at \$4.60 per cwt., and medium at \$4.25. Export bulls are worth from \$3.50 to \$4.25 per cwt. as to quality. Export cows are worth from \$3.40 to \$3.60 per cwt. Choice picked lots of butchers' cattle, 1,100 to 1,175 lbs. each, equal in quality to the best exporters, sell at \$4.25; good loads at \$4, and other quality at from \$3.25 to \$3.75 per cwt. Good feeders, 1,200 to 1,150 lbs. each sell at \$3.20 to \$3.75, and feeding bulls for the distillery bring at \$2.50 to \$3.12 1-2 per cwt. In the stocker trade yearling steers, 400 to 700 lbs. each, sell for \$2.75 to \$3, and off-cows and inferior quality at \$2.25 to \$2.50 per cwt. Milch cows and springers are

The Canadian Produce Markets at a Glance

The highest quotations of prevailing prices for standard grades of farm produce in the leading markets on the dates named. Poorer stuff lower.

Date	Toronto 31	Montreal 30	St. John 24	Halifax 24	Winnipeg 26
Wheat, per bushel.....	\$ 0 78	\$ 0 78	\$	\$	\$ 0 83½
Oats, per bushel.....	31	34½	43	43	33
Barley, per bushel.....	45	50	53	54	35
Peas, per bushel.....	63½	67½	74	75
Flour, per barrel.....	54½	52	55	55
Flour, per barrel.....	3	4	4 30	4 50	70
Bras, per ton.....	17 00	16 50	21 00	21 50	17 00
Shorts, per ton.....	19 00	19 00	23 00	23 50	19 00
Potatoes, per bag.....	60	58	1 15	1 15	60
Beans, per bushel.....	1 80	1 75	95	95	2 00
Hay, per ton.....	9 50	10 50	14 00	14 00	10 00
Straw, per ton.....	5 00	6 00	8 00	8 00
Eggs, per dozen.....	20	19	19	19	17
Chickens, per pound, d.w.....	10	11	per 445	50	per 110
Ducks, per pound, d.w.....	11	11	per 555	55	per 110
Turkeys, per pound, d.w.....	13	14	14	14	11
Geese, per pound, d.w.....	8	9	12	14	10
Apples, per barrel.....	2 60	3 25	3 00	3 00	6 00
Cheese, per pound.....	11½	11½	12	12	12
Butters, creamery, per pound.....	22	22	22	22	18
Butter, dairy, per pound.....	19	16	19	19	16
Cheese, per cwt.....	4 60	4 25	4 75	4 75	3 25
Shamp, per cwt.....	3 50	3 37½	4 00	4 00	4 00
Hogs, per cwt.....	5 30	5 50	5 50	5 50	5 50
Veal, calves, per cwt.....	5 50	4 50	4 50	4 50

worth \$30 to \$60 each. Calves sell at from \$2 to \$10 each.

There is a better demand for lambs and prices for these are higher at from \$1.75 to \$4.00 per lb. Sheep rule at from \$1.40 to \$3.50 for ewes, and \$2.50 to \$2.75 per cwt for bucks.

The hog market has not changed much since last writing. Prices remain steady at \$5.40 per lb. for select bacon hogs not less than 160 nor more than 200 pounds each, and \$5.15 for lights and fats.

HORSES

Trade in horses has been fairly good of late, there being a very good demand for heavy general purpose horses weighing about 1,400 lbs. These have sold at Grand's at from \$1.40 to \$187.50 each. The big sale of British Columbia ranch horses, consigned by C. H. Hadwin, sold fairly well. There were 100 in the lot and they sold at from \$15 to \$82.50 each, or an average of about \$17. The consignment of broken polo ponies from H. R. Middleton, at Hotkots, Alta., sold well. Prices ranged from \$100 to \$450 each. Trade at the moment is a little quiet and will be so till winter sets in when a large number of horses will be required for the lumber camps.

TORONTO JUNCTION

Tuesday is the big market day of the week at the new Union Stock Yards East. Tuesday there was a run of 79 cars. The bulk of the export cattle are sold on this market. The quality on Tuesday was fair to good with a few choice loads of exporters and butchers' cattle. Prices were lower for all kinds, especially exporters. The best at \$4.20 to \$4.65, with two extra choice lots bringing \$4.75 and \$4.85 per cwt. respectively. The bulk of exporters sold at \$4.25 to \$4.50 per cwt. and there are other kinds ruled about the same as at the city cattle market, reported above.

MARITIME MARKETS

Halifax, Oct. 26th, 1903.

Trade at this point is very active. All produce dealers report a good demand and the fall movement of grocery lines exceeds that of last year. Apple shipments are heavy, the Dominion Atlantic Railway having to borrow additional rolling stock to prevent a freight blockade at valley points. The trade outlook for winter is good excepting on the Atlantic Coast where the shortage in the fisheries is being felt by traders to some extent. The flour market continues very steady although jobbers report some of the Ontario mills disposed to shade their quotations of two weeks ago. Others are as firm as ever in their ideas. Manitoba flours are very firm and would be still more so only one jobber here secured a large stock of Ogilvie's before the advance and which he has been selling below the price lately asked by the mills. Corn meal is lower since the drop in corn. There have been no cargoes of P. E. I. produce at this port so far but several vessels are expected to arrive the first of the week. There have been considerable potatoes arriving by rail and steamer and the price has ruled high, but this is no criterion of the market conditions when the vessels come to hand. The Nova Scotia potato crop is almost over owing to the rot which has ruined all chances of further supply and these coming on the market. In view of this prices are expected to be high and it is not likely that any Island cargoes will sell here this season under 35 or 40 cents per bushel. Oats seem to be going higher as present prices are below the parity of the Ontario and United States markets.

In dairy produce there have been some violent fluctuations. About two weeks ago cheese began to weaken and makers were compelled to accept a fall

cent less than previous offers. Buying orders by cable followed which again sent prices up and just at the moment there is quite a scramble to get possession of September make. Butter is firm and in only moderate supply. Eggs have again advanced and are now jobbing here at 19 to 20 cents for straight gathered stock.

Feedstuffs are firm. The Halifax city council last week accepted the following tender for one year's supply, viz.: Hay, \$13.00; oats, 43c; straw, \$8; bran, \$2; middlings, \$22. This is below the present market quotations on carload lots.

Codfish have advanced twenty cents per quintal, the summer catch of Bank fish now selling at \$5. Spring mackerel have advanced 50 cents per barrel and all lots offering are speedily picked up. There is great scarcity of cod and herring suitable for the grocery trade. A feature of the country market is the large quantity of venison which is much more plentiful than in former seasons and is sold at a low figure. Moose have been very abundant in Nova Scotia and New Brunswick and nearly all our local hunters have had little difficulty in securing two each which is all they are allowed to shoot in one season under the Nova Scotia law. A number of United States sportsmen have been in the province and the revenue derived from the license fees has been unusually large.

Breeding Draft Horses

The demand for good, sound, heavy draft horses is as keen as ever and likely to continue so. Though automobiles of various kinds have rapidly come into use in recent years, they have failed to drive out the horse for heavy draft work in the large cities. The great bulk of the automobiles licensed for use in the large cities are for pleasure and light transfer work. Motor cabs and carriages are perhaps less numerous than a couple of years ago. The largest concern using such conveyances for hire in Chicago failed not long ago, and similar failures have resulted elsewhere, even in Paris, France, where automobiles have been given a more thorough test than elsewhere. The question resolves itself into this, that while motor power may to a considerable extent supply the place of the driver and light delivery horse, it is not likely to seriously interfere with the useful and profitable employment of heavy draft horses in the cities. The demand for horses in the lumber camps is as keen as ever and with the development in the North country following the building of the new Grand Trunk Pacific, this demand is likely to be greatly increased. The farmer, therefore, will run no risk in breeding good and sound heavy horses, and the heavier the better.

The draft horse of to-day is a somewhat different animal from the so-called draft horse of a few years ago. The 1,500 pound horse used to be a drafter, but is not considered so to-day. To enter the true draft class he must weigh 1,600 lbs. up and if he goes over 1,800 lbs. so much the better. It is not an uncommon thing to-day to find teams weighing two tons, or close to that weight. The draft horse of to-day is the heavy horse of draft blood. He can only come from intelligent mating to heavy draft stallions and mares and by persistent following of such work for a number of years. The average farmer is most suitably situated for this work, provided he is willing to undertake it in an intelligent and persistent way. Referring to this question of breeding draft horses, Prof. Alexander, of the Wisconsin Experiment Station, says: "It is more sensible and profitable to start with heavy mares weighing at least 1,600 pounds and over and breed them to sound, deeply-bred, pedigreed

stallions of the same blood used in the formation of the mares used. Three or four mares of such weight and blood, intelligently mated should lay the foundation of a fortune for any farmer who will agree to properly handle, handle, break and finish the market product. Select mares that do not come up to the standard of weight and soundness and seek hereafter there until suitable mares are found, not grinding to pay a good price for the right article. Given the mares, see to it that the stallions used are of like quality, the same breed and absolutely sound.

"Starting with one breed stick to it through thick and thin. If the market is dull it will revive again. It will be lost by depreciating the sale stock by mixing breeds and so creating nondescripts. The purer in blood the grade stock can be made the better it will sell. Given the right type to start with and properly handled it should improve in quality and value right along and the selling of one good team will make a market for the next if it is equally good. This is better and safer business for the farmer who is engaged in than the production of trotters or even carriage horses. The latter classes of horses are a greater lottery. They require more expert handling, are more difficult to produce, are easily blamed, less likely to give uniform returns year after year. Draft horses on the other hand may be profitably worked on the farm. The brood mare may work right up to foaling time safely if not overworked or strained. Her fillets may be bred at three years of age, have two foals and still go to market at five years, selling at a profit if not found to be just what is wanted as a brood mare on the other hand little use for trotting bred mares at farm work and their progeny is profitable only when developed at great expense and at an early time on the track. Such developing takes too much time for the average farmer to spare and if he does spare it and go into the business he is apt to become a trotting horse breeder and his mares are rarely successful small farmers. Compare draft horse breeding with ordinary horse production in rural districts. Ordinary productions command an ordinary price. For the average ordinary farm horse, there is merely a local demand or the surplus if shipped is a drug on the market and brings an ordinary price. On the contrary the draft horse of full weight and superior quality is something out of the ordinary, in demand, scarce and therefore valuable. We cannot foresee a time when there will be too many first class draft horses to command remunerative prices. There never has been a time in the last twenty years when ordinary, light weight horses of nondescript breeding have been much sought after and sales not occur at a low average. There will always be a sufficiency of such cheap horses, but the man who would improve his profits from horse breeding and at the same time benefit those who are to come after him should commence breeding the right class of draft horses and stick to the business persistently and earnestly."

Grotesque Frazzled Fowl

Frazzled fowls are the most grotesque members of the poultry family. Their name is applied to a certain specimen in which their feathers curve upward and backward at the ends, as if in defiance of nature's laws. This curving is the result of an ill-conditioned hackle and saddle feathers. As the feathers vary in color, there is no rule for judging their plumage except that it must have the peculiar upward curve; any other color is also possible. Frazzled fowls are reported to be hardy, and very early and good layers.

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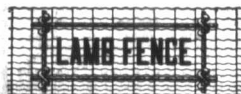
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