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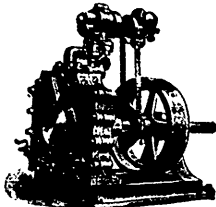
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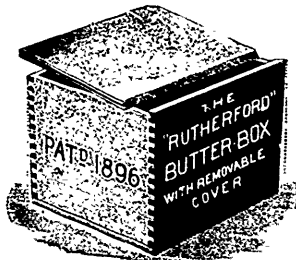
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### ...LEADING TOPICS FOR THE WEEK...

The Cheese and Butter Outlook. Selling Dairy Products on Commission. Hired Help on the Farm. The Provincial Fat Stock and Dairy Show. The Export Egg Trade. The Soil of the Farm. Handling Lamb Wethers for Market. Poultry Raising for the Farmer. The Color of Shorthorns. Light Horses. Market Review and Forecast.

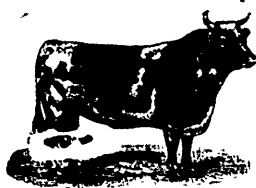
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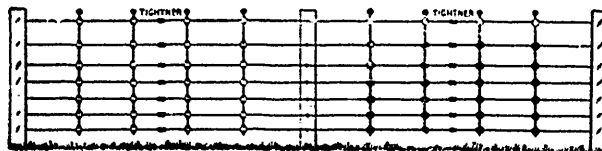
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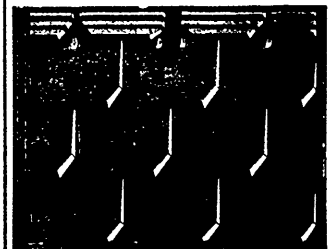
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**Imported and Canadian RAMS and EWES**  
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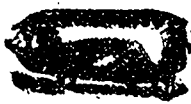
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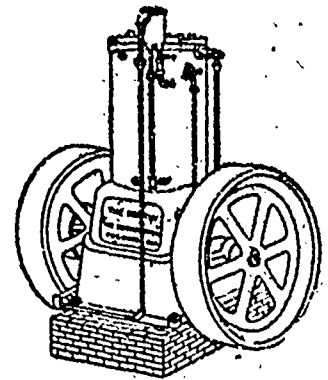
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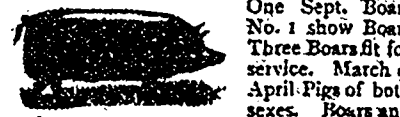
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ROBT. DAVIES, PROP. THORNCLIFFE STOCK FARM

# FARMING

VOL. XV.

MAY 31st, 1898.

No. 39.

## FARMING

AN ILLUSTRATED WEEKLY JOURNAL DEVOTED TO FARMING AND THE FARMER'S INTERESTS.

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## TOPICS FOR THE WEEK

### Agricultural News and Comments.

Considerable interest is being taken in the system of compressing flour in England. It is now found to be quite feasible to make blocks sufficiently hard and coherent to bear the handling necessary for packing, etc. Compressed flour occupies two-fifths the space of the loose flour, or one-half the space required for flour stored in the ordinary manner in sacks. The flour is easily reduced when once compressed. A small quantity may be easily reduced with a rolling pin or knife. The quality of the flour when compressed for baking, etc., is not injured in any way.

It is wonderful what capabilities the cow has to produce. Last year at the "Hood" Jersey farm in Massachusetts two cows made 655 and 652 pounds of butter each without any forcing. At twenty cents per pound this meant an income of over \$130 each from butter alone. One of these cows gave 12,000 pounds of milk. Though every cow may not do as well as this, if properly selected and fed she will do a great deal more than many dairymen imagine.

The earning of the poultry of the United States last year aggregated \$290,000,000. There are said to be in round numbers 375,000,000 chickens and 40,000,000 other fowls, such as ducks, geese and turkeys, in the United States. In 1897 the hens laid in round numbers 14,400,000,000 eggs. The export price at New York averaged fifteen cents per dozen, which makes the value of the egg crop \$165,000,000. The poultry sold as meat brought \$125,000,000. The hens of America packed inside the shells of their eggs 650,000 tons of water.

Through the efforts of the farmers, New York State has a very effective good roads law. The new law is not mandatory, and \$100,000 for carrying it out must be annually voted in the supply bill. It provides that the state shall pay one half the cost of construction, the county thirty-five per cent, and the locality fifteen per cent. The road is to be built by the state engineer, when a county votes to ask for it through the road supervisors. This local option is likely to have a good effect in producing a rivalry between counties to build good roads.

A state bounty of \$1 per ton is to be paid to the grower by the state treasurer of New Jersey upon all beets grown in the state which shall have been manufactured into sugar. The bill provides that not less than \$50,000 annually shall be devoted to this purpose after September 1st, 1898. The appropriation to pay the bounty will have to be voted for each year, and, as the governor can veto any single item on an appropriation bill, therefore the length of time that this bounty will be paid depends upon the results it accomplishes.

During the four months ending April 30th last Great Britain imported 276,922 cwt. of condensed milk and 6,525 cwt. of fresh milk. The latter amount, though a small quantity, is more than four times as large as the total for the same period last year. It is a question whether the importation of fresh milk will reach very large proportions. Milk is comparatively bulky in form and of such a perishable nature that it is doubtful if its importation from any distant point can be made financially successful.

Great Britain imported during the first four months of this year 157,365 tons of potatoes. This is a large amount and shows the deficiency of last year's crop in England. The above amount is fifteen times larger than for the same time last year and the April imports made up the largest monthly total of the year.

What the loss of Cuba means to Spain may be gathered from the following records of the exports from the latter country for 1897. During that year Spain's exports to France amounted to £9,332,000, to Great Britain, £8,932,000, and to Cuba, £5,380,000. Cuba, therefore, ranks next to France and Great Britain as an importer of Spanish products. The Philippines come next with £1,532,000, and then Puerto Rico with £1,508,000. The United States took only £432,000 of Spain's exports.

Wheat flour from the United States sent into China through the port of Chefoo, in Shantung, reached a value of £678,000 in the year ending June, 1897, as against £300,000 in 1888. This shows a large increase in this trade and that the Chinese appear to recognize the superiority of the American flour over their own roughly cleaned product. It is believed that, if flour mills are established in China as there is some thought of doing, the American trade will be seriously affected.

The game of polo has created a large demand for polo ponies in some quarters, and extraordinary prices are now being paid for these small animals. At an English sale of such ponies recently prices ranged from 125 to 300 guineas. One pony noted for its speed and usefulness in saddle and harness was reserved at 400 guineas, or \$2,000.

The question of establishing national granaries for wheat in Europe is receiving considerable attention just now. It is felt in all the leading centres that such a scheme would prove a great boon in case of war or any time of dearth. Before the Agricultural Committee in England evidence was recently given by millers and others in regard to this scheme. It was suggested that half a score of storehouses should be established in different parts of the United Kingdom. One difficulty would be to arrange these storehouses so that large quantities of wheat could be kept without in jury for a length of time in the humid climate of England.

### Provincial Fat Stock and Dairy Show.

ANIMALS TO BE JUDGED FROM A CONSUMER'S STANDPOINT.

The directors of the Provincial Fat Stock and Dairy Show met last week, and completed arrangements for their next annual show, which will be held in the city of Brantford on November 30th and December 1st and 2nd. Entries will close on November 25th, and the fees charged will be \$2 for cattle, 75 cents for sheep, and 50 cents for swine; no charge will be made for specials. One important change in the regulations is deserving of special mention, and which is included in the following clauses:

"All animals, except those exhibited in the dairy classes, shall be judged from a consumer's standpoint. Awards shall be given to the animals most valuable from a consumer's point of view."

"No animal deemed unsuitable by the judges shall be awarded a premium, but no premium shall be withheld merely because there is no competition."

The good results to be derived from putting into force the regulation contained in the former clause cannot be over-estimated. We have always contended that products of all kinds at exhibitions should be judged from a utilitarian standpoint rather than from an ornamental or æsthetic point of view. Upon this hinges the practical or educational value of an exhibition, whether it be of live stock or any other exhibit from the farm, and we are pleased to learn that the directors of the Provincial Show have taken the initiative in this matter, and have decided to enforce this regulation to the very letter. If cattle, sheep, and swine are to be judged from a consumer's standpoint, it means that all exhibitors will prepare and fit up their animals with that object in view. An exhibition of animals shown because of their adaptability to meet the needs of the export or consumers' trade cannot but be of great educational value to every breeder, feeder, and farmer in the country, and it is to be hoped that there will be a large attendance of these classes next fall.

It is in the swine classes, however, where this feature of the regulations will accomplish the greatest results. For some time there has been considerable contention as to what type of hog was most suitable for the bacon or consumers' trade. Within the last year or two this type has been pretty well established, and the export bacon trade demands that the farmers should raise the bacon type of hog and no other. It would be a suicidal policy for us to attempt to build up a large export trade with anything else than the finest quality of bacon. This can only be procured by raising the proper kind of hog and feeding it in the right way. We had the privilege the other day of seeing about 700 hogs graded at one of the leading packing houses in this city, and it was really a surprise to us to notice the great variation in the quality of the hogs so graded. It was conclusive proof that there are many farmers to-day who do not understand what the real bacon type of hog is. There is much to be learned along this line, and the directorate is to be commended for making special provision for prizes for hogs suitable for the bacon trade only. We give below the prizes to be awarded in this particular class and the rules governing it. There is one feature of it that we believe will be the first of its kind in Canada, viz.: the prizes for dressed carcasses. The animals will be brought to the show alive and be killed on the second day of the show. All the other essentials of the prize list will be the same as last year:

## CLASS 25. BACON HOGS.

Sec.	1st.	2nd.	3d.	4th.	5th.
1. 4 Improved Berkshires.....	\$25	\$15	\$10	H.C.	C.
2. 4 Improved Yorkshires.....	25	15	10	H.C.	C.
3. 4 Tamworths.....	25	15	10	H.C.	C.
4. 4 Chester Whites.....	25	15	10	H.C.	C.
5. 4 Poland Chinas.....	25	15	10	H.C.	C.
6. 4 Duroc Jerseys.....	25	15	10	H.C.	C.
7. 4 Suffolks or Essex.....	25	15	10	H.C.	C.
8. 4 Grades or Crosses.....	25	15	10	H.C.	C.

## H.R.H. PRINCE OF WALES' PRIZE.

9. 2 Best Dressed Hogs to be brought to the show alive and killed the second day of the exhibition.....	25	15	10	H.C.	C.
10. 4 Best Bacon Hogs, any breed.....	25	15	10	H.C.	C.

Provision for killing has been completed and arrangements have been made whereby the animals competing in section 9 can be sold in Brantford for the highest market price for dressed pork.

## RULES GOVERNING CLASS 25.

1. No animal deemed unsuitable for bacon purposes by the judges shall be awarded a premium, but no premium shall be withheld merely because there is no competition.
2. All animals shown as pure-breds must be recorded and the certificates of registration handed to the person in charge of the ring as soon as the animal enters. This certificate may be inspected by the public if any desire to do so. In case there is no complaint the certificate shall be handed to the exhibitor when the animal leaves the ring.
3. Pure bred animals shall not be shown in the class for grades and crosses.
4. Hogs which are meeting pork packers' requirements weigh between 160 and 200 lbs. They are long in the body, deep in the side, narrow in the shoulder, with small head and hams in proportion to the body, and not too fat; the ideal weight is between 170 and 180 lbs.
5. Hogs in the bacon class will be judged by competent and reliable judges chosen from the packing industry.
6. Other rules governing the Swine Department will apply to class 25.

## Selling Dairy Products on Commission.

Mr. Thomas McAulay, of McAulay Bros., Glasgow, Scotland, is on a visit to Canada with a view to establishing a business connection with some of the leading Canadian cheese factories and creameries. His object is to do business direct with the manufacturers and to sell their goods on commission. Mr. McAulay believes that the factorymen can do better in disposing of their goods in this way than by selling outright to dealers on this side.

In some respects we are inclined to this view, but it is doubtful if many of the factorymen, especially those connected with the cheese factories, can be induced to dispose of their product on a commission basis. The co-operative character of our dairy industry forbids this. The patron who supplies milk is not always willing to wait a month or two for his pay after the product leaves the factory, and, unless a liberal advance is made almost sufficient to cover the entire value of the product, it is difficult to get his consent. If the factories were owned by private parties or companies who had the power to do as they pleased with the product something might be done in the way of establishing a commission business in connection with the disposal of our dairy products. But so long as they are controlled by the patrons and so long as there are dealers on this side who are willing to purchase the product outright and pay the cash for it, it is doubtful if any other than the present way of selling the product will come largely into vogue. Several years ago a strong Canadian company was formed for doing business on this principle. A large number of the cheese factories in the west contracted with this company to sell their cheese on commission in Great Britain to the highest bidder. At the end of the year the results were not considered sufficiently satisfactory to enable the company to continue the business, and as many of the factories had to wait a long time for returns they also were not inclined to continue to sell on the same basis. Since then very little cheese has gone forward on commission, with the exception of cheese rejected by a regular buyer, and which the factories refused to accept a lower price for than what it had been sold at.

Notwithstanding these difficulties, we are inclined to think that if our dairy products were sent forward regularly on a commission basis it would be much better for the producer. There would, of course, be certain drawbacks in getting a business under way, but, when once the trade were established, good results would follow. Of course, there are many instances in the present method of disposing of this product in which the producer reaps a benefit because of the speculative element in the trade, but on the whole the after effects of such speculations are not always wholesome. We have a striking instance of it in regard to the outlook for the present season's trade. Last fall, it is now claimed, the prices paid for cheese were too high, and dealers lost money. The producer profited by the high prices of last year, but he is likely not to do so well this season because of the money lost by dealers on last year's product. Therefore, on the whole, the producer is in no better position than if he had received a lower price last year and the outlook were better this year. Considered in every way, the speculative element in trade is not always the best thing for the producer, whether it be in connection with cheese, wheat, or any other product. The reaction which inevitably follows is always felt most keenly by the producer. If all produce were sold on commission according to its merits, the speculative element would be eliminated, and there would not be the variation in prices which we have at present. We would like to see this thing tested by a few of our good factories for a year or two. We have very little doubt that, if the experiment were continued long enough, better results would be shown than under the present method of doing business.

## Hired Help on the Farm.

The number of letters which we have received, and which we have published since we first referred to this subject shows that it is a vital question and of intense interest to the farming community. There is no more important problem in connection with agriculture in this country than that of hired help on the farm. To farm successfully every foot of land must be well worked and every head of stock, whether it be the horse, the cow, the hog, the sheep, or even the hen, must be carefully looked after, and especially during the winter months. If the farmer has not the help within his own family to do all the work necessary on his farm he will be compelled to get it elsewhere. In some districts it is not difficult to obtain this help, but in others good hired help is very scarce. We believe that hired help is very scarce the present season all over Ontario owing to the great rush of people to Manitoba and the West. If this rush of people westward continues, as it is likely to, if present favorable conditions there are maintained, the question of obtaining sufficient help to work Ontario farms as they should be worked is a very difficult one indeed. If the present exodus of people to the West continues it will not be a question of whether a farmer will engage a married or a single man, but whether he will be able to get help at all or not.

What the Ontario farmer and his brother in the Eastern Provinces should consider is how the present tendency regarding hired help on the farm is to be remedied. Notwithstanding what has been said to the contrary in the numerous letters already published and by the two contributors below we are still strongly of the opinion that one way of retaining the good farm help in this country is to engage by the year and to make provision for the employment of married men on the farms. The cases cited where married men have proved failures or rogues do not affect the principle that we are contending for, that in order to preserve intact the home life on the farm, and to retain the good steady men for work on the farm the employment of married men the year round will be far more effectual than engaging a single man for a few months each year. The ambitious, steady young man when out of work during the winter months

will not loaf around, waiting for his old position to become vacant again, but will seek steady employment elsewhere which, if he obtains, he is not likely to relinquish for his old summer job on the farm.

The following letters on this subject, though covering much the same ground as some of the others, will be read with interest by those in touch with this question:

## Editor of FARMING:

This hired man talk is getting very interesting. You asked: What becomes of the young single men who are now employed on our farms, and whether they stick to farming? Well, I think that those who take any interest in it and who just loaf about the country will not likely stick to it very long. Then if these men get married they become a curse to the country, as our neighborhood found out last fall. One of our neighbors had a married hired man, and what was the result? Well, in the end our hen houses had to suffer some for it.

This is not the only case of this kind that I know of. An uncle of mine had a house built for his hired man, and he had to go back to the single man for the others, for the most of them seemed to believe that it was cheaper stealing their meat and vegetables than to buy them. So if that is the case all over, I think that the single hired man will be the cheapest in the long run. If we will go in for married hired men it will have a tendency to make the loafers get married, and then the country will soon be overrun with these "happy-go-lucky" fellows. In our neighborhood we have already too many of them. But I admit that a good married hired man is a help to the farmer; but I think also that a good married hired man was, or should have been, a good single hired man before he was married.

R. B. MARTIN.

## Editor of FARMING:

Your paper reads well, and is deserving of support. I read with a great deal of interest the discussion of "Farm Help," and felt like taking a hand in it. I have had half a century's experience, and ought to know something about it. If a farmer will only keep one hired man, there are several reasons why it is better that he should board in the home and be a single man. If you want a horse harnessed after hours, and your hired man lives only a short distance from the house, you will have to do it yourself, and it will be the same if you come in in the evening, cold and tired, you will have to look after your own team. If your wife wants something done unexpectedly after hours, you or she will have to do it. If the doctor is wanted in a hurry, or a friend sends a telegram to meet him at the station, it is a great satisfaction to be able to say: "John, will you slip out and tell the doctor we would like him to call and see the baby?" or "John, I have just received a telegram from a friend to meet him at the station, will you harness Dan and do it for me, I have some writing to do?" We have tried the plan. I built a snug little cottage nearly forty years ago, and tried the married man plan. In my case it has not been a success. I have had a fine young fellow living with me since 1895. He married in March, 1897, and moved into the cottage in May. He is not with me now, as his wife is a failure. He could not wait on his wife and earn his wages on the farm, and so had to leave.

The ten hour system, which is all right off the farm, is not so nice on the farm, although, take the year round, I would be well satisfied with a ten hour day. The system that too many of us have got into of only keeping help six months of the year is a bad one. It is the prime cause of the scarcity of hired farm labor. The men discharged in the fall have to look somewhere for work, and if they can't get it at home they must go where it is to be had, and when they once get away they are almost compelled to stay away. Some are very apt to say that we cannot make a man earn his wages in the winter time, and there is, perhaps, truth in it; at the same time I can't help thinking, with the work that may be done even in the winter, a farmer ought to have *think* enough in him to make at least one hired man pay his way on most farms.

The great development of the dairy interest in the last decade will help all farmers in dairy districts to find winter work for farm laborers.

HOWARD FREEMAN.

Prospect Farm, Point de Bute, N.B.

## Canada's Export Egg Trade.

Canada sent to Great Britain last year \$97,207 worth of eggs. Though this amount is small, yet it shows a considerable increase over previous years, and the trade promises greater expansion in the near future. It is only of late years that Canadian eggs have been known in the large trade centres of Great Britain. Hitherto Canadian eggs have been sent to Liverpool and Glasgow, but they are now finding their way to London, Bristol and Manchester. There is now a direct line of steamers between Manchester and Montreal, which affords a good opportunity for developing a trade with that city. There have been only sample lots

going forward during the winter months. But the export trade for the season has commenced and sales of pickled eggs have been made recently for next fall shipment at one cent and one and one-quarter cents per dozen more than was paid last year at this time. It is not expected, however, that many fresh eggs will go forward from Canada to the English market before the middle of July. Many English houses are asking for quotations for fresh stock for shipment about that time. The outlook, therefore, is somewhat encouraging.

The importation of eggs by Great Britain is on a very large scale, and there is plenty of room for large quantities of Canadian fresh eggs. In 1897 Great Britain imported from France eggs to the value of \$5,114,345; from Germany eggs to the value of \$4,065,110; from Belgium eggs to the value of \$3,840,385; from Denmark eggs to the value of \$2,281,410, and from Russia eggs to the value of \$4,061,435. As compared with the values of the egg importations from Canada for the same time these figures are enormous. But the Canadian trade is growing, and now that we have got a fairly good start it should expand very rapidly. There is nothing to prevent the Canadian poultrymen from capturing a large share of Britain's egg trade if the business is only handled in the proper way. A regular system must be adopted for gathering the eggs when fresh and preserving them in good condition till they reach the English consumer. There should be no great difficulty in doing this now that we have a complete cold storage system on board the cars and ocean steamships. What is required is more practical information in regard to the best methods of packing the eggs for shipment, and we would like to hear from some of our poultry experts on this matter.

Nearly all authorities agree that eggs should be sold by weight only. It is the fair way and gives every one his just due. A dozen large eggs are worth more than a dozen small ones. A Glasgow merchant in writing to the *Montreal Trade Bulletin* on this subject points out that what is of consequence to the producer is not what standard of weight should be adopted but that the heavier the eggs the higher the relative price. To illustrate this he states that supposing eggs weighing 15 lbs. are worth five shillings per 120, equal to 4d. per pound, eggs weighing 18 pounds will be worth about 6s. 6d. or nearly 4½c. per pound. If this contention is correct the larger eggs, aside from the extra weight they have, are worth more per pound than the smaller eggs. This writer also points out that every shipper should have some fixed weight per 120 (the English long hundred), and stick to it whether that might be 12 pounds or 20 pounds. Eggs of both these weights are shipped from the continent to Great Britain throughout the season. In Denmark the rule is for packers to buy by weight from the farmer. This induces the production of a better quality of eggs and is the fairest way of dealing. We would like to see the same plan adopted in this country. It would do more than anything else to encourage the production of larger eggs. If a producer of small eggs can get as much per dozen for them as his neighbor can get for large eggs, he is not going to trouble himself about improving his product. The point raised by the writer referred to above in regard to the larger eggs being of better quality than the smaller ones is an important one. We would like to hear from our poultry experts on this point also

**He Knows a Good Thing.**

Hastings, Ont., 28th April, 1898.

The Bryant Press, Toronto.

DEAR SIRS,—Please find enclosed \$1 for FARMING to be addressed to Mr. George Campbell, Roseneath, Ont. I hope to send you a number of subscriptions this season, for I feel you deserve every encouragement in prosecuting such a journal.

Yours,

J. H. SCRIVER.

The annual meeting of the West Peterboro' Farmers' Institute will be held in the Council Chambers, Peterboro', on June 6th, at 2 p.m.

**The Provincial Experimental Farm.**

A week ago we had the privilege of a drive over the Experimental Farm at Guelph with that practical farmer Mr. Wm. Rennie, the farm superintendent. We must say that we never saw the farm in better shape. The ground was being prepared for corn and roots. In preparing all land for grain and roots, Mr. Rennie follows shallow cultivation and a four years' rotation of crops: For two years, grass, meadow and pasture 180 acres; third year, corn, roots and peas, 90 acres; fourth year, grain and seeded down, 90 acres. The corn and root ground this season was meadow and pasture last year. The sod was plowed in the fall three inches deep and harrowed. This caused the vegetable matter to rot very soon, because it was near the surface. During the fall the manure was put on and merely covered by plowing. The land was worked thoroughly on top in the spring, and is being put in splendid condition for the seed.

Without exception, we saw on the farm the best field of fall wheat we have seen for years. There was not a blade winter-killed, and it was as even on top as a freshly-cut lawn. Mr. Rennie believes that his success in fall wheat growing is due to the shallow cultivation of the soil and conserving the fertility on the surface and not burying it beyond the reach of the roots of the plant. The results this year certainly prove that Mr. Rennie's theories regarding the cultivation of the soil are correct. In other respects the farm looks well, and it would pay any farmer many times over to visit it and see for himself what can be done by improved methods of farming.

**The Cheese and Butter Outlook.**

Mr. R. M. Ballantyne, one of the leading cheese-buyers of Western Ontario, has recently returned from a business trip to Great Britain. He believes that we are not likely to see as high prices this season as last for cheese. The English dealers bought up largely of last year's make at high prices, and after keeping it during the winter were forced to sell at a great sacrifice this spring. Such losses always tend to put a damper upon business the following season, and the English dealer is not likely to be caught again for a while. He will be more wary this season about paying high prices and is not as likely to launch out as freely for a time. The situation has, however, improved with the opening up of spring, and though prices may not be as high as last season, they are likely to be sufficiently high to enable dairymen to make a good profit out of the business.

Mr. Ballantyne reports a change of sentiment in England in regard to Canadian butter, which now compares favorably with the Danish. The outlook is quite encouraging, and if the right kind of quality is sent forward it will command a ready sale at current prices. Last winter Canadian butter brought higher prices than ever before in the British market.

**Agricultural Teaching in Nova Scotia.**

A movement is now on foot for the establishment of an Agricultural College and Provincial Experimental Farm at Wolfville, N.S., in connection with the Nova Scotia School of Horticulture. The recent destruction by fire of the Agricultural College at Truro has brought the matter up, and an effort will now be made to induce the Provincial Government to move the college to Wolfville and amalgamate it with the School of Horticulture already established there.

As far as we are able to judge from this distance, we would say that the move is a good one, and deserving of careful consideration on the part of the Nova Scotia authorities. It is a source of weakness, especially where the efforts are small, to divide interests too much. The College of Agriculture at Truro has never been a brilliant success, and something should be done to put it on a good working basis. The proposal, we think, would be a step in that direction, and we wish its

promoters every success. In unity there is strength, and, if the different branches of the various agricultural institutions in the province by the sea can be combined into one substantial institution, it would be a forward movement in the progress of agriculture in that portion of the Dominion.

**Tobacco Culture.**

Of late considerable interest has been evinced in many parts of Ontario in regard to the growing of tobacco. It has been demonstrated that tobacco can be grown successfully in Canada, and, if so, why should not our farmers obtain the benefit to be derived from its cultivation? In this issue we begin the publication of a bulletin on this subject by Dr. Saunders, director of the Dominion Experimental Farms, and which will be continued in succeeding issues till finished. Dr. Saunders' treatment of the subject is very exhaustive, and we are sure will be of great value to those contemplating the growing of tobacco. It treats of the cultivation of the soil and its preparation for the growing of the plant; the planting, harvesting, and disposal of the crop at the end of the season; the methods of drying and preparing it for manufacture, and the varieties to grow. Before commencing the cultivation of the plant every farmer should take the trouble to post himself as to the kind of soil required, and the preparation necessary to growing it successfully.

**Mr. A. M. Smith.**

The portrait on the front cover of this week's FARMING is no doubt familiar to fruit-growers generally. Mr. A. M. Smith, of St. Catharines, Ont., whom it represents, has for many years been closely associated with everything that is progressive in the way of fruit-culture. His natural inclination in this direction combined with his characteristic foresight and unceasing energy have not only made his services of great value in developing the fruit industry of this province, but have brought him a large measure of success as a producer of high-class nursery stock.

Mr. Smith was born amid the beauties of the Green Mountains in the State of New York, and in his early years learned the nursery business at Lockport, New York state. As early as 1856 he visited the Niagara peninsula and was so much impressed with the surpassing beauty of the country around Grimsby that he decided to locate there. This he accordingly did and entered into partnership with Mr. C. E. Woolverton in the fruit-growing and nursery business. This partnership lasted for fifteen years, after which he continued the business in his own name. Branches of the business were afterwards established at Lockport, Drummondville, and St. Catharines, to which last named place he removed in 1880, where he now resides.

Mr. Smith has always been closely identified with every movement that has had for its object the advancement of the fruit industry of his adopted country. He is one of the charter members of the Ontario Fruit Growers' Association which was organized in 1859. He has served many years on the directorate and was president of the association in 1889. His services have been much in demand at Farmers' Institute meetings for addresses on fruit culture, and he is at present a member of the Board of Control of the Fruit Experiment Stations of Ontario.

**Our Clubbing List.**

	Regular price.	With FARMING.
Canadian Magazine.....	\$2.50	\$2.50
Toronto Weekly Globe.....	1.00	1.50
Toronto Weekly Mail and Empire.....	1.00	1.40
Farm and Fireside.....	1.00	1.40
Montreal Daily Witness.....	3.00	3.00
Toronto Morning World.....	3.00	3.00
Montreal Weekly Witness.....	1.00	1.60
Family Herald and Weekly Star.....	1.00	1.75
London Weekly Free Press.....	1.00	1.75
London Weekly Advertiser.....	1.00	1.40
Ottawa Semi-Weekly Free Press.....	1.00	1.60
Howd's Dairyman.....	1.00	1.75
Rural New Yorker.....	1.00	1.85

### THE SOIL OF THE FARM.

#### ITS FORMATION, ITS PREPARATION FOR VEGETATION, AND HOW PLANTS FEED FROM IT.

By T. C. WALLACE (Wallace & Fraser), Toronto, Ont., and St. John, N.B.

It is generally admitted to-day that the "rule of thumb" is not a good rule in dairying, and it is rapidly being superseded by more practical and common-sense methods, with, as we know, the most gratifying results. Yet the mansprng of production of the farm crops, the cultivation of the soil and the feeding of the plants, is almost universally in the country done by "the rule of thumb." Few know what soil is, how it originated, or what constitutes a soil in proper condition for the highest production of all kinds of plants. Our soils are the result of the action of natural forces, principally fire, frost, air and water, acting upon and grinding up the rocks. These ground up rocks have been moved forward by the action of water in floods and ordinary flows, the heavier or coarser portions sinking earlier in the stream, the finer or lighter portions at various times being carried further from the coarser and finer soils. Uplifts have also occurred causing the shifting of these deposits. Various kinds of soil are also due to the elements contained in the different kinds of rock, as for instance, the clay soil resulting from the disintegration of feldspathic rock.

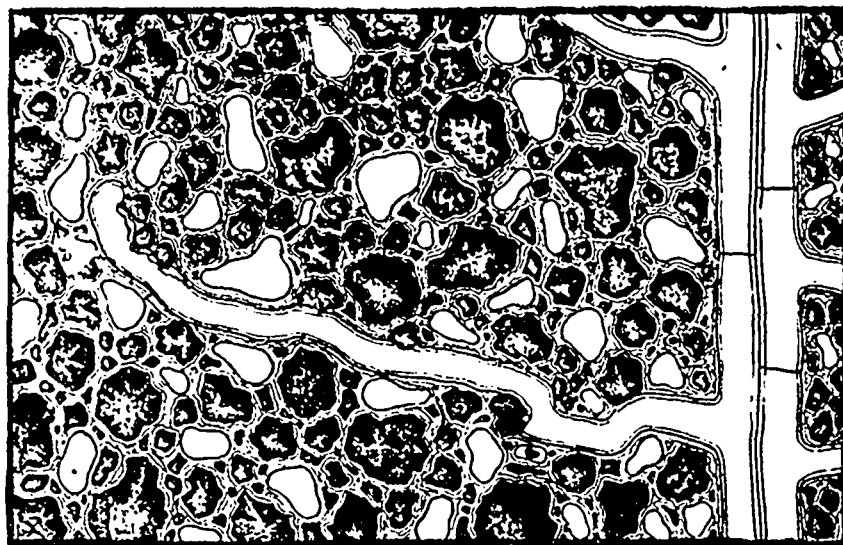
Now, such soils as I have described were almost wholly of a mineral nature, and contain in varying degrees mineral elements. These elements are nearly all necessary to plant production, but, as plants are found to possess also the elements of atmospheric air, it was necessary that these soils should in some way become possessed of the atmospheric elements. No doubt the slight acquisition of these elements obtained by the admixture of air and water sufficed for the nourishing of many forms of wild plants, but experiment has unerringly shown that the cultivated varieties which are grown on our farms to-day will not yield crops of any importance in such soils. How then did these soils become what we term fertile?

The perfection of natural law produces a class of plants which can grow and thrive in these mineral soils. This class of plants is found to contain an enormous supply of the element of the atmospheric air needed. These plants, which we term the legumes, or food-producing plants and clovers, obtain the atmospheric element by feeding upon the micro-organisms in the soil, which convert the atmospheric elements into food for them. All that is required is that the soil shall have a sufficient proportion of available phosphate of lime to bring into life these organic bodies in the soil. The vegetation thus formed dying on and in the surface soils render up, by decomposition, a form of nitrogen of atmospheric origin, upon which the other classes of grasses and grains develop and feed themselves to perfect growth and ripening. Also the acids of this vegetable humus act upon the mineral elements in the soil making them available plant food for higher types of vegetation.

The plants which we grow to-day on our farms are not the original wildlings,

but they are selections which the farmer has assorted from his seeds, breeding, as it were, to the best and most suitable, and developing them by care and feeding to produce the most and the best food for man and beast.

Experience has taught us that to properly grow and improve our crops certain conditions must be obtained. The soil must be thoroughly worked; air must be incorporated with it, as the plants breathe through their roots; water must be held in it so that each particle of the soil is surrounded with a film of water, for the plants must drink; vegetable humus must be present to supply nitrogen to everything except the legumes. So you see plowing and harrowing are important factors, in fact, the very meaning of the word manure is "manual laboring of the soil." There is some diversity of opinion as to whether this working of the soil should be shallow or deep. A shallow soil is all that is required for the grains and grasses if the mineral element is in some way added to and mixed with the humus; but, upon



Diagrammatic representation of the relations of the root-hair to air and water in the soil. The angular bodies are earth particles sheathed with a surface film of water. The root hair descending from the root has a similar water film upon it. Larger portions of water fill in the interstitial angles. The numerous blank spaces, similarly film-encircled, are portions of air distributed among the mass.—From *Salts*.)

analyzing the produce of shallow cultivation, it will be found not to contain as much feeding value as the produce of deeper cultivation, nor as much bone making material. This is quite reasonable, as a shallow soil to be rich must contain a very large proportion of humus in the form of animal or vegetable manure, from which the bone earth has been extracted by the animals or the ripened grain. It is not like the virgin soil, where the whole vegetation of a variety of plants has been allowed to die and their bodies decompose in the soil. A richer soil results, as these plants with their stronger root acids have dissolved and made available through the rotting of their dead bodies much mineral food, which our farm crops could not themselves convert to use from the earth.

Now that we have an idea of what soil is, and particularly of what virgin soil from the prairie or new forest is, let us inquire what effect growing farm crops from it has, and we may be able to judge if we have been treating it in a rational manner with a view to the

maintenance of fertility in it to reproduce again. Plants need for their perfection some eight or ten of the mineral elements of the soil and the elements of the atmosphere, but the elements entering into most of the farm crops which materially impoverish the soil are potash, lime and phosphoric acid from the mineral elements, and nitrogen from the atmosphere, which is four-fifths nitrogen. As far as it is now known all the plants, except the legumes (clovers, peas, vetches, lupins, etc.), must have the nitrogen converted from the air by being first taken up by some other bodies which give it up when decomposing; consequently the necessity for some kind of humus matter, as stable manure, mulch or green crop ploughed or harrowed in, to supply this element to grains, roots, and other farm crops. Of these elements the straw of the grain crop used for litter carries back to the soil most of the potash and much of the nitrogen removed by the crop. The lime and phosphoric acid is perceptibly diminished by the removal of the grain, as nearly all this

muscle, and, as this muscle does not waste rapidly, and the bone practically not at all, in the life of the animals and man, the element which forms it is gradually but surely carried away from the farm, and can only be returned by finding some substance containing this same element in a form available to plants. This is imperative on us, and the attempt to supply it has taken various forms from insoluble ground bone to super-phosphate, which is a chemically dissolved phosphate of lime. It is not my intention to discuss the various forms of phosphate, but merely to direct your attention to the necessity of in some way supplying phosphoric acid and lime in combination. There is no longer room for doubt that we can supply nearly all the potash and nitrogen required for ordinary crops by the careful saving and using of our animal manures and litter. As regards the potash, we have the further benefit of having large quantities of it in most mineral soils, particularly in clay soils, which is easily brought into form for plant food by adding plenty of vegetable humus to the soil, the humic acids of which assist in freeing it. As for nitrogen, it is an elusive element, very expensive to buy and very difficult to hold when obtained, as it is inclined to pass off again into the air from which it comes. During recent years a means of obtaining it has been found in the growing of peas, vetches, or clovers to plow down as green manure, so that even without any stock we are enabled to supply the land with it. Moreover, in this manner it is obtained free. This is a most important matter which you may better appreciate when I tell you that Dr. Dehlinger, in Germany, found that by growing peas and vetches in the grain stubble and plowing them down in the late autumn or spring he obtained from 178 to 267 pounds of nitrogen per acre free from the atmosphere. This is equal to from twenty to thirty full-weight gross tons of the very best carefully preserved stable manure.

Now, I must again refer to the importance of phosphoric acid. Phosphoric acid exerts a dissolving influence in the plant so that the nitrogen, potash, and other elements are kept in solution while the plant grows, and finally passes into the ripened grain or fruit. It has been very clearly demonstrated that without it the other elements are wasted, and this will account for many failures with farm-yard manure and other manures. So much for the soil and its fertility, and we will now take a peep at the plants themselves and see how they obtain and utilize this food which, we will presume, is prepared for them.

The seed put into the ground is really the food of the plant. This food contains the germ of life which under the influence of warmth and moisture asserts itself, and begins to feed upon the food supplied to it in the fruit. This food is in a concentrated form, and if the food is perfect, nourishment is provided to give the little germ great strength, and it emerges from the womb and puts forth its little tentacles or roots to attack and eat the food of the soil, both mineral and atmospheric. There is a general impression that there is something wonderfully mystical in this process of root feeding. Not so,

element passes to the ripened grain, and in fact ripening is largely due to it. If we feed the produce of the farm and return only the manure got from the animals, together with the straw litter, again we find a great loss of lime and phosphoric acid, which for the sake of shortness we will now mention as phosphate, the name given to the two combined. The reason for this is quite easily found, for the animals do not return in their manure much of the phosphate, using it instead to build bone and muscle. The bone is largely indestructible so that the phosphate assimilated from the feed is not wasted, only that portion of it which is not digested therefore passes off. It is quite different with the other elements. The continuous waste of the flesh is carried off by the sewage of the body as manure and contains most of the nitrogen and potash consumed from day to day. As the ripened grains and fruits of the farm are all used to build bone and muscle in the animals and people on the farm, and are sent to the cities there also to build bone and

for the main difference in the feeding of animals and plants is that the former moving about on the face of the earth take in masses of food, which they at their leisure dissolve by the acids secreted from their internal membranes, or we will call them skins, and absorb through the system such dissolved material; while the plant being fixed in the earth pushes its roots through the masses of food, dissolving them by its acids secreted from the outside membrane, and then absorbs the dissolved material; consequently, as some plants have stronger acids than others they can utilize and assimilate more insoluble food. This in the animal kingdom is instanced in the dog, which can dissolve insoluble bones merely cracked up with his strong teeth, the cattle which can dissolve rough fodders and grains, and man, who finds it easier to dissolve cooked food and ripened fruits.

### TOBACCO CULTURE.

By WILLIAM SAUNDERS, LL.D., F.R.S.C., F.L.S.,  
Etc., Director Experimental Farms.

The substance known as tobacco consists of the leaves of a narcotic plant, a native of South America, belonging to the order *Solanaceae*, and known to botanists as *Nicotiana Tabacum*. Its use is more general and widely spread than that of any other narcotic or stimulant; it is largely manufactured for smoking, is also prepared for chewing, and is used to a more limited extent as snuff. Specimens of this plant were first brought to Europe in 1558 by Francisco Fernandez, a physician who had been sent by Philip II of Spain to investigate the products of Mexico. While tobacco first came to Europe through Spain, the habit of smoking was initiated and spread by English example, and Sir Walter Raleigh was one of the devotees to the use of this weed who helped to bring it into prominence. During the seventeenth century its use spread with great rapidity among all the nations notwithstanding the resolute opposition of statesmen and priests, and penal enactments of the most severe description.

There are other species of tobacco grown to a limited extent in other parts of the world, but the tobacco produced on the American continent and in Cuba is all made from the species referred to. The tobacco plant is a coarse, rank growing annual, which attains a height of from four to six feet, crowned with a panicle of pink flowers and having alternate leaves which are very large, often attaining a length of three feet or more and a proportionate width. Although this plant is a native of South America it flourishes over a very wide area, and adapts itself to many different climates. It is grown in most of the Southern and Middle States in the neighboring republic, and its cultivation is rapidly increasing in Canada. The tobacco plant is very susceptible to variations in climate and soil, not only are the size and texture of the leaves so influenced, but the quality, strength and flavor are thus affected in a remarkable degree. During the long period this plant has been under cultivation many different varieties have been produced, but the finer qualities of high flavor are grown chiefly in tropical countries

with a comparatively dry climate. The seeds of the high flavored sorts, such as are grown in Cuba, when sown in the cooler climates of the Eastern States or Canada produce plants of much less flavor and of a different texture. Nevertheless, many useful commercial varieties can be grown in the cooler climates of this country.

The census of Canada in 1891 shows a total product in all the provinces of 4,277,936 pounds, of which about 90 per cent. was grown in the Province of Quebec. Most of this crop was cultivated in small areas, rarely exceeding a few acres on any one farm. Recently the cultivation of tobacco has increased very rapidly in Western Ontario, especially in the county of Essex. Walker Sons, of Walkerville, were among the pioneers in this industry, and have for some years past had the largest tobacco farm in the Dominion. In 1897 they had 130 acres under this crop. A considerable number of farmers in the neighborhood of Leamington, Ont., have of late entered on the cultivation of this plant, growing from 5 to 20 acres each. It is estimated that about 1,000 acres of land were devoted to the growing of tobacco in that part of Essex in 1897, and that about 40 car-loads of cured leaf were shipped from that district. It is believed that a much larger area will be planted during the coming season.

#### SOIL AND ITS PREPARATION.

The soil most suitable for a tobacco crop is a deep rich friable loam, dry and warm, which can be easily worked up into a fine and mellow condition. While a rich sandy soil is usually preferred, the crop often does equally well on a loamy clay, provided it is of such a porous and open character as will admit of its being brought into a fine condition of tilth; tobacco does not usually succeed well on a heavy clay. When grown on the heavier classes of soil the plants produce a thick leaf, more suitable for the manufacture of chewing tobacco, and when grown on lighter, sandy soils a thin or light leaf more suitable for the making of cigars. The tobacco plant grows very rapidly and is a gross feeder and needs an abundant supply of plant food, hence, in the preparation of the soil for this crop barn-yard manure is used very liberally. About thirty-two horse loads, or more, per acre are applied during the winter or early in the spring and ploughed under. Subsequently the land is harrowed—usually with a disc-harrow—from time to time until the soil is thoroughly and finely pulverized to a depth of about three inches. Wood ashes may also be freely used with much benefit to this crop.

#### SOWING THE SEED.

Tobacco seed is sometimes sown in hot beds, sometimes in cold frames and occasionally in open ground. The first method has been practised at the Central Experimental Farm at Ottawa, and is the plan usually followed in the Province of Quebec, but in Western Ontario, where the season is longer, although hot beds are frequently used, the sowing of the seed in cold frames and open beds is not uncommon.

In preparing a hot bed select a southern or south eastern exposure sheltered on the north, and dig out a space 5 feet by 12, or any required length, to the depth of 18 inches.

Place 3 or 4 inches of straw in the bottom and cover with fresh manure from the horse stable to the depth of 8 or 10 inches treading it down well. Cover with good rich loamy soil to a depth of 4 or 5 inches, and pack it firm. Allow this to stand for a few days to heat up and then rake the bed smooth, when it will be ready to receive the seed. Where a hot-bed is used, the seed may be sown in rows from 4 to 6 inches apart, or broadcast, having previously been mixed with ashes or corn-meal so as to ensure more evenness in sowing. If sown broadcast the surface should afterwards be pressed firmly by placing a board, about one foot wide and nearly the length of the bed, on the surface of the newly sown ground, and walking over it, then move the board so as to press another foot, and so on, until the whole bed is evenly pressed. Then cover with frames either glazed or covered with cotton to protect from cold and frost and sprinkle the surface often enough with water or weak liquid manure to keep it moist. Germination takes place in about ten days, and in from twenty to thirty days after the plants appear, they should be large enough to transplant.

Where the seed is sown in cold frames or open beds, a sheltered position is desirable, with a southern exposure. Upon the plot selected, brush is usually burnt until the soil is made hot enough to kill the seeds of grass and weeds near the surface. When the soil has thus been baked to the depth of about half an inch and the bed has cooled, the surface is stirred with hoe or spade to the depth of two or three inches. Well-rotted manure is then spread over the ground and raked and worked until it has become thoroughly mixed, and the whole made mellow and fine. Mix carefully one tablespoonful of seed with about a quart of ashes and sow broadcast. This quantity is sufficient for a bed ten feet square, and should furnish plants enough for an acre of land. Brush or rake the seed in very lightly and use a light roller to make the surface compact, smooth and even, or press the surface smooth with a board in the manner recommended for the sowing in hot-beds. Use cotton covered frames or cover with light brush thick enough to afford some shade to the young plants and to protect them from drying winds, and water from time to time as needed to keep the ground moist. Keep the plants free from weeds and thin them out where necessary to avoid crowding. Sometimes the seed is sprouted before sowing. This may be done by mixing it with some fine mould and placing it near a stove or in some other warm place and keeping it moist for four or five days. Sow it as soon as it can be seen to have sprouted. By adopting this plan some time may be saved, but it is not generally recommended. The time of sowing will vary in different localities, ranging in Canada from the 1st to the 15th of April, and the young plants will be ready to put out from the 25th of May to the 10th of June. The seed bed should be large enough to permit of a sufficient number of plants of the same size being taken from it to complete the planting of the desired area at one operation, so that the subsequent

growth may be even and regular. There should also be a surplus left sufficient to fill the vacancies caused by failure.

#### PLANTING.

The plants are usually put out in rows about four feet apart and from two and a half to three and a half feet apart in the rows. Where practicable, the rows should run north and south so that each plant may get the largest amount of sunshine. The places for the plants in the rows are usually indicated by running over the ground with a corn marker. Some prefer to ridge the ground before planting, and claim that subsequent cultivation can be carried on with less injury to the plants where this method is practised. If the ground be flat or heavy this plan is preferred, but on lighter soils with good drainage the plants may be successfully grown either with or without ridging.

When the plants in the seed bed are four to five inches high and the largest leaves from two to two and a-half inches wide they are ready for the field. Before any are lifted the bed should be thoroughly sprinkled with water so that the earth may adhere to the roots. A cloudy day after a shower of rain is preferred for transplanting, but if the plants are carefully removed with a ball of earth attached to the roots of each they may be set out with fair success, provided the ground is reasonably moist, without waiting for such specially favorable conditions. Small plants should not be used, it is better to wait a few days until they are of the proper size. When planting a basket of plants is carried by a boy up between the rows when one is dropped at each side where indicated by the marker, the men follow and put them in the ground, using a planting peg or the finger for this purpose, pressing the earth carefully about the roots. Where the plantation is very large, a planting machine is sometimes used. Messrs. Walker Sons use the Bemis' planter, by which with one pair of horses, driver and two men to tend the machine, about twenty thousand plants may be set per day.

Some experiments have been tried at the Central Experimental Farm as to the effects of twice transplanting. The plants were pricked out from the hot-beds to cold frames, where they were set in rows eight inches apart, and about three inches apart in the rows, and after they had grown strong and stocky they were transplanted to the field. It was observed that when treated in this way the plants grew more rapidly and there were fewer failures in planting than when they were transplanted directly from the hot-bed to the field. The yield of leaf was also larger. When transplanting from the beds the thinning should be so carried out as to give the remaining plants more room and thus permit of a spreading stocky growth.

(To be continued)

The best and only thing to do when your horse is excited is to calm him down. This is best done by getting to the horse's head and talking to him gently, rubbing his face and otherwise diverting his attention from the subject of his fright.



## LIGHT HORSES.

By Prof. JOHN A. COCHRAN, before the Wisconsin Farmers' Institute.

Before considering the market qualities of light horses in detail, it will be best to take a general view of the requirements of the market in respect to the form, quality and action of the horses that sell for the highest prices.

To analyze the form of any market type of horse, it is necessary to understand the extent to which the form is due to the skeleton, and how much of it should be credited to the muscular development. A comparison of the skeleton of the horse with the living and well-developed animal will show clearly that some parts owe their form entirely to the bony framework, while other regions are shaped wholly by the muscles. Beginning at the head it will be noticed that its form is determined by the bones that comprise it. The outlines of the chest are outlined and formed by the skeleton, while the shape of the leg from the knee upwards is determined by the muscles of that region, and from the knee to the fetlock chiefly by the tendons that makes the leg at this point appear flat from the side. The form of the body is covered largely by the rotundity of the ribs and the width of the loins. In the hind quarter the upper part is moulded almost altogether by the muscular development, and the same may be said of the thighs and the quarters, while the tendons of the leg give the lower part of the latter its shape.

"A study of the degree to which the skeleton and the muscular development contribute to the form of the horse, brings forward the idea that the most of the power resides in the hinder parts. The fact that the greatest muscular development is in this region would indicate this. It will be noticed that the form of the loin, the shape of the crupper and the fulness of the thigh are due in the greatest degree to the extra development of muscles in these parts. The front quarter is bare of muscle in comparison with the hind quarter.

Another reason for accepting this theory is the difference in the attachment of the forelegs to the body in comparison with that of the hind legs. The shoulder blade is loosely attached to the trunk, while the hind leg next to the body through the agency of a strong ball and socket joint. The shoulder blade plays loosely seemingly for the purpose of lessening a concussion that the leg receives from contact with the ground, while the hind legs connect with the pelvis at a joint which is the most powerful in the body. The market for the light horses recognizes three leading types, the carriage horse or coach horse, the trotter or roadster, and the saddle horse.

## COACH OR CARRIAGE HORSE.

The distinguished features of the coach horse are its symmetry and action. The height should be about sixteen hands to make a good appearance. In contrast with the roadster, the carriage horse is very smooth and symmetrical. The smoothness should be due to plumpness of the muscles over all parts. In the carriage type, the head should be comparatively

small and lean; the ear neat, the neck long and carried gracefully; the body round and plump, and the limbs clean-cut, with well formed and durable feet. Graceful carriage and stylish action are leading qualifications.

Style, when in any posture, is a very desirable attribute in the carriage horse. A critical examination of this type would indicate how far the position of style depends on the adjustment of the parts of the framework. When a carriage or coach horse possesses characteristic style there seems to be an appropriate blending of all proportions of form. In analyzing this it will be found that most of the lines have a smaller direction in addition to the fulness of outlines already discussed. The line running from the pole to the nose seems to be parallel to that of the shoulder. Then the line running through the centre of the pastern also has a similar direction, while the line of the thigh in the hind quarter corresponds with the slope of the hind pastern. Considering the lines that run different from these, it will be noticed that the one made by the arm from the point of the shoulder to the elbow is very similar in direction to that made by the ischium of the pelvis, and this again is similar to that of the lower thigh. Each part seems to bear a fixed relation to every other part, both in size, length and slope, giving the horse that symmetry which contributes so much to his style and beauty while standing or in action.

## TROTTER OR ROADSTER.

The chief characteristics of the roadster are speed and stamina. The ability to trot fast is a leading characteristic of the roadster, and the ability to maintain a rapid gait is clearly essential in a horse of this kind, in addition to being able to stand steady road work. Such a horse should sell well on the market, and must be well mannered, so as to be safe and pleasurable to drive.

The typical roadster may be said to be about fifteen and a-half hands high and about 1,000 pounds in weight; the formation is narrow in front, deep-chested, wide at the loin, and very muscular in the quarters. Every feature about the horse appears clear-cut, giving a hard finish which indicates durability. The lineaments of the face and the outlines of the neck, and especially the distinctness with which the tendons stand away from the leg, are very characteristic features.

The type lacks the fulness and symmetry that are characteristic in the carriage or coach horse. To do effective and satisfactory road work is the sphere of the roadster, and a type that has been evolved is an illustration of the evolution of a form for a specific purpose. The type of the best campaigners that have marks of 2:10 or better will show a similarity that indicates the type towards which the trotter is tending, though it should be noted here that the roadster in show form will display quite different outlines after being subjected to the hard training the campaigner receives.

## SADDLE HORSE.

The type of the saddle horse that is desirable on the market is somewhere similar to that of the light carriage horse, but the typical saddle horse will

show more quality and better manners than any other class of light horses. Aside from these features, the chief qualifications of the saddle horse is the ability to show the following gaits in a satisfactory manner: Walk, trot, rack, canter and running-walk.

## THE COLOR OF SHORTHORNS.

"Ontario Breeder," writing to *The Breeders' Gazette* of Chicago, makes the following interesting remarks on the color of Shorthorns: An order for a young Shorthorn bull from Missouri and also from Kansas from two well-known breeders, and the stipulation that they must be red and from red sire and dam if possible, brings up very important questions regarding color. First, are reds as good handlers, as good doers, as thrifty, as full of quality, as whites, roans, or red-and-white? After many years of close observation and a thorough and intimate knowledge of my own herd especially, and of many individual animals in other herds, I am decidedly of the opinion that an indiscriminate use of animals because of their color, even if well bred, is a great mistake. No herd can stand it. They will depreciate unless the owner is a most skillful and determined culler of poor quality, no matter how fine a red the animal may be. My reason for this statement is that only one red in a dozen is of the quality in hair and handling that a sire at least should have. In our own herd with daily watchfulness this is about the ratio, namely, one red in a dozen has hair long and silky and consequently a mellow handler while under a year old; and very often this individual becomes disappointing in quality as he matures.

"White is almost out of the question, but it should not be so, for we have noticed several white sires that were always creditable both as to quality in themselves and their produce, and skillful breeders do not hesitate to use a white sire when quality and form are found in sufficient abundance in the individual to justify his use. Then color is so much under our own control that if one really wanted red produce, even from roan sire and dam a little trouble on the breeder's part will get it, and generally of the quality we want when the quality is present in the parents. After close observation of herds where red sires have been the rule, and not without some discrimination in choosing those sires, I have noticed a very dark and unthrifty red—almost approaching a brindle in many cases—getting almost black close to the hide, and certainly not a hide or hair of quality that would promise a good return for food consumed.

"I do not say that all whites or roans are of good quality, but the proportion is so much higher than a good roan seldom disappoints one, in fact I have often thought that blindfolded I could tell what my hand was on. Red-and white; how I like to think of it! The best sire I ever bred or owned had a good sprinkling of it, and the white hairs always so long and silky spreading out over the red; in fact superiority in the white spots seemed to impart its quality to the red, making the animal several points better, the white hair being longer and

silky than the red. For thrift and quality I have never seen his equal in our herd. The breeders of the West should think seriously over this matter. It is quality that makes the return in the majority of the herds, and I am confident that any person willing to give attention to the matter of thrift and quality in his herd will soon decide for both in preference to a fancy red without those qualities. Solid reds can be had of quality, but I repeat that only one in a dozen as we find them to day are of first-rate handling qualities, and to keep up this craze will end in disaster to many herds that might otherwise be profitable, not only to their owners, but to the whole cattle community of the great West."

## THE FARMER'S WIFE.

The farmer's wife gets very little sympathy, but a great deal is heard from time to time of the hardworking farmer, who, according to his own showing, works all the hours that are made and a few over. He is always up before daylight, and he keeps on working till long after dark. He says so himself, and he ought to know. I have studied the farmer for more years than I now care to count, and I feel impelled to say that I don't quite agree with him when he talks of all work and no recreation. On well managed farms in the coast districts, where a regular rotation of crops is grown, the farmer and his assistants are kept pretty fully occupied during the greater portion of the year; but in the wheat-growing localities there is always a very easy time between the sowing and harvesting periods. If the farmer works then, the result of his labor is not often apparent. The farmer's wife, on the contrary, has to work hard all the year round, and harder than usual when the harvest is being gathered. She it is who really keeps the house going by her industry and economy, and the money she makes out of poultry, eggs, butter, etc., which the wheat-grower looks upon as rather beneath his notice, though he well knows their value in reducing the household bills. If dairying as well as agriculture is carried on, the female members of the household do most of the milking, while the farmer takes the milk to the butter factory or creamery, and discusses the Eastern question with other farmers whom he meets there, believing all the time that he is working hard. I never knew a prosperous farmer who did not owe a large measure of his success to his wife, but neither in the press nor on the platform has she ever received the recognition she deserves. The farmer's wife is entitled to far more consideration than she now gets. She should not be compelled to wait for her reward till "we meet to greet each other in the coming by-and-by."—*The Australasian*.

NEW TREATMENT FOR LICE.—Two hens, badly infested, were dipped in a bath of boiled elder flowers, twigs and leaves, the elder concoction being mixed with some soft soap. In both instances all the lice were killed and the plumage in nowise damaged.

# The Ontario Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario.

## DIRECTORS' MEETING OF THE DOMINION CATTLE, SHEEP, SWINE BREEDERS' ASSOCIATIONS.

Held at Brantford May 23, 24, and 25, 1898

### REPORT OF THE SECRETARY.

The success of the Dominion Cattle, Sheep, and Swine Breeders' Associations during the past year has been most encouraging. The membership of each Association has been raised without the extra effort heretofore found necessary.

The greatest achievement of your directors during the past year was meeting the representatives of the great trunk lines and laying before them the needs of the farmer regarding the transportation of purebred live stock. In reply to our urgent appeals, we received very kind and encouraging letters from Sir William Van Horne and other eminent gentlemen interested in railway matters. As a final result of our representations the following circular was issued by the executive officers of each railway operating in Ontario:

Circular No. 241.

(Cancelling Circular No 141, April 6th, 1897).

10 AGENTS IN CANADA.

Registered Cattle, Sheep, and Swine.

Effective April 1st, 1898, the following arrangement will govern the transportation of registered cattle, sheep, and swine, in less than carloads between stations on this company's lines in Canada:

When owners sign the usual valuation agreement for ordinary stock, and produce certificate of registration, shipments will be way-billed at one-half regular tariff rates, at the full estimated weights as per Canadian Joint Freight Classification.

Agents will take note of particulars as to the name of animal and age, and keep record of same, showing the information on billing accordingly.

If extra values are declared, the weights and rates will be as per classification for valuable stock, page 45 Canadian Joint Freight Classification No. 10A., or subsequent issues thereof.

Registered cattle, sheep and swine may be taken without men in charge, provided owners sign the usual contract releasing the company from liability in consequence thereof.

Give reference to this circular in way billing.

GENERAL FREIGHT AGENT.

To make a comparative statement I submit the following showing the weight at which pedigreed stock will be shipped under the old tariff and under the new. I have taken one-half of the weights instead of the rates:

LIVE STOCK IN L.C.L. AS FOLLOWS:

	Old Rate.	New Rate.
* Bulls under one year....	1,000 lbs. each....	500 lbs.
* Bulls one year and under two	1,000 lbs. each	1,500 lbs.
* Bulls over two years....	1,000 lbs. each....	2,000 lbs.

### Cattle or Horned Animals

* One animal	2,000 lbs.	1,250 lbs.
* Two animals	3,000 "	1,750 lbs.
* Three animals	5,000 "	2,500 lbs.
* Each additional animal in same car	1,000 "	500 lbs.

### Cattle

* Under six months old	500 lb.	250 lbs.
* Over six months and under one year	1,000 "	500 lbs.
* Cow and calf together	2,500 "	1,250 lbs.

\* Hogs, goats, sheep and lambs not crated not taken except by special authority.

### New Rate.

Hogs, sheep, lambs, or other small animals, in boxes or crates, actual weight. D1 Taken at their actual weight.

When small animals are allowed to be taken without being crated, the following will be the minimum weights charged:

### Old Rate.

\* A single sheep, lamb or hog, 400 lbs. each, or actual weight if in excess of 400 lbs.

### New Rate.

200 lbs., and if actual weight is in excess of 400 lbs., half of the additional weight will be computed.

### New Rate.

Each additional lamb, sheep, pig or hog, in same car to same consignee, 200 lbs. or actual weight if in excess of 200 lbs. 100 lbs.

In no case shall the charge for less than carload exceed the charge for a carload.

The new rates prevail throughout Canada, and will prove a great boon to Canadian farmers now and in years to come. In an official letter regarding the above reduced rates, Mr. John Earls said:

"I understand the arrangement respecting pedigreed stock to be adopted by all railroads in Canada east of Fort William. I believe, however, that the Government railway system has a special arrangement on its own lines for thoroughbred stock, and there is no doubt the arrangement made by us here will apply on any thoroughbred stock interchanged between the I.C.R. and G.T.R. or C.P.R. Companies.

(Signed) JOHN EARLS,  
CHAIRMAN."

Although much has been accomplished in obtaining reductions in railway rates heretofore charged on purebred animals, yet much remains to be done.

A reduction of 50 per cent. on carload rates when shipped from point to point in Ontario, also from points in Ontario to points in Quebec or to points in the eastern provinces, that is, the same privileges when shipping carloads as when shipping less than carloads, is yet to be obtained.

Breeders of purebred live stock should not be compelled to crate shipments of sheep or swine, numbering four or upwards, shipped by one person and consigned to one buyer. It is not in the interest of the railway companies to compel shippers to do this, and it is a needless expense and trouble to both shipper and buyer. Crated animals occupy more than twice, often three times, the room required by the same animals not crated. Instead of being crated they should be fastened off in one end of the car. A case in point. About a month ago I wished to ship fifteen Berkshires, ranging in weight from 130 to 400

pounds, a distance of forty miles, via C.P.R. This company insisted on having each animal crated. The time required to crate and the price paid would not allow this, and if the G.T.R. had not taken them without being crated the sale would have been lost. If they had been crated they would have occupied a whole car; not crated they were boarded off in one-third of a car.

I am glad to be able to tell you that the reduced rates obtained on shipments from Ontario to Manitoba and the West have been extended to cover this year's trade.

These rates, with some slight changes, were published in FARMING on March 1st, page 208:

The trade in purebred live stock has been very gratifying. The prices asked and obtained for all sorts are from 25 per cent. to 100 per cent. higher than a year ago. The advance in the price of purebred cattle has been very marked. Notwithstanding the improved prices, the demand has in most cases exceeded the visible supply. In fact, the demand has been stronger during the last ten months than at any other time during the past decade. In Ontario the improved railway facilities have proved of great value, not only to the breeders of purebred animals, but to the country at large. I am sure the announcement of a 50 per cent. reduction between points in Ontario and the East made to-day for the first time at a public meeting will meet with hearty appreciation. I am sure the live stock men of this province and of Canada generally are very grateful to Sir Wm. Van Horne and the members of his staff for the very kind and practical interest they have taken in this matter so important for the present and future welfare of Canada. I wish to especially mention in this connection Mr. G. M. Bosworth, Freight Traffic Manager of C.P.R., whose assistance and advice have been of great value to your Executive when dealing with the important question of transportation charges. We have also found Mr. Arthur White, Division Freight Agent of the Grand Trunk, very prompt to meet and forward the wishes of your representatives. His gentlemanly and courteous manner makes it a real pleasure to do business with him and his department.

AMERICAN CUSTOM REGULATIONS REGARDING PUREBRED STOCK BETWEEN THE UNITED STATES AND CANADA.

These regulations are best explained by the following correspondence between the Hon. Sydney Fisher, Minister of Agriculture for the Dominion, and Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, Washington, D.C.

Ottawa, March 30th, 1898.

DEAR DR. SALMON,—I have just

received a letter from one John Will, Fort Covington, N.Y., who has been importing some Canadian Ayrshires into that state, complaining that, although they are all properly registered in the Canadian Herd Books, he has to pay duty on them as though they were not thoroughbred stock.

Our people here, I think, have been somewhat negligent in not progressing in this matter, but it would facilitate their work if I could receive a letter from you stating just what would be required to secure the recognition by your Custom officer of the registration in Canadian Herd Books. My understanding of your views at the time I was in Washington is this, that if the American Stock Association are accepting registration in the Canadian Herd Book of the same breed as sufficient to entitle the animal to immediate registration in their herd book without further investigation, then the Government of the United States would accept the Canadian registration as complete proof of pure breeding.

It seems to me this is only reasonable. Surely the Government cannot be expected to ask more proof than the stock associations themselves require. The question of after registration in the United States Stock Books is one which concerns the buyers of the stock and the association in your country, and in which we are not really concerned.

The greatest difficulty is in consequence of the detention and trouble at the frontier. Men come over here and buy two or three or four or five animals and want to take them right back themselves. If they are required to be registered in the American Stock Books they cannot do this, as the correspondence perhaps would take two or three weeks.

If my above outlined understanding concurs with your own and you would be ready, upon receiving the information necessary, to instruct your Customs officers on these lines, I would immediately find out through our own stock associations what herd books would be qualified in this way, and inform you.

Trusting that you are well, and that things are going on smoothly in your department,

I am,  
Yours sincerely,  
(Sgd.) SYDNEY FISHER.

Dr. D. E. Salmon,  
Chief of Bureau of Animal Industry,  
Washington, D.C."

U.S. Department of Agriculture,  
Bureau of Animal Industry,  
Washington, D.C., April 8, 1898.

Hon. Sydney Fisher,  
Minister of Agriculture,  
Ottawa, Canada.

SIR,—Referring to your letter of the 30th ultimo, the Customs regulations of the United States for the importation of animals for breeding purposes

## GAZETTE—Continued.

are arranged to facilitate the importation of stock in cases such as that to which you refer. It is provided that if the certificate is not at hand at the time of arrival at the border, duty on the animals is estimated and deposited, and the animals delivered to the importer, who may, within ten days, file a written stipulation with the collector to produce the proper certificate within six months from date of entry. Upon the production of the certificate in due form within six months of the date of entry, the amount deposited will be refunded to the importer. This arrangement seems to me to be sufficient to accommodate those who desire to import Canadian Ayrshires from Canada into the United States. During the six months the importer can forward his certificates of pedigree to the secretary of the American Ayrshire Herd Book, who will pass upon them, and if the cattle are purebred and entitled to registration in the Ayrshire Herd Book, then he will issue certificates to that effect to be sent to the collector at the port of entry. A similar arrangement exists for animals of other breeds. As noted in your letter, this department considers that the stock associations are competent and able to pass upon the pure breeding of animals, and those which are of a recognized breed and duly registered in the book of record established for that breed can be imported free of duty, while those which are not purebred are excluded.

Yours respectfully,  
(Signed) D. E. SALMON,  
Chief of Bureau.

A great many store cattle still continue to be exported to the United States. If closer trade relations existed between Canada and our neighbors to the south, a very strong American demand would rapidly develop for Canadian bred cattle, sheep, swine, and poultry. Already American packers have discovered they wish to secure the most profitable British bacon market they must buy and cure Canadian hogs. Canadians everywhere should unite their efforts to produce "The greatest quantity of the best quality" in all lines of stock breeding. The western ranches can produce meats cheaper than we in Ontario. Our hope is in producing animals of superior quality, not such as would please the buyers and consumers of twenty years ago, but such as are required to meet perfectly the demand of to-day. Let us do everything in our power to find out just what the consumers in Canada, the United States, and Britain demand, and then do our utmost to supply this demand with the best possible products. Doing this we will reap satisfactory returns. If we neglect to learn the requirements of the best trade or fail to supply what is demanded in the best markets, our products will surely be driven out of the most desirable markets and even our home will not be assured to us. Ontario's hope is that she shall produce products of the highest grade.

A full report of the above meetings will be published next week.

In Bavaria there are 959 distilleries in which spirits are made from potatoes.

## THE BROOD SOW.

The point that the brood sow should not be allowed to get too fat has been urged, and very properly, for it is sound breeding sense that too high condition during the period of gestation is unfavorable to good litters, and too high feeding during the suckling period is bad for the health of the pigs. Still it is possible to create a wrong impression even in urging a truth. It is just as necessary to avoid allowing the brood sow to get poor as it is to prevent her from getting too fat, and it is not unlikely that caution against the latter error has sometimes been pressed so far as to cause some to err on the other side. The reason that the caution against fat is so often necessary is in part due to the fact that western feed stuffs are in the main fattening feeds, and that the improved breeds fatten very easily, there is a tendency, too, to feed a little too high in making preparations for sale, because, in the eyes of many, fat hides a multitude of defects and often makes an animal look better than it is. While, therefore, not a word in regard to the warnings against excessive fat is to be taken back, the opposite mistake should not be fallen into either before or after farrowing. The building up of the frames of a good litter of pigs takes lots of food and the feeding should be liberal, though of non-fattening foods, all through the period of gestation except towards the last, when it is well to reduce it somewhat to avoid trouble at farrowing time. So, after farrowing, the feeding should be light at first, but in the course of ten days it should be gradually brought up to a generous quantity, still avoiding fattening and fever-making feed stuffs. The draft that a lusty litter of pigs makes upon a sow's resources is a heavy one, and good feeding is necessary to meet the strain. The best test is the condition of the sow. She cannot fatten on the amount of feed she ought to have while suckling a litter, but she ought not to be allowed to run down, either. If it becomes evident that this is going to happen in spite of liberal feeding, for the sake of the dam's future usefulness the pigs should have subsidiary feed, even when very young, in order to relieve her of the strain.—*The Wisconsin Farmer.*

## BROOD SOWS.

John M. Jamison says, in *The National Stockman and Farmer*:

One fault with so many sows kept on the farm for breeders is that they are too small. If the farmer is a careful and observing man he can, in a few years, produce by selection and feeding a herd of sows that will suit him better than any that he can buy. He breeds into them his manner of treatment and feeding. They are born into the world, as it were, accustomed to him and their surroundings. Sows that come nearest scoring perfect are not regarded as ideal brood sows. The show form is not the practical business or working form.

Leaving this point for the present, we will consider the one that concerns the general farmer, that of developing a form that is best adapted for the production and feeding of the pigs while they need a mother.

It is a general complaint with farm

breeders and feeders that their hogs "run out," that they get too fine boned. When there is this degeneration it must certainly be manifested in the sows. As a rule, the farmer expects to overcome this fault by the purchase of new blood, in which he is as likely to fail as to succeed. Fail, because breeders have been trying to get rid of all superfluous bone and coarseness. If he succeeds in keeping his herd up in size this way it will be costly and not entirely satisfactory, for the reason that the offspring of new males purchased are not satisfactory feeders, because too coarse. Consequently, if the farmer wishes the kind of a herd that will give him the best satisfaction, he must work on his sows and develop them in the line that will give him the desired results. And here comes in a time, if there is such a time, when feeding cuts a stronger figure than selection. For it matters not how much of an expert he may be in selection, if the feeding is not right the selection goes for naught.

As success hinges on feeding, the question is, How shall we feed? It is as clear as sunshine that a sow cannot be developed in a dry lot with only corn for feed and a wire or rail or plank fence for shelter. Neither can she be developed on frozen grass and corn. The exercise taken in gathering frozen grass is about equal in value to the grass.

The farmer that has a large timber range for his sows during winter, where they are allowed the free use of their noses, may get them well developed and feed only corn. But few men have this timber range.

We have found that sows kept in the feed lot where they get the waste from other stock, cows and horses, the droppings from the cows and grains of corn, fodder blades and clover hay, will do well at farrowing time and work for a period of six to nine years. But under this treatment their resources are exhausted in developing and caring for their young, they themselves not developing the form or size desirable in number one brood sows. As a help to this we found it advisable to give the sows the range of a blue grass pasture or clover sod. Still we were not satisfied with the size the sows attained, and found that we must do more, give more feed containing bone and muscle-forming properties.

Most farmers think they do well if they feed their sows slop when they are suckling their litters. They only work with the idea of hastening the growth of the pigs, having no intention of making the sow individually better. We concluded that if such feed was good for the sow to aid her in suckling the pigs, and in giving them strong development, why was it not good for the sow herself?

Now in winter, while the sows have the treatment and surroundings as indicated above, we also feed to some extent bran and middlings with satisfactory results. Our sows grow to better size than formerly, give us larger litters of pigs, are careful mothers, and are even tempered. We have not had a sow kill and eat a pig for years, nor do we expect to have one guilty of this barbarous act in years to come. We are satisfied that if farmers will strive to develop stronger-framed sows, and keep them till they fail to produce good litters, they will get better returns. It is folly to develop a sow

as indicated and then condemn her because too large.

## CASTRATING LAMBS.

By J. S. WILKINSON, Niagara County, N. Y.

It always seems strange to me to see how little some very wise men in other things know of the little things which are of great importance in ensuring success in the business in which they are engaged. I have just read an article in a "sheep paper" written by a very extensive and noted breeder of the West, on the topic that heads this article, in which he severely criticized the practice of castrating lambs before they are from a month to six weeks old.

Either the writer of this article has had no experience in this line, or his faculty of observation is so obtuse that he cannot trace the effect from a cause. When a lamb is born its generative organs are very imperfectly developed and there is but very little blood circulating in the parts, and if it be then castrated scarcely any blood will be lost and the lamb will hardly mind the pain. But every day after the lamb gets well on its feet and taking a full share of milk the more pain it will suffer and the greater will be the loss of blood and damage to the lamb. If the lamb is castrated when no more than two or three days old there is no better way to perform the operation than to take a pair of strong sheep shears and with a quick motion cut the entire scrotum off near to the belly; especially is this desirable if the lambs are to be kept to be several years old, as when this is done there is left no purse to annually shear which, while yielding but little and very inferior wool, takes ten times as long to shear as a like amount on any other part of the carcass.

I have castrated hundreds of lambs in this way and never yet lost one by the operation; in fact we castrate all our male lambs even when they are to be sold as winter lambs at from eight to ten weeks of age. We have found by experiment that they will be more quiet and will average several pounds more weight, and when killed will show double the caul and kidney as when left entire.

But no animal develops faster than a lamb, and if left until from four to six weeks of age the organs will be much developed and filled with blood, and if then castrated in ever so careful a manner they will often dump around for several days and occasionally one will be lost.

Of course if the lamb be left until four weeks old it won't do to sever the entire scrotum and the lamb must be castrated by in some way pulling the cords of the testes out their whole length, and this to judge from the action of the lamb must be extremely painful, and as the wound is so deep it takes a long time to heal. Any one who has watched the operation and seen the little fellows writhe in pain, lie down when released, and act almost as though going to die, and then has seen a lamb castrated when only a couple of days old and when let go run for its mother and go to sucking as though nothing had happened, could not but be convinced that the time to castrate a lamb is at the earliest period after it is well on its feet, and not wait until it is even three weeks old.

**HANDLING LAMB WETHERS FOR MARKET.**

By HENRY LEASING.

(Read before the Ind. Wool Growers' Convention).

The proper time to begin preparing lambs for market is before they are born. Constitution, or the ability to assimilate food and grow and fatten rapidly, comes from the parents. The ewes should be thrifty and well-fed during pregnancy, and the ram not abused by overwork. I am sure that great loss is often sustained by giving the ram too many ewes. When allowed to run with the flock during rutting season, there should be one ram to each twenty-five or thirty ewes.

The lamb from an ill-used ram, that is so weak when it is born that it can not get on its feet for a half-hour, can never have the stamina or constitution of the one from the sexually strong ram, that comes strong and hearty and gets right up and takes care of itself. The docking and trimming should be done when the lamb is about two weeks old and an antiseptic used on the wounds.

**IN SALTING LAMBS**

I give ashes mixed with the salt, in proportion of one of salt to two parts of ashes. This mixture has a good effect in checking injury from stomach worms, and the lamb is not apt to take an overdose of salt, which will give diarrhoea, and sometimes cause death.

Putting lambs into the cornfield to wean is my favorite way. Then they soon learn to eat corn, and afterwards when put into the feed lot, they lose no time learning to eat it. If at time of putting into feed lot, your flock of lambs is mixed, as to size, age and thriftiness, sort them, putting those of a kind together as nearly as possible, for the small or weak do not have equal chances with the strong. Tag carefully, and should you find any with diarrhoea from stomach worms, give remedy at once. It will not pay to try to fatten an unhealthy animal.

**DO NOT FEED AGAINST DISEASE,** wind or rain. If a lamb is uncomfortable from hunger, thirst, or being wet, hot or cold, it is not putting on weight as it should. Supplying good air, food and water in right quantities at all times and in proper places to his animals constitutes the feeder's art. Air is not good for a feeder's purpose if it is loaded with ammonia, carbonic acid, sulphuretted hydrogen, or has a velocity of sixty miles per hour at a low temperature.

Food is not good if it has not the proper elements of nutrition, or if in unpalatable or indigestible form. Water is not good for the feeder's use if it contains germs of disease to which his flock is liable, or anything that makes it offensive to taste or smell.

Shelter is required to keep the flock from losing weight in times of storm. The ideal shelter is light, dry and airy, but without draughts. The feed lot with east, north and west sides shedded, and with a tight board fence for wind-break on the south, is good enough. And if the feed and water can be given under cover all the better.

**WHAT SHALL WE FEED?**

Many of us use corn for the grain

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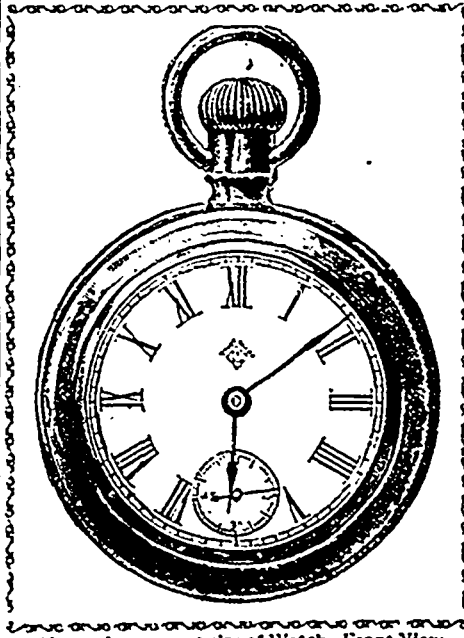
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ration, for to dispose of this, our main crop, to best advantage, is our aim, and in feeding for fat no other single grain is better. But as lambs should be kept growing in bone and muscle, it is better to add oats to the grain ration—say half and half. I have had no experience in feeding turnips or beets to sheep, and while they are said to make good additions to the grain rations, would I think, make the feeding much more expensive. Flat troughs about one foot wide with sides four inches high are nice to feed ear corn in. A pole or board should be fastened over them to prevent the lambs from jumping into them. For forage, I have found nothing better than first-class corn fodder, and know of no better way of giving it to the flock than putting it in a rail platform or a rail pen about three feet high with one side open, so the lambs can get under the platform. The weight of the fodder above holds the stalks firmly and they are well-stripped before being pulled down. If hay is fed it should be in a box, rack or manger, with the opening a foot and a half above the ground and wide enough for the lamb to get its head through easily—six or eight inches wide. If the lambs stand with their heads in the manger and eat,

#### THEY DO NOT WASTE HAY

as they do when they pull it from a rack. The trough for the salt and ashes should not be forgotten. The great English experimenter in feeding, Mr. Lawes, found that in well-bred mutton sheep of the same age, food was consumed in almost exact proportion to the size of live weight. Two Cotswold sheep weighing 120 pounds each ate as much as three Southdowns weighing 80 pounds each, but the two Cotswolds gained more than the three Southdowns. The average increase for 100 pounds live weight was with the Cotswold, 2 pounds 2 ounces per week, and with the Downs, 1 pound 10 3/4 ounces per week, both lots having precisely the same food; that is, the two Cotswolds weighing 240 pounds ate the same food that the three Downs weighing 240 pounds ate, but the two gained at the end of the experiment 34 pounds, while the three gained but 27 pounds. If weight is the main point to feed for, then the large breeds are the most profitably fed. But quality of mutton

#### CUTS A LARGE HOLE

in the market, and it is wise to study the needs of the market before buying feeders.

In Mr. Lawes' experiment, 20 per cent. better price for the Downs would still leave them eight cents behind the Cotswolds in profit. The 34 pounds of increase of the large breed at 5 cents would be \$1.70; the 27 pounds of the smaller breed at 6 cents would be \$1.62, the difference being 8 cents. A lamb of any of our medium-sized breeds of sheep, with a good mother, and on a good pasture, will gain an average of one-half pound per diem until weaned. If born the first of May it would weigh on the first of October following 77 1/2 pounds. It would take a skillful feeder to go on after the lamb is weaned until it is a year old, and make the same daily gain.

#### MILK AND GRASS

make a combination of food unsurpassed for lambs, and the five months after May 1 are the best five in succession for making weight or growth.

A lamb six months old would eat 1 1/2 pounds of grain per diem and gain in weight 1 1/2 of a pound. That would be nearly 2 1/2 bushels of corn, and at 20 cents per bushel, 50 cents for a three months' feed, and a gain in weight of 30 pounds, which at 5 cents per pound would be \$1.50. Or we may change the figures, and say 2 pounds of corn per diem, or 3 1/5 bushels for the 90 days' feed, and 25 cents for the corn would be 80 cents, and 12 pounds per month gain: 36 pounds for the three months at 5 cents is \$1.80.

To succeed well in fitting lambs for market, as in any other business, requires close attention to details. There is no other stock nicer to handle and I believe none will pay better at present prices.

#### AMERICAN POULTRY ASSOCIATION.

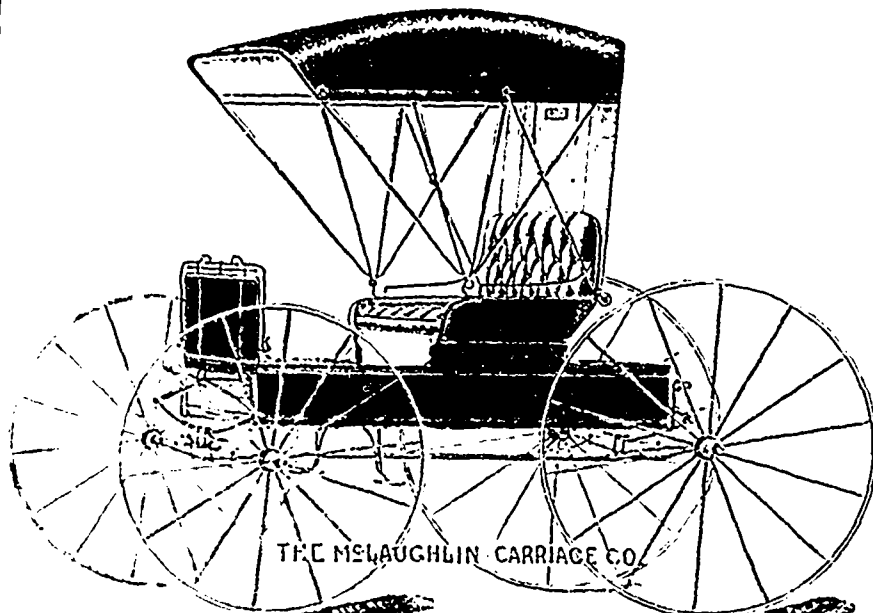
The American Poultry Association is to hold its next annual meeting in Toronto on January 10th to 14th next. These are the dates on which the Ontario Poultry Association will hold its 25th annual exhibition in this city, when it is expected that the largest show of fine poultry and pet stock ever held in Canada will take place. This will be the first occasion on which the American Poultry Association has ever met in Canada and a large exhibit of birds from the other side of the line is expected. Already a number of members of the American Association who will attend the meeting here have signified their intention of bringing some of their best birds with them.

In preparing for this coming event it is to be hoped that the committees in charge will make adequate provision in the way of accommodation for the many exhibits expected. Last winter we attended the Toronto Poultry Association show in the basement of Massey Hall, and tried to listen to the opening address by the Minister of Agriculture as he endeavored to make his voice heard above the crowing of the rooster and the cackling of the hen. But it was a hopeless task. Special pains should be taken this year to make the exhibit one of the best of its kind.

#### PET STOCK.

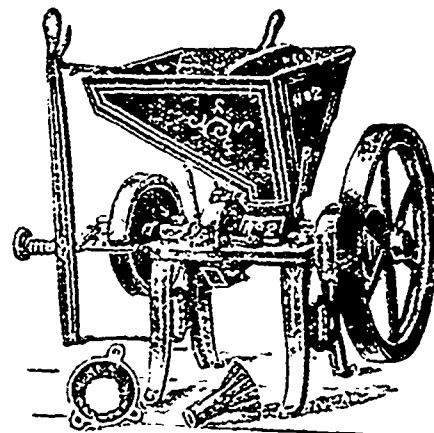
Do farmers ever consider the advantages they possess for the breeding of fancy stock of various kinds? This is an industry which has proved profitable to people living in cities and towns who do not possess the facilities for the business which most farmers have ready to their hand. An advertisement appeared in a Toronto daily last week asking for a farmer to keep a kennel of young dogs during the summer months. This shows that the breeders of this class of stock appreciate the facilities which the farm affords, if the farmers themselves do not. Some of our readers might very well consider this matter. If they have not the time to devote to the business those who have boys growing up could delegate it to them and thus give them employment

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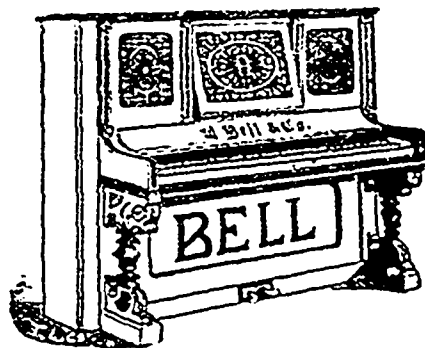


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which would prove both pleasant and profitable while it would create a new interest for them in farm life and work. We were told not long ago of a young man who began to interest himself in this kind of work when only thirteen years of age, who now enjoys an income from it far in excess of that of many a hard worked clerk, while it does not in any way interfere with his usual vocation. That this sort of industry is gaining in popularity is evidenced by the fact that the demand for the various classes of goods sold by the agents of Spratt's Patent (Am.) Limited, the celebrated New York manufacturers of appliances and foods especially prepared for the raising, keeping and feeding of all kinds of pet stock has increased to an extent which is simply marvellous.

**OUR SPECIAL OFFER.**

The offer we make on page 341 of this week's issue should attract attention. Dr. Carlin's Receipt Book and Family Physician is undoubtedly one of the most comprehensive works of its class, covering nearly the whole field of social and domestic economy, as well as that of medical and veterinary science as applicable to domestic practice. Our offer of this excellent work with FARMING until the end of the year for \$1 is sufficiently liberal, and should commend itself to everyone. Those who have seen the prize watches included in this week's premium list are simply surprised to find articles presenting so fine an appearance at so low a price. The same watches are sold in the stores in this city for \$3.50 each, while we offer one of them with three new yearly subscriptions for the same price.

**SPRAYING EXPERIMENTS.**

During the next fortnight the spraying outfit sent out by the Provincial Government will give instructions in spraying at the following places in their respective divisions:

**Western Division.**

Seaforth—Monday, May 30th, 2 p.m., R. Govenlock's orchard. Goderich—Tuesday, May 31st, 2 p.m., H. Curwin's orchard. Exeter—Wednesday, June 1st, 2 p.m., R. S. Lang's orchard. Ridgeway—Thursday, June 2nd, 2 p.m., Edward Lencentine's orchard. Leamington—Friday, June 3rd, 2 p.m., G. H. Mills' orchard. Amherstburg—Saturday, June 4th, 2 p.m., Edwin Paton's orchard. Dutton—Monday, June 6th, 2 p.m., Job Hodder's orchard. Port Huron—Tuesday, June 7th, 2.30 p.m., Freeman Chute's orchard. Port Rowan—Wednesday, June 8th, 2 p.m., H. M. Barrett's orchard. Springvale (near Hagersville)—Thursday, June 9th, 2 p.m., John Holbrook's orchard.

**Central Division.**

St. Catharines—Monday, May 30th, 2 p.m., A Pay's orchard. Niagara-on-the-Lake—Tuesday, May 31st 2 p.m., Freels Bros' orchard. Ancaster—Wednesday, June 1st, 2 p.m., Major Walker's orchard. Waterdown—Thursday, June 2nd, 2 p.m., James McKay's orchard. Georgetown—Friday, June 3rd, 2 p.m., Mrs. Isabella Bradley's orchard. Rockwood—Saturday, June 4th, 2 p.m., Hugh Black's orchard. Bolton—Monday, June 6th, 2 p.m., James Gray's orchard. Stouffville—Tuesday, June 7th, 2 p.m., Abraham Stouffer's orchard. Manilla—Wednesday, June 8th, 2 p.m., H. Glendenning's orchard. Aurora—Thursday, June 9th, 2 p.m., George Walker's orchard.

**Eastern Division.**

Marysville—Friday, June 3rd, 2 p.m., Joseph McGurn's orchard. Harrowsmith—Saturday, June 4th, 2 p.m., Thomas Alton's orchard. Sydenham P.O. Renfrew—Monday, June 6th, 3.30 p.m., Joseph Knight's orchard. Arnprior—Tuesday, June 7th, 2 p.m., Claude McLaughlin's orchard. Carleton Place—Wednesday, June 8th, 2 p.m., Cornell & Pattie's orchard. Carp—Thursday, June 9th, 2 p.m., Hugh Gourlay's orchard. Alexandria—Friday, June 10th, 2 p.m., Angus McDonald's orchard, lot 38, con. 3, Lochiel Tp. Henry—Saturday, June 11th, 2 p.m.,

Peter Paquette's orchard. Hawkesbury—Monday, June 13th, 10 a.m., A. R. Fraser's orchard. Campbellford—Tuesday, June 14th, 10 a.m., Miss Jane Johnston's orchard.

**BOOKS AND BULLETINS RECEIVED.**

The New Jersey State Board of Agriculture. We have to thank Mr. Franklin Dye, the secretary, for a copy of the Twenty-Fifth Annual Report for the year 1897. The work is simply filled with valuable information from cover to cover, and reflects great credit on its compiler.

The Clydesdale Stud Book, Vol. XX., contains pedigrees of mares having produce previous to 30th September, 1897, and stallions foaled before January 1st, 1897. Compiled and revised under the direction of the Editing Committee of the Clydesdale Horse Society of Great Britain and Ireland.

Report of the Bureau of Animal Industry of the United States, by D. E. Salmon, chief. Reprinted from Year Book of the Department of Agriculture for 1897.

Chicory Growing as an Addition to the Resources of the American Farm. By Maurice G. Kains, being Bulletin No. 19, United States Department of Agriculture, Division of Botany.

Milk as Food. Farmers' Bulletin, No. 74. United States Department of Agriculture. Washington, 1898.

**Publishers' Desk.**

**Changing Advertisements.**—Does your advertising pay? It not would it not be well to consider whether the fault does not lie with yourself rather than with the paper? We do not know a single advertiser in FARMING who looks properly after his advertisement and keeps it fresh and interesting by occasional changes that does not find the results satisfactory. Mr. Norman M. Blain, of St. George, is one of those who change their advertising matter frequently, and his experience is summed up in a statement which we take from a letter received by us from him last week telling of recent sales made by means of his advertisement. He concludes, "I consider FARMING the best advertising medium in Canada." Mr. Blain is only one of many who found this out by actual experience.

**Feed Grinders.**—We would like to call the attention of our readers to Matthew Moody & Son's advertisement on the back cover of this issue. The machinery made by this firm is of the best quality, and we recommend our friends to send to them for information when in need of any implements such as feed grinders, feed cutters, hay presses, threshers, circular saw machines, etc., as they are a thoroughly reliable firm and their statements may be depended upon.

**Gombault's Caustic Balsam.**—As a cure for diseases in horses and cattle Gombault's Caustic Balsam is as familiar as a household word, but it is not so generally known as an effective and exceedingly economical remedy for human ailments such as rheumatism, stiff joints, sore throat, croup, pains in back or limbs, cold in the chest, etc., or in any case requiring an outward application. Those who have not tried it for these complaints will be surprised on giving it a trial to find how effective it is.

**Stock Notes.**

Mr. H. J. Davis, of Woodstock, Ont., is advertising a choice selection of young pigs in this week's issue. See his advertisement on inside page of front cover.

Mr. L. ROGERS, Cooksville, Ontario, has some very fine young pigs bred from registered and prize-winning stock which he advertises for sale in this issue. See his advertisement on inside of front cover.

Mr. F. W. TAYLOR, of Wellman's Corners, the well-known breeder of Ayrshires, has some very good spring calves sired by Douglas of Loudoun (1384) which are sure to do credit to their celebrated sire as well as to the deep milking dams from which they spring. His advertisement on the inside page of the cover in this issue should be interesting to those who wish to procure fine young stock from the best milking strains.

MR. NORMAN M. BLAIN, of Cold Spring Farm, St. George, Ontario, writes under date of May 10th, as follows: "I find the demand for No. 1 Tamworths steadily increasing. My stock is in good healthy condition and every individual is now in good breeding form. This week I shipped the following stock to various points in Canada and the United States: One trio to Mr. John Mischke, Aten, Nebraska; one trio to Mr. W. Marsh, Yankton, South Dakota; one boar

**Fruit.**

Trees and Vines become hardier, and their products better colored and better flavored when liberally treated with fertilizers containing at least 10% actual

**Potash.**

**FREE** An illustrated book which tells what Potash is, and how it should be used, is sent free to all applicants. Send your address.

GERMAN KALI WORKS, 62 Nassau St., New York.

**THE ANNUAL MEETING**

**Welland County Farmers' Institute**

Will be held at the Court House, Welland, On Tuesday, June 7th, at 1 p.m.

A. B. ROBERTSON, Pres., E. MORDEN, Sec. Pt. Robinson. Niagara Falls S.

to J. W. Willock, Fenelon Falls, Ontario, and one select boar to J. J. Gareau, St. Roch Lachapelle, Quebec. I consider FARMING the best advertising medium in Canada.

MR. DENNIS HAWKINS, Woodville, writes under date of May 23rd as follows: "Our stock has wintered well, and spring litters have come good and strong. The sow, Sapphire, purchased by me from J. G. Snell last Christmas, has an extra fine litter at foot by (Victor XII.). The sow, Highland Mary, gave us a litter of thirteen on the first day of May, sired by the boar, Crown Prince 3rd, prize boar in class under a year old at Toronto last fall, and first at all other shows. He has grown and filled out well, and is now one of the best boars in Canada. We have still some extra fine November boars fit to head any herd, and only one fall sow that we are fitting for this fall circuit. She will take some beating. Altogether our herd was never as good as at present, and times are improving. Crops in this locality are very forward. Especially does fall wheat and clover look well. Stockers and feeding cattle are very scarce, and the ranchmen, of which we have a number here, find it difficult to stock their ranches. Pasture is abundant; a large quantity of corn is being brought in by the millers and some by farmers, and I am afraid that it will have a tendency to hurt the quality of pork, as in a good many cases it is being fed liberally."

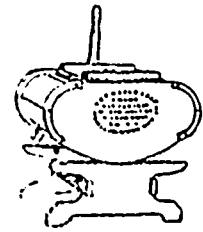
**A RELIABLE OFFER.**

HONEST HELP FREE TO MEN.

FARMING is authorized to state by Mr. D. Graham, Box 133, Hagersville, Ont., that any man who is nervous and debilitated or who is suffering from any of the various troubles resulting from overwork, excesses, or abuse, such as nervous debility, exhausted vitality, lost vigor, unnatural drains and losses, lack of development, etc., can write to him in strict confidence and receive free of charge full instructions how to be thoroughly cured.

Mr. Graham himself was for a long time a sufferer from above troubles and after trying in vain many advertised remedies, electric belts, etc., became almost entirely discouraged and hopeless. Finally he confided in an old clergyman, whose kind and honest advice enabled him to speedily obtain a perfect and permanent cure. Knowing to his own sorrow, that so many poor sufferers are being imposed upon by unscrupulous quacks, Mr. Graham considers it his duty as an honest man and a firm believer in Christian sympathy and kindness to give his fellow-men the benefit of his experience and assist them to a cure. Having nothing to sell, he asks for no money, the proud satisfaction of having done a great service to one in need, he rightly considers an ample reward for his trouble. If you write to Mr. Graham, you can rely upon being cured and upon absolute secrecy as well.

Address as above, enclosing a stamp and refer to FARMING. No attention, however, will be given to those writing out of mere curiosity, therefore state that you really need a cure.



**The Maple Leaf Churn**

EASIEST AND BEST

Ask your dealer for it, or send direct to the manufacturers,

WILSON BROS. COLLINGWOOD, ONT.

**DO YOU KNOW**

What your cows are doing? Every factory should have

**DILLON'S**

Milk Pass Book.

Secretaries of cheese and butter factories will find that

Dillon's Improved Milk Book Combined Dillon's Milk Sheets Dillon's Pass Books . . . . .

**ARE THE BEST AND CHEAPEST**

For sale by all Dealers in Dairy Supplies, or

Thos. J. Dillon

Charlottetown, P.E.I.

**Our Abundance Plum**



and other Trees, Plants, Vines, Roses, Ornamentals, etc., are reliable and up to date: none better. Send for priced catalogue of 1898, giving variety and prices to suit the times. Special offers to buyers. Also choice

Seed Potatoes. Three new Rambler Roses, crimson yellow and white (2 years), by mail for \$1. No Agents employed.

A. G. HULL & SON, Central Nursery,

St. Catharines, Ont

Mention this paper.

**ALL PEDIGREE STOCK-BREEDERS**

Should keep in touch with Herd, Flock and Stud movements by reading the

**FARMER AND STOCK-BREEDER**

The best, most complete and attractive Agricultural and Live Stock newspaper. Enlarged to 36 pages weekly; frequent special issues 40 to 48 pages. Illustrations are a specialty, each number containing many of the leading prize-winners, etc. Brilliant and practical articles on the Farm, Dairy, Horses, Cattle, Sheep, Pigs, Poultry, Veterinary, etc.

Unexcelled as a medium for advertisements intended to reach the best class of breeders and farmers throughout Europe.

Subscription, postpaid for one year, \$2.50

Intending purchasers of British Purebred Stock should send us particulars of their requirements, large shipments and extensive connections having given our staff of expert buyers that experience which is indispensable in live stock transactions.

Enquiries welcomed. Address—FARMER AND STOCK-BREEDER, London, Eng

BUY



THE BEST

**For Dairy or Table Use**

IT IS UNEQUALLED.

**Salt on the Farm**

for wire worm, joint worm, army worm and all insects that destroy crops. Salt is the best insecticide. It is also a fertilizer.

TRY IT.

**R. & J. Ransford** CLINTON, ONT

MARKET REVIEW AND FORECAST.

Office of FARMING, 44 and 46 Richmond Street W., Toronto, May 30th, 1898.

The crop prospects is the important factor in business circles just now. If present prospects are realized it is expected that this season will witness the largest movement of staple and imported goods ever experienced in Canada.

Wheat.

As the weeks go by it becomes more evident that the wheat market is under the complete control of speculators. One hour's quotations is no criterion what the next hour's will be, so completely are the world's wheat markets under the control of Leiter on this side and his agents on the other side of the line.

Recent cable reports show the London market to be weak and dull, and holders have to take lower prices in order to sell. Offerings are increasing, and holders show more anxiety to realize.

Barley and Oats.

The London market for oats is reported weak at 3d. to 6d. per quarter lower, and stocks are accumulating very fast.

The barley market here is dull. At Montreal it is quiet but steady at 48c. to 49c. for feed and 52c. to 54c. for malting.

Peas and Corn.

The cable reports the market firm for Canadian peas, but business is restricted because of high prices.

At Toronto the market is dull and easier owing to increased corn supplies, and quotations are 58c. to 59c. north and west.

At Montreal the corn market is quiet but steady at 41c. afloat for No. 1 Chicago. Mixed car lots on track are quoted at 44c. to 45c.

Potatoes.

Potatoes are duller, and quotations are 65c. to 70c. for cans on track, and 75c. to 80c. out of store.

Eggs and Poultry.

Cable reports show a higher and firmer market last week. Prices are up 1s. per long hundred (120), with a fair business at the rise.

Hay and Straw.

Baled hay is quiet at \$8 to \$8.50 for cars on the track. Baled straw is quoted at \$4.50 on track.

Wool.

There is not much wool coming in, though it is expected that next week the offerings will be larger.

Cheese.

On the whole the cheese market is not very encouraging for factorymen, though in some

quarters a steadier feeling prevails. Receipts are increasing fast, though the total shipments up to May 26 were 23,789 boxes as compared with 57,402 boxes for the same time in 1897, showing a decrease of 33,313 boxes.

Butter.

According to late cable reports, a steadier feeling has set in, and surplus stocks seem to be disappearing very fast. Holders are less inclined to push sales, owing to reduced stocks, and the demand is evidently improving.

Cattle.

The cattle situation has not changed much during the week, though the London cable reports the cattle market there as dull and a decline in prices of 2d. per stone.

Export cattle.—The offerings on Friday were too large for the demand, and some of the poorer quality were unsold at the close of the day.

Butcher's Cattle.—The demand is steady and prices firm at about 3 1/2 c. for best. Common cattle are slow at from 3c. to 3 1/2 c. per lb.

Bulls.—The demand for bulls has been fair at from \$3.30 to \$3.60 per cwt. for export. Feeding bulls are not in demand.

Stockers and Feeders.—There has been an active demand in Buffalo during the week, which has stimulated the market here. Prices were higher on Friday and in one or two cases sales were made as high as 4c. per lb.

Calves.—Quotations rule from \$2 to \$5.50. The offerings and demand are light. Choice veal calves bring higher than these figures.

Milk Cows and Springers.—Good cows are in demand. Prices rule from \$25 to \$40 mostly, some choice well forward springers going slightly higher.

Sheep and Lambs.

The London market for sheep is reported weak and lower under large supplies from Argentina, and prices have declined 4d. to 4 1/2 d. per stone.

Hogs.

The market continues firm here, though the offerings have been large. Choice sangers bring \$5 to \$5.10 per cwt., weighed off the cars.

Horses.

The London market is reported steady, and all desirable animals of the heavy-draught class are in demand.

W. C. EDWARDS & CO. Breeders and Importers

PINE GROVE STOCK FARM, Rockland, Ont.

On the C.P.R. and G.T.R. Railways. Special bargains on young bulls of superior merit and select Scotch breeding. Also thick young heifers at the right prices.

Ayrshires, Jerseys, Shropshire Sheep, and Clydesdale Horses.

Post Office, Telegraph Office, and Steamboat Landing, Rockland, Ont., on the C.P.R.

JOS. W. BARNETT, Manager.



LAURENTIAN STOCK and DAIRY FARM, North Nation Mills, Que.

Ayrshires, imported and home bred herd headed by imported Tam Glen Stud, No. 1310 D. A. H. B. Jerseys all of the celebrated St. Lambert family; herd headed by Leger Peggis of St. Anne's 23704 A. J. C. C. Berkshire Pigs. Young stock of all the above breeds for sale.

Post Office, Telegraph Office, and Railway Station, North Nation Mills, P. Q., on the C.P.R.

A. E. SCHRYER, Manager.

Ingleside Herefords

Largest herd of choice-bred Herefords in Canada. Winners of both the first and second herd prizes at Toronto, Montreal, and Ottawa, 1895, 1896, and 1897; also silver medals same years for best bull and best female.

TAMWORTH SWINE.

Orders booked for Spring Pigs. Pairs not akin

H. D. SMITH, Ingleside Farm, Compton, Que.

Farm 2 1/2 miles from G.T.R. station.

GLENHYRST POULTRY YARD.

EGGS FOR SALE.

White Wyandotte, White Plymouth Rock, Cornish Indian Game, Black Minorca, Houdan, Black Langshan, White Langshan, Barred Plymouth Rock, Silver Laced Wyandotte, \$1.50 for fifteen, or \$2.50 for thirty. Packed in patent boxes. Will replace at half price any not fertile. Also poultry supplies.

Will exchange any of the above for first class Tamworth pigs or light Brahma Pullets, say strain.

Horset and Shropshire sheep, Tamworth pigs, Shetland ponies, Jersey cattle all rare. Registered. Prices right. STRATFORD BROS. Brantford, Ont.

Norman G. Moodie, Chesterville, Ont. Breed. Barred Plymouth Rocks. Eggs \$1 for 15. You can't get better blood. Satisfaction guaranteed. Please mention FARMING.

Is Your Butter Bitter?

Ten to one, it's the fault of the salt you use in your churning. Inferior salt makes bitter butter—impure salt spoils butter.

Next time you churn try Windsor Salt it is the salt that suits the taste of particular buttermakers—and butter eaters.

Other salt is said to be "as pure as Windsor Salt"—that usually settles it.

Windsor Salt

The Windsor Salt Co. Limited, Windsor, Ont.

The "Toronto" Incubators and Brooders

ARE THE BEST MANUFACTURED

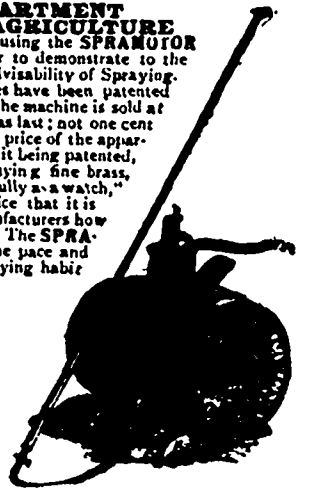
We have won three out of four First Prizes at Toronto Exhibition during 1895 and 1896.

SEND FOR CIRCULAR AND PRICE LIST.

Address the Manufacturer—T. A. WILLIAMS, 514 Dundas Street, TORONTO, CAN.

THE DEPARTMENT OF AGRICULTURE OF ONTARIO

are using the SPRAMOTOR again this year to demonstrate to the Farmers the advisability of Spraying. Six new features have been patented this year, and the machine is sold at the same price as last; not one cent is added to the price of the apparatus because of its being patented, and you are buying fine brass, made as carefully as a watch, at so low a price that it is wonder to manufacturers how it can be done.



CERTIFICATE OF OFFICIAL AWARD:

THIS IS TO CERTIFY that at the contest of Spraying Apparatus held at Grimsby, on April 2nd and 3rd, 1896 under the auspices of the Board of Control of the Fruit Experimental Stations of Ontario, in which there were eleven contestants, the SPRAMOTOR, made by the Spramotor Co., London, Ont., was awarded FIRST PLACE.

H. L. HURT, } Judges.

M. PRYOR, }

Send 3c. stamp for 76-page copyrighted edition of catalogue and treatise on the diseases affecting fruit trees, vegetables, etc., and their remedies.

SPRAMOTOR CO.

357 Richmond St., London, Ont.

Mention this paper.

EGGS for Hatching from choice Buff Leghorns, Golden Wyandottes, Golden Spangled Hamburgs, Red Caps, B. P. Rocks, Black and White Minorcas, Blue Andalusians and Partridge Cochins. \$1 per 15. Stock for sale. S. W. D. FRITH, Wincheater, Ont.

B. Minorcas, Barred P. Rocks, L. Brahmas, Recherche Stock.

Birds imported from best yards in England and United States. Eggs \$1.00 per dozen. A few good birds for sale.

W. L. BROWN, 176 Wharnclyffe Road, London West, Ont.

FOR SALE

Jersey Cattle, Duroc-Jersey and Chester Swine; Collie Dogs and Hammoth Bronze Turkeys; Choice Cows and Heifers fresh calved or soon due. Also young heifers and bulls. D. J. Sows due in March and April. Handsome Collies of both sexes and H. B. Turkey Eggs in season. Prices low.

OSCAR MACKAY, Box 20, Thornbury, Ont. Glenhyrst Poultry Yards

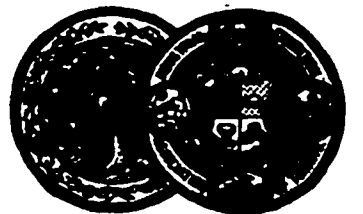
OSHAWA POULTRY YARDS

S. L. Wyandottes, Red Caps, and Rose Comb Black Minorcas. All high class stock.

EGGS, \$1.00 per Fifteen.

W. H. KIRBY, - Oshawa, Ont.

Awarded Two First Prizes at Toronto Industrial, 1896.



Silver and Bronze Medals

These are the Highest Awards.

Also Silver Medal, 1895

**THE DAISY GRAIN GRINDER THE DAISY BARREL CHURN**

With New Common Sense Stand.



Has No Equal.



Stronger, Lighter and More Convenient than ever, and has Roller Bearings.

The 1899 "DAISY" is far in advance of any other Churn in the market. Fitted with improved Gas Vent if required. The Gas Vent is not necessary, but you can have it if you want it.

SOLD BY DEALERS EVERYWHERE. Manufactured only by

Suitable for all purposes. Made in four sizes, using 8 inch, and 10 and 12 inch reversible plates. Fitted with ball bearings and relief springs. By a simple lever attachment the plates may be instantly separated and brought together again while in motion. Elevator and bagger added when desired.

**THE WORTMAN & WARD MFG. CO., Limited,**  
LONDON, ONTARIO.

Write for Descriptive Circular and Implement Catalogue before purchasing any other.

**New Metal Roofing...**



Patent Safe Lock Shingle.



Cut showing Top and Bottom Lock.



Cut showing Side-Lock.

Our Patent Safe Lock Shingles are so constructed that they lock or fasten on all four sides, making perfect joints, absolutely proof against the weather.

Buildings covered with our roofing look pretty, are fire and lightning proof, and will last a lifetime.

Samples and Prices sent free upon application.

**Metal Shingle and Siding Company Limited**  
PRESTON, ONTARIO

**The Backbone**

of a Farmer's Implements is the reputation of the manufacturer.

**Massey-Harris Company**

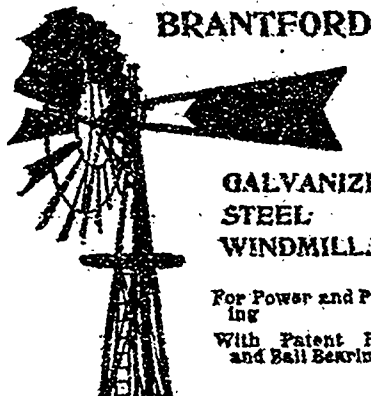
not only make machines which have established a name the world over, but they are a Canadian company.

**MASSEY-HARRIS CO., LIMITED**  
TORONTO

**HELDERLEIGH FRUIT FARMS AND NURSERIES**  
—400 ACRES—

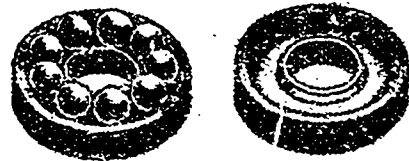


Situated at the base of the Mountain in a warm and sheltered valley where trees arrive at full maturity. Having over 125 acres planted in fruit, I have unusual facilities for knowing the value of the different varieties and establishing their purity. Everything is GUARANTEED TRUE TO NAME or purchase price refunded. I have for the fall of 1899, and the Spring of 1900, a complete line of Trees, Shrubs, Vines, etc., both fruit and ornamental. Write for a Catalogue which is furnished FREE, and which contains over ten pages of closely written matter about the various PESTS that trouble fruit growers and means of preventing their ravages. Buy CANADIAN GROWN STOCK only, and thus escape the dreaded San Jose Scale so prevalent in the States. There is no more reliable, healthier, hardier, or more complete assortment than mine. Good reliable salesmen wanted in a number of fine townships, to start work at once. Complete outfit free. Address E. D. Smith, WERDNA, Ont.



**GALVANIZED STEEL WINDMILLS**

For Power and Pumping With Patent Roller and Ball Bearings



Makers of the lightest running and best constructed Galvanized Steel Windmills and Towers outside.

Write for Illustrated Circulars.



**Secrets of Success**

SECRETS OF SUCCESS contains 368 pp. cloth bound; indexed; illustrated, and conceded by all purchasers to contain more practical common sense information than any other Farmer's Book ever put in print. Mailed Post Paid on receipt of Price, \$1.25. To any one who cannot derive the special benefit from any one single article we will refund your money.

Our 50-page Pamphlet, entitled "Farming, the Farmer, and Force of Habit"

Paper back, mailed Post Paid on receipt of Price, 50c, or the two Post Paid \$1.50. The practical information these two volumes contain turned into practical accounts will be the means of causing the face of nature to blossom at the race and to smile in prosperous abundance. Believing that he who does good unto his fellow man does good unto himself, and awaiting your esteemed favors, I beg to remain, yours for success.

Address: F. H. DEWESE, The Gilt-Edged Farms, DAYTON, OHIO.

**Common-Sense Manuring**

Extract from a letter by Digby Caley, Esq.: "I was much interested at the result of your experiments in trying to arrive at the proper amount of nitrogenous manure necessary to reproduce correct proportion of grasses amongst

**THE LUXURIANT CLOVERS ALBERTS' THOMAS-PHOSPHATE POWDER HAD CALLED INTO EXISTENCE."**

"I congratulate and compliment you most heartily on what you have already accomplished and demolished, and I consider you have conferred a great public benefit to agriculture generally by having afforded such convincing proofs of what can be done by the liberal use of

**ALBERTS' THOMAS-PHOSPHATE POWDER."**

**WALLACE & FRASER**

Canada Life Building TORONTO

ST. JOHN, N.B.



Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam
Gombault's Caustic Balsam	<h1>GOMBAULT'S CAUSTIC BALSAM</h1> <h2>WORKS WONDERS</h2> <h3>IT REMOVES BUNCHES ON HORSES OR ANY OTHER LIVE STOCK</h3> <p>THEREBY INCREASING THE VALUE OF THE ANIMAL FULLY 50 PER CENT.</p> <p><b>IT CURES</b> Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Windpuffs, all Skin Diseases or Parasites, Thrush, Diphtheria, Pink Eye, all Lameness from Spavin, Ringbone and other Bony Tumors; also, all obstructions in circulation, and imparts new life and vigor. It is a peerless remedy for all Throat and Bronchial Troubles.</p> <p><b>NOT ONLY SEE WHAT OTHERS SAY OF IT, BUT SATISFY YOURSELF BY TRYING IT.</b></p> <p><b>THE LAWRENCE-WILLIAMS CO., Cleveland, Ohio,</b> SOLE AGENTS FOR THE UNITED STATES AND CANADA.</p>										Gombault's Caustic Balsam
Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam	Gombault's Caustic Balsam

## Cheese Factory and Creamery Supplies

The "MONTREUIL" Curd Cutter.

The Best in the Market

The space between the small cutters is  $\frac{3}{4}$  inch, and the large blades cut  $\frac{1}{4}$  of an inch in thickness.



Butter and Cheese Factory Outfits a Specialty.

Correspondence Solicited

**THE PLESSISVILLE FOUNDRY**  
PLESSISVILLE, QUE.

## Dentonia Park Farm

W. E. H. MASSEY, Proprietor.

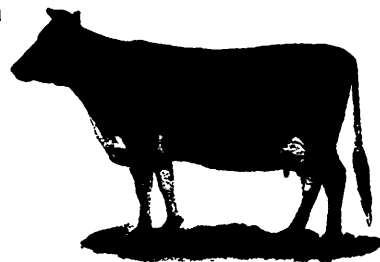
HIGH-CLASS REGISTERED JERSEYS.

The following offered for sale to make room for additional imported stock soon to arrive

ST. LAMBERT OF HIGHFIELD.

No. 1984, a handsome bull, in fine condition, solid fawn color, black points, born March 3rd, '95, sire Earl of St. Lambert No. 3199; dam Niobe of St. Lambert 2nd No. 6691. A Few Good Cows, also some splendid Heifer and Bull Calves. Prospective buyers should visit the farm. Full information given on request. Apply—

WILLIAM PATTON, SUPERINTENDENT, COLEMAN P.O., ONTARIO.  
FARM LOCATED NEAR EAST TORONTO.



## CREAM . . . SEPARATORS

### THE ALEXANDRA

Hand and Power. Capacity 160 to 2,000 lbs. \$50 to \$350.

### THE MELOTTE

Hand Style only. Capacity 350 to 850 lbs. Price \$100 to \$185.

Up-to-date Dairy Machinery and Supplies.

AGENTS WANTED.

**R. A. LISTER & CO., Ltd.,**  
18 St. Maurice Street, MONTREAL.

## ULRICH'S ENSILAGE Seed Corn

This Celebrated Corn is Sold all over Canada.

Giant Prolific,  
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Red Cob  
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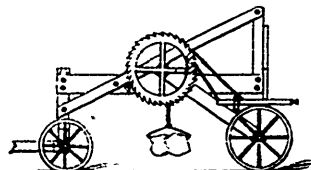
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