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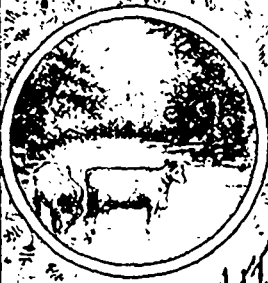
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While Agriculture is the First, & Noblest of the Sciences,
Stock Raising is the Right Arm of Agriculture

CANADIAN

MARCH

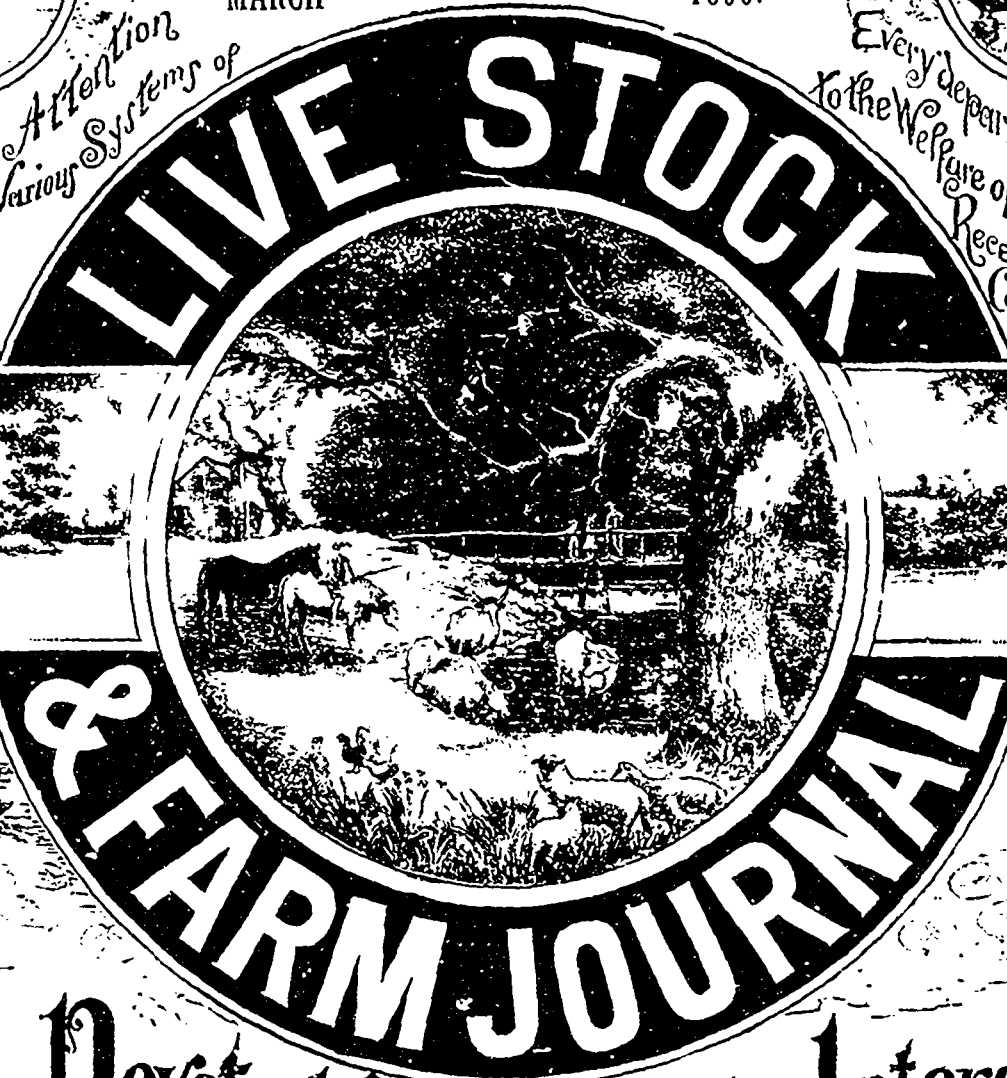
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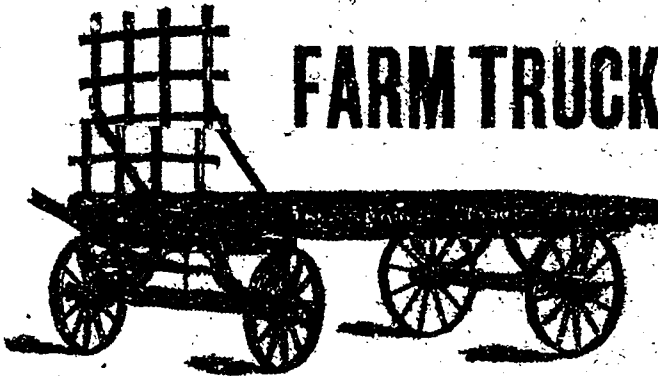
Devoted Mainly to the Interests
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But Overlooking no Department
Of the Farm.



PUBLISHED BY THE J. E. BRYANT COMPANY (LIMITED), TORONTO, CANADA.

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NIAGARA, ONT., August 26th, 1889.

GENTLEMEN,—Having used a ton of your Grape Food on my orchard of peach trees, spring of 1889, I have much pleasure in recommending it to others, as in my opinion, it is grand food for peach trees, and for growth of wood and bearing an abundance of fruit. In fact, I have in much faith in its value that I have ordered two tons more for the same orchard and another.

(Signed) JOHN CALVOCHAN.

NIAGARA TOWNSHIP, Sept. 6th, 1889.

GENTLEMEN,—Have used your Fertilizers on fruit trees and grain crop with good results. Used it on corn, nearly doubling the crop and securing a good yield of 425 bushels, and believe it to be as represented.

For seed and Catalogue giving full information.

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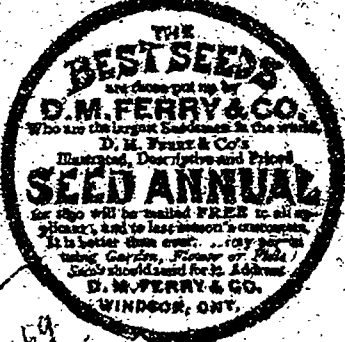
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Our Descriptive and priced Catalogue for Spring trade is now ready, and will be mailed free to all applicants, and to customers of last year without solicitation. Market Gardeners will find it to their advantage to have their seeds from **John A. Bruce & Co., Hamilton, Ontario.**

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10 NUT TREES for \$1.00. Special Catalogue, American Catalogue or South Western, FREE! a handsome and Catalogue. **The Wm. M. Wood Co., Toronto, Ont.**



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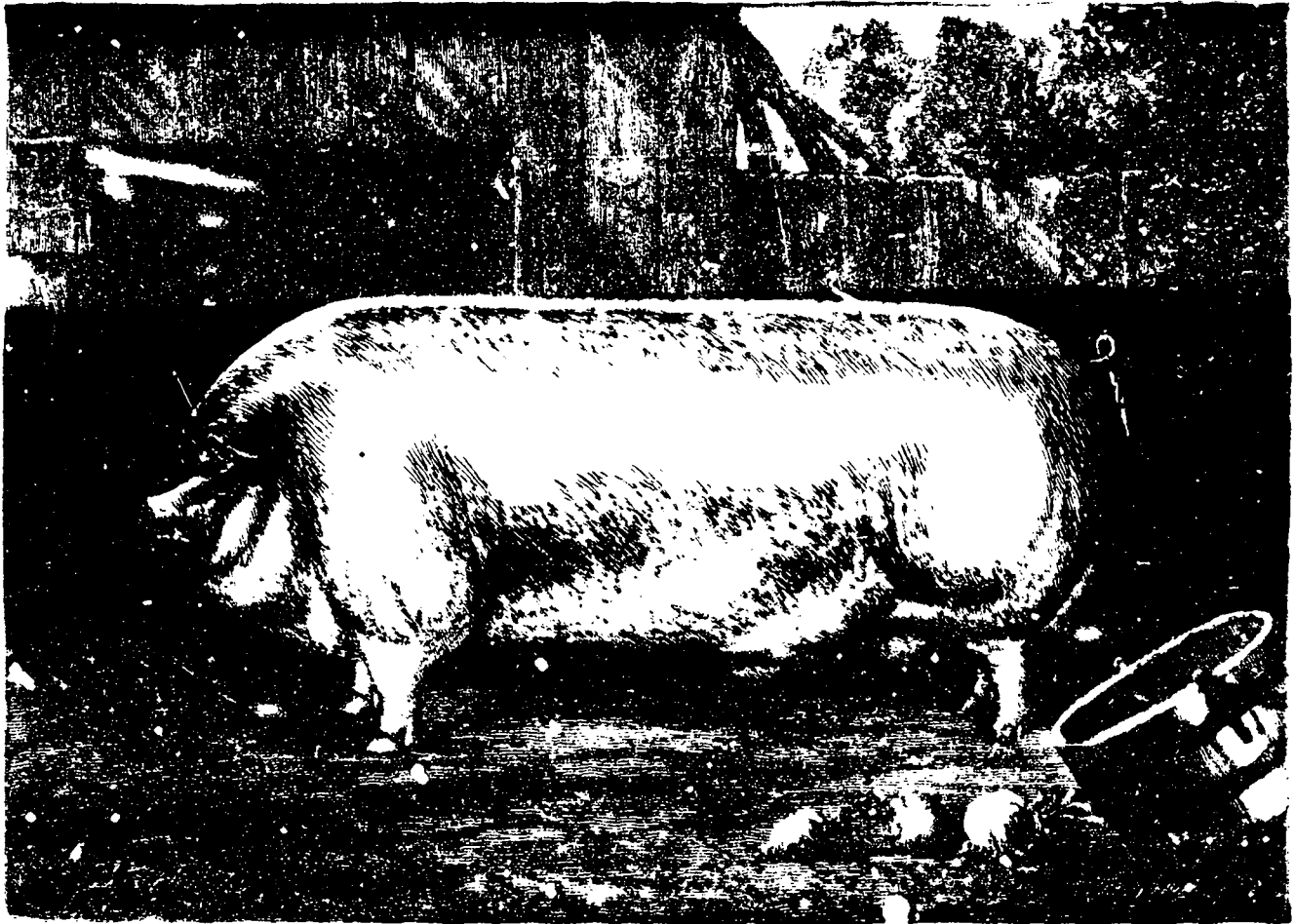
THE CANADIAN LIVE STOCK AND FARM JOURNAL

Devoted to the Interests of the Stock-Raisers and Farmers of Canada.

VOL. VII. No. 5.]

TORONTO, MARCH, 1890.

[WHOLE No. 77



IMPROVED YORKSHIRE BOAR "PAT."

Winner of First Prize and Diploma at London Provincial and Second at Toronto Industrial, 1889.
Imported and Owned by Ormsby & Chapman, Springfield-on-the-Credit, Ont.

Our Illustration.

Our frontispiece this month delineates in fine form the pure-bred improved Yorkshire boar, "Pat," owned by Messrs. Ormsby & Chapman, the Grange Farm, Springfield-on-the-Credit. This boar was imported by his present owners direct from one of England's most famous herds, that of Mr. Sanders Spencer, St. Ives, Holywell. Since transportation this animal has been used extensively for breeding purposes, and his stock has done much to build up the present high reputation of his owners, as breeders of Yorkshire pigs of the most approved type. For length of body, depth of side, and robustness of constitution, few animals may justly claim to be his equal. As a criterion of the fecundity of this breed of pigs, it may not be amiss to mention that the subject of our sketch was one of a litter of fifteen. From the largeness of the litters that have been sired by him, it is proper to surmise that this valuable quality he has gained by heredity. Though strong in frame and heavily built, here is a complete absence of all coarseness about him. Though perhaps com-

bining more of the useful features of the Yorkshire than any other members of this herd, yet in form and quality he may be accepted as a fair representative of the others.

To Our Friends.

Through the great number of communications to hand, and other important matters, we have found it best to enlarge this number of our JOURNAL four pages. This we gladly do under the circumstances, for we are determined to spare no expense or trouble that may make our paper more useful to our readers. We would ask our friends who have kindly favored us with their views on various matters to bear with us, and we promise them a hearing in due time. So great has become the demand for our space, that we beg of our contributors to present their arguments and ideas in as few words as possible. We are pleased to intimate to our readers that our recent ventures in the way of schemes and new departments have met with every encouragement, and especially is this so of our recent move in considering the wants of the young folks.

We have a store of valuable plans on hand and shall make use of them as early as we can. This, however, should not deter any one from favoring us further, for we are only too pleased to make our collection as complete and varied as possible. Our various premiums are finding favor, judging from the eagerness shown to obtain them. In this issue we embark on two new ventures, and we trust our stock-men and farmers will help forward the work. We cherish the idea, as our need of reward, that these may be reflected for the better in the practice of every Canadian farmer.

MR. WILLIAM PATERSON, of Birtle, Man., writes: "Glad to see THE JOURNAL doing so well. The cuts and printing are all very distinct, and the different pieces written are splendid, and very much to the point on all subjects interesting to the farmer. The majority of notes in THE JOURNAL are very useful to the Manitoba farmer."

MESSRS. R. RIVERS & SON, Springhill Farm, Walkerton, Ont., write: "Please find enclosed amount due for insertion of our special advertisement in the January issue of your valuable journal. Please excuse delay in sending, but we have had so many inquiries for grain, and orders to fill, owing to our advertisement, that we have been kept very busy."

THE
Canadian Live Stock and Farm Journal
 PUBLISHED MONTHLY BY
The J. E. Bryant Company (Limited),
 58 BAY STREET, - - TORONTO, CANADA.
 Terms, \$1.00 per annum in advance.

To Subscribers.—The subscription price of THE CANADIAN LIVE STOCK AND FARM JOURNAL is \$1.00 a year, in advance. Single copies, 10 cents each; sample copies, free. The date to which each subscriber is paid is printed on the address-label of his JOURNAL. Subscribers continuing to take the JOURNAL from the post office after their time of subscription is expired, will be considered as desiring to renew their subscription. Notice to discontinue the JOURNAL should be promptly sent to the publishers by returning the first number received after the subscription has expired. The publishers reserve to themselves the right to continue sending the JOURNAL to responsible persons until all arrears are paid.

Remittances may be made in registered letters at our risk. The receipt of the JOURNAL will be sufficient evidence to subscribers that their remittances have been received. Never send money in unregistered letters. Money so sent must be at the sender's risk.

All communications should be addressed THE J. E. BRYANT COMPANY (LIMITED), 58 Bay Street, Toronto, Canada.

TORONTO, MARCH, 1890.

Original Plans, Devices, and Ideas.

Knowing that there are many original plans and devices pent up in the minds of our readers, and feeling that the publication of such would be of immense benefit to all, we have drawn up a scheme through which we hope to stimulate our friends to help us in the good work of lessening the labors and increasing the profits and pleasures of the farmer. We trust that the offers we append will show that any efforts put forth to aid us in this matter will be warmly appreciated. Not only do you who meet our request add materially to your own store of knowledge through the perusal of the books obtained, but there is the more pleasant feature attached to it of helping your brother farmers to increase the returns from their labors and better their condition. To make clear what we want, and what we will give, we have divided our scheme into three parts:

No. 1.—This division includes plans and specifications of any of the buildings numbered below:

1. Barns, suitable for general farming in any of the Provinces.
2. Barns, suitable for dairy farming in any of the Provinces.
3. Barns, suitable for the raising of breeding stock in any of the Provinces.
4. Farm houses.
5. Poultry houses.
6. Pig pens.
7. Sheep pens.
8. Ice houses and cold storage rooms.
9. Milk houses and farm dairies.

For an accepted plan of any of the above mentioned buildings we will, as soon as your contribution is published, give you your choice of any of the following books, or any of those mentioned under the second and third divisions:

Dairyman's Manual	Stewart	\$2 00
Insects Injurious to Fruit	Sawnders	2 00
How Crops Grow	Johnson	2 00
Cattle and their Diseases	Murray	2 50
American Fruit Culturist	Thomas	2 00
Practical Poultry Keeper	Wright	2 00
Horse Breeding	Sanders	2 00
Feeding Animals	Stewart	2 00

No. 2.—This division includes devices for the saving of labor in performing any work of the farm, or anything that may add to the comfort and pleasure of farming in its broadest sense. Such, for instance, as devices for saving labor in feeding or caring for any of the domesticated animals, in fencing, in any phase of orchard work, and the many other departments of work on the farm that will at once come to mind.

For any device accepted by us we will, as soon as your contribution is published, give you your choice of any of the following books, or any named in No. 3

Swine Husbandry	Coburn	\$1 75
Shepherds' Manual	Stewart	1 50
The Standard of Perfection in Poultry		1 00
The Soil of the Farm	Scott and Morton	1 00
Farm Drainage	French	1 50
The Chemistry of the Farm	Warrington	1 00
Practical Forestry	Fuller	1 50
Fences, Gates, and Bridges		1 00
Silos, Hay, and Silage		50
Barn Plans and Outbuildings		1 50
One Year's Subscription to THE CANADIAN LIVE STOCK AND FARM JOURNAL		1 00
Farm Conveniences		1 50

No. 3—This division includes articles expressing original ideas or experiences in regard to any feature of stock-raising or farming in its many departments; such as, methods of growing the different crops of the farm, especially those used for soiling purposes or as grain food for stock, the breeding, feeding, and management of any of the domesticated animals; the care of the orchard—in fact, anything is a proper topic that comes under the scope of farming and stock-raising in their widest sense. The articles should be short—in fact, the shorter they are the better we shall be pleased.

For any accepted article conforming with the above we will, as soon as your contribution is published, give you your choice of a year's subscription to any of the following publications:

The Canadian Horticulturist	\$1 00
The Canadian Poultry Review	1 00
The Canadian Bee Journal	1 00
The Poultry Monthly	1 25
The Canadian Honey Producer	40
The Northwest Farmer	1 00
The Maritime Agriculturist	1 00

NOTE.—Any article, or the reading matter accompanying any plan or device, should not exceed one of our columns in length, and the shorter it is the better. A writer may adopt any *nom de plume*, if he desires that his name be not published. Remember, this is not a competitive scheme; all that is required to give you a choice of any book, as stated above, is that your contribution be published in our JOURNAL. The contributions must bear the stamp of originality. We want to bring to light these plans, devices, and ideas, and if you are fortunate enough to have all the books and papers mentioned above, by all means let us hear from you for the benefit of your fellows. Be brief and clear. We want the kernel and not the shell.

Our Young Hog Competition.

We have an announcement to make which we think ought to command the attention of everyone interested in profitable stock-raising. Every stock-raiser in Canada has heard of the bulletin lately issued by the Department of Agriculture for Ontario, emphasizing the importance of raising hogs of quality suited to the demands of the present English market. The hog required is a hog eminently fitted for making bacon; that is, one that is small in the head, light in the jaw and shoulder, long and deep in the ribs, wide in the loin, thick in the flank, with hams square and deep, not too strong in the bone, possessed of a good coating of hair, and so fattened that fat and lean are well intermixed throughout the whole carcass. Such a pig commands the highest price in the world's market today; and when such a pig is produced ready for sale at from five to seven months from birth, the producer obtains the very best possible financial results. It is such a pig (no matter of what breed) that we wish to encourage our Canadian farmers to produce, and we wish to encourage them to have it ready for market at the earliest possible date consistent with profit. This, perhaps, will be somewhere between five and seven months from birth.

Our plan at first was to establish a competition among our young stockmen for the production of such a pig; but we have been advised to throw our competition open to all subscribers of THE LIVE STOCK JOURNAL, independent of age. We shall offer a series of prizes, of the values of, say, \$25.00, \$20.00, \$15.00, and \$12.50, for the best bacon-curer's pig of the age of six months from birth. We shall secure a perfectly competent committee to judge the animals and award the prizes. A number of gentlemen have kindly consented to act as judges, and their names will be announced next issue.

Through the courtesy of Messrs. Wm. Davies & Co., of Toronto, whose enterprise in encouraging profitable hog-raising among Canadian farmers is proverbial, we are able to say that all pigs entering for this competition will be purchased by them at the highest market price at the date of the competition. The competing pigs must be shipped to Toronto, to Messrs. Davies & Co. direct, and at their establishment the judging

will take place. For the sake of economy in freight charges, each competitor had better send more than one pig, whether he wishes more than one pig to compete or not. Messrs. Davies & Co. will buy them all, no matter how many they are, and pay the highest market price at the time.

We are happy to state that our prize list, as described above, will be supplemented by other prizes given by public spirited gentlemen interested in the promoting of profitable hog-raising. Full particulars respecting this matter, and all other points connected with the competition, will be given next issue. As no doubt many pigs will be farrowed during the coming month, we would request our enterprising hog-raisers to keep strict note of the time their pigs are farrowed, and also to keep a record of methods of feeding, etc., so that they may be able to enter the competition and comply with the requirements that will be announced next issue. The main requirement in the meantime is to *note particularly the date of birth.*

As this competition was originally intended for our young stockmen, we shall give an additional supplementary prize to any young stockman, under 20 years, who shall be successful in carrying off one of the regular prizes.

Remember that this competition is wholly for promoting the production of what is called a *bacon-curer's pig*. Length of side, with a just proportion of lean and fat meat, will be of prime importance; while squareness and depth in the ham, with the same sort of distribution of fat and lean, will also receive due consideration. The fat must be firm; the lean must show by its quality that the animal has been properly fed. When these conditions are complied with, the final result of the competition will be determined by weight.

We confidently predict that this competition will be one of the most interesting events of the year to the stock-raising fraternity, and there is no reason why any farmer who may become possessed of a promising litter of pigs should not take part in it, even if he doesn't raise a single other sort of animal on his farm.

How to the Line.

Since first apprising our readers of the fact that they were killing their own trade, to use a strong metaphor, by not using more discretion in respect to the sires they use and sell to others to use, we have had many intimations from those who are well informed in stock matters urging us to place this matter as strongly before our stockmen as possible. We have just received from an enterprising breeder a letter, strong and bitter in its epithets, against a breeder for sending to him a well-bred, but inferior animal. Our correspondent, desiring to make an advance on old methods and firm in his belief in pure-bred sires, wrote to a breeder telling him carefully what he wanted, and in answer to his letter he received an animal well-bred undoubtedly, but remarkably poor individually. Not only is the reputation of that breeder forever lowered in that district, but what is more to be deplored, the aspirations of this new beginner have been rudely shattered. Another aspect of the case presents itself—one enterprising stockman in a neighborhood stimulates his farmer friends and soon he sees his methods reflected in the better work of his neighbors, but the result of such condition of affairs as this must act as a damper on further importations in the future. Our correspondent is fair-minded enough to aver that it was sheer carelessness on the part of the breeder, and his opinion we share in. Let it be the aim of every

breeder to have his name act as a trade mark for a good brand, and then it would not be so hard to inculcate the gospel of good stock amongst those as yet unbelievers.

The Single Judge System.

We are glad to notice that the worth of the single judge system is being recognized. At the recent meeting of the Ayrshire Breeders' Association a resolution was carried in favor of this system. Our neighbors, we learn from the *Breeders' Gazette*, are strong in its favor, judging from the many commendations this system has received from the various associations and boards. The Central Poland China Association and the Board of Agriculture of Indiana have expressed their confidence in it, and the Illinois State Board of Agriculture has also done so by adopting the single judge system throughout all departments of the fair. Wherever tried, the system has, as far as we are aware, never failed to give satisfaction.

Corn-stalk Disease.

Across the line, in the so-called corn belt of our neighbors, a new disease has lately been giving much trouble to stock-raisers. It is caused by a germ that flourishes on corn plant, and if the leaves of the latter are eaten by cattle, it means almost instant death. The fungus may attack the corn during any part of the summer. The stalks generally become stunted and the lower leaves gradually die, and upon these, on close examination, may be found small spots, and as these spread, the whole plant dies and fails to produce leaves. It is the corn leaves, and not the kernel, that is the medium of propagation of the disease. Animals eating the diseased parts die almost instantly. It has been thought that this disease might affect our interests, either through the exportation of diseased corn or affected animals. As it appears the leaves are the only parts affected, and as the diseased corn fails, it is stated, to produce ears, there appears to be no danger from this source; and in respect to importation through animals, it is only necessary to say that the affected leaves cause the instant death of animals eating them.

Fat Cattle of the Future.

A communication of more than ordinary merit appears in our worthy namesake, *The London Live Stock Journal*, under the caption, "Will Shows Follow Markets, or Vice Versa?" The writer, desiring to gain as true an insight into the matter as possible, wended his way to the Metropolitan Cattle Market soon after the leading Christmas shows, and from the butchers there extracted much valuable material for all breeders and feeders. It was found that the Scotch and Devon consignments took the lead of all others, and these find favor through the possession of similar characteristics, *i.e.*, being compact, nice, small weights on short legs, and close to the ground. It was also learned that heifers weighing alive from 10 to 11 cwt. (112 lbs. per cwt.) were most acceptable, and also that every stone above that seemed to lower the price per pound. With such facts gleaned showing that big, fat carcasses are a drag on the market, the writer fairly urges show managers to at once close the class for animals above three years. Commenting on the favor

with which the Scotch and Devon consignments are received, he states that this is an irresistible argument that the practice of English breeders and feeders must be modified, and to this we add a little home legislation in this respect would serve a good purpose. The disposition of late to run after Scotch bred sires is dilated upon, with the qualifying phrase thrown in, "as if getting a bull from over the Border meant the same thing as getting the brains of the man who bred him." The writer then says, that it is not so much Scotch blood as Scotch ideas of pedigree breeding that are wanted. He indicates that in Scotland the breeders of pedigreed cattle have been more in touch with the butchers, for upon the local graziers they had to depend for a market. The market men have kept before the Scotch breeders the change in the national taste for beef and mutton, showing that neat small joints—not too fat—are worth from 1d. to 2d. per lb. more than large ones equally well fed and of equally good breeding. Contrasting English and Scotch methods the writer says: "In consequence, a different type of bull has been selected for use and the calves have been reared on different methods. In England there are still too many feeders who honestly believe that 'good old bullocks' are the ones to dwell on, and too many breeders who point to bulls standing 16.2 as models to aim at. In Scotland they have been reducing the stature of their sires and pushing on the calves from birth, until they have beef of a character which has all the cry in its favor. Every consumer wants it! Every butcher at least professes to deal in it! and at every fat market the animals which approximate to this type find customers at top prices when the pattern of fifty years ago goes abegging." It is unnecessary for us to point the moral, for it must be clear that the present market demands are not the same as those that existed years ago. It should be the object of the breeder and feeder to conform as far as possible with the common-sense exactions of his market.

Shipping American Cattle Through Canada.

The agitation is again revived that permission be given to the Americans to ship cattle to Great Britain directly by way of Montreal and Quebec. We say revived, for our readers will remember the strong efforts made by Mr. Moreton Frewen, of Wyoming, a few years ago, to bring about an arrangement almost similar to what is now being sought.

The present proposal is to allow American cattle to come into this province by rail, to establish a yard or yards at some suitable point or points on the St. Lawrence, where they may rest a few days until they can be loaded for shipment across the Atlantic. It is proposed, of course, to have them carefully inspected before they cross the American frontier.

That such an arrangement would be a boon to the carriers, both by land and water, there cannot for one moment be a doubt. It might even please some of the Canadian dealers now engaged in the export trade, as it would probably enlarge the sphere of their operations. But it would certainly jeopardize our own export trade in shipping cattle, with which the interests of the farmer are so intimately associated.

It would jeopardize our own live stock export trade in one or other of the following ways:

(1) It might prove the means of bringing diseases into the country which do not exist here now. In the event of such an outbreak the shipping trade in cattle would be in danger of suspension, or if carried

on it would involve the necessity of having our cattle slaughtered at the port of landing, which means a loss of about ten dollars per head to our shippers, which loss would ultimately come out of that great burden-bearer, the farmer.

It will be objected here that, owing to the short period of the sojourn of the cattle in the yards, there is no possibility of disease breaking out. This may be true, if we could have any guarantee that inspection would be at all times conscientiously performed. But whence, we ask, could we get this guarantee? Our only assurance would arise from the integrity of known character, and in this men are oftentimes deceived. The most likely persons to receive the appointments would be the men with most "check," and who might be able to bring the greatest amount of pressure to bear upon those in whom the making of such appointments was vested.

(2) The prestige which finished Canadian cattle have won in British markets would be endangered. Our stall-fed cattle, like our cheese, have won a reputation in Britain for their excellence, which is much to the advantage of the producers. There need be no confusion in the minds of English buyers at present as to what they are purchasing, for our live stock are carried in Canadian ships sailing from Canadian ports. But then it would be different. The carrying of American cattle by Canadian vessels would tend to create and foster the idea that there was but little difference in the intrinsic values, so that the Americans would be enabled to profit by the reputation of our stocks.

(3) The more encouragement given by us to American cattle growers to ship their cattle through Canada, and the greater the facilities we furnish to them, the more are we encouraging a rival trade directly antagonistic to the interests of our farmers. American cattle at the present time are powerful rivals of ours in the British markets, owing to their greater numbers, and if we increase their export facilities, we but strengthen that rivalry, a line of action that is certainly absolutely indefensible. It would not be consistent to protect our farmers by a tariff of 20 per cent. against American cattle coming into Ontario, and then to turn around and virtually give them a bonus to compete against our farmers by increasing the shipping facilities for their stock in the way indicated.

No, the integrity of our live stock trade with Britain must be preserved. The vantage ground that we now possess, as indicated above, is worth \$600,000 a year to us in the greater price obtained for our cattle, since they may be shipped inland before being slaughtered. One outbreak of disease in those American stock might result in causing this privilege to be taken away, a hazard which we cannot afford to run, for the one reason that some gains may accrue to our railroad men and our shippers.

The clean bill of health that we now possess is one of the crowning glories of our live stock interest. The idea of putting this in jeopardy, that the interests of a people may be advanced who are powerful rivals of our own in the lines of live stock, is too absurd to be consistently defended.

Increased Aid for the Electoral District Exhibitions.

A large and influential deputation waited upon the Government, not long since, asking that the sum of \$20,000 be voted annually for the support of the different electoral district exhibitions now being held in Ontario. These sometimes cover the whole of a county, while, on the other hand, some counties con-

tain three electoral district associations. There are usually three, four, or five townships in each district association. The proposal is that the whole of the money shall be used by the district associations, and none of it given to the townships as at present, and the idea that underlies it is to make the district associations so strong that the need of township exhibitions will be less and less felt.

The idea of township exhibitions has become deeply rooted in the popular mind, inasmuch that any attempt to abolish them on the present lines would prove abortive. The temper of the country in reference to this matter was taken a year ago in the Central Farmers' Institute, Toronto, when a large majority of the delegates expressed themselves in favor of the township exhibitions. That some day the desire for them will not be so strong as at present is very clear, judging from the tendency, now on the increase in the older settlements, to have the township exhibitions amalgamated with those of the electoral districts.

As we see it, this is a move in the right direction, since the machinery of our large exhibitions is much less, proportionately, than that of four or five medium or poor ones. The amount of time occupied in exhibiting is also less, and time is precious to the farmer at that season of the year. There is also the further gain in the greatly increased value of the advertisement, for a prize from an electoral district show is far more valuable than one from a township show, both relatively and intrinsically, and the attendance of the visitors comes from a wider range.

Whatever then will prove a source of real strength, and will tend to the improvement of the agricultural society shows, is deserving of support. Now that the Provincial is no more, these exhibitions will prove more and more interesting to the farmer, and if well conducted, should receive a wider patronage.

On the condition, then, that the proviso is made that exhibition associations exclude all side shows and circus performances from their grounds, we give the request of the delegation our hearty support. The granting of this money would then prevent the admission of these so-called attractions, which are now working so important a part in the demoralization of the young men of the country, and which certainly can be of no practical benefit to the interests of agriculture.

With a sure arrangement, such as we have indicated, the district shows would be brought into a more prosperous condition, the desire for the discontinuance of the township shows would increase, and all the advantages accruing from increased centralization would follow. We hope, therefore, that the members of the Legislature will give this matter their intelligent and earnest consideration.

The Advisability of a Herd Law for the Whole Province of Ontario.

This article is a digest of the paper read by Professor Shaw at the recent meeting of the Central Farmers' Institute of Ontario, on the subject indicated in the heading.

The discussion of this question involves the consideration of the age of the country. When lands are newly settled, especially where timber is plentiful, the question is one of but little moment, but when the time comes that the renewal of a fence costs a dollar per rod, it is quite different. It is then quite legitimate to restrain, by the strong arm of the law, the instincts that should lead one neighbor to compel another to renew a fence along the highway, to keep at bay the

live stock of the person first mentioned. But few, perhaps, will deny that *some time* in the history of this province the enactment of such a law will be the part of wisdom. The time for taking this stand is perhaps the most debatable part of the question, in reference to which my contention is, that this time *has* already come, unless in the new and outlying settlements on the outskirts of the province. The principal arguments in favor of the enactment of such a law are the following:—

(1) "The protection that would thus be afforded to the crops of the farmer from the ravages of stock running at large upon the highway, whose instincts are no more refined than is the conscience of their owners. Highway stock, like highway thieves, are much prone to gain a livelihood by pilfering, and who will blame the long-suffering, much-sinned-against creatures for feasting upon some neighbor's growing crops, rather than gnawing for grass-roots upon the parched sides of the highway? The law of this country should no longer allow the farmer to injure his stock, and thereby to injure himself by allowing them to live upon a road that cannot give them half enough of food."

(2) "The convenience to the farmer from being able to leave open the gates leading to the highway. This both summer and winter is very great. In some municipalities all kinds of live stock are prohibited from running at large, except sheep. Now when sheep turn vagrants, they become the most notorious, and so long as they are allowed to run, the advantages from a herd law adopted only in part will be inoperative."

(3) "The saving to the farmer of a very large item of outlay in keeping up his fences along the highway. But few forms of fencing can now be constructed, unless those consisting wholly of barbed wire, and at a cost of not much less than 75 cents per rod. On the assumption that the province has 600 townships, that each township is nine miles square, and that these townships are laid out in squares containing 640 acres each, we get 62,208,000 rods of fence to be constructed, say every twenty years, at an outlay of \$46,656,000; add to this half as much as the cost of maintenance, which is certainly below the mark, and we have the sum of \$70,034,000, or \$3,501,710 laid out every year, that sustenance of a precarious and very unsatisfactory nature may be provided for the poor man's cow. The whole number of cows in the province is, in round numbers, 800,000. Now, assuming that one cow in every one hundred belongs to the cotter, which is a very liberal assumption, we get 800 cows of this class, each one of which costs the farmers of this province \$437.00 a year for the privilege accorded to her of pasturing on the highway for a season."

(4) "Tree-planting on the highway cannot be successfully carried on where live stock is permitted to run at large upon the highway. The Government of this province some years ago made provision for bonusing individuals who planted trees upon the highway and kept them in good condition for three years. This legislation, very commendable in itself, is almost entirely a dead letter, owing to the impossibility of making tree-planting a success along our public roads so long as live stock are allowed to run upon the same, either with or without a herd. For municipalities to offer bonuses for tree-planting so long as sheep even are allowed to run upon the highway is self-contradictory, for, because of their rubbing propensities, they will destroy the trees. Plant trees upon the road borders, and the value of these in coming time would be an inheritance of national importance. Plant them 66 feet apart, more than twice the distance permitted by law, and on the same basis of calculation as that used in estimating the cost of fencing

along the highways, we find room for 15,552,000 trees, which at one dollar each, only four times the sum allowed for planting them, gives as many dollars as we have of trees, that is, \$15,552,000. This is a sum worth more than the 1,349,044 head of sheep in the province at the present time, and yet our farmers are sometimes found defending the practice of allowing sheep to feed upon the highways."

The chief arguments urged in favor of allowing live stock to run upon the highway are two: First, that the cotter may be enabled to have a pasture ground for his cow, and second, that the long grass makes the walking unpleasant in time of wet. In answer to the first objection, I would say that it would be better in the end for the cotter to rent a piece of ground and grow green food upon it for his cow in summer. Half an acre would suffice to provide summer food. The labor of growing and feeding this food would not be so much as that expended in searching for the cow as things are now, and the milk flow would certainly be far more abundant.

There is some force in the second objection, but it only applies to a limited portion of the year, as the grass could be mowed and given to those who will do this work for the hay that may thus be obtained.

Where the road borders are levelled as they might be, and should be, this mowing would be done by the field mower, which would also make short work of cutting any weeds that may be found growing there.

The Grange Stock Farm.

To say that the members of any firm have been pioneers in importing any class of live stock is in itself one of the highest commendations that could be passed upon their enterprise, and to say still further that their venture has been successful beyond measure, one meekly, but none the less appropriately, pays a high tribute to their foresight and selective ability. We present to our readers in this light, the farm of Messrs. Ormsby & Chapman, The Grange Farm, Springfield-on-the-Credit, Ont., of which firm, the individual members are J. Y. Ormsby, V.S., and G. S. Chapman. Some four years ago, this young firm brought to our shores an importation of improved Yorkshire pigs, that was as far as we know the first to reach us. Recognizing that the fixed characteristics of the Yorkshire, with which they were well acquainted, must in time gain the favor of our stockmen, this firm pinned their faith on them, and since that time unbounded success has met their efforts, until now they occupy the unique position of being not only the pioneer importers, but the leading breeders of this very popular breed of pigs.

They claimed for their favorites important qualities, and as further experience with them has not weakened, but rather strengthened, their claims, so strong a demand set in that up to the present they have never been able to fully meet it. In reviewing this herd of pigs, it is impossible for one to do so without being impressed with the uniformity of type of the whole running through all the importations, as well as those home-bred. The first importation, four years ago the coming spring, consisted of one boar and a sow. In 1888 the next importation was made, consisting of two sows and one boar, and this last year the importation was made up of three sows and three boars. Those of these importations and their descendants have been carefully mated, so that a definite form is observable in all, and every attention has been given to make their conditions healthy, so that the breeding qualities of the Yorkshire, which have been rightly highly prized, have not suffered under their management. The type reflected in these

pigs is one highly valued by our best purchasers—they are long-bodied pigs that cut up well. From a breeder's standpoint, they have much in their favor, as fecundity and early maturity are strong features of their many qualities. Ten in a litter is stated to be the average, and at such a rate much time does not elapse before a herd is formed. The demand for these pigs comes from all over the country, as instance by the fact that recently large shipments from the Grange have been made to over half a dozen different states in the Union. Owing to the heaviness of the demand, it is the intention of this firm to import heavily the coming year, so that with their present breeding stock, and those to be imported, they will be able to supply all comers. At present, the herd comprises thirteen brood sows, and two stock boars, of which one embellishes our first page.

For some time back, this firm has also been importing Shire horses, they being one of the largest, if not the largest, importing firms of this breed in the Dominion. At the time of our visit, the stallions on the whole were in excellent trim. Leake Cramp, a rich brown, rising four years, was the first that was shown us. He was sired by Gelding Lion (3667), and his dam was Nance, by Nottingham (2636). This stallion is a rangy stylish horse, clean limbed, and a free mover. He won 1st prize at Toronto Industrial, 1st at Hamilton, and 3rd at Buffalo, in a class of sixteen. Commander IV. (7045), perhaps the most typical Shire in the stud, was sired by Walpole Wonder (8584), dam, Bonny, by Matchless (1528). This stallion is a blocky, full quartered, two year old, that does not get his height by undue length of leg, but by depth of body. His front is excellent. At Hamilton Central Exhibition, he secured first, and he was second at Toronto Industrial. A robust stallion of 1887 is Leake Walker, a get of Walker 4148, dam, Fan, by Don Carlos 2416. This stallion is of a good useful type, snugly built, and strongly timbered. He possesses quality of a high merit, and fine silky feathering of the best. His good qualities were acknowledged at Hamilton Central by being awarded second, at Buffalo Industrial, fourth, and at Toronto Industrial, first. Leake Royal George (7561), another inmate of this stud, was foaled in 1887, and sired by Royal George II. (2485), dam Bute by Monarch (1582). This stallion has the most of those important features that one looks for in a sire. Though of good substance, he is well proportioned, being the owner of a neat head and nice neck, strong body, and a framework made of excellent material, and has the important additional feature of being good actioned. Packington II. (7993) is a get of Big Ben (3459), dam, Madam, by Appleby Champion (2122). At variance with the usual feature of smooth horses, his bone is firm and flat. In motion he goes nicely, while in general build his most noticeable feature is strength of shoulder, fronted by a beautiful head and neck. A stallion embodying in himself some of the most typical and prized characteristics of the Shire is Leake Rover (7560), foaled 1887, sired by The Orphan (4736), dam Violet. He is a stallion of substance, both in respect to muscle and bone, and is low-set and compact in type. These stallions are almost without exception importations of last year, and from amongst this large number (fifteen in all), and with the varied types to choose from, intending purchasers may rely on finding something to meet their requirements.

A. R. Cook, Dundee, Manitoba, writes: "I am sorry to have kept you waiting so long on this year's subscription, but man, times are dull and the boys could not do without the paper."

The Experimental Farm at Ottawa.

When we remember that the Ottawa Experimental Farm was only taken possession of in March or April of 1887, we can only conclude that the progress made in its various departments since that time is simply wonderful. It was our privilege to visit this farm and we were fortunate enough to find the director, Prof. Saunders, at home. It is only due to the affable director to mention that we were more than charmed with our reception, and with the courtesy shown us by him and by every official about the institution with whom we came in contact.

We paid this farm a visit shortly after its establishment, and during that initial period when it was a five-hundred acre chaos,—when many parts were unsightly with huge stones, other portions consisted of marsh, and yet others of underwood and forest. Huge pine stumps were at that time being blown into the air with dynamite, and the wilderness of stones and rocks that lay about in many places in the wildest confusion was in process of being reclaimed. It was at that time virtually without fence or field, or roads leading through the different sections.

With the picture of what this farm was at that time fresh in our minds, we walked out with the director in front of his beautiful residence, and surveyed the whole farm from that elevation. We could scarcely believe our senses, so wonderful was the transformation within so short a period. And we may add that a careful examination of the whole farm, in the company of the director, only strengthened our conclusion as to the magnitude and thoroughness of the work done.

The whole farm of some 465 acres is enclosed by a beautiful wire fence, the posts of which are painted a comely drab. There are no unsightly heaps of stones or rubbish lying about them, and we were told that the whole of this enclosure was put up in a single season.

Nearly all of the wet parts have been drained, and there were a good many of these on the farm. No less than 15 miles of tile drains are doing the work required of them whenever the ground gets saturated with water. We noticed two or three enormous silt basins, in different places, which are sometimes utilized as wells, and this, we think, is a most capital idea.

There are virtually no fences within the farm, but some of the permanent pasture plots are yet to be enclosed, now that the farm is stocked with cattle. It seems almost a pity not to try the complete soiling system on this farm, which would obviate virtually the necessity of internal fences altogether. The value of this system has yet to be demonstrated to a vast majority of our farmers.

To speak of all the different kinds of experiments that are being carried on here, and of the vast multitude of each, would be wearying. Very much attention is given to tree-planting, in which Professor Saunders is a warm enthusiast. On the westerly or exposed side of the farm, a rim of forest is being planted 160 feet in width, which contains thousands and thousands of forest trees of almost every variety that can be expected to grow in this climate. This belt of forest is for the double purpose of protection and instruction. The habits of growth of the different trees will be carefully noted, and no doubt a wealth of information will thus be obtained which will be of inestimable value on a subject which will always rank among the first in magnitude in a climate so rigorous as ours in the winter season.

A multitude of fruit trees and fruit-bearing shrubs and bushes are being tested in the horticultural department. Apples have been brought from beyond Riga, and from other inhospitable climates, in the hope

that the dwellers in our northernmost homes all across the continent may be given some fruits that can be grown in the open air in their own gardens. This is, of course, a laudable work, but we do not expect so much from it as from some of the other departments of the farm. This is partly for the reason that prairie soils will not produce the wood of fruit trees that will ripen, and partly because that, above a certain latitude, the returns for the labor expended in fruit-production are very meagre. Where means of easy transit are provided, the farmers of the northlands will buy them more cheaply from the fruit-growers of the south. Yet the work is a very necessary one, for it is well that we should have the hardiest varieties in the world, and it is worthy of the energies which Professor Saunders is bringing to bear upon it.

Professor Fletcher is working hard in his department. We felt much interest in his plots of North-West native grasses, and hope that some varieties may, as the result of his labors, be introduced to blend successfully with those which have already proved themselves at home in these latitudes.

The designs of the buildings on this farm are chaste indeed. This remark applies equally to the external appearance of the barns and other out-buildings. Scattered about, not far nor yet near, they remind one in the distance of a cosy little village.

The barns are commodious, and the stock now safely housed in them is all fairly good. In several instances it is not of the first order, although it is all good. We liked the selection of dairy cattle the best. These cattle are to be kept for experimental purposes, and here also a vast field of useful work is being entered on.

The situation of the farm is attractive. Its surface is a succession of irregular swells, most of them very gentle, and it possesses a great variety of soil.

In one of the store-rooms, beautiful, handsome, capacious, commodious, was stored samples of the experimental grains grown. The variety was very large, but we observed, what must be very disheartening to all concerned, that most of those were more or less smitten with rust.

There are most unmistakable evidences of vigor pervading the management of the whole institution. The Hon. John Carling seems to grasp fully the magnitude and importance of the work in hand. While he seems carefully to count the cost of everything that is undertaken, and to guard against extravagance, he, like a true statesman, is willing to spend money where the results of such expenditure are likely to prove a greater gain to the farmers of the Dominion. With such a chieftain to sustain the unflagging energies of Professor Saunders, good work, and an immense amount of it, cannot fail to be the result.

With the Stockmen.

COMMENTS OF A RAMBLER.

MR. SIMMONS' SHORTHORNS.

Mr. C. M. Simmons, of Ivan, has an innate love for a good beef animal, and the good all round quality of his herd renders it apparent that he understands well how to produce one. Sir Christopher stands at the head of his herd of 35 Shorthorns, a roan bull, which was once a first prize winner in Provincial competition, and a beast which has proved himself a most excellent stock-getter. The other stock bull, Crimson Knight, also of Scotch strains is valuable for the purpose to which he has been put. He is a good all-round well-furnished bull. The young bulls in this herd are especially good. It would never answer for Mr. Simmons to breed anything else than

superior stock, after the high idea, he has drawn for the guidance of farmers in his excellent paper on stock raising, prepared for the Farmers' Institutes. Mr. Simmons is strong in the breeding of an excellent line of Berkshires. He also breeds Clyde horses, and turns off annually some 80 or 90 finished steers for the old country market.

THE AYRSHIRES OF MR. BALLANTYNE.

Mr. Michael Ballantyne, of St. Marys, is still turning to good account the encouraging product of his pure-bred Ayrshires. He has at present about 30 head, with the three year old bull, Lord of the Lea, bred by Mr. Ball, Rock Island, P.Q., at their head. Mr. Ballantyne is so thoroughly convinced of the superior qualities of the Ayrshires, for dairy purposes, that he could not think of exchanging them for any other class of dairy cattle.

THE SHORTHORNS OF NEIDPATH.

Mr. Wm. Ballantyne, of the firm of Thos. Ballantyne & Sons, Stratford, is succeeding admirably with his Scotch Shorthorns at Neidpath. It was Mr. Ballantyne who supplied the Messrs. Green Bros. with a stock bull, to take the place of the Earl of Mar, once the sweepstakes bull of the Province. He is also in a position to supply other herds with a suitable class of sires. Further, it was Mr. Ballantyne who bred the first prize Shorthorn grade steer at the last Christmas Fat Stock Show at Guelph, and he is of opinion that he has one as good, or better, now coming on. Mr. Ballantyne is a graduate of the Ontario Agricultural College, a source from which the leading stockmen of the future are likely to come, or at least a large proportion of them.

MR. EDWARDS' SHORTHORNS.

Mr. R. M. Edwards, Mt. Brydges, has a small herd of Shorthorns. The foundation animals came from a Mr. Pipe, of Guelph, who bred Shorthorns in that vicinity some years ago. Some of the bulls used in Mr. Pipe's herd came from Kentucky. The present stock bull in Mr. Edwards' herd, named Perfect, was bought from Mr. Simmons, and was bred by John Isaac, Markham. He was got by the imported Cruikshank bull, Little-dale.

Mr. H. G. Arnold, Kenilworth Stock Farm, Maidstone Cross, Ont., has bred Shorthorns for several years past. Although living in a section of country where Shorthorns, or indeed any class of beef cattle, are not prized so highly as they ought to be, Mr. Arnold is steadily improving his herd, and the work he is engaged in is becoming more and more appreciated. The young men who are assisting their father in the handling of this 365 acre farm have a splendid opportunity of rendering this herd famous, and we believe they will in the near future.

THE SHORTHORNS OF THE GLEN.

While the Messrs. Green Bros., of The Glen, Innerkip, Ont., love Shorthorns and Shire horses none the less, they are much gratified with their venture in the breeding of the improved Yorkshire swine. Last summer they sold at good prices all they bred of these, and now they are getting orders faster than pigs, although they find the sows excellent breeders, producing a large number at every litter. They are still of the opinion also that this breed of pigs gives excellent returns for the food fed, as the pigs grow rapidly, and weigh well at an early age. The young Shorthorns in the herd are creditable animals.

THE DORSET FLOCK OF MESSRS. TAZEWELL & HECTOR.

The largest flock of these sheep in Canada, to the best of my knowledge, is owned by Messrs. Tazewell

& Hector, of Port Credit and Springfield-on-the-Credit, respectively. Mr. Tazewell was the pioneer in the importation of the Dorset Horns, and was lately joined by Mr. T. Hector. The former is the proprietor of Indian Village Farm, enclosing a territory of 420 acres, and the latter of The Cottage. At Mr. Hector's farm, which reflects in a marked degree the progressive ideas and industry of the proprietor, I saw the stock ram that has been mostly used, and a more compact, robust and active animal one rarely sees under a covering of wool; in form very much like the Cheviot, with wool of the best quality. At Mr. Tazewell's, the greater part of the flock were at the time of my visit. The flock number, in all 38 head. The first importation was made one year ago last June, and the main drafts were made upon four of England's best flocks—those of Messrs. H. Farthing, S. Kidner, Harding, and Culverwell. In one of the pens I saw a collection of fine plump young lambs, ranging from three to four months old, that were in fine trim for marketing. The fecundity of this breed of sheep is remarkable, and though they raise excellent crops of wool, yet their chief point of excellence is the yield of young lambs for early market. If taken good care of and fed liberally and well, they give two crops of lambs per year, that mature early and find favor with epicures in the market.

The Pure-bred Breeds of Cattle.

By Prof THOS. SHAW, Ontario Agricultural College, Guelph.

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[FIRST PAPER.]

SHORTHORNS.

The origin and early history of Shorthorns, like that of nearly all the breeds of cattle in existence, is involved in much obscurity. That wonderful sea girt Isle, the home of the Anglo-Saxon, has given to the world nearly everything that is worth having in the line of domesticated bovines, and yet it cannot be said, in regard to any one of the many breeds that have originated in that country, that its history can be traced with certainty beyond two or three of the top-most of the centuries. The foundation stock from which they sprang will never be exactly known. The various processes by which the varieties of the breeds were evolved can only be conjectured until the sixteenth century, before, and during which, but few fragmentary allusions had been made in reference to this subject by the early writers on British agriculture.

The story of live stock management beyond the period indicated is so deeply buried underneath the dust of vanished centuries than the cities of Yucatan, covered with the growth of forests feeding on their decay. We look back into the darkness with a longing to know something more about this subject that is almost painful, but we look in vain. The silent past will no more give up her buried treasures in this line than will the grave give up her dead in the present order of things. We must, therefore, content ourselves very largely with the crumbs of knowledge gathered by the writers of the centuries to which we have already referred, while we gaze upon a skull of a former age, exhumed by the archaeologist, who tells us that it represents a breed possessing a general anatomy, similar in essential features to that possessed by the bovines of to-day. He may say to us that the race which it represents was large or small, providing he is quite sure that it is an average specimen of the breed, but he cannot tell us whether it was white or black, narrow on the chine or broad on the loin, and thousand other things at we so much desire to

know. He may, however, be justified in his conclusions that two distinct species of the ox existed in Britain in prehistoric times, from the fact that what are apparently two distinct classes of skeletons have been found, in each of which the individuals bear a striking resemblance to one another, and a dissimilarity quite as striking when compared with those of the other class.

It is highly probable, then, that nearly all the existing breeds of cattle in Great Britain are descended from what were apparently two distinct species of bovines, termed the *Bos urus* and the *Bos longifrons*. In this there is now a pretty general consensus of opinion among naturalists.

The *Bos urus* were a lordly species of wild cattle, magnificent fellows, which were usually denizens of the forests and marshes, of great size, and fierce and untamable. The evidence of man's prowess in those savage times in some localities was the number of pairs of the majestic horns of this tremendous animal that adorned the walls of his cabin. For the above description of the *Bos urus*, in its prime essentials, we are indebted to the great Cæsar, who had doubtless heard the awful bellowings of the enraged monsters when brought to bay by the drain occasioned by the crimson currents opened by the Roman lance. The great size he attributes to them is confirmed by the scientists and naturalists who have given this matter their careful attention.

From this latter source we also learn that the *Bos longifrons* was a small race, considerably smaller than most of the domesticated races at present in the British Islands. It is thought they had legs almost as slender as those of a deer, and were, in every sense of the term, a rather diminutive species.

Whether the existing races of Britain's cattle are descended from one or the other of these distinct species, or whether they are descendants of stocks formed by their fusion, will never be known. Those strong in intellect and able in argument have been found to sustain each of the suppositions expressed above as being the correct one. These arguments, however, are like water poured upon the ground, which cannot be gathered up again: when we look for evidence that is conclusive, it cannot be found.

We know from the allusions of the Roman historian already referred to that the ancient Britons were possessed of cattle. We know also that at different periods, subsequent to the Roman Conquest, England was overrun successively by the Saxons, the Danes, and the Normans. It is not improbable that each of the invading races would either bring some stocks of cattle with them, or import them at a later period, and that these became fused with the varieties in the Island at, or subsequent to, the time of each successive conquest. If this supposition, which is a reasonable one, is correct, one might almost as well ask for the lineage of a modern Englishman beyond the time of those invasions as for the history of any one of the existing breeds of British cattle.

That the Picts and Scots retired to the fastnesses of Northern Caledonia before the invading legions of Rome is a matter of history; the same is true of the Welsh, who retired before the Saxons to the rugged country which still forms their home. It is only natural that they should take their cattle with them, hence it is not improbable that in some of the Welsh types, and in the West Highland cattle of Scotland, we have representative of the ancient British sorts. But in the south of Scotland, and in England, it is equally probable that there has been fusion of the blood of different sorts to at least as great an extent as there has been fusion of blood between the conquering and the conquered races.

Wild cattle are still existing in the parks of gentlemen in England, and in others of them cattle in a state of semi domestication. Some of them are horned, and others of them are hornless. They are mostly white in color, and rather diminutive in size. Many are of the opinion that they represent the aboriginal races from which the present stocks have been evolved, but those opinions when traced to their origin are found to have sprung up in the main amid the vagaries of dim conjecture.

Whatever the degree of the doubt that hangs over the origin of the existing improved breeds of the cattle of Britain, there is sufficient evidence to show that prior to the more distinctive era, when improvement became a science, viz., the eighteenth century, that country possessed at least as many varieties of the bovine race as she does to-day; and distinctive variation was almost as much marked then as it is now, with the difference, however, that variation related to points less valuable than those which characterize the present breeds.

These variations of type were, no doubt, effected by the influences which usually bring about this state of things, as inter-breeding or crossing, climate, food, habit, and treatment. Each of these influences has a powerful effect in producing modifications of type, especially if continued for a long period. We are by no means sure that our forefathers of the mediæval times were not actively concerned in assisting the natural influences, indicated above, in producing evolution, by certain lines of breeding, the knowledge of which may have been handed down through the centuries by tradition.

It is from the varied types, then, of former centuries that the present improved breeds of British cattle have been evolved, and the modifying influences have been essentially the same in every instance, only they have been so directed by man that the variations produced are very dissimilar, both in conformation, use, and appearance. The chief of these influences are selection, crossing and intercrossing, in and in breeding, and food and management. There is, therefore, happily no obscurity hanging over the agencies that have effected the mighty improvements that characterize the British breeds of to-day, as compared with the cattle of former generation.

In view of the little that we know, then, regarding the origin of any of our pure-breed breeds, it does seem folly to behold men, otherwise possessed of good sense, wasting precious time, and ream after ream of paper, in trying to establish the prior antiquity of their favorite breeds, which, for aught they can show to the contrary possessed blood precisely similar to the favorite herd of some English nobleman, while the Black Prince was draining away the life blood of France at Crecy and Poitiers. It does remind one of the din and smoke of battle at Fort Sumpter, although the firing is terrific and the cannonading fierce, there is never a soldier injured.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL. Dairying in Manitoba.

(By our own Correspondent.)

In Manitoba the leading topic of far-seeing men just now is dairying. When wheat was \$1 and 30 bushels to the acre not uncommon, the labor of milking cows twice a day was out of the question. But we have got more light since then. For example, Mr. John Hettle, M.P.P., has been lecturing his constituents at Boissevain, on the folly of trying to work out the substance of their land by continuous wheat growing, even if that were generally practicable, which it is not. Patches everywhere, and nearly all of

the Fortage Plains, may be grown to grain almost every year, and still maintain a fair measure of fertility, but rotation in some form is wanted for most of the country, and Mr. Hettle, as a past-master in the science and practice of dairying for years in the east, and since he came here, points to the richness of our milk, the suitability of the seasons for the work, and the necessity of variety as a safeguard against the risks of wheat growing, as pressing reasons why dairying should have their best and earliest attention. Mr. Hettle advocates cream-gathering and butter-making as most suited to our requirements in stock-raising, and cheaper to work than the centrifugal method. The next year's beginners will go some for cheese, some for butter. Poplar Point, Gladstone, McGregor, and other points, want a cheese factory, while Rapid City, with a good cheese factory running, calls for a creamery in addition. As light spreads, better methods of organization at home, and marketing abroad, are being introduced, and the promise for dairying is this year the best I have ever seen.

Another consignment of very fine thoroughbred horses and Hackneys has just been brought in by Messrs. Everest and Kerr, of Reaburn, and our home trade is quite lively in bringing up mares and other young stock from Ontario. Should this continue much longer, a glut may confidently be expected, for neither our finances nor our real wants warrant any but the most careful purchases of outside stock at the present time. Young men from Ontario are already here to spy out land, with a view to settlement and purchase, and I had a call from a very capable looking Australian, who has recently bought a section north of Winnipeg. Adventurous spirits are pushing northwest beyond the Riding Mountains, and are finding conditions which staid old pioneers pronounce of the most encouraging character. Cattle winter splendidly, but the want of wells is much against them, and running streams are far apart. Some men report that sheep do very well with snow only, sometimes preferring it to water, but cattle are liable to suffer much, if not provided with well or river water, got at by cutting grooves in the ice.

A new and very superior specimen of immigration literature, the *Western World*, is just being issued at Winnipeg. It will of course be devoted to the promotion of settlement here, and brimful of reasons why you eastern farmers should come here, in preference to growing corn in Nebraska and Kansas, to be sold at 12 cents a bushel, or oats at 10 cents. I have not tried very much to hide the shortcomings of our own Northwest, but so long as its products can find a ready market anywhere, I prefer it to a country where a man finds it cheaper to burn his crop in a stove, than to sell it and buy fuel.

The large quantity of snow now on the ground ensures a good germination for grain, and an equally good start for grass, and I have much more hope for this season's promise than the last. I come still occasionally upon spots where last year's drouth did comparatively little harm. One of these is Gladstone on the Northwestern Railroad, where a soapy sort of sand underneath furnishes moisture in the worst of seasons, and some men got last year as good yields as they have ever raised. One man there exhibited, last fall, over 90 varieties of produce at the local show.

Canada Coach Horses.

The first annual meeting of the Canada Coach Horse Breeders' Society was held in the City Hotel, London, on Tuesday last, Mr. John Gillson, President, in the chair, and a good attendance of representative breeders

present, amongst whom were Mr. Arch. Wilson, of Paris; S. W. Teeple, Aylmer; A. J. C. Shaw, Thamesville; John Essery, Exeter; D. Fisher, Goderich; George Robertson, Lucknow; F. Shore, London, and others. Letters of regret were read from others unable to be present, and expressing the hope that the work of the Society would be vigorously pushed.

The Secretary, James Mitchell, submitted a report of the proceedings for the past year, which showed substantial progress by the Society, and an awakening on the part of farmers and breeders to the growing importance of this class of horses. Remarks were also made by several gentlemen present on the necessity for the existence of such a Society and the benefits to be derived from encouraging a correct and systematic breeding of coach horses. Mr. Wilson spoke earnestly at length on the unlimited market in both Great Britain and France for good coach horses, giving figures showing their value in Canada and those markets, and pointing out the necessity for a correct basis on which to encourage farmers to breed. This class of horse has been much neglected, while an almost excess of attention has been given to draught and trotting stock, and the prices now paid for the vast majority of both of these classes left almost no margin of profit for the breeder.

The meeting then proceeded with the election of officers for the ensuing year, which resulted as follows:

President—Arch. Wilson, Paris Station.

Vice-President—John Gillson, London.

Treasurer—D. Fisher, Goderich.

Secretary—James Mitchell, Goderich.

Directors—George Charlton, Duncieff; Thomas Taylor, Harwich; J. C. Smith, New Hamburg; John Aikenhead, V.S.; Goderich; J. W. Robinson, St. Marys; Andrew A. Young, Carlow; John Essery, Exeter; S. W. Teeple, Kingsmill; W. C. Brown, Meadowdale; Mr. Marsh, Richmond Hill.

Executive Committee—Messrs. Fisher, Essery and Aikenhead.

The amended standard recommended from the last directors' meeting was then taken up, reading as follows: "Every animal offered for registration shall have at least one cross of either imported English coach or Cleveland Bay, and one of thoroughbred blood, or two crosses of English coach or Cleveland Bay, or one cross each of English coach and Cleveland Bay."

After a lengthy discussion on the technicality of this standard the following was adopted on motion of Mr. F. Shore, seconded by Mr. J. Gillson: That only such animals shall be registered as have two crosses of registered imported English coach or Cleveland bay, or one cross of registered imported Cleveland bay or English coach on one cross of thoroughbred blood; and that we accept as one cross horses of undoubted pedigree which were imported previous to 1889, and are accepted by the Executive Committee.

It was decided also that dams with one cross would be recorded with a number, but without certificate, so that they might more readily be traced on entries of their progeny for registration.

It was decided to hold two general meetings of the Society, one at London during the Western Fair and the other at Toronto during the Industrial, the time and place of the next annual meeting being left to the discretion of the President and Secretary.

Meeting of Dominion Shorthorn Association.

On Wednesday, Feb. 5th, the Shorthorn breeders meet in Shaftesbury Hall. There was a good attendance of members, and as a consequence, the meeting was very profitable to all concerned. Mr. Henry Wade, the secretary, read the fourth annual report of the executive committee, which showed that during the past year 2776 registrations were made, 2,595 certificates, and 378 changes of ownership. The pedigrees on record amount to 29,919. The financial statement showed a balance on hand of \$109.29. The following officers were elected for the ensuing year:

President—John Dryden, M.P.P., Brooklin.

Vice-presidents—Richard Gibson, Delaware, Ont.; Hon. D. Ferguson, M.P.P., Charlottetown, P.E.I.; J. H. Ladner, Ladner's Landing, B.C.; J. S. Williams, Knowlton, Quebec; J. E. Fairweather, New Brunswick; James Geddes, Calgary, N.W.T. (re-elected); Prof. Geo. Lawson, Halifax, N.S.; G. L. Smellie, Binscarth, Man.

Executive committee—David Kea, Fergus; A. R. Gordon, Cooksville; J. L. Cowan, Galt; James Tolton, Walkerton; Wm. Linton, Aurora; Arthur Johnston, Greenwood; James Russell, Richmond Hill; James I. Davidson, Balsam; Thomas Shaw, Guelph; C. M. Simmons, Ivan; Edward Jells, Bondhead; Francis Green, sr., Innerkip; James Hunter, Alma; John I. Hobson, Mosboro; Thomas Russell, Exeter.

Agriculture and Arts list—K. Vance, Ida; Jas. Rowand, M.P., Dunblane; L. E. Shipley, Greystead; A. Rawlings, Forest; Wm. Dawson, Vittoria; J. C. Snell, Edmonton.

Auditors—W. G. Pettit, Burlington; Dr. Patten, St. George.

Delegates to the Industrial Exhibition—Messrs. Dryden and Johnston.

Delegate to the Farmers' Institute—Mr. Morgan.

The members in attendance were treated to a course of interesting papers prepared by Messrs. R. Gibson, Prof. Shaw, and S. Nicholson. Mr. Gibson's paper we publish in full. The meeting on the whole, was one of the most successful and encouraging that has been held by the association.

a great measure in Canada, but where it has been carried to extremes, as it has been in Kentucky and the West, there the cattle have deteriorated; their hair is harsh and wiry, having lost that mossy and beaver like undercoat, such as is indicative of feeding propensities. It is admitted on all sides that roans are superior as feeders. Then, why does fancy thus run not? Lack of uniformity in color? What a fallacy! Experience says it is infinitely better to be uniformly good, though of various colors, than uniformly bad, of one color. If Shorthorn men must have but one color, why not choose roan? The Shorthorns are the only pure breed, so far as we know, that are of that color, whilst there are lots of red sorts. Jersey men tell us the color craze, or fancy for solid colors, black tongue, and black switch, nearly destroyed those useful qualities which first brought the breed into prominence.

In horns there is another fancy. Some say, "Let us have a good strong horn. It is indicative of constitution." The Angus men retort, "You don't want any." Whilst the Hereford and the Ayrshire breeders like a certain shape. Experience says, though the horn may not be necessary for defence, still it is of great

heads of bulls is that generally advocated by young and inexperienced judges. They must be fine and delicate,—pretty, as it were. Experience says the head of the male must be masculine, approaching coarseness, rather than the opposite. It is even so in the human race. Where are the pretty men? When you find them, they are generally too indolent to know how to amuse themselves. Whereas, look at the leading men of the day. The Disraelis or the Gladstones, the Macdonalds or the Mowats, Carlyle or John Stuart Mill, none of them would ever take a prize in a beauty show.

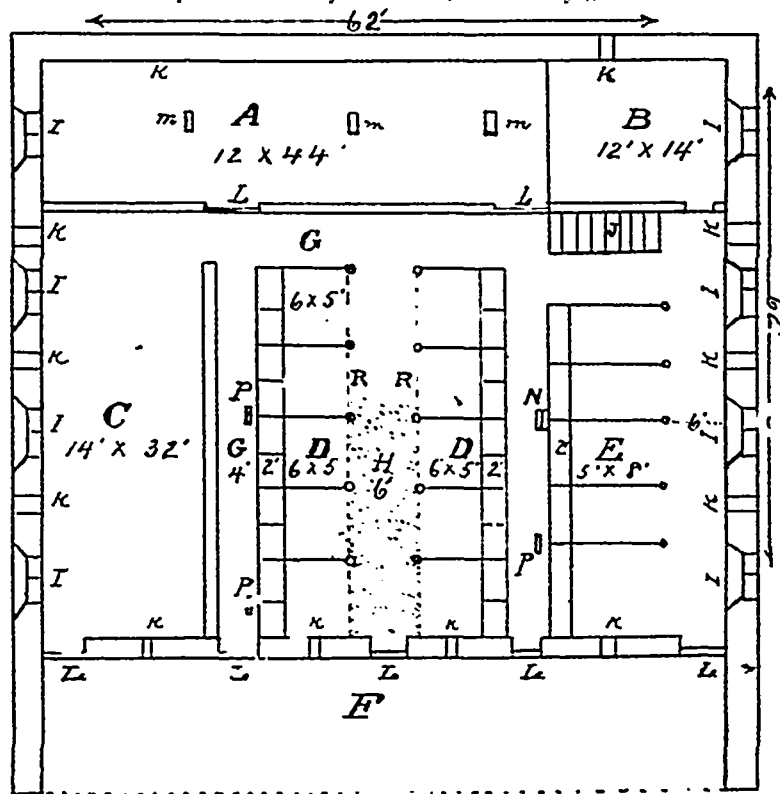
Again, on viewing an animal with an abnormally large brisket, how often do we hear the remark, "What a grand brisket!" forgetting that, if it is out of proportion to the loin and ribs, it is a detriment rather than a point of excellence. All parts should be evenly balanced, and where one unduly predominates it is not an advantage, and when it occurs in one of those parts of the animal where the beef is of the least value, as in the brisket, it is still more objectionable. Experience says, a long prominent brisket adds to the weight of low-priced beef, whereas a broad deep chest indicates a strongly-constituted, vigorous animal.

The shoulder, though one of the most important parts of the animal, is not often troubled with the fancy peculiarities, though no doubt many of us have heard the remark, "What a great front, as wide as a barn!" If we examine this wonder closely, we shall see a wide, prominent, rough shoulder, looking as if it had been stuck on afterwards, and by a very poor workman. Experience points out that, on standing in front of the animal, the shoulder-points should be completely covered by the neck vein, gradually swelling out like the bows of a ship, without any protuberance or hollows, until they are sunk or gradually absorbed by the chest, chin, and ribs, so that the eye cannot detect where the one ends or the other begins. The shoulder itself should be smooth, equally covered with flesh, not put on in rolls, as so often seen. It is true that from the neck and shoulder do not come the choicest cuts, but every butcher knows that there is a lot of difference between the quality of meat in the fore-quarter and the rough plain shoulder, the latter yielding but little except boiling pieces, whereas most can be cut into roasts from a smooth, evenly-fleshed one.

Fancy correctly demands a good round rib and strong, well-covered loin. Experience says, Ditto, with hips not too prominent, especially in a bull, but the hips to be well-covered. Experts rely on the hips upon which to base their judgment of the depth of flesh, as they do upon the purse to show the internal fat.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL
Barn for General Farming.

In answer to your request for plans, I send you one of a couple of barns we have on our farm. It is a barn suitable for general farming. It is built on a stone basement 62x62 feet, and 8 feet high. There is an over-hoot of 12 feet, which affords a dry passage in front of the stable doors. The flooring of the stable passage, and below the over-shoot, is paved with stone, which keeps it dry and clean. The manger-stand on stonework, with bottoms of 18-inch rock, else planks laid in mortar, which is sufficient for either cattle or horses. The stables are very handy, and on a stormy day all the doors may be closed and yet there will be abundance of light. The walls of the basement are two feet thick, but the one between the root cellar and the cattle is only 20 inches thick. The barn has a threshing floor 26 feet wide, and along the right side is a mow 18 feet wide, running the whole length of the barn. On the left side is the granary, containing six bins 6½x5½ feet, with a six foot passage between the barns on this plan have given us every satisfaction.



PLAN OF BARN

A, Tanning Cellar; B, Box Stall; C, Sheep Pen; D, Cattle Stalls; E, Horse Stable; F, Over-hoot; G, Passage; H, Crown Passage; I, Windows; J, Stairway; K, Ventilation pipes in wall below the ceiling; L, Doors; M, Chutes for Turnips; N, Oat Box fed by a pipe from the granary which is above the horses; P, Shutters through which hay is fed from floor above; R, Manure troughs.

A FARMER'S SON

Fancies and Fallacies vs. Experience in Cattle.

Read by RICHARD GIBSON, Delaware, Ont., before the Shorthorn Breeders' Association.

We all have our fancies as to color in cattle. Some admire a roan, others a red. With Hereford breeders, red with white face is orthodox; and with Angus men, "black, and all black," is their creed. Color may be called a fancy, and so it is. Experience says you may follow your fancy so long as it is not prejudicial to the animal. That in the Angus or Devon breed, true to color, is certainly not an objection. That the Herefords are better, except for the sake of uniformity, by being so queerly marked, we doubt, as in our boyhood's days, in the early 40's, we well remember the Downton Greys, shown by Knight, and Heath, and Lord Hatherton. That the Shorthorn has suffered much from the red craze cannot be denied. Experience says nothing has done the breed more harm in these latter days than this foolish desire for all red. Fortunately, we have escaped this mania in

value to the breeder in making selections for stock purposes. A heavy coarse horn may not be desirable, but it is much to be preferred to a light delicate one, which, especially in bulls, should always be avoided. Many a good animal have we seen discarded at fairs, thrown out for having a heavy horn, perhaps placed behind a light fleshed one, with a delicate steer's horn, the former carrying many hundred pounds more beef, and in the most valuable parts. Such is surely fallacy.

The head is worth but a few cents on the block, but on the living animal, what an index to the value for breeding purposes! It is said Mr. Bates fell in love with Belvedere on seeing his head thrust through an open window, and determined to buy him at any cost. What are the fancies? In females, the most common is the objection to a thick or meaty pouch near the jaws, or what in horses would be called the throat latch. Fancy asks that they shall be well "cut up," or, in other words, the setting of the head must be slight and slim. Yet experience says this meaty pouch is an indication of a good feeder rather than a defect, and will never be found on a thin fleshed, ill thriving beast. The fallacy regarding the

Fancy says, "Give me a soft handler, picking up the hide between finger and thumb and giving it a pull, being well pleased with a thin, papery hide." Experience, "Give me one with a firm touch, placing the hand flat on the rib, gradually bringing fingers and thumb together, feeling the texture of the flesh under the hide as well as the thickness." Fancy runs crazy on pedigree and says, "How is he bred? I want to see his pedigree. How does it read? Does it look well on paper?" Experience teaches that pedigree alone is of but little value, except for dreaming over and for a certain school of "strictly purists." Pedigree, to be of value, must not only carry us back to the early Shorthorn families, but must be something more than a mere jumble of names. It should indicate that it descends through a list of well-known and good individuals, celebrated not alone on account of their breeding, but also for what they themselves have done, either in the show yard, or at the pail, or as sires or dams of show yard notoriety. Experience says, "I want to see both pedigree and true shape, neither are of value alone, but must be combined." We honor a man in the present day for what he is himself, not for what his grandmother's grandfather might

have done. And it is right that it should be so. In this age of competition, when by the aid of railroads India is as near the markets of the world as Canada, Australia and the Islands of the Sea are all in keen competition, to say nothing of the late desolate places in our own country, which are now, by the aid of our intelligent young Ontario farmers, blossoming like the rose. It is a race for the survival of the fittest, whether in cattle or the human race. Then let us gird up our loins and prepare for the fray. Neither fancies or fallacies will be of use, but strong individual merit. Pedigree must be made subservient to utility, and when the crisis comes, as it has done, the weakest must go to the wall. I have much confidence in the sound common sense of the Ontario breeder, that knowing them to be free from the common fancies and fallacies of so many, they will tide over the storm successfully, and by the aid of their good stock, ride safe into the haven at last. For it is only by the aid of good stock, intelligently bred, and well fed, that we can hope to farm successfully.

The Dominion Ayrshire Breeders.

The annual meeting of the Dominion Ayrshire Breeders' Association took place at the Albion Hotel, Toronto, on Tuesday, 4th February. The members present were: D. Nicol, Cataragui; James McCormick, Rockton; A. H. Smith, Simcoe; Joseph Youill, Carleton Place; Thomas Guy, Oshawa; A. Gerrard, Hamilton; A. Speers, Cobourg; D. Woolley, Port Ryerse; William Smith, Fairfield Plains; H. Caldwell, Orchardville; J. Cochrane, Kilsyth; and the secretary, Henry Wade. The annual address of the president, D. Nicol, of Cataragui, is appended:

THE PRESIDENT'S ADDRESS.

"Since we last convened as an association, I have met with much encouragement for the breeders of Ayrshires. During the past month I have been traversing the best districts in the eastern part of the province, where many farmers are now making the dairy business more of a specialty, and, as a matter of course, are paying more attention to the breeding of strictly dairy purpose cows, having become thoroughly convinced that the maximum in milk production can only be obtained from animals specially developed with a view to that purpose. Among all the really practical advanced dairymen with whom I have had the honor of conversing, I have not met one who is still clinging to the general purpose cow. All seem to be realizing the fact that, as a machine, a dairy cow's value must be estimated according to her capacity for producing the largest possible quantity of the best milk out of a given quantity of food. For that purpose, the Ayrshire has gained the pre-eminence, consequently the demand for Ayrshire bulls to cross with the common cattle of the country has greatly increased.

The Ayrshire is peculiarly adapted for this northern climate, being more hardy and active than any other of the dairy breeds. There is no breed that is all good. There are some poor cows in every breed, but in this respect there is no breed nearly so uniform as the Ayrshire. It is an easy matter to mislead the public in regard to the actual worth of any breed by giving only a partial report of the performances, taking the phenomenal yields and withholding the unsatisfactory ones. While the capacity of a breed may be determined by yields of the selected ones, the real value of the breed is only determined by the average yield of the whole, and its lasting popularity will be regulated by this general average.

I am not here to depreciate any breed. I have thoroughly tested several breeds, and have been forced to the conclusion that the Ayrshire suits my purpose best.

I have contracted to supply customers with first-class milk and cream during the whole year, and with cows that do not give milk more than nine months in the year, I could not fulfill my agreement. I am credibly informed that at many of the cheese factories throughout the province the annual average supply per cow is less than 3,000 pounds. That being the case, there must be a large number of very poor producers. There need be no difficulty in developing a class of cows to produce 6,000 pounds each in ten months; that would only be an average of 20 pounds per day. When cows do not produce that quantity, there must be something wrong either in the breeding or in the feeding, or both. Since I adopted the silo, I find no trouble in obtaining as much milk in winter

as during the summer season, and while I am engaged in the dairy business, I will not board dry cows five months in the year.

Other breeds have been boomed for more than they were worth, while the Ayrshires are kept busy making milk and butter, which their owners are busy selling for a living, instead of widely publishing their pedigrees and what their grand-dams, or their cousins, or any other distantly related animals, are said to have done, and upon which account every animal tracing in blood is said to be worth enormous sums. Those animals are valuable to sell, while the Ayrshires are valuable to keep. Dairying has now become a business of itself, and whatever engages in it with a view to profit must keep only business cows."

The report of the executive committee showed a total registration of 2720 animals, or an increase of 859 over last year.

The election of officers resulted as follows. President, A. W. Smith, Simcoe. Vice-president, Joseph Youill, Carleton Place. Executive Committee, D. Nicol, James McCormick, W. Speers, M. Ballantyne, W. Smith. Auditors: H. Caldwell, and D. Morton. Delegate to Farmers' Institute, M. Ballantyne.

A discussion followed on the system of judging, with the result that a resolution was carried in favor of the single judge system. Judges recommended to fair committees were: C. M. Wilson, Brandon, Vt.; J. D. French, N. Andover, Mass.; Obadiah Brown, Providence, R. I.; H. E. Smith, R. I.; J. T. Converse, Woodhill, N.Y.; R. C. Watson, West Farms, N.Y.; John M. Jones, Bowmanville, Ont.; Joseph Youill, Carleton Place, Ont.; M. Ballantyne, St. Marys, Ont.; E. Serson, Antrim, Ont.; D. Nicol, Cataragui, Ont.; H. E. Eyre, Harlem.

Mr. Joseph Youill then read a carefully prepared and thorough paper on "The Ayrshire as a Dairy Cow." After presenting some historical facts in respect to this breed, he added: I will now proceed to show peculiarities of the Ayrshire cow that render her the best dairy cow for the Canadian farmer.

- (1) She is very docile, being easily petted.
- (2) She has a very strong constitution.
- (3) She is very thrifty, being able to make a good living where most other breeds would starve.
- (4) She will give more good milk from the same amount of food than any other breed.

In conclusion, let me say I could easily have collected still more evidence to show that the Ayrshire cow is not only the best dairy cow in Scotland, her native country, but she stands unrivalled in Canada. Since the year 1882, she has come out ahead no less than twelve times when in competition with other breeds. What we claim is, that the Ayrshire cow is the best dairy cow in the world, under ordinary circumstances, with such treatment as the Canadian farmer gives his cows. She is a very reliable breeder, a great advantage to the dairyman. She is also very prolific. I will give you one instance. H. E. Eyre, of Harlem, bought a heifer calf of your humble servant which gave birth to a calf at two years of age and another at three, and in the spring of 1889, a few weeks before she was four years old, she presented her owner with a beautiful pair of twin heifers. Last fall, at the County of Leeds Exhibition, this cow and her four of a family took five prizes against strong competition.

On the conclusion of the reading of Mr. Youill's paper the meeting adjourned.

Clydesdale Association Meeting.

The meeting of this association was held at the Albion Hotel on Thursday afternoon, February 6th. The members and officers turned out well, so that there was a good attendance. The secretary, Mr. Henry Wade, of Toronto, read his annual report, in which he stated that though the importing trade had not been quite so brisk as in some former years, yet they had no reason to complain, considering the dullness of trade in all other circles.

There had been entered for the fourth volume of the Stud Book, 259 stallions, 107 of which were imported, and 250 mares, of which 42 were imported, making 539 in all. There would be a considerable number to record in the Scotch appendix, which would make the fourth volume nearly as large as the others.

The membership roll was somewhat fluctuating, only 207 members having paid their subscriptions for 1889, 33 fewer than for last year. Two hundred and twenty stud books of the different volumes had been

issued to members; the sum of \$397 was paid in prizes, 33 imported horses were entered, and only four Canadian bred. The trade in horses had been satisfactory this year.

A great many Canadian bred, as well as imported colts and fillies, had passed across the line at good prices, according to the transfers on their books. Seventy six males and fifty two females have gone to the United States, and nine horses and eight mares to the Northwest. No doubt a great many more had gone. This merely gave the transfers in the fourth volume. The financial statement for last year showed the receipts to be \$1,108.36, and the disbursements \$968.51, leaving a balance on hand of \$139.85.

The officers elected for the new year were as follows:

President Wm. Smith, M.P., Columbus (re-elected).

Vice President for Ontario Geo. Moore, Waterloo (re-elected).

For Quebec Robt. Ness, Howick (re-elected).

For Nova Scotia—J. McKay, Stellarton, N.S.

For Prince Edward Island Hon. J. Clow, Charlottetown, P.E.I.

For New Brunswick—Hon. D. McLellan, St. John, N.B.

For Manitoba—J. E. Smith, Brandon, Man. (re-elected).

For British Columbia—H. D. Benson, Ladner's Landing, B.C. (re-elected).

Directors—Robert Miller, Brougham; Robert Graham, Clarendon; Robert Beith, Bowmanville; Arthur Johnston, Greenwood; G. Davidson, Cherrywood; D. McCrae, Guelph; A. Russell, Unionville.

Auditors—J. Y. Ormsby, V.S., Springfield-on-the-Credit; T. R. Shore, White Oak.

Judges—R. Burgess, Winona, Ill.; C. C. Gardner, Charlottetown, P.E.I.

Referee—Geo. Moore, Waterloo.

March 13th was chosen as the date of holding the Spring Stallion Show.

A Letter from New Zealand.

Editor CANADIAN LIVE STOCK AND FARM JOURNAL.

DEAR SIR,—I was some years ago a reader of and subscriber to your valuable paper, but I am at present travelling in New Zealand. I clip the following item from the Auckland *Weekly News* of November 23rd:

"The other day we noticed the departure of three Hereford bullocks, sent from Matamata by Messrs. Hunt and McNicol for exhibition at the Christchurch Agricultural Show. A telegram has been received that they have shown and declared to be the finest fat bullocks ever exhibited there. The one that took first prize weighed, on leaving Auckland, 2954 pounds; the one taking second prize weighed 2534 pounds; and the third bullock, which was highly commended, weighed 2442 pounds."

As the weights are exceptional in this country, I made the following inquiries of the owners, and received the appended replies:

(1) What were the respective ages of these three bullocks? The bullocks were each seven years old.

(2) How were they fed? The cattle were simply grazed, grass in the summer and put into the turnip-held instead of other cattle in the winter.

(3) How long were they in maturing? They were fit for the butcher at 3½ years old, when they were selected from the herd and treated as above.

(4) Were they pure-bred or grades? Two were Herefords (not pedigreed), and the biggest one was by a Hereford bull from ordinary dairy Shorthorn cow.

You see, they take longer here to feed an animal, but the trouble is less than in Canada. The plan of feeding turnips here is to turn the stock into the field and let them help themselves—the best stock first, and afterwards the store cattle and sheep, the latter making a clean sweep.

There is not the attention given to cattle breeding here that there is Ontario, horses and sheep receiving the most. I have met with some splendid specimens of Clydesdales, both here and in Australia, but the cattle shows, as a rule, are not up to our idea of show cattle.

Sheep receive a great deal of attention here, and may be termed the staple product of the country, as a large trade is done in the export of wool and frozen mutton for the British markets. Border Leicester rams crossed with pure Merino ewes are the most suitable stock for freezing purposes, besides giving a good class of wool. I intend going through some of the freezing works, and will send you a description of their working and the number of frozen carcasses they turn out in a year. This is also a good agricultural district (Province of Canterbury). Wheat

gives a large yield, as much as 80 bushel, and some claim 90 bushels, per acre. Oats yield as high as 100 bushels per acre (and not an Irish acre either).

A good deal of attention is given to bee-keeping, but, strange to say, there is not the attention given to fruit culture that might be expected in such a suitable climate. The harvest, which promises to be one of the best for some years, is almost on, and after it is over, and as soon as I can gather definite information, I will give you a few lines on the general results of the yield. I miss my old friend, the Colorado potato-bettle. This would be a paradise for him, as the potato grows here to great perfection, and there is almost no winter.

I intend remaining here a year, and may give you a few items should anything worthy of mention come under my notice. I find that the Massey Harvester and Little brandford are rapidly replacing the English makes of agricultural implements.

Hoping I have not trespassed too much on your valuable time and space, in conclusion I may say that any enquiries about things in this part of the world will be cheerfully answered, to the best of my ability.

I am, yours respectfully,
G. A. FORTUNE

Formerly of Wingham, Ont.
Auckland, New Zealand.

Important to Clydesdale Importers.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:
Would you kindly allow me to intimate through the columns of THE CANADIAN LIVE STOCK JOURNAL, that a new form of registration certificate for exported horses came into use in this society on January 17th last. I enclose a copy for the information of those whom it may concern.

I would also ask leave to intimate that a certificate for a horse named The Mackenzie, issued April 10, 1889, in favor of Mr. George Dunbar, has been cancelled, the information furnished to the society having been found to be incorrect.

Yours faithfully,
ARCHIBALD MACNEILAGE,
Secretary.

Glasgow, Scotland.

Public Tests of Holstein-Friesian Cows For 1889.

THE OFFICIAL REPORT.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:
I trust you will allow space in THE CANADIAN LIVE STOCK AND FARM JOURNAL to call the attention of those of your readers who are in any way interested in fine cattle to the grand showing made by Holstein-Friesian cows in the public tests at many state fairs and exhibitions during the year just closed. The liberal offering of the Holstein-Friesian associ-

LIST OF HOLSTEIN-FRIESIAN COWS WINNING FIRST PREMIUMS IN BUTTER TESTS AT STATE FAIRS AND EXPOSITIONS IN 1889. OPEN TO ALL BREEDS.

FAIR.	NAME OF COW.	PRODUCT.	OWNER AND ADDRESS.
Buffalo.....	Tirania 6716, H. H. B.	3.12 lbs.	F. C. Stevens, Attica, N.Y.
Buffalo.....	Allen Abberkirk 9579, H. H. B.	2.62 lbs.	F. C. Stevens, Attica, N.Y.
Minnesota.....	Pet Tevelaer 21742, H. H. B.	2.37 lbs.	N. J. Leavitt, Waseca, Minn.
South Dakota.....	Aggie Abberkirk 9591, H. H. B.	2.34 lbs.	I. C. Wade, Jamestown, N. Dak.
Chic. Fat Stock Show.....	May Overton 2110, H. H. B.	2.27 lbs.	F. C. Stevens, Attica, N.Y.
Mississippi.....	Neelje Wit 2075, H. F. H. B.	2.25 lbs.	I. W. Howard, Aberdeen, Miss.
Nebraska.....	Rijana 1131, H. H. B.	2.23 lbs.	Home Farm Company, Hampton, Ia.
Detroit.....	Alberta Abberkirk 9579, H. H. B.	2.19 lbs.	F. C. Stevens, Attica, N.Y.
Iowa.....	Betina 2476, H. H. B.	2.09 lbs.	Home Farm Company, Hampton, Ia.
Detroit.....	Parthena 9577, H. H. B.	2.06 lbs.	F. C. Stevens, Attica, N.Y.
Michigan.....	Coquette 909, H. H. B.	2 lbs.	T. D. Seeley & Co., Bay City, Mich.
Kansas.....	Empress Josephine 31725, H. F. H. B.	2 lbs.	M. E. Moore, Cameron, Mo.
Ohio.....	Julia Childen Mercedes 2735, H. F. H. B.	1.54 lbs.	W. H. S. Foster, Fostoria, O.
Alabama.....	Neelje Wit 2075, H. F. H. B.		I. W. Howard, Aberdeen, Miss.
Georgia.....	Mooike of Kentucky 1835, H. H. B.	1.63 lbs.	O. A. Bowen, Perdition, S.C.

LIST OF HOLSTEIN-FRIESIAN COWS WINNING FIRST PREMIUMS IN MILK TESTS AT STATE FAIRS AND EXPOSITIONS IN 1889. OPEN TO ALL BREEDS.

FAIR.	NAME OF COW.	PRODUCT.	OWNER AND ADDRESS.
Buffalo.....	Lutscke 8356, H. H. B.	73 lbs. 12 oz.	F. C. Stevens, Attica, N.Y.
New England.....	Mabel Douglas 1109, H. H. B.	72 lbs. 11 oz.	C. Robinson & Son, Barre Plains, Mass.
Nebraska.....	Rijana 1131, H. H. B.	68 lbs. 11 oz.	Home Farm Company, Hampton, Ia.
Kansas.....	Empress Josephine 31725, H. F. H. B.	67 lbs. 15 oz.	M. E. Moore, Cameron, Mo.
Detroit.....	Nicole 5154, H. H. B.	65 lbs. 2 oz.	W. C. Munson, Vienna, O.
Chic. Fat Stock Show.....	May Overton 2110, H. H. B.	65 lbs. 7 oz.	F. C. Stevens, Attica, N.Y.
Iowa.....	Betina 2476, H. H. B.	65 lbs. 7 oz.	Home Farm Company, Hampton, Ia.
Michigan.....	Anke 574, D. F. H. B.	64 lbs. 7 oz.	H. P. Smith, East Saginaw, Mich.
Minnesota.....	Pet Tevelaer 21742, H. H. B.	63 lbs. 3 oz.	N. J. Leavitt, Waseca, Minn.
Detroit.....	Mechthilde 6717, H. H. B.	62 lbs. 14 oz.	F. C. Stevens, Attica, N.Y.
Georgia.....	Mooike of Kentucky 1835, H. H. B.	49 lbs. 12 oz.	O. A. Bowen, Perdition, S.C.
West Virginia.....	Nicole 5154, H. H. B.	44 lbs. 4 oz.	W. C. Munson, Vienna, O.
Ohio.....	Marjory Daw 1837, H. H. B.	43 lbs. 13 oz.	C. W. H. et, Wellington, O.
Texas.....	Neelje Wit 2075, H. F. H. B.	42 lbs. 6 oz.	I. W. Howard, Aberdeen, Miss.

Michigan—T. D. Seeley & Co., Bay City, Mich., \$100
Wisconsin—H. Rust & Bro., North Greenfield, Wis., \$100.
Minnesota—I. C. Wade, Jamestown, N.D., \$100. Kansas—M. E. Moore, Cameron, Mo., \$100. Texas—Henson & Rathbone, Council Grove, Kan., \$100. California—George B. Polhemus, Coyote, Cal., \$50. Rhode Island—William H. Bent, Cochetuate, Mass., \$50.

THOS. B. WALES,
Secretary Holstein-Friesian Association of America, Iowa City, Ia.

Suggestions in Regard to a Hog House.

EDITH CANADIAN LIVE STOCK AND FARM JOURNAL.

In your issue of January, 1890, there is an article entitled, "The Plan of a Hog House," some points in which have been recommended. Three advantages have been claimed for this plan: (1) The manner of dividing the sleeping from the feeding room, so as to secure a clean, dry place to feed. (2) Facilities for ventilation and light. (3) A system of yards in connection with the sleeping room. Now, I admit that these are very important points, a clean bed, light, and exercise; and as hogs are fast becoming an important item among Ontario farmers, and in the near future likely to become more so, it may not be out of place for a practical farmer and feeder to point out what seems to me a very serious defect, viz., the small number of hogs that can be accommodated in the building. It is 70x24 feet, and is divided into seven pens, each 7 ft. 9 in. wide and nearly 18 feet long, and so arranged that the hogs, when sleeping, are entirely shut out from the feeding room, the doors and passages between which are worked by ropes and pulleys, and, I have no doubt, work very nice. I have no doubt it is very nice to be a hog under such conditions as these, but is it practical, and will it pay the average farmer to have so much building to accommodate so few hogs as this will? By the arrangement of pens, it does not furnish accommodation to more than from 50 to 55 one hundred and twenty-five pound hogs, while to be a practical house of the above dimensions, it should at least have room for 100. You must allow a good full foot of trough per hog under ordinary conditions; in each of these pens, 8 hogs have barely one foot each in width, with 18 feet in length, and the same width of a 16-foot yard outside. Surely some more economical arrangement of room can be arrived at than this. A more practical one would be to have a 4-foot passage down the centre of the building, with pens on either side, with yards attached, where the droppings would be left, just the same as in the other, leaving the pens clean and dry for sleeping and feeding, with this decided advantage, that such room for just double the number of hogs would be provided, surely a feature worthy of being considered by those who purpose building a hog house. The very fact of the hogs being shut out of the feeding room, except at meal time, and which seems to be considered of so much importance, detracts from its usefulness to the practical feeder who wishes to have as heavy a stock as his building can accommodate. A much better arrangement for an Ontario farmer who puts a proper value on the manure heap is a narrower building, forming one side of the barn-yard, where the manure from the other stock is thrown, one row of pens on the side of the building facing the barn-yard, and a row of yards, one for each pen, between it and the building. A passage for feeding should be left along the other side of the building. The best general results from the manure heap are obtained when that from all classes of stock are mixed together, and by this arrangement it is very easily done. When cleaning out the pens, which, when full, should be done at least three times a week, it is thrown over the yard fence and then spread over the general heap. Some farmers prefer, for the purpose of having appliances for cooking food and heating water, to have the hog house an isolated building, as far away from the barn that there will be little or no danger of its being burned, in case anything should happen, and if so, an arrangement of pens on either side of a passage in the centre of the building, with yard attached to each pen, would be a much more practical and economical one than that to which you gave place in your columns. Scientists may talk about "hygienic principles" and the necessity of having a certain number of cubic feet of air to each animal in order to get the best results, but while admitting that there is a limit to the number of hogs to a pen, yet in a building of the above dimensions, with proper attention to ventilation, light, and yards, with plenty of clover, mangel, grain, pure water, dry bedding, and proper attendance, I believe that limit to be far above the possibilities of the given arrangement. The remarks as to the value and convenience of a swinging door above and in front of the trough are correct, as well as those which point out the advantage of a two-story over a one-story building.

Guelph, Ont.
JUNIOR.
The plan we gave was described and drawn by Mr. Adams, of the Wisconsin Experimental Station, and was built for experimental purposes, hence the features criticised by our correspondent, and to which we had reference in stating that it could be modified to suit other requirements, were needed for experimental work. The criticisms offered are sound, but we are sorry our friend deems it necessary to have a tilt at scientists and their "hygienic principles." No other class of stockmen have lighted these principles in the past as much as swine breeders, and, as a consequence, disease and market demands have forced upon many the fact that these same principles must be observed to reap a profit.—Ed.]

Veterinary.

The Management of Stallions Before and During the Season.

By F. C. GRENSIDE, V.S., Guelph, Ont.

The entire horse, in common with all male animals, during the act of copulation, injects into the female what is commonly called the seed.

If a drop of this seed is examined under the microscope, it will be found to contain a number of living bodies, as evidenced by their ability to move. They have oval shaped heads, and many thread-like tails. In order that the coming together of the stallion and mare may bear fruit, it is essential that some of these bodies come in contact with the egg-ovum—of the mare, in some portion of the womb, otherwise the egg perishes after a time. The way thread-like tails endow these bodies (spermatozoa) with powers of locomotion, so that on being injected into the passage of the mare (vagina) at copulation, they by degrees work themselves into all parts of the womb, and thus come in contact with the ovum of the female.

It is through the medium of these minute fertilizing bodies that the qualities and characteristics of the sire are transmitted to the progeny. Although the general characteristics of the progeny may not be affected by the vigor, or lack of vigor, of the sire at the time of, and shortly prior to, copulation, still the strength and vital power of the foal, so essential to tide it over that critical portion of its life—the first few weeks—and enable it to grow, thrive, and strengthen into an animal possessed of constitutional vigor and stamina, is doubtless largely influenced by the condition of the sire. Taking a shorter sighted view of the matter, and considering the ability of a sire to get mares in foal, and to maintain his health and strength, during the season in which there is such a drain upon his vital powers, it is absolutely essential that he should commence the season in good condition.

We very frequently hear the statement made, that such and such stallions are overfed. This, in the majority of instances, is incorrect. We cannot, if we feed rationally, or afford all the nutritious matter that the system can properly assimilate, overfeed a stallion about to commence, or during the season, but we can very easily under-exercise and impair an animal's assimilative power thereby.

A horse is an actively constituted animal, and you cannot produce condition, in the true sense of the word, without a sufficient amount of exercise. Condition does not simply mean the presentation of a good appearance, but it signifies the ability to endure work, and maintain health. The two latter abilities cannot be possessed without liberal feeding and plenty of exercise. Good condition requires time to produce. The work of conditioning ought to begin fully two months before the season. The daily exercise and quantity of food should be increased in like ratio, until five miles a day is given a draught horse, and eight or ten a light horse.

It is not our intention to go into the details of feeding stallions; we have gone into details on the matter of feeding horses before in this paper, and the same principles apply to the feeding of stallions.

A great invigorator of the horse is rubbing, nothing next to good feeding gives him more vim. A plentiful supply of good, clean, thick cotton rubber should be on hand, and the horse should be vigorously rubbed after his exercise, until he is perfectly dry.

Groom while the circulation of the skin is active, as after-exercise is far more beneficial than at any other time. Have nothing to do with drugs or nostrums, for they do more harm than good if the animal is well, and if he is sick they should only be used under the guidance of one who understands their action, and the nature of the malady to be cured.

Drugs are in no way essential, in fact they are detrimental to the process of conditioning.

It is very advisable that the season should begin early and extend over as long a period as possible, so that at no time the stallion's powers shall be unduly taxed. If it is possible to procure the services of a few mates before the enervating effects of the very warm weather come on, so much the better, as the animal's powers are gradually stimulated and strengthened thereby.

The death rate amongst heavy stallions during the season is much higher than it need be, which is largely the result of abruptly putting horses into the trying ordeal of heavy service and constant excitement, without building up the system in the manner indicated. Breeders blame stallion owners for having their horses abnormally fat, and consequently lacking in the vigor necessary to get good strong colts. Few, however, have the courage or judgment to allow the animal that looks like a stall-fed ox to pass by, and select one that does not require to be patched up with adipose tissue to conceal his defects.

Many flat-sided, long-backed, slack-loined horses are receiving liberal patronage on account of their defects being considerably masked by layers of fat, and flabby muscle.

Scratches.

Editor CANADIAN LIVE STOCK AND FARM JOURNAL:

I have a Clyde horse, rising five years old, that has been troubled with scratches ever since I started to work him two years ago. His legs are extra hairy. He always appears to be in good health, being fat and possessed of a good coat. I had him clipped last winter, and he was some better after it, but he was as bad as ever as soon as the hair grew out again. I keep his legs clean by brushing them thoroughly. My barn is very warm. I followed the advice of two veterinary surgeons, but to no purpose. If you will answer, I will follow your directions to the letter.

A. M. O., Blanchton, Ont.

When the skin becomes disorganized for a length of time, by the inflammation that is always present to a greater or less extent in "scratches," it is scarcely possible to restore it to its natural condition.

Although the cracks may heal up and cease to discharge, there is always more or less scurfiness or scalliness remaining; and if any slight exciting cause comes into operation, as exposure to moisture and dirt, especially if the weather is cold, the cracking and inflamed condition will return.

In a case of chronic scratches, such as described, it will be better not to interfere with the part too much. Occasionally wash off the scurf with warm water and castile soap, and apply a little glycerine daily to soften the part.—[F. C. GRENSIDE, V.S., Guelph, Ont.]

Epilepsy in Pigs.

Editor CANADIAN LIVE STOCK AND FARM JOURNAL:

SIR,—In November I put four pigs, five weeks old, in a warm dry pen, 12 x 12 feet, fed them warm sweet milk for two weeks, then added scalded bran with a little oil cake once a day for about two weeks more, when I added boiled potatoes once a day to their feed. Soon after one of them would choke with the first mouthful of either food or drink. It would run backwards, fall down, and remain powerless for about one minute; when it recovered its breath, it would feed all right until the same occurred again. It has since died, and two others are getting the same way. They had sulphur and charcoal in their feed, and plenty of ashes in their pen. They are very fat and large for their age, and smart on their feet until about one day before they die, when they lose power of their hind part. They have no cough. By answering the above in the next JOURNAL, you will confer a favor on an old subscriber.

E. MONAGHAN,
Melissa P.O., Muskoka, Ont.

Epilepsy is the trouble. It often occurs during teething in young dogs and pigs. In such cases it is well to confine the young pigs to warmed milk for several days, with which suffi-

cient raw linseed oil may be mixed to open the bowels freely. If they refuse to drink the oil, starve them until they take it.

[F. C. GRENSIDE V.S., GUELPH, ONT.]

Grease.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

SIR,—I have a valuable mare that got hurt in the following manner last spring. She ran away and strained the main cord that runs on each side of her hind leg. It swelled from her hock joint up to her bag. By blistering it I reduced the swelling, but ever since she has not been right on her leg. For a long time it kept swelling from the foot to the hock joint. There is a little scar in front of the hock joint and it keeps rough. It is not sore, only I can rub off some scurf substance, and in a day or so it is back again. She also has on her hind leg a crack across her fetlock, and this same scurf material is running out of it. Please give me your opinion as to what medicine I should use. I feed no grain, but give bran mash.

A SUBSCRIBER.

Try the application of glycerine, with one-eighth part of carbolic acid, to the scurf parts. Wash the scurf off occasionally with warm water and Castile soap. Give a tablespoonful of Fowler's solution of arsenic three times a day in the food.—[F. C. GRENSIDE, V.S., Guelph, Ont.]

Loss of Appetite.

Editor CANADIAN LIVE STOCK AND FARM JOURNAL:

I have a three-year-old Shorthorn bull that I am fattening. He is a poor feeder, but at times he will eat all right, and at other times he will not eat anything. Would you kindly tell me through your valuable JOURNAL what to do to give him a better appetite?

Wellesley, Ont.

A SUBSCRIBER.

It altogether depends upon the cause of his not eating. Cattle suffering from consumption (tuberculosis) generally act in the manner described. In a case of this sort, it would be better to have the animal destroyed.

Any irregularity in connection with the teeth might possibly be the cause. Cattle suffering from indigestion sometimes have capricious appetites. [F. C. GRENSIDE, V.S., Guelph.]

Distemper.

Editor CANADIAN LIVE STOCK AND FARM JOURNAL:

I would kindly ask you to inform me through your next JOURNAL what is best to do for distemper.

Romecy, Ont.

STEPHEN ROBINSON.

Horse distemper, or strangles, is usually not serious in its results, if the victims of it are rationally treated.

A most important part of the treatment is attention to the surroundings of the patient. The animal's blood is already in an impure condition, so that care should be exercised, that no further impurities be introduced from without through the medium of the air that enters the lungs.

In order to accomplish this, the stable must be kept clean and well ventilated. Draughts must, however, be carefully avoided. The body should be kept warm with plenty of clothing.

Every effort should be made to keep up the strength by supplying sufficient nourishment. Give the patient anything he will eat. A variety of diet will benefit the appetite. Supply the food in small quantities, so that it will all be eaten. If any food is not eaten, remove it, so as to keep the manger clean and sweet.

If the patient will not consume solid food, he may, if allowed to get thirsty, drink such nutritious fluids as barley, or linseed tea, or skim-milk.

It is particularly desirable that some laxative food should be taken, such as boiled grain, bran mash, or roots.

Water should be plentifully supplied, and allowed to stand before the patient almost continually, but it should be renewed at intervals so as to keep it fresh.

Two drachms of nitrate of potash, 10 of chlorate of potash, and two of hypo-sulphite of soda, may be given with advantage two or three times a day, if the animal will take them either mixed in his food, or in his drinking water. But if the medicines keep him from either eating or drinking, they should be withheld.

Cautiously avoid drenching a horse with distemper, as the throat is always sore, and there is difficulty in swallowing. Besides distressing the animal, there is considerable danger of the fluid going the wrong way, and getting into the lungs. If the patient does not either eat or drink, injections of nutritive fluids into the bowels will be of some benefit in supporting the strength.

The abscess which always shows itself in strangles requires some attention. Politicing until it softens in the centre is the usual practice, and it answers admirably. As soon as there is

any indication of matter—pus—having formed, the abscess should be opened and the pus carefully given exit. The lips of the wound made by the knife should be kept open, and all accumulations of matter washed off.

The soreness of the throat may be benefited by the daily application of a couple of table-spoonfuls of mustard liniment, rubbed on the throat. As soon as soreness results from this application, withhold it.

When the patient shows evidence of regaining his strength and appetite, gentle walking exercise may be given, and increased as strength is gained.

The convalescent should be well fed. Drachm doses of green vitriol, with half drachm doses of nuxvomica, given three times a day, would aid in hastening recovery. This is a sufficient dose for an adult. A third of the quantity is enough for a yearling, and two thirds for a two-year-old. [F. C. GRESSIE, V.S., Guelph, Ont.]

Trouble with Pigs.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

DEAR SIR,—A couple of farmers in this locality report a disease among their young pigs. The symptoms are something like the following: The pigs are about two months old; the first symptoms are a general stiffness of the limbs, which gradually grows worse until death. Towards the last they seem quite helpless, and when touched squeal, as if it gave them pain, they pass all the time lying. I lost a couple myself about a year ago. I doctored them considerably but they never recovered. One of the men has already lost 30 of his best pigs, he was of the opinion that he was feeding too rich food, he gave them shorts and bran, the shorts being the largest portion. The other farmer referred to has to affected at present. A gentleman informed him the other day that his pigs were suffering from "black tooth," accordingly he went to work and pulled, or rather broke them all out, but whether this will effect a cure or not has yet to be tried. Now, this disease which I mention, the symptoms of which are paralysis of the limbs, is very common, and I would like to see the subject thoroughly ventilated in your veterinary columns.

(1) What are the symptoms, cause, and treatment of "black tooth" in hogs?

(2) Should the teeth be all removed, or will simply breaking them off suffice?

(3) What causes young pigs to grind their teeth? I have a couple which keep grinding away, noticeable most immediately after eating.

By answering the above fully you will confer a great benefit on many in the hog business. I remain, yours respectfully,
A. O. A. C.,
Wainstead P.O., Lambton.

Black tooth is not recognized as a disease. Milk teeth that are being shed often become dark in color, hence the popular tendency to confuse all diseases that occur at this period with diseased teeth.

Grinding of the teeth is a symptom of indigestion. Young pigs often become what is called *foundered* in the feet, the result of indigestion; but indigestion also occasionally produces paralysis. Weaning too soon, and suddenly putting young pigs on such indigestible food as shorts, is very apt to seriously derange the digestive organs, and cause the trouble described. The change from milk to rich food should be gradual, and exercise should be allowed.

When this trouble begins to develop in a litter, besides changing the diet, get the young animals to purge slightly by feeding raw linseed oil with milk. After which feed a table-spoonful of fenugreek three times a day.—[F. C. GRESSIE, V.S., Guelph, Ont.]

The Farm.

The Central Farmers' Institute.

The work of this Institute during its various sittings at the last annual meeting held in Toronto, Feb. 4th to 6th, was of unusual interest and importance. The attendance was larger than ever before, nearly all the different agricultural associations in the province being represented, except those more directly interested in the work of conducting exhibitions.

The president, Mr. N. Awrey, M.P.P., presided over the meeting to the satisfaction of everyone, and was elected to a second term of office with much unanimity.

In his opening address the president brought out some plain facts regarding the trend of the export trade from Ontario. He said that while the export of wheat a few years ago amounted to \$8,000,000, last year it was less than half a million. The exports of horses had risen from \$1,800,000 in 1880 to \$2,700,

000 in 1888. In the same period the export of cattle had risen from \$2,096,000 to \$5,480,000, of sheep from \$900,000 to \$1,263,000, of cheese from \$3,790,000 to \$8,915,000. Although the same advance had not been made in the export of butter, there was encouragement in the fact that we were now getting a better price for what we sold, which indicated an improvement in the quality.

These figures go to verify the wisdom of our argument from the day the JOURNAL was called into existence, which was, and is, that Ontario is essentially a stock-producing country, and that our farmers must henceforth look for the principal portion of their gains from live stock or from the products of the same. Every farmer then who can be persuaded to give up the losing game of raising coarse grains for export, for the growing of some useful class of live stock, is being put in a much better position to serve himself, his family, and his country.

The Convention declared itself in no uncertain way on many important questions. The paper read by Professor Shaw advocating the passing of a herd law applying to the whole country, except the more recently settled districts, met with hearty approval. This proposal aims at prohibiting any and every class of live stock running at large, with or without a herd.

The trade question was discussed with unusual earnestness, but at the same time with a calmness which indicates that the farmers are beginning to realize that they have interests of sufficient importance to unite them in their efforts to secure these, irrespective of party. By a vote of 70 to 4 it was decided to memorialize the Dominion Government to reduce the tariff on articles of prime necessity to the farmer, such as iron, steel, coal, cottons, woollens, rubbers, sugars, corn, and salt.

The discussion on combines was equally earnest, and a strong resolution was passed upon the subject. A deputation was appointed to wait on the Dominion Government in the interests of legislation that would tend to suppress combines.

The discussion on the exportation of store cattle to Ireland made it clear that public opinion is beginning to see the un wisdom of sending away unfinished cattle out of the country, and of also sending after them the food to fatten them. The loss is a double one, a loss in the price of the cattle and a loss of fertility in the grain sent out of the country. For years past we have been saying to our readers that the practice was not a wise one, and we are now more than pleased to find so many of the leaders of thought in their respective localities of the same mind.

The decision on the best mode of solving the grievances of the millers was also significant. The Convention by a vote of 44 to 23 decided that the proper remedy, and the one in the interests of the people, was not an additional duty on flour, but to have wheat placed on the free list.

From the discussion of the question of legislation for the destruction of noxious weeds it is manifest that public sentiment is advancing here also, and that the day is not far distant when those who are not disposed to prevent weeds from multiplying will be compelled to do so.

The following are the officers elected for the present year:—President, N. Awrey, M.P.P., Binbrook; Vice-President, T. Lloyd Jones, Burford; Secretary-Treasurer, A. H. Pettit, Grimsby; Executive Committee, T. Brown, Paisley; J. McEwen, Drayton; D. Black, Iona Station; M. Pettit, Grimsby; G. E. Mowbray, Oshawa; J. B. Ewing, Dartford; D. M. McPherson, Lancaaster; Auditors, D. Derbyshire, Brockville, Dr. Cowan, Galt.

The value of the Institute to the farmers, if rightly managed, must continue to be great. It is important, however, that questions passed upon one year should be taken up the next where the object has not been attained, and we trust the Executive Committee will bear this in mind in arranging the programme for another year.

Mixed Farming and Mixed Farmers.

While it must readily be granted that our husbandry must through necessity be general in its nature, yet there is a danger of making it too much so. The general farmer has been a subject for many trades, and justly so when he is such that the old expression "Jack of all trades and master of none" will fittingly apply to him; but the general farmer who, to our mind, will do best under our conditions, would be more properly described by revising the above to read "Jack of all trades and master of one." The first mentioned personage is a representative of mixed farming to an extreme, and, as a result, the farmer himself has become mixed in method and practice, while the latter, though making a specialty of that which especially suits his conditions, loses not hold on the other phases of his work or to express it more striking, does not "carry all his eggs to market in the one basket." Mixed farming carried to extremes is to be avoided with us as much as special farming strained to a high tension. By producing and making a specialty of certain lines of production that our conditions are eminently fitted for, and at the same time keeping a hold on the other lines as well, more rapid progress is made, and the hold on the market not loosened.

Seed Potatoes.

Perhaps there never will be a consensus of opinion as to the best mode of preparing potatoes for seed. There are some conclusions, however, that have been arrived at that may be considered final. Among these we may mention the advisability of rejecting potatoes for seed that are very small, and the extravagance of planting whole those that are unusually large. It has likewise been demonstrated that potato sets just freshly cut are less safe to plant than others cut some days previous to planting, and in which a tough skin has formed over the wound. It may be that, all things considered, potatoes about the size of a hen's egg serve best for planting. They do not of necessity require to be cut. The months of February and March form a good time for sorting the different varieties to be planted. Not one hour should be spent after the land will do to work in doing what could have been done quite as well at an earlier period. The potatoes then for spring planting may all be selected for this purpose in the winter. If not to be cut they will be ready to shovel into bags when the time for planting arrives, and if they are to be cut they will be all sorted out so that this may be done with the least possible delay.

Spontaneous Combustion.

Much has been written in respect to the danger of spontaneous combustion, the theory of which implies that certain substances if mixed and left undisturbed, will become warm and burst into flame on the admission of air. Oily rags have long been known to be dangerous; sawdust, oil, and wood in contact with steam pipes have long been suspected. Damp hay is now said to be equally dangerous. In the fall months, many barns are struck by lightning and

burned when full of crops, more such cases happen than during summer storms which are more frequent when the barns are empty. This may be caused by the generation of gases from the grasses and grains stored in a particularly damp state. The matter is worthy of careful study. A report of spontaneous combustion in a stack of hay comes from Illinois. A. W. Peck stacked fairly well cured clover on rails, the stack being ten feet wide and twenty-five long, and fifteen high. The hay was in fair order, except four or five loads near the centre, of which was wet with the morning dew. The stack was rounded on top, and left to settle for a few days, and several loads put on as a final finish. It was noticed in a week, to be slightly warm. In about four weeks it was found to be on fire. This was put out and the stack cut down and examined. The top hay was bright and in good order, below that it was warm, and further down, it was charred and hot. This, when exposed to the air, burned into a blaze. The men working in the opening found it too hot for their feet. The stack soon took fire and burned. Only a slight shower fell while it was settling, before the top was put on. If this can occur outside, there should be much greater danger from very damp hay confined in barns. If any of our readers have had any trouble in this respect, we would be pleased to hear from them.

Two Rowed Barley for the English Market.

Professor Saunders, of the Experimental Farm, Ottawa, has recently issued a bulletin on barley, which contains a vast amount of useful information, both in regard to the varieties of barley and their growth at the Experimental Stations in the Dominion. It also contains much that is useful in reference to the modes of growing barley, and strongly advocates the substitution of two-rowed for the six-rowed varieties that are now usually grown, with a view to get access to the British market for barley; we are practically shut out from this at present, as the six-rowed varieties grown here are not used by the English malsters.

It is argued that as the American market is declining for our barley, the Canadian farmer should grow the two-rowed instead. The latter, it is asserted, yields better on the whole, and is not so difficult to cure, as coloring does not injure it to any great extent for the purposes of the English malster.

That moderate coloring does not injure the barley for malting purposes is a matter of much importance. The ordinary six-rowed varieties sent to the United States were seriously injured by showers in time of harvest, to the extent sometimes of rendering them unfit for purposes of export. We do not look upon it as a settled point, however, that the two-rowed varieties will give larger yields than the six-rowed. The indications may point in this direction for a time, and yet the results may be disappointing. Our farmers, therefore, should in no case substitute the two-rowed for the six-rowed until they have proved by trials (such as the Dominion authorities are desirous of having conducted) that the former will give better yields. The statement that two-rowed varieties are later in ripening than the six-rowed by from five to twelve days is also significant. It is a rule of plant growth that the moderately early varieties are the best, and we presume that barleys will be found no exception.

In view of the recommendations of the bulletin, the Dominion Government has voted some \$25,000 for the purchase of seed of a superior quality from England for distribution amongst the farmers of the Dominion.

It is not proposed, however, to give this seed away, but to sell it to the farmer for exactly what it costs. It is proposed, however, to give three pounds of the seed, now on hand, to every farmer applying for it, which in two years should give him an ample supply for sowing all that he may desire.

While we regard the action of the Government as well-intentioned and so far commendable, we do not advise our Ontario farmers to engage in the cultivation of any kind of barley (two-rowed or otherwise) for purposes of export, except their conditions of soil and climate are eminently suited for its production, in which case the sale of the grain off the farm would be commendable, since the depletion of the soil's fertility could be made good by the purchase of bran and other foods to be fed on the farm.

Speaking for ourselves, we should say that if a change has to be made, it would be better to be from barley to some grain that will answer for feeding purposes as well, or better, than barley, and let the growing of some kind of live stock be introduced. The resultant gains will be none the less, and the farms will, at the same time, rather improve in fertility than deteriorate, as at present.

Soils that are well adapted to the growth of barley are also usually well adapted to the growth of oats and peas, both prime factors in meat and milk production. They will also grow roots well, corn for the silo, and rape for the purpose of fattening sheep and lambs. There would be no difficulty then in introducing some line of stock-keeping congenial to the particular tastes of the farmer, as the food could easily be grown for supporting stock introduced, and well suited to their particular wants.

Farmers who have devoted their attention in the past to the almost exclusive growth of barley have seriously impaired the productiveness of their farms, notwithstanding the wonderful degree of the fertility which they originally possessed. If these but substitute the growing of one kind of barley in the place of another, the process of depletion goes on, to the injury of the farmer in the end, unless the fertility of the soil be restored by the free use of fertilizers. We have maintained from the first that Ontario is essentially a stock-producing country, and that, as a rule, if the farmer is to prosper, it is through the keeping of some line of improved stock. Our contention is being verified every day in the constantly increasing returns obtained from the export of live stock and live stock products, and in the gradual decrease of the export of all kinds of grain. Let those, then, who are at present largely engaged in growing barley receive, with due prudence and consideration, the arguments that are now being brought to them with a view of influencing them to engage in the work of growing the same for the English market.

The whole question is one of dollars and cents. If two-rowed barley can be produced in Canada of a quality suited to the English market, and can be sold at a price that will pay for the extra expense incurred in keeping up the fertility of the soil impaired by its growth, by all means let the growth of two-rowed barley be encouraged. Whether this is so can only be determined by such experience as will be gained from the trials which the Dominion Government are encouraging, and of which our own competitive scheme, described in another column, will not be the least interesting.

Lessening the Labor and Decreasing the Expense of Silage Making.

The value of the silo to the stockman and dairyman is now so universally conceded that its utility need not

here be discussed, but the question of reducing the labor, dispensing with machinery, or otherwise cutting down the expenses, is now the most important topic. A discussion of this may induce others to adopt this means of preserving fodder, such as those that have been deterred by the expense of a cutter and a power to drive it, and perhaps by the labor of loading the corn in the field on the ordinary farm rack or wagon.

For carrying the corn low trucks are alright, but all do not possess them, and as they cost something, without any advantages, I just do without them. I now relate how I do it after seven years' experience, and I may here say that when I first started to make ensilage I used to cut it before storing, as is customary now.

The silo was built with its gable end to the side of an embankment, and by wharfing a little we are able to drive well up to the top at the end on the outside, which allows us to work the corn downwards, and we take the ensilage out on the lower side. So much for the silo.

For drawing in the corn, we take an ordinary farm wagon and separate the fore and hind wheels. The pole and front wheels almost complete one truck, while the other is partly made by splicing the reach to make a pole or tongue for it. All that are now required for each are two poles or pieces of timber some 22 or 24 feet long. If poles from the woods and of some kinds of timber, they should have been cut sometime previously so that they may be dry and stiff. They should be 6 ins. at one end and 4 ins. at the other. These two poles are fastened together in the form of a ladder by rounds 4 feet long, and may be 4 feet apart from one end to within 8 feet of the other. On these rounds are placed boards to prevent the corn from working through. One end of this rack is fastened into the axle and the other drags on the ground. Only two stakes are now required: eight feet from the end, to prevent the corn working back and dragging on the ground. The corn being laid across these it is a very easy matter to load and unload it.

To avoid the expense of a cutter and horsepower, do not use them. Corn-stalks will pack closer, settle better and can be taken out and fed more easily by being put in whole than by being cut, and the silo will hold more tons, as by cutting into lengths a portion of these pieces stand upright in the silo and do not settle as they do when laid lengthwise and the silo kept filled evenly. In either case, cut or whole, when taking the ensilage out we should cut down the ensilage in squares of three or four feet, thus exposing only a small surface to the air. And in this way it is apparent that there is no pulling or tearing, as some might suppose, in the latter case, nor baskets to be used in the former case.

Quebec.

TRUE PROGRESS.

Testing the Vitality and Vigour of Seed Grain.

Editor CANADIAN LIVE STOCK AND FARM JOURNAL:

The summer of 1889 was not a favorable one in some parts of the Dominion for maturing a high quality of seed grain. Rust prevailed to such an extent as to interfere with its usual development and plumpness. Where the rust was severe the grain is unusually light, and its percentage of germinating power has been considerably reduced. This is especially the case with oats. Judging from samples received for testing, this injury has been greatest in the Maritime Provinces, and in some districts in Ontario. The important bearing of well-developed, vigorous seed, of high germinating power, on good crops is now recognized by all thoughtful farmers, and no one who has any seed on hand, the vitality of which is questionable, should allow himself to remain long in uncertainty as to its value. The seed testing department at the Central Experimental Farm is now in full operation, and every farmer in the Dominion is invited to send any samples of which he may have doubt to this institution for test. The time occupied in testing is usually about a fortnight; an ounce or two is sufficient for the purpose. Samples may be sent through the mail to the Experimental Farm free of postage, and the returns will be made as promptly as possible, and free of charge. The name and address of the sender should be written plainly, and accompany each package.

WM. SAUNDERS,

Director Experimental Farm.

Central Experimental Farm,
Department of Agriculture,
Ottawa.

Mustard.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL.

SIR,—I have read with much interest the article by Mr. Nicol in your issue for December. There are, however, some points to which I take exception. I am somewhat surprised that a scientist of Mr. Nicol's standing should accept the story of the poisoning of cattle at Market Deeping, on no better authority than an English paper tells us. For my part, while I have no desire to be an apologist for the miserable weed generally known in this country as common rather than wild mustard, yet I greatly doubt about the poisoning. In the first place, if the seeds are poisonous at all it is to a very slight extent, and in the second place, had they been present in the rape-cake in quantities sufficiently large to produce the results described, the cake would have been so unpalatable that cattle would not have eaten it. The question requires further investigation and more proof than a mere newspaper statement. The cake may have owed its poisonous properties to many other things besides mustard seeds.

A word in reference to names. The plant we have been speaking of is very generally called common mustard rather than wild mustard, probably from its being so plentiful, and the other plant from which the ground mustard is manufactured is called black mustard in most places. The botanical name for the former is *Brassica sinapifera*, not *Sinapis arvensis*, and for the latter *Brassica nigra*, rather *Sinapis nigra*. The general name *Sinapis* has been entirely discarded by late botanists. The distinction between the plants bearing it and the genus *Brassica* are not sufficient to warrant their being kept apart.

There is another plant belonging to the same order (*Cruciferae*) which promises to rival mustard as a pest in grain fields. I refer to the weed known as false flax (erroneously called wild mustard in some localities) or to use the scientific name *Camilina sativa*. I know several fields in this neighborhood that were so completely filled with it last spring that the owners gave up prospect of any crop at all and ploughed it under. It is probably not so prolific as mustard, but possesses quite as much vitality and is a great deal worse in that it "gets its growth" much earlier in the season and grows taller, so that when it is plentiful it can overtop and choke even fall grain. In appearance this weed very much resembles the common plant called shepherd's plant (*apsella bursa-pastoris*) but is much larger and more robust, and has small yellow flowers instead of white. The pods are almost orange-shaped instead of heart-shaped, as in shepherd's plant. I do not think this weed has invaded many localities as yet in sufficient force to do much harm, but it evidently possesses all the qualities of a bad weed and farmers would do well to look out for it.

Brampton, Ont.

BOTANIST.

A Better Oat Yield.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

DEAR SIR,—I noticed in the January number of THE LIVE STOCK JOURNAL a statement regarding a good oat yield, which I do not think was very large. I have grown the Black Tartarian oats, and they are a good oat to yield, having yielded to me 80 bushels per acre, but do not like them, as they shell bad, and have poor straw. The kind I am growing principally now called the Bohemian Early Cluster. It is a plump oat, very white and early, weighs well, is free from rust, and they have yielded for me in two years, from one peck, 256 bushels by measure, and by weight 223 bushels, 25 pounds. When shipping 40 bags to a seed merchant at London, they weighed exactly 4000 pounds, or 100 pounds to the bag, and when I had them tested by James King, grain buyer, Sarina, found they weighed 43 pounds to the bushel. Enclosed please find a sample of said oats, with best respects to yourself, in your noble work of publishing so valuable a farm paper. Yours truly,

WILLIAM STEWART,

Lucas P.O., Moore Township, Ont.

As far as we may judge from the small sample sent us by our obliging correspondent, this variety would certainly merit his praise. The oat is plump, and the grains are uniform. The husk is not over thick, though some might raise an objection to them on that ground.—[E.]

The Banner Oat.

A NEW PREMIUM

No grain is more important to the stockman than the oat. He needs it for his horses and other stock, and wishes to grow it as economically and as carefully as possible. Therefore, he wants the best, the most prolific, the hardest on he can find. Every reader of THE LIVE STOCK JOURNAL has heard of the now famous *Banner Oat*, first brought into notice by Vick, the seed-man of Rochester, and two or three years ago introduced into Canada by Mr. John Miller, of Markham.

These are the points of merit claimed by the growers of the *Banner Oat*:

1. That it is less liable to rust than other varieties.
2. That it is a much better yielder.
3. That it is stronger in the straw, and therefore not so liable to be blown or knocked down.
4. That it is a superior oat for the making of meal.
5. That it ripens earlier than most other varieties.
6. That where other oats fail the *Banner oat* does well.
7. That it is a hardy variety, and therefore suitable to our northern and north-western districts.

And that while it has these merits, it is also as good for feeding stock, both in the grain and in the straw, as any other variety.

Here are a few items of interest concerning this oat that Mr. Miller has given us:

1. When he first sowed the *Banner oat*, he planted 1 lb., and his yield from that 1 lb. was 85 lbs.
2. A neighbor of his this last year had 17 acres in all of oats, of which 5 acres were sown with the *Banner oat*. From these 5 acres he obtained 476 bushels, or an average of 95 1/2 bushels per acre. He sold these all in one sale at 60 cents a bushel. From the remainder of his 17 acres, which in every respect as to soil and treatment were like the 5 *Banner oat* acres, he reaped only 30 bushels to the acre.

In the several competitions open to the whole continent of America, established by the *American Agriculturist* for the best returns from one acre sown with oats, Mr. Miller with the *Banner oat* stood third, having a yield of 91 bushels. Mr. Miller is confident that had his acre been in one of his ordinary grain fields, and not in an exposed place, in a field devoted to root crop, his yield would have been 20 bushels greater (which would have placed him first in the competition), for his acre was so much exposed that a great deal of the grain on it was knocked down and became lodged.

We have made arrangements with Mr. Miller by which we can supply our stockmen and farmers with sufficient seed of this valuable oat with which to make a start, and at little or no cost to themselves.

(1) To any stockman sending us two (2) *new* subscribers for THE LIVE STOCK JOURNAL and \$2.00, we will ask Mr. Miller to send 1 bushel of these oats.

(2) Anyone sending us three (3) *new* subscribers and \$3.00 shall receive 1 1/2 bushels.

(3) Anyone sending us four (4) *new* subscribers and \$4.00 shall receive 2 1/2 bushels.

The above includes the cost of the bag; but it does not include the cost of carriage. This must be defrayed by the receiver.

On examination, it will be found that these premium rewards are very liberal.

Three trial orders will count as one regular order. All orders should be written only on our blank forms, and these we shall be happy to supply on application. For further particulars as to "Trial Orders," "How to Send Money," see the "Publishers' Column."

NOTE.—This Premium has been very successful during this last month, and we have sent *Banner Oats*, as rewards to our co-workers in every part of Canada. Premium winners are requested in every case to send in the name of their nearest railway station, as the *Oats* cost less to be sent by freight than by any other way.

Young Stockman's Department.

Our Prize Essays.

To deepen the interest of our farmers' boys in the work of the farm, and so strengthen their love for a life in the country, to awaken their slumbering talents and stimulate their efforts for self-improvement, we offer the following book-prizes as inducements for the boys to write on such subjects as we shall announce each month:

1. *The Soil of the Farm*, by Scott & Morton.
2. *The Crops of the Farm*, by Scott & Morton.
3. *The Chemistry of the Farm*, by Warrington.
4. *Handbook of Agriculture*, by Wrightson.

The conditions to be observed by competitors are:

1. The writer must not be over 17 years of age.
2. The essay must not exceed one column in length.
3. The essays for competition for the prizes to be given in any month are to reach us on or before the 15th of the preceding month.

Essays for our April competition:

Com Ensilage: Best method of making, and its value for feeding stock.

How to raise the draught horse our market requires.

Essays for our May competition:

- (1.) Green folders for milking cows.
- (2.) The feeding, care and management of working farm horses.

Our Barley Competition.

The Barley Bulletin of the Dominion Government.—The bulletin on Barley lately issued by Prof. Saunders, Director of the Dominion Experimental Farm, will mark, we venture to say, an epoch in the agricultural history of Canada. What we are going to do and here describe has been incited by the statements made in that excellent document.

The Failure of the Importance of the Canadian Barley Crop.—A few years ago barley was one of the most profitable crops the Canadian farmer could produce. His grain was of the best. There was a great demand for it in the United States. The American farmer could not produce so good a grain, nor could he produce enough for his market. The consequence was that Canadian barley was grown for profitable sale in the American market. Now, however, the United States

farmer has learned to produce a good grain. And the demand for barley there is greatly lessened owing to the use of corn, rice, glucose, and other substitutes for it. The result is that barley growing has become unprofitable to the Canadian farmer.

Two-rowed Barley.—All the above apply to "six-rowed barley, the kind hitherto principally grown in Canada and used in the United States. In England the barley used is two-rowed; but two-rowed barley has been but little cultivated in Canada. The price of two-rowed barley in England is such that if a good two-rowed barley were grown in Canada, in sufficient quantities to permit of its being transported to England at reasonable cost, its price in Canada would range from 85 to 98 cents per bushel of 56 pounds. Every Canadian farmer will, therefore, see the importance of trying to raise a two-rowed barley that will satisfy the English requirements.

What Two-rowed Barley Should Be.—Two-rowed barley should be plump in the kernel, and light in the husk; and it should not be cut until the grain is fully ripe. This latter condition is of great importance. Again, the grain should be perfectly whole, and it should contain no admixture of the six-rowed sort. Moreover, it should not weigh less than from 54 to 56 pounds per measured bushel.

Best Varieties.—Prof. Saunders has been at great pains to get samples of the best varieties of two-rowed barley, and these he has had tested in various parts of the Dominion. From all the different varieties we have selected **The Beardless**, as the one that, in our opinion, promises the best returns to the Canadian grower. The Beardless variety is bearded like other sorts, but it often sheds its beard when fully ripe; and it drops its beard so easily when mature that it is more easily threshed and cleaned than other sorts. We may add that Prof. Saunders also thinks this Beardless variety to be one of the very best sorts.

Superiority of the Beardless Variety.—Besides these points of superiority, the Beardless variety returns a good yield per acre (50 1/2 bushels at the Experimental Farm at Ottawa); and its weight per bushel is also good (56 pounds at the Experimental Farm at Nappan, N.S.)

What We Propose to Do.—Through the courtesy of the Hon. Mr. Carling, Minister of Agriculture, of Ottawa, and Prof. Saunders, of the Dominion Experimental Farm, we are enabled to offer to every young subscriber of THE LIVE STOCK JOURNAL who desires to enter our competition, a 3-pound bag of pure, clean two-rowed barley of the Beardless variety. Each bag will contain exactly 3 pounds, no more, no less. It will be sent, post-paid, and free of all charges, to any applicant who will send us his name, on the understanding that the applicant shall comply with the conditions of the competition.

What the Competition will be in.—The competition will be to see which of our young subscribers shall be successful in producing the greatest weight of pure, clean grain from his 3-pound bag of seed. The grain must be sown by himself, cultivated by himself, harvested by himself, and threshed and cleaned by himself. Then it must be weighed, and its weight and purity and the integrity of the whole proceeding must be attested by disinterested witnesses.

What the Prizes will be.—We shall award four prizes, of the value of \$20.00, \$15.00, \$12.00, and \$4.50, respectively, for the first four best results. These prizes will not be in money, but will be chosen rather with a view to permanent value and utility, and their suitability. Keep in remembrance an achievement of more than ordinary interest. These prizes will be described in subsequent issues of THE LIVE STOCK JOURNAL. It is probable that we shall be able to announce new supplementary prizes.

Other Conditions of the Competition.—Intending competitors must be subscribers (either in their own name or that of their parents or guardians) of THE LIVE STOCK JOURNAL. They must not be more than 20 years of age on 1st of September next. They should send in their names as competitors as soon possible. They will then receive their bag of seed, and a blank form of report. In this report they must enter such particulars regarding time of sowing, method of sowing, method of cultivation and manuring, time and manner of harvesting, and weight of grain obtained, as we shall ask them. The attestation of the witnesses as to weighing, etc., must be made on this report also. Then this report must be sent to us: not later than the 1st of September. Each competitor will also be expected, at the close of the season, to fill in a blank form which will be supplied by the Department of Agriculture, and to send a pound of his grain to Ottawa, as a sample of what his method of cultivation has been able to effect. The successful competitors will also be required to send us a pound or two of their grain, for exhibition at the principal fall agricultural exhibitions.

What the Competition will Effect.—This competition will enable every competitor to obtain, at no cost to himself, a sample of the most valuable variety of what is going, in all probability, to be in the future one of the leading grain crops of Canada. At the end of this season he will have, if fairly successful, something like two bushels of seed grain. Sowing this next year, he will have at the close of the season say from 25 to 40

bushels of seed (or perhaps more) available for 1892. He will thus have, in addition to a great deal of most valuable experience, a sufficient quantity of seed to enable him to enter upon the production of two-rowed barley as a profitable pursuit.

Conclusion.—Now, boys and young men, set on your names at once. Let us have a grand contest. Should the interest taken in this competition be what it should be, we will do all in our power to make it useful to the country at large, and especially useful and profitable to those actively engaged in it. We trust to be able to add to our prize list considerably. Remember that the question whether two-rowed barley can be profitably grown in Canada is as yet undecided. Many people think it can. Each farmer will have to find out for himself, that is, so far as his own farm is concerned. He must also learn how to sow it, how to manure it, how to cultivate it, how to save and cure it. He can learn this only by practical experience. If you engage in this competition, and learn all this, and if it should prove that two-rowed barley is a good crop for Canadian farmers to produce, then you will be one or two years ahead of all those who do not begin to get their experience this year.

Grand Sweepstakes Essay.

We have decided to make a slight change in respect to the conditions for entrance to the competition for our silver watch. To have the right to compete for this grand prize our young stockmen must write something for this department that will be accepted by us for publication. This is the only condition we make provided also that the writer is a young stockman, which means, as stated in the conditions for the ordinary essays, that the writer is not over seventeen years of age. The entrance is easy, and we hope every young stockman will avail himself of the chance to win a prize of high honor and worth. If you cannot write on any of the subjects we set from month to month, choose your own topic, and if it is worthy of place in this department, we shall gladly publish it. The watch we offer is a splendid one in every respect. Later on we shall announce the subject or subjects which the essayist must choose so that the successful one may appear in our Christmas number. It may be well to state that all those that have been winners of prizes, as well as those who have written essays from which we have taken extracts, have already gained the right to compete. Write to us at once, boys, before the short nights come when you will not feel like writing.



A Famous Percheron Colt.

With the hope of stimulating our young stockmen, we present to them an engraving of a colt that has gained a wide renown. From his breeder we have been successful in obtaining the method of feeding that was followed and other matter pertaining to him.

Victor 6051 was foaled Oct. 27th, 1886, weighing a little over 100 lbs. at birth. He is an inbred colt of the noted French Monarch strain, and was bred at the Elmwood Farm, of which John W. Akin, Scipio, N. Y., is proprietor. The dam, La Poule 3968 (2678), is a good feeder and has the capacity of turning all feed given her into milk. Mr. Akin decided to see how fast the colt could be grown for a few months. The greatest gain was made when the mare was given a liberal feed of ground wheat and oats, together with

plenty of hay and water. The colt was weighed about once a week and some weeks gained five pounds per day. The average gain for four months was four and three quarter pounds per day. A short notice was given Victor in some of the agricultural papers, and his great gain and rapid development astonished everyone. He is said to have developed into one of the finest Percheron stallions in this country; is very smooth, clean built, combined with great style and action. He is 16¼ hands, weight 1650 lbs., and has just been sold to Mr. Fred Newby, of Milo Centre, Yates Co., N. Y., the price representing one dollar per pound. Mr. Akin is a strong advocate of home bred stock, believing that as good or better animals can be bred here as in France, and at much less expense. He has for years been increasing his stock of Percheron mares, so that he will henceforward breed from 40 to 60 colts each year.

Raising Calves on Skim Milk.

The boys of the farm will not succeed in raising good stock unless they understand both the arts of breeding and of feeding. An animal may be well bred, but if not well fed its breeding will not avail. Owing to the value of new milk, either in its first form or when turned into butter and cheese, it is too costly to raise calves upon it unless in the case of some very valuable young things, that are to be sold at a high figure. We think the day is not far distant when nearly all the live stock of this country will be raised on skim milk. It is, therefore, of the very first importance that every farm boy should understand how to rear calves on skim milk in the very finest form.

Now, boys, we feel quite sure we can assist you in this matter. We saw calves not long ago at the stock establishment of the Messrs. Jas. Smith & Son, of "Maple Lodge," that had been raised on skim milk, which were quite as good as others in the same stables that had sucked the cows. Both classes were pure bred Shorthorns. Through the kindness of this firm we are enabled to give you their system of feeding calves, hoping that you may go and do likewise and report to this department of the JOURNAL next autumn as to how you succeeded. If you can improve upon the method that we give you we shall be glad, and we are quite sure that the Messrs. Smith will be glad also.

The calves are fed by hand all the new milk they will take three times a day until about a week old. Then skim milk is added, only a little at first, but the quantity of skim milk is so increased and that of the new milk so reduced that in two weeks from the commencement of this change skim milk only will be fed. The skim milk is fed only when it is sweet, as when sour it produces scours and injures digestion in other ways. The skim milk is fed at the temperature of milk newly taken from the cow. In heating it a portion of the milk is put on the stove in a pan or pail, and heated gradually till quite warm. It is then poured into the portions respectively set apart for each calf. The calves get the milk three times a day for, say a month, from the beginning of the change to skim milk, but a less quantity is given at noon, and if fed regularly they may get all the skim milk they will take without injury to them.

When the change is being made from new milk to skim milk flax seed is added to the milk. It is prepared as follows: For two calves take half a teacupful of flax at night, and pour on two quarts of boiling water, allowing it to steep till morning; it is then warmed and added to the milk; the quantity of the flax may be gradually but slowly increased, until three

fourths of a teacupful of flax seed, steeped in a proportionate increase of hot water, is given to each animal. The flax for the night meal is put to steep in the same way in the morning. Milk is fed until the calves are seven or eight months old. They should have access to all the clean water they will drink at all times.

They get all the meal they will eat up clean twice a day. The mixture consists of ¼ ground peas, ¼ ground oats, and ½ wheat bran; this is mixed with good hay run through a cutting box. The proportion of the hay to the meal is increased as the calves get older. Where meal of this kind is not to be had, boys, give your calves oats, which you may feed whole, and you need not mix them with cut hay. When autumn comes oat sheaves are sometimes cut in the chaffer and the meal mixture added, but not so much of it in quantity as when the cut oat sheaves are not fed. They get what long hay they eat up clean in winter, and green food of almost any kind in summer. They are kept in loose box stalls in the stable all through the first summer, which are kept dark in the season of flies. They may get a good supply of sliced roots in the season for these.

Now, boys, we have given you one of the best methods of feeding calves. Go right to work and see what you can do. Don't grudge the labor and time, for you will be so pleased when you see what splendid calves you have by next autumn, that you will think yourselves well repaid. We are greatly mistaken if the day is not coming when nearly all the calves in most parts of the Dominion will be raised by skim milk, and we desire that all our farmer boys shall know how to do this in best form.

The Feeding, Care, and Management of Pigs from Weaning Time Until Peady for the Market.

[PRIZE ESSAY.]

By HENRY HOGARTH, Brooklyn, Ont.

After the sow has had her young she should be given food that she can easily digest. At first it is best to feed her lightly, and then gradually increase the amount of food she gets as the strain becomes greater on her. Sickness should be carefully guarded against both in the mother and her young, and the best protection against disease are pure air and sunshine. They should have a good warm pen with a yard attached. The young pigs should be taught to feed themselves as soon as possible. Their trough should be a shallow flat-bottomed one, so arranged that the sow cannot get to it. The food of the young pigs should consist first of milk, then of middlings, oats, or barley meal mixed with warm milk. They may be weaned gradually at the end of six or eight weeks, and a little oil meal, and also corn and pea meal, may be added to their food. Their growth should now be pushed along as fast as possible, and they should be fed regularly, say about five times a day, but only given as much as they will eat up clean each time. A little salt may at times be added. Care should be taken that they are fed regularly as much as they will eat. Green oats pulled by the roots is a good form of green food for them, as is also green clover, and it is well to have a pasture field or yard provided for the pigs to run in. They should not be fed on foods too fattening in their nature, such as corn, when growing, as a young pig will not grow well if too fat; but they should be given green feed principally, as this will supply materials for the building of bone and growing of muscle. To finish them off in the fall for the market they should have corn, soaked peas, or pea

meal; the latter is said to make the meat solid. A very good mixture of food consists of barley, peas, and oats chopped together. Some prefer cooked roots and pumpkins mixed with pea or barley meal to begin fattening on.

The Feeding, Care, and Management of Pigs from Weaning Time Until Ready for Market in the Fall.

[PRIZE ESSAY.]

By ADDISON H. BAIRD, Chesterfield, Ont.

Pigs intended for the fall market should be farrowed in March or April, so that they will not be over six or eight months old when sold.

The little pigs should be taught to eat before they are weaned. This can easily be done by putting a partition across one corner of the pen, leaving a small hole for the little pigs to enter. If you place a trough in this and put a little warm skim milk in it five or six times per day the little fellows will always be ready for their meals, and they will grow much more rapidly than they will if they are not taught to eat before they are weaned.

They should be weaned when they are about two months old, and fed on milk and middlings, or chopped oats and barley, and if they are kept inside they should get plenty of green clover.

They should always get enough feed to keep them growing as fast as possible, as pigs that are fed only enough to keep them alive are boarding on their owner, and not even paying their board-bill.

As the price for pork is generally pretty high in September and October, it is a good plan to feed some peas along with their other feed for a month or two before this.

During the summer the pens should be kept as cool as possible, and they must be kept clean at all times.

If the manure is properly saved and applied to the land, it will add greatly to the profits by the increase and quality of the crops.

Training Colts.

[PRIZE ESSAY.]

By J. L. ROBINSON, St. Marys, Ont.

In treating of this subject I shall give you our method: First, make the colt fond of you by petting him or by giving him apples, salt, or something that he is fond of. Halter-break him when he is suckling his mother by tying him up beside her. Bridle him gently, and leave the bridle on for a while. Use a bit of middling large diameter, and keep it up well in his mouth, so as not to make him a tongue-loller. Put on your harness carefully, and notice closely that it fits well, and is strong in every part. Never on any account drive the colt in unsafe harness, or before a vehicle liable to break down. After putting on the harness turn the colt loose in his box-stall for a while till he is used to the weight of the harness, and if he is a roadster, as soon as he becomes perfectly quiet, check him up, so as to give him an easy carriage of the head, but do not let him have a dead bearing on the bit. As soon as he gets used to the check and reins, and will stop, start, or turn to the right or left at the word, it is safe to drive him on the road; but instead of putting the reins through the turret rings, put them through the shaft holes, so that the colt cannot turn either way. Then hitch the colt to the sulky, let him smell and examine every part of it, so that he will know that it is an object not to be afraid of, then draw the sulky up behind him, rattling it, and

running it backwards and forwards, and after backing him up against the cross-bar of the shafts a few times then attach the harness. If he acts frightened hold him tightly, so as to prevent him from turning, speak calmly but firmly to him, and pet him till he is again quiet. Take your seat in the sulky and drive him slowly at first, so as to let him notice every object on the road; be careful not to make too much use of the whip; never urge him past any object of which he is afraid, and always speak to him when he is excited.

After the colt drives well he should be learned to back, put a good safe bit in his mouth and take him up on a hill-side. Take him by the bridle at first; if he acts unwillingly hit him a gentle cut with a whip, and after a few lessons put on the reins and make him back promptly.

To teach him to draw: hitch him beside a quiet horse in an empty sleigh in preference to a wagon, as the wagon makes too much noise, after a while increase the amount of weight till he will draw to his utmost strength without knowing that he has power to do otherwise. Be careful not to load the colt too heavily at first, and do not for a while hitch him in front of a load of hay, or drive him down a hill with a heavy load. If the colt acts stubbornly in any part, hit him a few cuts with a whip, but not too many.

The Dairy.

Salt in the Dairy.

FOR BUTTERMILKING.

(Continued from December issue.)

In the making of butter the salt used is an item of considerable importance. It is the commonly accepted idea that salt is used chiefly to enhance the keeping qualities of the butter, while the fact is its chief function is to satisfy the taste of the consumer. Butter made on correct principles needs but very little salt and that principally to meet the taste of consumers, and it is only the butter that is not freed from the buttermilk as it should be, that requires to be salted with the end in view of improving its keeping qualities.

Salt for butter should be pure, dry, easy to dissolve, fine and of uniform grain, and free from all bitterness of taste. The purity may be judged of largely by its appearance. If it is a pale blue or red, such indicate impurities, the former organic matter, and the latter iron. Pure salt (*sodium chloride*), which is only on the market for the chemist, will not absorb any moisture from the atmosphere, and if a dairy salt is found to become quite wet when exposed to a damp atmosphere, it is not a desirable variety to use for butter making. The absorption of such moisture may only be accounted for by the presence of such impurities as magnesium chloride, calcium chloride, or calcium sulphate (gypsum), in such quantities as to cause it to injuriously affect the butter with which it is used. Salt that coheres in lumps is not fit for salting butter with, as this is caused by the presence of gypsum or calcium sulphate. The taste of salt also is a guide in this matter, if it is in the least bitter it indicates that magnesium chloride, an ingredient that is an impurity, is present. A good salt is easily dissolved, and moreover, if a small quantity of it is taken and dissolved in water, the solution is comparatively clear; but if an inferior quality be treated in the same manner, it makes the solution murky. The uniformity in size of the grains is also an important matter, for if they are not so and the grains are

hard and not easily dissolved, it has a bad effect on the texture of the butter and its keeping qualities; and further, the butter will be streaked in appearance, which may also be caused by the salt not being evenly distributed in working it. The crystals of pure salt are always in the form of cubes, and the presence of crystals of any other shape points to impurities. Lime is sometimes used to adulterate salt, but this may be easily detected by adding a drop or two of hydrochloric acid to a small quantity, and if the latter effervesces, it indicates the presence of lime in the form of a carbonate. As to how fine the salt should be some differences of opinion exist. It is best only medium fineness, as it will then impart the desired flavor, dissolve easily, and not injure the texture of the butter. It has been stated exactly that the grains of a good dairy salt should be between 1-25 to 1-50 of an inch in diameter. A mechanical analysis of a number of varieties shows that Higgins' is the finest on the market, it being somewhat finer than Ashton's. A chemical analysis of Higgin's, which may be accepted as the composition of all good brands of dairy salts, is as follows: water at 100° 0.48, calcium chloride 0.08, magnesium chloride 0.26, calcium sulphate 1.40, sodium chloride (salt) 97.77. It is hardly possible under the present system of preparing salt for the market to get it freer from impurities than this sample.

Working Butter.

One of the most distinctive features of difference between the old method of buttermaking and the new is due to the change of ideas in respect to the need of working and the results that follow it. The old way consisted in churning the butter until a pronounced thud greeted the ear of the spent churner, when the butter was taken out in a mass and literally mashed in a wooden dish with the idea of working out the buttermilk and working in the salt. The newer method calls for the stopping of the churn as soon as the butter pellets gather large enough to be seen, and then the buttermilk is mostly run out through a fine wire strainer, so that none of the pellets may escape into the buttermilk. The small quantity of buttermilk that clings to the pellets is washed out, by the introduction of clear cold water until the latter comes out clear. This all butter-makers of experience agree upon as the better way of freeing the butter of the buttermilk, the only point of difference now existing being which is the better method of salting—on the butter-worker or in the churn. The agreement of nearly all is the less, it is worked the better the grain or texture. As to whether brine salting shall be adopted, or dry salting followed, depends almost solely on the taste of those controlling the several markets, for it is a difficult matter to salt butter enough with brine to suit the demands of a market asking for a strongly-salted brand. With brine salting, a method that has been practised by a prominent dairyman, consists in taking the butter from the churn in its granular state, and placing it in a shallow box, and after the butter is sprinkled with the required amount of salt, it is stirred with a contrivance not unlike a hand-rake. By this means the grain is not injured, and the desired amount of salt has been introduced. The grain of butter is, in the minds of some, thought to be the loose condition of the butter granules, but this is not really so, as a good textured butter may be firmly packed and yet be uninjured in grain. If a piece of butter is taken and broken, it is of good texture when the broken ends are as jagged

as if it had been of steel. If the worker has to be used, let the pressure be as perpendicular as possible and not sliding, as this latter will completely destroy the texture.

Professor James W. Robertson.

During recent years, the name of Professor James W. Robertson has become inseparably associated with the advance that has been made in dairying in this Province, and indeed in the whole Dominion. We are so accustomed to the perusal of sketches of his useful work in this line in the press, that the mention of milk, butter, or cheese, at once calls his name to remembrance. No one name is better known to the farmers of this province at the present time, and there is no one perhaps who is now doing more for the advancement of their material interests. We have deemed it fitting, therefore, to give our readers an outline of the extremely useful life of the subject of the accompanying sketch. We trust that our young men, as they read the simple story, will catch something of the enthusiasm, which, backed up by a vigorous intellect, has brought the young Professor to the pinnacle of attainment in his line.

James W. Robertson was born in a modest farm house in the parish of Ayr, Dunlop, Scotland, on November 2nd, 1857. He came of the old Covenanting and "Conventicle" stocks, who have in their descendants given to the world a precious legacy of integrity and sterling worth. He was educated at the Free Church school of Dunlop, the Ardeer public school, and the Cunningham Institute. His teacher at the Ardeer public school was Mr. John C. Lindsay, one of the most efficient teachers in that land of famous "Domines." At the Cunningham Institute he was under Andrew Struthers, M.A., now of the High School of Glasgow, a man who possesses in a marked degree the happy faculty of inspiring his pupils to think for themselves.

In 1875 Mr. Robertson emigrated to Canada along with the family, and commenced life and work here on a farm in the Gore of London, Ont.

In 1876 he learned the cheese-making business in a factory at Salford, near Ingersoll, and in 1877 took charge of a factory of the North Branch Cheese Manufacturing Co., in London Township, and continued in charge of the same for four years, during which period its business was nearly doubled. It was while thus engaged that the happy talent for public speaking possessed by Professor Robertson was developed through the agencies of lodge debates and Bible class work.

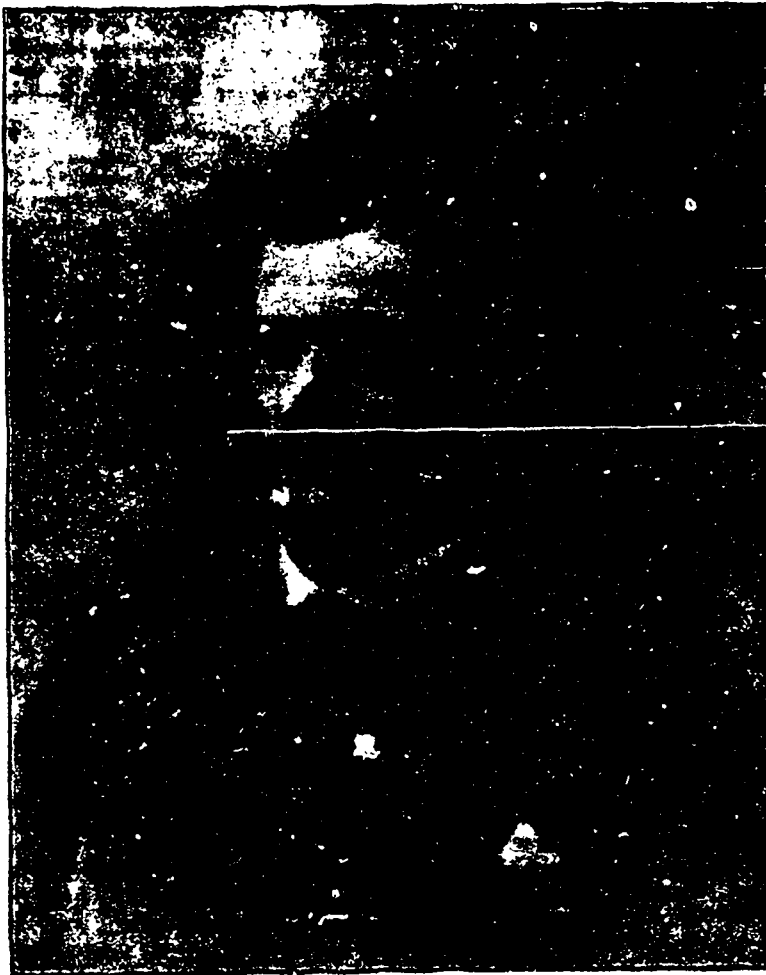
In 1881 Mr. Robertson moved to Cotswold, for the purpose of not only manufacturing cheese, but of engaging in the exportation of it to Britain. By 1884, he had control of eight prosperous cheese factories in that district, with a patronage of over 700 farmers.

With that ceaseless activity which has all along characterized his life, he moved in the matter of

establishing a board of trade at Listowel, which has since become one of the leading cheese markets on the continent.

In 1886 he took the initiative in asking aid from the Ontario Government for the creamery industry, through a creameries' association, which it was proposed to organize. Since the establishment of this institution, Professor Robertson has been one of the most active promoters of its usefulness.

But widening fields of greater scope were at hand. In April, 1886, Mr. Robertson accepted the appointment of Professor of Dairying at the Ontario Agricultural College. The appointment was made by the then Commissioner of Agriculture, the Hon. A. M. Ross, on the strong recommendation of Mr. T. Ballantyne, M.P., and the wisdom of Mr. Ballantyne's forecast of the fitness of Mr. Robertson for this work



PROFESSOR JAMES W. ROBERTSON.
Dairy Commissioner for Dominion of Canada.

has been more than justified by the results. The same year he went to London, in charge of the Ontario Government's butter and cheese exhibit, sent to the Colonial and Indian exhibition in that city. Very largely through his admirable management of this exhibit, the fame of our dairy products was carried to many lands, and was sounded from one end of Britain to the other through the columns of the press of that country. He then went from London to Denmark to investigate the methods of butter-making there, adding what was found of use to his wonderful store of dairy knowledge.

Since that time, and up to the present Professor Robertson's life has been one of ceaseless activities. His whole being, energized, as it were, has been undergoing the pouring-out process on the

altar of his country, and for the material well-being of her citizens. To say that he has been unceasing in his labors, is putting it mildly. At one period we find him addressing Farmers' Institutes for months in succession, at another lecturing to the students of the college on his favorite theme, dairying. Now we find him a prominent figure at dairy and cheese conventions, and again supervising the Experimental Creamery at the Ontario College Farm. On Saturday he is giving his attention to the growing of corn and the issuing of bulletins of instruction in connection with cheese-making practices for the use of the farmers, and on Sabbath in some sacred desk assisting fellow-pilgrims. In Ontario he may be truly styled the great apostle of ensilage and the silo, and through his efforts in this line alone the farming community is being stirred to its foundations.

Our American neighbors have had a covetous eye upon our dairy Professor for some years past. In 1888 he made the tour of the Wisconsin Institutes, where he won the regard of Governor Hoard and ten thousand others. In 1889, after delivering a series of lectures at Cornell University, New York, he was appointed non-resident Professor of Dairy Husbandry for that institution.

The sagacious people of that wonderful republic world in all probability have captured Mr. Robertson but for the wisdom of our Dominion Government, which concluded that he was too valuable a man to lose for the sake of \$3000 a year. They have therefore saved to Canada, in the prime of life and usefulness, him, who is acknowledged by all hands, the foremost dairyman in America. His position at present is that of Dairy Commissioner for the Dominion, and Agriculturist to the Central Experimental Farm which carries with it the management of the live stock department. Long may Professor Robertson be spared to serve his country, in a field just the extent of the whole Dominion.

Handsome presents were given him, accompanied by addresses from both staff and students of the Ontario Agricultural College, on the eve of his departure for Ottawa, and the echoes of the cheers given him by the students, when the train moved out from Guelph station, cannot but follow him to the end of life, because of their heartiness and sincerity.

The Value of Public Dairy Tests.

No matter how conscientiously such tests may be conducted and organized, they have always in the past given rise to much discontent, and when we find this so universal, it is but right to attribute it to other causes than the desires for notoriety or controversy. It is an opinion of ours, shared in by many of our American contemporaries, that the right place to test a dairy cow is in her owner's stables, with properly appointed authorities to see that the test is conducted on a square and reliable basis. Under such conditions a cow will be at her best, and at the

same time escapes the enormous risks of transport, that attend the shipping of a cow from place to place. It is in her own stall that any cow will be most comfortable in mind and body. Such a marked change of scene from the quiet of their own stables to the bustle and turmoil of exhibition grounds, must affect many cows very strongly and in different degrees; some being very little influenced by it, and others so sensitive as to not give even their normal flow of milk until months afterwards. The private test, with proper authorities as vouchers for its reliability, furnishes better data by far for the formation of just conclusions. The public test, though not wholly useless as it directs and excites the attention of dairy men to the question of increasing yields, does little more than furnish material for champions to wrongly use, and stir up the feuds between the breeds. The private test must grow in public favor as time goes on, for as a criterion of the capabilities of any cow or breed it is far more reliable than the results of any public competition.

Winter Dairying for Ontario.

Read by JAS. W. ROBERTSON, Dominion Commissioner of Dairying, Ottawa, Ont., before the Permanent Central Farmers' Institute.

Popular conception is astray when it concludes that dairying is concerned only in the production and manipulation of milk, and the manufacture of butter and cheese. Dairy husbandry is an occupation of wider range and greater importance than even these. Its aim and object is the production of food of concentrated value and quality. All of our food, except fish, comes from the loutful bosom of old mother earth. Out of her soil arise the plants that feed animals, whose products are the main saleable commodities provided by dairying. The skilful farmer's work is threefold in the line of its endeavor. (1) he seeks to obtain the largest amount of food of the best quality with the least expenditure; (2) he tries to conserve and to increase the *productive power*, or the fertility of his fields; (3) he aims to provide *occupation* at remunerative rates for himself and all his helpers. As a tiller of the soil, he ranks as a producer. When he keeps animals for the sake of their products he becomes a *manufacturer* of food, using the living animals as his machines to transform the raw material of crops into the manufactured article of animal products. As a *producer* it becomes him to so cultivate the soil, that nature's power may best serve him through the crops which he plants and sows, so that he may obtain from her vast resources not only food for his own immediate needs, but wealth in portable, exchangeable form. As a *producer* it is his further duty to husband the stores of fertility, whence he may draw with ever-increasing profit from the never diminishing source. It further devolves upon him to so govern and regulate the growth of plants that only those adapted to his purposes may obtain root-hold upon his land. Nature will persistently try to cover the nakedness of all soil. The man who farms well directs her to cover his land with such a sort of plants as will yield him comfort and wealth. When all his skill as a producer has been applied, the agriculturist will find that many parts of his crops are not at all adapted for food, neither have they power to yield valuable service in any other way until their elements have been manufactured into new commodities. The duties of a *manufacturer* of food is thus put before and laid upon him. In this line of work he calls to his service, and makes subordinate to his use, domestic animals, that these may elaborate for him, out of the coarse plants, refined and substantial foods, such as milk, cheese, butter, beef, pork, and mutton. He must also needs be a man of business-power and habits, in order that he may dispose of his products at the season of the year, and of the kind which together make the terms of exchange most favorable to him.

I think that *winter dairying* will enable the farmer to follow this line of work with more success than any other method of husbandry he can adopt. The term *winter* is used to designate this practice as it differs from the ordinary management of those who follow so-called summer dairying. The former is not in any sense opposed to the best development of the latter. The one is complementary of the other.

Since cattle must be kept to enable the farmer to carry on his work successfully as already outlined, it is a matter of prime importance to him that his cattle may be reared or obtained at the least possible cost. For this reason it is desirable to keep cows for the threefold object: (1) of obtaining milk at a profit; (2) of rearing stock of the best kind at the least cost; and (3) of producing beef. It therefore follows that the prudent practice is for the farmer to obtain these saleable products at a time when there is the greatest difference in his favor between their cost to himself and the price obtainable for them. The price obtainable for milk and its direct products in our province is from 50 to 100 per cent. more in the winter months than during the summer months. The cost of production for the same is not necessarily any higher during the winter than throughout the summer. It must be borne in mind that cows have to be fed during the whole year, and they should be made to pay for their board continuously with its consumption. Then the raising of stock can be more economically commenced and carried on from October, as a starting point than from April or May. It will not be wise procedure on the part of our farmers to develop the interests of butter and cheese manufacture to the neglecting or sacrificing of our growing trade in the export of live cattle.

The manufacture of butter during the winter can be economically combined with the rearing of stock for beefing purposes. A rather meaningless cry has been raised against a cow, competent to give a large flow of fairly rich milk, while bearing the form most valuable for the production of beef. The "general purpose cow" has been spoken against and written against, until in name she is the most abused of all farm animals. The mistaken idea has been in calling a no purpose cow, "a general purpose cow." The success of farmers in other countries, where the practice of making butter has been combined with that of rearing animals for the butcher, proves that the two can be carried on together with advantage to both. The fashion that calls for the rectangular outline of a beefing animal is not founded upon good reason. It will give place to a better form for a farm animal, that of the wedge-shaped dairy cow.

The question may be aptly raised, Is our country adapted for pursuing the line of agriculture which has just been outlined in these remarks? We cannot successfully contend against our natural adaptations. Our success is easiest won when our efforts do not run counter to the climatic and market conditions. Our soil, while rich, is unable to stand the strain of constant grain growing, followed by continuous grain selling. It can bear up the best of crops annually if the bulk of the grain be fed to animals, as cattle, swine, sheep and horses. Our climatic conditions give us an advantage over all other parts of the globe for the production of large crops. The frosts of winter exercise their beneficial disintegrating action upon the soil and its constituents, while the abundant sunshine of summer enables the plants to appropriate those elements of life-sustaining energy valuable in fodder crops. The development and improvement of transportation facilities have brought every township in Ontario close to the best market in the world for food products—that of the British Isles. Leaving sight of the miles that intervene between the towns on our railways and the large centres of consuming population in England, in the case of butter and cheese, we are less than one cent per pound distant from these customers. The cost of transportation is a much smaller proportion to the total value of the products in the case of butter, cheese, beef, and bacon, than in the case of cereals. The exportation of these latter also removes from our soil a much larger amount of valuable constituents that plants need, than does the exportation of these manufactured products. It therefore follows that every argument of economy is in favor of winter dairying. The means and methods whereby its profits may be enlarged, and its success assured, may be briefly discussed under the heads of *cows, fodder, stabling, creameries, cheese factories, and stock-raising.*

(To be continued.)

Those London Tests.

Editor CANADIAN LIVE STOCK AND FARM JOURNAL:

DEAR SIR,—In your February issue of THE JOURNAL an article appeared headed "Ayrshires and Jerseys," in which Prof. Robertson is blamed for having used an unfair method in conducting the dairy tests at the late London Exhibition.

Now, we do not know the method adopted by the Professor, but we know he is qualified for the work, and we feel sure also that he would not adopt any but fair and impartial means. The object being, as your correspondent says, to find out which breed furnishes the material for the best general purpose dairy cow, and as butter and cheese making are the two prime factors in dairying, we think the cow whose milk will make the most butter and cheese, let the quantity of milk be small or great, is the dairyman's cow. Milk is composed of cream, whey or water, and curds. The butterman wants the cream, the cheeseman wants the curds, and who wants the water?

He says the Professor gave undue regard to quality of milk, overlooking quantity. Now, of what importance for cheese or butter is a large flow of milk if it is not rich in solids, as it is the solids that count in either case?

Examine the method proposed by your correspondent and see if it is a fair one. Here it is! "One point shall be allowed for every pound of milk, twenty points for every pound of butter, four points for every pound of solids other than butter, counting twenty days after the last calving of each cow, one point shall be allowed for every ten days up to time of test."

He gives a table according to this method, which says the Ayrshires gave 8.44 pounds butter-fat, 26.09 pounds solids, or 34.53 pounds total solids; Jerseys gave 14.12 pounds butter-fat, 27.22 pounds solids, 41.34 pounds total solids. The weight of solids determines the amount of butter and cheese the milk will produce; then can any table be fair which brings the Ayrshires ahead in this case? No points should be allowed for quantity of milk, or rather for quantity of water, as points have been allowed for solids already.

He says: "Ought not milk to be estimated at a given value per quart as well as butter at so much per pound?" Though unnecessary, we have no objection to offer to doing so if a proper value is attached to it, but we contend that it should be valued according to amount of butter and cheese-making properties contained in it.

Mr Cheesman, in THE JOURNAL of September, 1888, gives an example of a creamery near Philadelphia which pays for milk prices ranging from 90 cents to \$2.00 per 100 pounds, according to quality. Jersey and Guernsey milk brings from \$1.60 in summer to \$2.00 in winter per 100 pounds milk, while other milks only bring from 90 cents to \$1.30 per 100 pounds. Now, this is as it should be, and why should not cheese factories be conducted on similar principles? until this is done dairymen who have rich milkers, and who feed well, will not receive all their own. He persists in saying that "had the milk been made into cheese the balance in favor of the Ayrshires would have been much larger," and proves this by allowing 10 pounds of milk to make 1 pound of cheese. Now, is all milk alike for cheese making? or as he asks, will a small quantity of Jersey milk produce as much cheese as double the quantity of Ayrshire milk? We answer that "The given quantity of Jersey milk would have made more cheese than the given quantity of Ayrshire milk." Stewart informs us that cheese is about 70 per cent. solids and 30 per cent. water, also that "the greater the amount of fat in proportion to casein in the solids the richer the cheese will be." This proves that as the Jersey milk contained more fat and more "total solids," the amount of cheese made by it would have been greater and of better quality.

Examine the last count in his method as given above. Should it not rather read "counting from beginning of period of gestation" than from twenty days after last calving, as time of next calving will affect the quantity of milk equally as much, and perhaps more, than last calving time. He says one of his cows was in use 11 months, and another 12 months. Now, every dairyman knows that these cows should have dropped another calf in, or almost in, this time. Then his cows must have been either farrow cows, or cows far back yet from calving time, owing to quantity of milk they gave. His method of counting gives cows of this kind an advantage over fresh cows, rather than of bringing on a level with each other. He also complains that his cows were not at their best age, also that the Jerseys were dishonestly fed, rather than find fault, we think he should have learned from it that when he places his cows in competition against Jerseys, and especially Mrs. Jones' prime ones, he should put in full sledged cows, and feed them to the best possible advantage.

For ourselves, we would have found little difficulty in choosing which cows to "take home with us" had we our choice, and we are only sorry we had not; also we would be perfectly satisfied at any time to let Prof. Robertson choose for us. It is urged by some that Jerseys would be useless as factory cows owing to present factory rules, but when the Professor is asked "Which are the three best dairy cows?" he must answer "The three Jerseys," and so say we. Yours, etc.,

Edmonton, Ont.

ROBT. McCULLOCH.

J. H. HOUSER, of Canboro, Ont., writes: "Your journal is growing brighter every day, and I hope before long to take a breeder's card in your directory, as, besides being a breeder of Berkshire swine, I have lately purchased a Shorthorn cow and some Cotswold sheep, all from imported stock."

Poultry.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.
Poultry House.

By R. J. GRACEY, Wellandport, Ont.

The foundation consists of six pieces of timber, two pieces twenty feet long, (long sills), three pieces (cross sills) thirteen feet, and one piece eleven feet long. This timber should be six by six inches, except the piece eleven feet long, which may be only four by four, as it simply is a sleeper for hallway, and to support the end of hall floor. Those are all the timbers needed for the foundation. In the ground plan (Fig. 1), D is the main door entrance; C, are hinged wire doors two feet wide, leading into the feedroom; F, slide trap-doors for egress and ingress of fowls. They are worked by a cord and pulley from the hall. G, G, are feedrooms; N, N, are nests. The partitions should be boarded tight for two feet high, then use wire netting or laths. Q is centre, running across nine feet from west side. R, R, are roosts, these may be made in different ways, but mine are made in this way: Make a bottom about 3½ or 4 feet wide, with ¾ inch boards. At each corner of this, nail one leg about one foot long; this is to catch the droppings, and it stands one foot from the ground, which allows the fowl to get around under it. On this bottom, after standing it on these uprights, nail four other uprights one foot long. Nail these so that when the roosts are nailed on top of them, the droppings from the fowl will fall on this bottom. Then nail a strip two inches wide around this bottom, to prevent the droppings from falling off on the floor. S is the stairway, which must necessarily be short and steep, running to the front, and leading to the upper storey, where the grain crops, etc., are kept. V, V, are ventilators, made with two boards 4 inches wide, and two boards 6 inches wide, making a hollow box four inches square, reaching to within a foot of the floor, and running two feet above the roof. A hole can be cut in the box at the roof, just inside, to give ventilation from the top of the building if desired. Screw a lid over this hole in the ventilator box, for the purpose of a cover, so that you can shut off the top and use only the bottom ventilation, or both as you wish. W, W, are windows. Make the windows about 3 feet square, and set them within 10 inches or 1 foot from the floor, so that the sun can strike on all the floor. A window made of 12 lights of 10 x 12 glass, makes one large enough for this building, or any other, for I do not approve of too much light. Have two cross pieces on the sash, for the glass to rest upon. You do not require uprights in the sash. Make them 3 lights high and 4 wide, lap the glass half and lay white lead between. This makes a good window, and it is cheap, too.

H is a hallway, 3 x 11 feet. The framework of this building can be built either a timber or bottom frame. Mine is 6 x 6 inch posts for corner and centre, filled in with studding, then tar paper over the studding, and side boards over the paper. Line up the inside with tight boards, and pack the hollow space with good sawdust. The front (south) is 9 feet high, and the rear (north) is 7 feet high. It can be built with either shanty or ridge roof. I prefer the ridge roof, as the main breeding house is 40 feet long, built on the same principle as this and with a shanty roof; I find it too flat and will have to overhaul it yet. Put tar paper on the sheathing before shingling; this prevents any escape of air through the roof. Put the upper floor 6½ feet from the lower floor; this upstairs will be very useful for to keep seed crops, etc., and can be arranged with spout to let grain down from above. A house built on this plan, with an upper floor, will protect your fowls in the severest weather. Put a small window in each end of the building, to give light upstairs. The cost of the building, ready for painting, will be as follows:

376 ft. of timber, frame, and foundation	@ \$15 per M ft.	\$5.64
300 ft. of scantling	@ \$15 per M ft.	4.50
1270 ft. of inch sheathing, lining, etc.	@ \$12 per M ft.	15.24
500 ft. siding	@ \$20 per M ft.	11.20
200 ft. cornice cases, doors and windows	@ \$16 per M ft.	3.20
4 windows, large \$12, small 50c. each,		5.00
Carpenters work,		20.00
Net cost		\$64.78

I did not calculate the material to an inch, but have allowed enough for waste, and have put on outside prices, so that I can guarantee that this house can be built for this money, and if a man is handy with the tools he can build it himself, which will reduce the cost considerably, and in many places lumber is cheaper than the prices quoted. This building, when finished, I intend to use as a hatching and brooding room. I find it better to keep setting hens away from layers. Whenever I find a hatcher I can remove her to the hatching room, and also have a warm dry brood house for my chicks in case of a cold, wet spring like last season, when for want of another building of this kind, I was the loser of many valuable chickens. Use ground floors with an inch

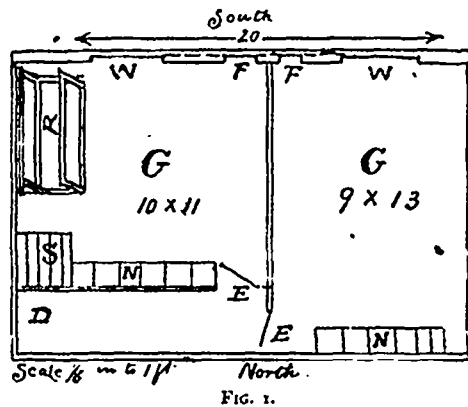


FIG. 1.

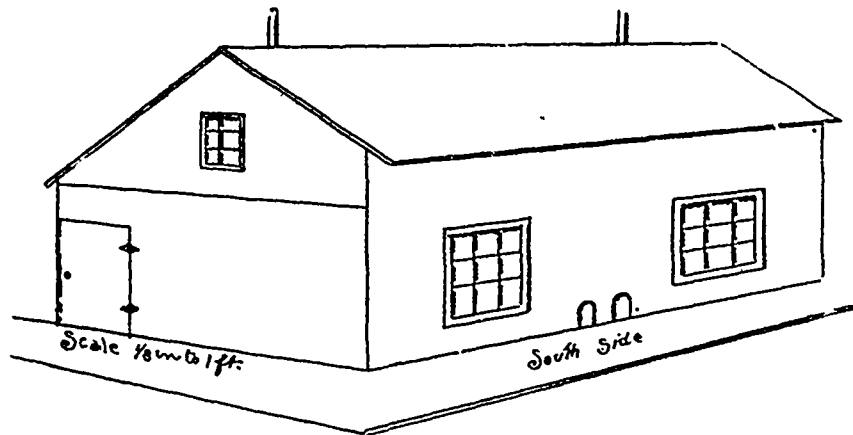


FIG. 2.

of sand sprinkled over, to rake the grain into. If farmers would build poultry houses like this, instead of putting a pole between two apple trees for them to roost upon, their poultry would bring them dollars where they do not bring them cents in the old way. In respect to the roosts they are rounded on the top, and thus makes a first class roost, as the fowls can rest their weight on them without hurting themselves. The nests are arranged along the hall. The eggs are gathered by lifting a hinged board in partition from the hall, and in this way it is not necessary to go into the feedroom to gather the eggs.

From R. J. Gracey, Wellandport, Ont. "Please insert my advertisement for another year. It is good for any breeder to advertise in your valuable journal. I have more enquiries for stock than I can supply."

L. O. Lemieux, Oak Lake, Man., writes: "I enclose \$1.00 for renewal of my subscription. I am greatly pleased with the JOURNAL. It keeps improving all along. I see you are getting ahead with subscriptions. I hope and wish the CANADIAN LIVE STOCK JOURNAL will always do so and live for ever."

Horticultural.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.

Fruits on the Farm.

By MRS. ANNIE L. JACK.

The first thing a wise man will plant on a newly-purchased farm will be a few apple trees, for they unite usefulness and beauty, and will grow, while he is sleeping, into mature and fruitful bearing. There is nothing more attractive to the boys and girls on the farm than a bin of apples that they can freely use, and it is better than all the doctors and cheaper than their bills. A summer apple, say "Tetofsky" or "Astrachan"; an autumn, "Fameuse" and "St. Lawrence"; a winter "Russet," and a "Spitz" for cooking, will leave some to spare in a full season, and hardly fail to provide for that cellar apple-bin.

Then we must have summer fruits, and yet the very suggestion of a strawberry bed gives me twinges of back-ache. For it is a laborious business to tend and keep clean; yet, like many other things, it will pay for the trial and care. A row or two of strawberry plants, set out in spring across the garden, will furnish enough for a home-table (if the rows are long enough), and only few varieties are needed. There is the "Cumberland Triumph," so sweet and melting; that I have known a connoisseur to search for it among thirty varieties, because it was "pink all through;" it is early and large, and if followed by "Jersey Queen," with a few "Kirkwood" or "Manchester," or the new "Jessie," will give a lengthened picking. The trouble is that weeds grow apace, and nowhere do they flourish better than in a strawberry bed. The plants must have autumn cultivation, then covering with straw that has no weed seeds in it, swamp hay, or leaves. This keeps the roots secure from frost heaving, which is likely to happen if unprotected.

For the home garden, when care is taken with plants, and a little trouble is not counted, I would recommend raspberries that require protection: "Binkles" for yellow, and "Clarke" for red—this is for flavor, which is of the first importance as a table fruit, but not counted much in market berries; the great object in the latter being to have them carry to their destination without breaking up so as to destroy their appearance. For this purpose the new "Golden Queen" and "Cuthbert," also the "Marlboro," are to be preferred. When people say that our fruit tastes so much better than any they get on the market, I know well that the difference is more in the variety than anything else; and it is one of the farmer's privileges to have the very best in its season, without much more trouble than is needed for a crop of potatoes. The new gooseberry, "Pearl," is an acquisition, and "Fays," currant fills the basket for red before the old "Versailles," though again I prefer the latter for flavor. A few "White Dutch" make a pleasing variety to set on the table in the fruit basket, and make a superior jelly.

Later on come the black currant, so famed for its healing qualities in a decoction, and yet not so well known as it should be; and the blackberry, that is sought for in some diseases as a curative. These

may be very easily grown, as they only need to be pruned and cultivated to repay with rich fruit the care bestowed.

Pears are a delicate and satisfactory fruit, to most people; the "Seckel" and "Flemish Beauty" have some hardiness, and a great deal of flavor; while a few white or blue plums thrive nicely along a fence, when chickens have access to eat the insects that infest them. For this reason, plums are grown successfully in a poultry yard, and a delicious fruit for winter use can be put up by the home genius in self-sealing jars.

Now, we come to autumn's favorite, the grape, and there is really no excuse for the farmer who does not grow a few vines for ornament, and to supply the table. Train a "Concord" over the out-buildings, a "Duchess" (white) at the back door in some sheltered nook, a "Niagara" to hide some unsightly building by its rank foliage, and a "Brighton" for red, and early, and you will not regret it. Grapes like warm stony land, and thrive in sandy soil, yet they will reward liberal feeding, and repay well a nourishment of soap suds, ashes, or bones. Can you place six vines? Then take "Duchess" and "Niagara" for white, "Hartford" and "Worden" for black, "Brighton" and "Agawam," or some of "Rogers," for red. There are others finer and better flavored perhaps, but the crop may fail or mildew of many choice varieties. Ontario has a "Jessica" that is really the earliest grape, but last year it was all destroyed by mildew; over a hundred bunches set on the vines, but failed to come to maturity. In a favorable season it is *the* best.

The growing of grapes is very attractive, for all through the summer the tendrils cling and spread, the vine grows and covers up its trellis, however unsightly; the autumn fruitage gives color to the leaves, and healthful food, all through autumn and early winter; in fact, "Agawam" and "Duchess" will keep in a cool place till February.

So let the farmers plant fruit, and lay up for their families pleasant memories and healthful bodies; the work is not taxing to strength, or brain; it is interesting in every aspect, from the first green leaf to the perfected fruit; and we know that there is honest labor, and certain recompense, which cannot be said of every occupation. Besides every tree and vine planted go to improve the farm; every added beauty is added wealth, and makes the place more attractive, so more saleable, if that dire necessity should ever come. It shows taste and culture of every kind, and crowns its workers with honor, to "toil and leave, as his bequest, an added beauty to the earth."

Time to Prune Trees.

Though various opinions in respect to this question have been held by fruit growers, yet the consensus is now in favor of early spring pruning. It is particularly advisable to prune early in the spring, if pruning is called for by the low vitality of the tree. To remove a small limb that is likely to intercross with others at any season that it is noticed is good practice, but it is not considered so by the majority to do the usual annual pruning at any other time than when the tree is dormant. Pruning in the spring, before the buds burst into life, carries with it the least possible danger of lowering the vitality of the tree. The many benefits that follow pruning—increased robustness of the tree, greater yield of better fruit, etc., are best secured by intelligent pruning just before the tree shows signs of life by the bursting of the buds.

Cold Storage Room.

On the stock farm of Messrs. Dawes & Co. we examined an addition to their dairy house which commends itself as a cold storage room for butter and fruit. The place in which the ice is stored differs from an ordinary ice house, only in that respect to the flooring, as in this case it is slanted and about three or four feet from the ground. The walls are about six inches thick, with a dead air space. Close to the ground is an opening into the cooling room, which communicates with the space under the ice about one by three feet in size. In the ceiling of the cooling room is another like opening, and this leads into the ice room. The principle of its construction may be easily understood. The cold air coming in from the ice house becoming warmer rises, passes through the opening in the ceiling and into the ice room where it is again cooled, passed down to the space under the ice and goes the same round again. The Messrs. Dawes & Co. use theirs for keeping their Jersey cream at a low temperature before shipping to Montreal. After thoroughly testing it, as they do a very extensive business in this direction, their decision in its favor should be highly valued. Our contemporary, *The Farm and Home*, has something to say on this question also, and this we give below:

Farmers building ice-houses are foolish to put them up in such a way that every cake of ice has to be handled after it is packed before it can be used to keep butter, meats, fruits, etc. It is a simple matter to arrange a cooling-room in connection with the ice-house. One method is to proceed as follows: Sup-

posing the ice-house to be already built, 15x30 feet; to one end add a room of any desired dimensions. Tightly cover this addition and let it be sealed within tightly with half-inch grooved spruce, or some other wood which will not impart a taste to what is stored. The exterior of the cooling-room may be the same in appearance as the ice-house, so that the entire structure will be one building. The cooling apartment must be lighted sufficiently, but not extensively, and double windows should be used, together with two doors or a heavily packed door. The bottom can be cemented, which is preferable, or boarded. An aperture 1 foot to 18 inches square must be cut from the cooling-room into the apartment occupied by the ice at the top of the room, and a corresponding opening made at the bottom. This is to allow the heated air of the cooling-room to pass out and the cold air from the ice to fall and enter the cooling-room at the bottom. These openings must have closely-fitting doors, and, generally speaking, they are kept closed. If the temperature in the cooling-room should be too high at any time, it would be necessary to open these doors for an influx of cold air. To the person who has ever used such an arrangement and seen its beneficial results, a return to the refrigerator would seem like retrogression indeed. If the cooler or retarding room can be conveniently located on the north side or end of the ice-house, it will be in the most feasible location.

The Places to Plant Trees.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

SIR,—There are a few words on this subject by a leading Washington authority I should like to lay before your readers: "Most of the methods recommended and described in American newspapers for planting forests presuppose that the ground to be planted is arable, or at least workable with the spade. This may be all right for the prairie States yet there are probably on every farm in the mountainous regions more waste places than anywhere else—that will never pay to get the stones out—that will not grow any grass of value and that defy all cultivation. There are others which are too wet, and on account of their nature drainage for agricultural use is impossible or unprofitable, others again, which on their dry shifting sand will not bear any

crops. These are the very places to which in time the forests in every well settled country will be more or less confined, the better portions being needed for farming purposes; and, fortunately enough, not only can such places be made to bear forests, but, being so used, they are improved, and often after some time gain in value, even for agricultural crops. To find out cheap methods for covering such places with a tree growth is, therefore, a task not to be neglected." Trees should be planted on rocky hill-sides, sandy barrens, along the brooks and water-courses, around the springs, and by the roadside. It costs little to try the experiment, and in the results, restoring vegetation to sandy waste places, affording shelter to cattle, and preserving the present if not restoring the lost water supply to the farm; in all this, not to speak of the increased attractiveness that the trees would lend, the planter will be amply awarded.

Yours truly,

Toronto, Ont.

R. W. PHIPPS.

The Apiary.

International Bee Association.

20TH ANNUAL CONVENTION.

By R. F. HOLTERMAN, Romney, Ont.

The above association has closed a very successful meeting at Brantford, and, as might be expected, much interesting and valuable information has been gained by bee-keepers who availed themselves of the gathering.

"Bee-keeping an occupation for women." The foregoing was the subject of an essay by Miss H. F. Buller, Campbellford, and must be of interest to many ladies engaged in bee-keeping, or who may have thoughts of engaging in bee-keeping.

Miss Buller can speak from practical experience, and her testimony was decidedly in favor of bee-keeping for women. Her experience went to show that a woman of average strength could manage an apiary of 40 to 60 colonies and do all the work with the exception of the very heaviest.

Miss Buller made the statement that some of the work in connection with bee-keeping was better adapted for women, than for men, such as uncapping honey, putting it into jars, and caring for honey generally. Several members of the convention followed, one stating, that if it was a question of strength, very many men would be debarred from the pursuit.

C. G. Dadant, Hamilton, Ill., stated that his sister kept an apiary of about 80 colonies, and with the exception of a little heavy work, she did all the work. A strong plea was put in to allow children to keep a swarm or more of bees. It would occupy their minds with something interesting, give them a chance to earn a little money which they should be allowed to keep for their own, and would allow many wholesome outdoor exercise.

"Cellar vs. outdoor wintering." This subject so important to the bee-keeper, was introduced by R. McKnight, Owen Sound, in an essay. Mr. McKnight has wintered both in cellars and outdoors, and favored cellar wintering providing the cellar is good. Less stores were consumed by bees in a good cellar, and less work was required to prepare them. A lengthy discussion followed, in which it was shown more money was required to secure suitable outside cases for the hive, packing them, etc., than if a proper house or cellar were constructed, and the bees put in them. When to this would be added the increased amount of honey consumed by bees wintering outside, and other arguments, the odds were decidedly in favor of indoor wintering. Upon a show of hands being taken, it was found that the number wintering indoors and the number outdoors, was about equally divided.

"Shipping Queens." F. H. Macpherson gave his experience upon the above subject in an essay. He thought the cage and the food had much to do with success in shipping, not too much air should be given, the workers should be at least ten in number, the food he used was honey soaked into cotton. The time the queen was taken from the colony before shipping did not form an important factor, as urged by some.

"Disposal of the honey crop." T. G. Newman, Chicago, Ill., in his vigorous style, advocated that the uses of honey should be more widely known, and a much greater sale could be secured by bee-keepers for their money, if an effort were made to let the public know its merits, as a food and medicine. At the close of the essay, it was suggested that a honey almanac lately published, ought to be placed in the hands of every probable customer. The best method of marketing honey, resulted in several favoring selling it in gem jars, as no one would object to paying for such, as they could be used when empty for sealing fruit.

Ernest R. Root, advocated bee-keeping as a recreation from other pursuits. Many required recreation, something to give exercise in the fresh air, and something of sufficient interest to take the mind away from business cares. He considered bee-keeping would do all that would be required in this direction.

"Warm hives, how best attended." S. Cornell, Lindsay, Ont., in an essay pointed out in a very clear and scientific way the importance of having hives warm. A straw hive, or more properly a part of a straw hive, was shown by Mr. Cornell, which he claimed was very warm, and preferable to wood.

Perhaps the ablest address was that given by Prof. Cook, of Agricultural College, Mich. He very ably defended his position upon the digested nectar question. He showed that honey was nectar gathered by the bees, and largely prepared by the bee ready for digestion. He could see nothing repugnant in the idea but much in favor of it. If the Professor's theory be correct, which the construction of the alimentary system of the bee went to prove then the bee-keeper has a powerful argument in favor of the use of honey as a food.

"Experiments in bee-keeping." Prof. Wm. Saunders, who was present during several sessions, representing the Hon. John Carling, Dominion Minister of Agriculture, was asked to give an account of what the Dominion was doing for bee-keeping. Prof. Saunders stated that at Ottawa, as yet, nothing had been done in the direction of bee-keeping. In Manitoba some bees were kept upon the farm, and the indications were that they could be kept with profit. They should be pleased to assist bee-keepers either in the line of chemistry, botany or entomology.

Dr. Mason, President of the Association, emphasized that a practical man should be chosen to look after the bee-keeping interests of the Dominion. Care should be taken to keep entrances of hives clean from ice, snow, or dead bees; any obstructions should be removed carefully and quietly; it does not hurt to have the entrances covered with snow, but the snow should not touch the entrances. This may be gained by placing a board one end on the ground the other against the clamp, so as to reach over the entrances, by this means an open space will be left under the snow about the entrance.

WILLIAM MUIR, Sarawak, Presque Isle P.O., Ont., writes: "I herewith enclose \$1.00 for renewal of my journal for the year 1890, as I feel I cannot do without it. No matter what other paper I can't get I must have the CANADIAN LIVE STOCK JOURNAL."

Farmers' Daughters' Column.

Our Prize Essay.

With the avowed object of helping our farmers' daughters to make the life on the farm more pleasant and more enjoyable through a wider knowledge of the work that may properly come under their guidance, we purpose offering a series of prizes for essays written by them on various topics. That there need not be any lagging on account of the want of subjects, we shall from month to month suggest a few, but it is to be remembered that a choice of any prize will be given to the writer of the best essay on any suitable subject that reaches us that month. You may choose your own subject, and if none better reach us that month, and the subject chosen is one that will interest the other readers of this department, a choice of any of the prizes will be given to the writer. The conditions to be observed by the writer are:—

- (1) The essay must not exceed one column in length.
- (2) The essays for competition for the prizes to be given in any month are to reach us on or before the 15th of the preceding month.

The subjects we would suggest for April competition are:—

- (1) The feeding and care of turkey from the time of hatching until ready for market.

- (2) The making of butter on the farm.

The subjects suggested for May competition are:—

- (1) The feeding and care of ducks from the time of hatching until ready for market.

- (2) The garden of the farm. What it should contain.

The following are the prizes we offer:

- (1) *The Canadian Queen* one year \$1.00.
 - (2) Seeds, cuttings, bulbs of any kind, selected from the catalogue of any seed-man advertising in our columns, to the value of \$1.00.
 - (3) *Vick's Illustrated Floral Magazine* one year, \$1.00.
- This list will be increased later.

The Growing of Strawberries For Home Use.

[PRIZE ESSAY.]

By MISS MARY DOYLE.

The plants should be set in rows from 2½ to 3 feet apart, so that the plot may be kept free from weeds of all kinds. Care should be taken to select only the healthiest plants, and these should be planted carefully. It is best to change the situation of the plot every three years, because insects are apt to seriously damage the plants if they are grown longer on one place. The ground should be well manured and thoroughly worked, and should be in an unshaded place. The runners should be kept well in check, until the season is well on, as they weaken the fruitage of the plants.

Feeding and Care of Chickens.

[PRIZE ESSAY.]

By MISS MAY McMILLAN, Lorneville, Ont.

To have chickens hatched strong and healthy, it is necessary not to have the eggs chilled when setting.

They need no feed for the first twenty-four hours, hard boiled eggs and bread and milk make excellent feed for the first week; then feed grain gradually, and boil some of the grain always.

Never allow chickens out on dew or in rain, and provide shade from noonday heat.

To prevent hawks and crows from destroying the chickens, we keep them till half grown in a large hen-yard, and they are always convenient to feed.

Always provide them with pure drinking water, and add to it Douglas mixture, to keep them free from disease.

Confine in coops for fattening; keep perfectly clean and feed vegetables; grain and boiled potatoes, mixed with shorts and chops, moistened with milk, and they will soon fatten.

Thoughts from the Girls of the Farm.

It pleases us greatly, indeed, to meet with the hearty encouragement that we have from the girls of the farm in respect to our scheme of essay writing. The many essays that have reached us have been excellently written, and give us every encouragement to go on and extend this department. We hope that every one will take a hearty interest in the work, and let us hear from them as often as possible. We rely on our faith in the intelligence of the girls of the farm to make this column the most useful and interesting in THE JOURNAL. Set us hear from you on any topic that you may think of interest to your sister readers. Write us at once.

Miss Jennie Knight, of Mandaumin, Ont., favors us with such a thoroughly practical and thoughtful essay that we cannot help taking extracts from it. This young lady keeps Plymouth Rocks, and her plan is as follows: "Let the hens in a warm dry place, so that when the chickens come from the nest they will not get chilled. When the chickens are old enough to leave the nest, I put them in a coop with the hen, where they will be kept quiet. The coop should not have any floor, only a little straw for a nest on the ground. I feed them on bread and milk for the first ten days, and also give them onion tops, cut fine, once a day. When ten days old, I gradually change the food from bread and milk to corn meal soaked or boiled in milk, oat meal and cracked wheat, and I always see that they have plenty of water before them. When they are five months old, they should be confined to smaller pens and fed more grain to fatten them. I feed mine on oats or barley in the morning, boiled potatoes mixed with bran at noon, and corn at night. If fed in this way for two weeks they will be fat."

Over the adopted name of "Farmer's Daughter," we have another essay that merits notice. We may say here that we would prefer that essayists would use their real name. This writer says: "Feed with bread and bran until the chickens are three or four weeks old, then feed on grain; potato (boiled), and sun-flower seeds should also be given two or three times a week. Be sure they get clean water or milk. They should get scraps of fresh meat once in a while. They can get all the green food and gravel they want for themselves."

Now, girls, we want to make plain to you the fact that the interest of this column, and the amount of information you may get from it, depends on each and every one of you writing to us on any question that you think of interest to others. For the best article received during any month, written on any topic of sufficient interest, we will give any of the prizes that are mentioned in such for the set essay competition.

Jottings.

A Good Chance.—Our readers who are on the lookout for a young bull or heifer, should attend the dispersion sale of Frank K. Shore & Bros., White Oak, Ont., where a large choice of any thing in that line, or of Shropshire sheep, will be obtained at their own price, as the sale is unreserved.

Western Ontario Lands.—Mr. Edward Harris, whose advertisement appears in another column, comes to Toronto well recommended by the press of Western Ontario. He intends to make a specialty of selling lands situated in the western parts of the province. He has recently been in England and has made arrangements whereby he can offer special inducements to holders of good farm property. Correspond with him.

One for the Jerseys.—W. H. Criley, a stenographer of this city, has a full-blood Jersey cow that had a heifer calf two years ago. The cow has been giving milk ever since the birth of the calf, and the calf when a year old began giving milk and has been milked ever since, without ever having given birth to a calf herself. If this does not show that Jersey cows and heifers are milkers, what does?—*Wichita (Kan.) Drovers' News.*

Fine Catalogues.—The catalogue of Messrs. D. & O. Sorby's Clydesdales is universally pronounced to be the most artistic and complete stock catalogue ever produced in Canada. The work was done by The J. E. Bryant Co. (Limited), publishers of THE LIVE STOCK JOURNAL. Messrs. Bryant Company have several other catalogues in preparation, of which one of the finest and the earliest to appear will be one for the Holstein herd of Messrs. Smith Bros., of Churchville.

Central Fruit Garden and Nursery.—From Mr. A. G. Hull, of St. Catharines, proprietor of above nursery, we have received his annual catalogue of fruit trees and plants. It contains a very full list of all kinds of trees, vines and plants. Mr. Hull has a reputation to maintain, and on this account is anxious to come in as close contact with purchasers as possible. The catalogue is well gotten up, abundantly illustrated, and contains much matter of general information.

American Hereford Record.—There has reached our table, through the kindness of the secretary of the American Hereford Association, C. R. Thomas, Independence, Mo., the last volume (No. X.) issued by them. In it are registered nearly five thousand animals. It makes a volume of size, and as it is beautifully bound, and illustrated with many engravings of the most prominent representatives of this breed in America, its claims to the title of a handsome volume are not without strength.

THE FOURTH CLYDESDALE Spring Horse Show

Will take place in the
DRILL SHED, TORONTO.

THURSDAY, MARCH 13th, 1890.

Larger Premiums than ever. Prize lists can be procured from the Secretary, Stan East, 100 St. George Street, Toronto. Entrance free. Free can be had free from the ticket agent at starting point.
Wm. Smith, M.P., President, Columbus, Ont.
Henry Wade, Secretary, Toronto.

WANTED.

Three good men to sell for us, either on salary or commission. Address, **MAY BROTHERS, Nurserymen,** ROCHESTER, N.Y.

QUEENS and BEES

I am prepared to furnish colonies of Bees in the Spring at Market Prices.

Italians in Langstroth Hives, good straight Combs, \$8.00 each.

Queens	Virgin, each	50c.	40c.	37c.	35c.
	Unselected	\$1.00	95c.	90c.	85c.
Italian	Tested	2.00	32.00	\$1.25	\$1.90
	Selected	3.00	3.00	3.00	3.00

Orders filled in relation. Address

R. F. HOLTERMANN,
Romney, Ont., Can.

Cut this out and keep until you want Queens.

POULTRY FOR SALE.

T. H. SCOTT, St. Thomas, Ont. Golden and Black Wyandotte Eggs for Sale. First Premium at Toronto. Best in Canada.

WHITE LEGHORNS EXCLUSIVELY!

Two grand Improved Co. Direct from the famous "Newton Adams" and "Knapp" strains at the head of my birds. EGGS \$1.50 per 13. **GEO. LEE, HIGHWATER, ONT.**



STILL TO THE FRONT.

Pekin Ducks, Plymouth Rocks, Light Brahmas, White and Brown Leghorns.

Eggs for Hatching from birds selected by me. \$2 per 10. **W. B. COCKBURN, ONT.**

MAKE YOUR POULTRY PAY.

AND SUBSCRIBE FOR THE
"POULTRY MONTHLY."
The Best Poultry Paper Published.
Send One Dollar and get it from now to end of 1890.
CHAS. BONNICK,
Toronto, Ont.

W. C. G. PETER,

Importer and Breeder of Light Brahmas, Silver Laced Wyandottes, Faced Plymouth Rocks, Rose Comb Brown Leghorns, Rose Comb White Leghorns, Single Comb White Leghorns, Large Game B. B. Red and Silver Duckwing Game Bantams.

Eggs, \$3.00 per Setting, 2 Settings for \$5.00.

Stocks sale at all times. Send for Circular.

ST. GEORGE POULTRY YARDS,
ANGUS, ONT.

100 SONGS...

Clydesdale Stallion.

The County of Hochelaga, Montreal,

OFFERS A PREMIUM OF

Four Hundred Dollars

AND A

Guarantee of not less than 60 Mares at \$10 each,

For the services of a Clydesdale Stallion to stand in the county. The Directors will select the stallion at their annual STALLION SHOW, which will be held in the

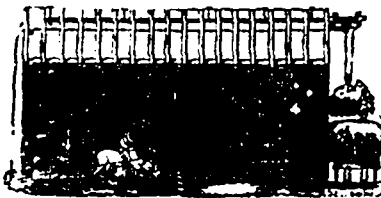
City of Montreal, on the 15th of April.

Involving competitors for this premium are required to make their entries, accompanied with full pedigrees, (pedigree will be an important point in this competition), not later than the 1st of April. Full particulars will be given and entries received by

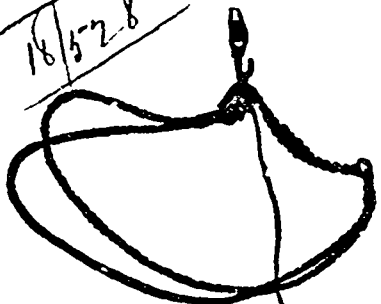
HUGH BRODIE, N.P.,
Secretary Hochelaga Agricultural Society,
MONTREAL.

BUCHANAN'S MALLEABLE Improved Pitching Machine.

For unloading hay and all kinds of loose grain.



Will unload on either side of barn floor without changing car. No climbing necessary in order to change from one mow to another. Will unload a bale of hay in four fork fulls. All cars made of malleable iron. All forks made of steel. Machines guaranteed to give satisfaction or no sale, the purchaser to be the judge. Respectful agents wanted in all unoccupied territory. Send for circular and terms.



THE COMMON-SENSE SHEAF LIFTER

Works in connection with the hay carrier, and is the most complete apparatus ever offered to the public for unloading sheaves. Leaves the sheaves in the mow just as they come from the load. Satisfaction guaranteed. PRICE, \$3.00.

M. T. BUCHANAN,
INGERSOLL.

Stallion Show at Portage la Prairie, Man.

The third annual Stallion and Fat Cattle Show, under the auspices of the Portage and Lakeside Agricultural Society will be held on the Agricultural Grounds at Portage la Prairie, Man.

ATURDAY, APRIL 19th, 1890.

PRIZE LIST

The Stallion and Fat Cattle Show	\$100	1st	2nd	3rd
Clydesdale Horses (Registered)	50			
Clydesdale Horses	50			
Shire Horses	50			
Agricultural Horses	50			
General Purpose	50			
Register	50			

Prize List containing rules and conditions furnished on application to **A. A. MacLENNAN,** Secretary, Portage la Prairie, Feb. 22, 1890.

Stock Notes.—Continued.

Mr. JOHN W. HOLBY, of Reach township, county of Ontario, will hold a sale of pure-bred and grade stock on March 12th, for particulars of which we would refer our readers to his advertisement. Mr. Holby claims that his Shorthorns are of the very best Crankshank strain, and all in excellent health and condition.

Mr. ARTHUR JOHNSTON, of Greenwood, Ont., says: "My herd of Shorthorns never appeared to better advantage, though none of them are in high condition. The yearling heifers and young bulls are particularly good, the best I have ever owned. I wish again to invite breeders and farmers to send for my new catalogue for 1890, and examine the breeding of my Shorthorns."

We call the attention of our readers to the dispersion sale of Frank R. Shore & Bros., White Oak, Ont. By looking over one of their sale catalogues this herd will be found to contain a choice lot of nicely bred cattle of the useful sorts. We are informed that they offer two imported Crankshank bulls, as well as a lot of nicely bred young bulls of their own breeding, and a large number of cows and heifers.

Dr. F. C. SIBBALD, "THE BRICKS," SUTTON WEST, writes: "Demand for Shorthorns improving, sold two young bulls, and fifteen heifers already this year. Fancy prices reached their lowest level last year, and the natural reaction has commenced. According to a chart compiled by the United States Board of Trade the highest point may be expected in 1891, and six years will probably see prices down to their lowest ebb again."

A. & G. RICE, CURRIE, ONFORD COUNTY, ONT., write: "Our card in your breeders' directory has brought us a great many enquiries for Holsteins, showing the efficacy of printers' ink when used in your valuable journal. The great milking strains and popular families which are represented in our herd are much sought after, especially by those 'up' in Holstein lore, and it is encouraging to breeders, especially so in the face of the dullness of farm produce. But farmers have awakened to the fact that dairying is their 'forte' in this country, and that grain-growing for foreign markets must become secondary."

BOLLETT BROS., OF CASSEL, report that their Holsteins are wintering very nicely, in fact are doing better than ever before. Four very fine calves have already been dropped, and more are expected within the next few weeks; of special notice is a bull calf, sired by the richly bred Sir Westwood, and out of a two-year old Harrington heifer. Clinton and this heifer is now milking from 52 to 54 lbs. of very rich looking milk daily; they also report the sale of a fine young bull to Mr. D. Gerrie, of Ingersoll, also a very superior bull to N. H. Meagher, Q.C., Halifax, N. S., to be shipped in March. The demand is unusually strong for first class stock."

Messrs. SMITH BROS., CREDIT VALLEY STOCK FARM, CHURCHVILLE, ONT., write: "We have just brought out of quarantine 30 head of Holstein cattle, among these are 3 imported cows, and several prize takers, most of them are yearlings in calf. These, together with our others, make our herd number 75 head. In testing our heifers, we find that Sijepke 4th (2 years old) gave 110 1/2 lbs. in January, and Modest Girl 3rd (2 years old) almost equalled her; Cornelia Tensen is giving from 75 to 80 lbs. a day, she gave 81 lbs. Saturday, Feb. 22nd. Our calves from Mink's Mercedes Baron are the finest lot we have ever had, and customers recognizing this fact, are rapidly picking them up."

T. E. BRAMELD, of Oakville, writes that in consequence of the near expiration of his lease he has decided to sell by public auction on April 10th, 1890, his entire herd of American Jersey Cattle Club Jersey, numbering over 20 head, comprising Jersey bulls, cows, and heifers, sired by Canada's John Bull 8323, One Hundred Per Cent 10590, Rambler Pogue 12456, etc. As will be remembered this herd was most successful in the showing last fall, as with 12 head exhibited they took 9 first, diploma for best bull any age, 7 second and 3 third prizes, including that for the herd at Toronto Industrial, and 1st at Central Fair, Hamilton, the only two places exhibited. See advertisement, and send for catalogue, which will be mailed to all applicants.

JAMES S. SMITH, Maple Lodge Stock Farm, Maple Lodge, Ont., writes: "During the past month I have made the following sales of Shorthorns: To R. Peilbridge, Winchelsea, Ont., the heifer, Baroness of Thule, by Duke of Colonus 7252; to Jam, Fifth Princess of Thule, etc.; to W. & S. Snell, Elmville, Ont., the bull calf, Royal Barrington 7th, got by Duke of Colonus 7252; to Jam, Princess Royal 2nd, etc.; to Messrs. John Trott & Sons, Mount Bridges, the young bull, San Ferrato 3rd, got by Duke of Colonus, dam, Rose 5th of Maple Lodge, by imported Marquis of Lorne 12753. Messrs. Trott deserve credit for placing so excellent a young bull within reach of their neighbors. The dams of both of these young bulls are grand milkers, and we find the demand for that class of Shorthorns increasing very much."

H. K. FAIRBAIN, of the Bonquet Stock Farm, Theford, Lambton county, writes: "The Durham bull I purchased last December from Mr. Arthur Johnston, of Greenwood, is doing exceedingly well. His promises to be an excellent stock-getting animal, and no doubt will be heard of in the show-rings next season. My cow, the 6th Maid of Sylvan dropped a fine heifer calf recently, being the fourth heifer calf in succession since she came into my possession. My 3-year-old heifer, Francis Folsom 14210, by Prince Arthur 3663, dam, 6th Maid of Sylvan, is doing remarkably well. She dropped her second calf on Dec. 6th. Her first calf took first prize at the Theford and Bonquet Agricultural Society Show of 1889, and also first at the Forest and Warwick Agricultural Society Show the same year. My 2-year-old heifer, Jubilee, is likewise a fine animal. She took first prize at the Forest and Warwick Agricultural Society Show last fall. Brown Gem is also a promising heifer of many superior qualities."

We have to hand the sale catalogue of the Hillside Herd of Shorthorns, which is to be sold by the proprietor, J. Y. Reid, of Paris, Ont., on Thursday, March 13th. This herd is exception.

Stock Notes.—Continued.

ally strong in Bates' blood, as many of the best families, the Waterloos, Knightleys, and Duchesses, are well represented.

BOLLERT BROS., Maple Grove Stock Farm, Cassel P.O., Ont., report that their Holsteins are wintering very finely, in fact better than ever before; they have already four very fine calves dropped.

Sheep.

G. BALLACHEY, EDMOUNT FARM, BRANTFORD, writes: "Stock of all kinds are wintering well. My Shrop are making a great show for lambs."

Swine:

T. L. SALTER, of Greenbank, Ont., writes: "I have lately purchased the imported Berkshire sow Belle of the Fairs bred by Wm. Cross, Castle Carey, England."

MESSES. GREEN BROS. & BRETHOUR, of Inverkip and Burford report the following sales of Yorkshire pigs since January: 1 boar to E. Disher, Burford; 1 boar to R. Hepburn, of Union;

THOMAS B. KELLY, West McGillivray, Ont., writes: "I have made during the last three months the following sales of Poland China pigs: One boar and sow to Geo. Armstrong, St. Marys, Ont.;

H. GEORGE & SONS, CRAMPTON, ONT., writes: "We have lately imported five head of registered Poland China swine, namely, four sows and one boar, from the noted herd of H. Bradford, Rochester, P. O., Ohio."

POULTRY FOR SALE.

The Hamilton Poultry Yards

Eggs from High Quality Houdans, Plymouth Rocks, Black Partridge and Buff Cochins, Langshans, White and Brown Leghorns, Black Spanish, Black-Red Game, Golden Poland, Silver Wyandottes, Hamburgs, also Black-Red Duckwing and Sieb-right Bants; \$3.00 per setting.

I won upwards of 150 prizes the past year at the leading Shows also 10 Diplomas for breeding-pens, and won the Diploma for best collection of fowls at Kingston. Stock for sale at all times.

A. G. H. LUXTON, HAMILTON, ONTARIO.

SILVER AND GOLDEN WYANDOTTES AND BROWN LEGHORNS. EGGS FOR SALE. HENRY SMILEY, SPARTA, ONT.

WELLINGTON PARK POULTRY YARDS! SARNIA, ONT.

Importer and Breeder of Light and Dark Brahmas, black and Partridge Cochins, Plym. Rocks, Wyandottes, Hamburgs, all kinds. Polish Houdans, Leghorns, Game and Game Bantams. Secured 13 premiums at Detroit last month, mostly red tickets.

W. LUSCOMBE, P.O. BOX 287, SARNIA

CARRY AWAY RED TICKETS WHEREVER I SHOW

B. J. GRASSY, Wellandport, Ont. Offer eggs from 25 White Wyandottes, R. C. B. Leghorns, Plymouth Rock Langshans, & C. W. Leghorns and Pekin Ducks \$1

\$2.00 PER 13 EGGS OR \$3.00 PER 28. From Geese, \$2.00 per 9. Satisfaction Guaranteed

AWAY AHEAD AGAIN.

PRIZE WINNING BIRDS FOR SALE.

Light and Dark Brahmas, Plymouth Rock Langshans, W. I. B. Leghorns, Houdans, Colored Dorkins, Bronze Turkeys, Rouen and Pekin Ducks, Toulouse Geese. Upwards of 126 prizes at the recent Poultry Shows.

EGGS FOR HATCHING IN SEASON

From the highest-scoring birds in the Dominion. Send three cents for 61 circulars. Birds and prices right.

Wm. Hodson, Box 12, Brooklin, Ont.

SWINE FOR SALE.

3 BULL CALVES FOR SALE, from Imported Bates

Bull, red in color. Ages from 12 to 15 months. Also Pure-Bred Suffolk and Berkshire Pigs. Orders Booked now for Spring Pigs. Prices to suit the times.

F. J. RAMSEY, Dunnville, Ont.

CHESTER WHITES

originated in Chester County, Pa. If you send me \$1.00 I will give you stock that will benefit you. My stock market hogs weighing 800 lbs. at maturity. Walter 4533 is a noted hog valued at \$600.00. Write me. I guarantee my stock and satisfaction. C. E. MORRISON, Londonderry, Pa., U.S.A.

Young Berkshire Sows.

A CHOICE LOT OF YOUNG SOWS

from 8 to 12 months old. Also a choice lot of young pigs just fit to wean, out of Huron Daisy (756).

Eighteen First Prizes.

Some of the above were sired by imported Real Briton (427) and the rest by Huron Chief (515).

Also YOUNG BOARS from 3 to 8 months old. Address

R. DELBRIDGE, Winchelsea, Ont.

One Hundred Dollars a Bushel.

I WILL PAY one hundred dollars for a bushel of Peas that in earliness and yield will surpass the early variety to be found in my seed catalogue, page 21. Don't send me any "First and Best," "Earliest of All," "Dexter," or "Alaska;" they won't fill the bill; neither have I yet found any of the numerous extra entries sent out by my fellow seedsmen able to "do the work" with this new pea. Send catalogue free to everybody. I make a specialty of quoting rates to market gardeners and others needing large quantities of choice strains of seed. JAMES J. H. GREGORY, Marblehead, Mass.

SHEEP FOR SALE.

Imported and Canadian-bred Shropshire Sheep

For sale, registered pedigrees. Agent for Dana's Sheep and Cattle Label. JNO. DUNKIN, Brucefield, Ont.

LORRIDGE FARM. SOUTHDOWN SHEEP.

Flock first established 1877. Commenced exhibiting 1867. Since then have taken over 1,200 prizes, including a large number of medals and diplomas.

Imported Rams used only. Stock for sale. ROBERT MARNE, PROPRIETOR. Richmond Hill, Ont.

JERSEYS FOR SALE.

Seven fine Jersey Heifers; choicest strains. Prices low. Write G. M. BEEMAN, NAPANEE, ONT.

SHORTHORNS FOR SALE.

Three Young Shorthorn Bulls For Sale

MILKING STRAIN. FARMERS' PRICES. ALEX. RITCHIE, Inverary P.O., Ont. NEAR KINGSTON.

FOR SALE 5 Young Shorthorn Bulls and 30 Berkshire Pigs.

First-class. Send for Catalogue and Prices. EDWARD JEFFS, BOND HEAD.

SHORTHORN BULLS.

From first class Scotch Breed Stock. Prices Moderate. Send for circular. Exeter Station, 1/2 Mile. H. & W. D. SMITH, HAY P. O.

SHORTHORN BULLS FOR SALE

I have several Shorthorn Bulls for sale from 15 to 22 months old. All registered in Dom. S. H. H. B. Address WM. TENNANT, Falkland P. O.

Young Shorthorn Bulls

WE have for sale young bulls of fine quality and good individuals, got by the prize winning Matchless Bull

LORD LOVELL - 2030.-

Write for particulars or come and see. We have also a quantity of Mummy Peas, pure and clean, for sale.

E. GAUNT & SONS, Lucknow Station, G.T.R. 445 St. Helens, Ont.

Shorthorn Bulls.

1 Bull, aged 5 years; 1 Bull, aged 19 months; 1 Bull, aged 14 months; 1 Bull, aged 12 months. All of Dom. S. H. H. B. registry, except the bull aged 19 months, which is eligible to N. S. H. B.

A. C. BELL, TROUT BROOK FARM, New Glasgow, N.S.

ON 40 DAYS' TRIAL THE GREAT SPIRAL TRUSS

The Pad is different from all others. It closes Hermia as if your extended hand was drawn together and one finger pointed in the centre. Rupture is held positive day and night with the elastic pressure, and healed same as a broken leg. You will be allowed three exchanges during the 40 days. There is no duty to pay when received or returned, which many Canadians found more expensive than the truss. It is the easiest, most durable, and cheap truss. Sent by mail. Send stamp for illustrated book. CHAS. CUTLER, Surgical Machinist, 134 King St. W., Toronto.

HOLSTEINS FOR SALE.

TWO YEAR OLD PEDIGREED HOLSTEIN BULL

FOR SALE. Well bred and kind. HAS PROVEN A GOOD STOCK GETTER. I will sell him cheap.

Address: WELLINGTON MUISINER, Port Robinson.

Two Holstein Bulls!

I HAVE FOR SALE Two Holstein Bulls and one Heifer nine months old, at reasonable prices. WM SUHRING, Sebringville, Ont.

Holstein Cattle and Improved Yorkshire Pigs

I have for sale a Holstein cow (registered) rising four years, dropped second calf 14th Nov.; a Holstein heifer (registered) 18 months old, and a Holstein heifer dropped 12th of November. Above are all bred from stock of Messrs. Smith Bros., of Churchville. As I only wish to keep a family cow I shall sell either cow and calf or the heifer and calf. Also, I hold for sale 5 sows and 3 boars of Improved Yorkshire pigs littered 1st Aug. last. Bred from stock of Messrs. Ormsby & Chapman, 1 Springfield. Can ship on G. T. R. or by Canadian Express. AARON WENGER, Ayton, Ont.

HORSES FOR SALE.

IMPORTED CLYDESDALE STALLIONS FOR SALE From three to six years old. We have just received a fresh importation, including the winners of several prizes in Scotland. Also a few Canadian-bred Cows and Fillies on hand. TORRANCE & BEATTIE, Summerhill Farm, Markham P.O., Ont.

English Shire Stallions "Clear Grit" AND "John A" CHEAP

WE have a few very nice colts left rising two, three and four years old. We want to sell and as we have facilities for buying in England that cannot be surpassed, we are able to offer stallions and fillies at exceptionally low figures to parties buying before spring. We have First and Second prize winners at Buffalo, Toronto, and Hamilton in our stable.

ORMSBY & CHAPMAN, Springfield-on-the-Credit, Ont.

STATIONS- Streetsville on the C.P.R. Port Credit on the G.T.R.

Imported Stallions for Sale.

1 CLYDESDALE, 6 years old, with registered pedigree. 1 PERCHERON, 7 years old, with registered pedigree. Both of these horses are sound and gentle and sure footed getters. They have been prize winners. Will sell cheap to make room for fresh stock.

FRANCIS RUSNELL, Mount Forest P.C., Ont.

FOR SALE.

PURE BRED

IMPORTED CLYDESDALE STALLION,

BEN LEE OF CULLEN (5537), Vol. X., foaled 26th June, 1886; Color, bay, white strip on face; hind feet white above pasterns. Sire, Le-pold (3769), Vol. VII., Dam, Bet (1655), Vol. V.; Sire of Dam, Young Loty (921), Vol. I. Also

ONE IMPORTED CLYDESDALE MARE,

GEORDIE Vol. XI., foaled June 1887; Color, dark brown, two white legs and white face. Sire, Sir Archibald Buchanan, (549), Vol. XI., Dam, Jess of Smithston (7953), Vol. XI.; Sire of Dam, Campue (119), Vol. I.

Horses can be seen at stable EAST STREET, GALT. Full particulars by post. Address, JAS. McCOMBIE, Galt, P.O., Ont.

HORSES FOR SALE.

IMPORTED -:- CLEVELAND -:- BAY -:- STALLION FOR SALE.

459. All right in every particular. For particulars address R ROU, AVON.

FOR SALE.

CLYDESDALE STALLION, Bred from imported stock, 3 years old in May, good animal. ALSO 4 SHORTHORN BULLS, Ages ranging from 7 months to 3 years.

Or will exchange for good Clydesdale Brood Mares or Fillies. Apply to

John Idington, STRATFORD, ONT.

CLEVELAND BAY STALLIONS FOR SALE.

BRED FROM PRIZE-WINNING STOCK. For further particulars apply to W. C. BROWN, Meadowdale Farm is three-quarters of a mile from Meadowdale Station, on C.P.R.

DO YOU WANT A BARGAIN

In a Heavy Draft Stallion, In a Well Bred Trotting Stallion,

Or in some nice registered Ayrshire Bull Calves or young Cows due to calve in March and April. Will sell cheap or Cash or would exchange for good trotting bred mares.

For particulars address Box 44, Orchard P.O., Ont.

"Clear Grit" AND "John A"

Two "Clear Grit" Stallions, coming five and four years old for sale. "Clear Grit" took four first prizes and two seconds at the Industrial and Provincial Exhibitions. "John A" took two seconds at same exhibitions.

I have also for sale best Dederick Perpetual Hay Press for Steam or Horse Power, and Three-Ton Hay Scale. All bargains.

JOHN A. MACKENZIE, Presque Isle P.O., Co. Grey, Ont.

BALLACHEY, Brantford, Breeder of Percherons, Shorthorns, Shropshires and Berkshires. Stock for sale.

FOR SALE.

3 Imported Clydesdale Fillies, also 7 choice yearling Shorthorn Bulls,

All from imported Campbell Cows and a Cruickshanks Bull and a few Heifers.

JOHN ISAAC, Markham P.O., Ont.



BROOKSIDE FARM,



New Glasgow, Pictou Co., N.S.

Standard-Bred Trotters,

AMERICAN

CATTLE-CLUB JERSEYS.

Stock Notes.—Continued.

few weeks we have made the following sales of pedigreed Chester Whites: To David Dolbe, St. Augustine P.O., P.O., 1 boar and 2 sows; to Samuel Taylor, Orilla, 1 boar; to B. Story, Pictou P.O., 1 boar and sow; to Frank Knight, Avonroy, 1 boar and sow; to John Hickingbottom, St. Augustine, 1 boar; to John Bright, Myrtle, 1 boar; to Thomas Baylish, Trowbridge P.O., 1 boar; to John Gibbons, Linwood P.O., 1 boar; to Thos. George Putnam, 1 imported sow to R. C. Nixon Esq., P.O., 1 boar, to Richmond & Co., Greenore, 1 boar. Sales were never better, as we have three times as many orders booked for spring pigs as we had last year at this time, going to show that the Cherters are gaining favor as a pig of quiet disposition, and of early maturity.

E. D. GEORGE, PUTNAM, writes: "My stock of Chester Whites are wintering splendidly, three sows have farrowed to date, with thirty-seven pigs to their credit, fourteen of them by the noted show sow Peerless, first prize winner in the under a year class at London and Toronto, 1887. Note following sales: H. Allen, Hopeville, 1 pair; J. Fletcher Bensford, 1 boar; J. Stevenson Leekdale 2 sows; F. Cookshank 1 boar Head, 1 boar 2 sows; W. Duto, Laurel, 1 pair; J. Armstrong, Stanton, 1 pair; H. Harding & Son, Redgrove, 3 sows; W. Edwards, Glen Ross, 1 pair; H. Todd, Randolph, 1 boar; T. Farris, Bradford, 1 boar; J. Alway, Simcoe, 1 boar; W. Gourlay, Huntley, 1 pair; C. E. Whidden, Antigonish, N. S., 2 sows; R. Furness, Charlottetown, P.E.I., 1 pair; J. Newton Brighton, 1 pair; J. Little, Wingham, 1 pair; E. B. Eddy Hull, 1 boar; W. Campbell, Campbell's Cross, 1 boar; A. L. Lloyd, Lloydown, 1 boar; C. W. Neville, Napanee, 1 boar 2 sows; J. Woodruff, St. Catharines, 1 pair; P. Graham, Bethany, 1 pair; T. Baglis, Trowbridge, 2 boars, 3 sows; V. Dynes, Orangeville, 1 pair; J. Hoare, Auburn, 1 boar; J. B. Devins, Emery, 1 boar; W. Pepper, Springfield, 1 boar; H. Harding, Thorndale, 1 pair; J. Dowling, Woodstock, 1 boar; J. Street, Wyoming, 1 boar; G. Hall, Springfield, 3 sows; J. Mitchell, Dorchester, 1 sow; J. Brown, Forest, 1 boar; H. Hoard, Owen Sound, 1 pair; C. D. Moore, Peterboro, 1 sow; E. Keeler, Prescott, 1 pair; J. Douglas, Norwood, 1 sow; S. P. Knight, Stanbridge, P.Q., 1 pair; R. Kelso, Mossley, 1 pair; F. Foster, Ingersoll, 1 sow; T. Tuck, Cranbrook, 1 boar; W. Petrie, Holsten, 1 boar; R. Underhill, Brougham, 1 boar; J. Fox, Olanda, 1 pair; J. Burnett, Toledo, 1 pair; J. Barkwell, Lucknow, 1 pair; A. Meyer, Altona, 1 pair; M. Hill, Lansdowne, B.C., 1 pair; R. Nanceville, Ingersoll, 1 boar; A. Newell Rodney 1 sow; A. J. Montgomery, Elmvale, 1 pair.

Poultry.

HENRY SMILEY, of Sparta, Ont., writes: "I have recently purchased the flock of Silver Wyandotts from T. H. Scott, St. Thomas, which he had at Detroit, winning there and on cock, 1st on pullet, 3rd on hen. I have also purchased from him a breeding pen of Golden Wyandotts. See my advertisement in this number."

WILLIAM LUSCOMBE, of Wellington Park Poultry Yard Sarnia, writes: "I did very well at Detroit, having secured 13 prizes, specials included. The competition was hot, there being over 250 birds. I have some very fine L. B. cockerels left yet. Mr. Luscombe has placed an advertisement with us, which we would advise you to look at."

T. H. SCOTT, of St. Thomas, Ont., exhibited Golden and Black Wyandotts at the late poultry show at Detroit, winning every premium on Black Wyandotts, and 1st, 2nd, and tie, on golden cockerels; 1st, 2nd and 3rd on pullets; and tie on hen; 1st on breeding pen, average score 94 1/2; and special for best pair of golden chicks, although the first pen, run pair at Chicago were in competition. Have a look at Mr. Scott's advertisement in this issue.

WM. COLLINS, East Union Poultry Yard, writes: "My Silver Wyandott cock leads again, as he took 1st at Detroit last month. During the last two weeks I have made the following sales: To Miss Mattie A. Wessmore, Brantford, a first prize Silver Wyandott cockerel at three fall shows, and 6 pullets; to Mrs. Caldwell, Aylmer, Ont., one black Minorca cockerel; to Richard Dinner, one Silver Wyandott cockerel. I have purchased this week one pair Black Leghorns, very fine birds, from Richards of Ingersoll, and one Buff Cochon cockerel of A. J. George, London."

GEORGE LEE, Highgate, Ont., writes: "My White Leghorns are wintering nicely, and laying well. I was very successful at our county and other fairs last fall, winning 13 out of a possible 14 prizes. I have made the following sales recently: John Spear, Frankford, Ont.; D. Cochrane, Ridgetown one pair; Joseph White, Brantford, one pair; Alexander Luke, Brantford five hens and one cockerel; John Lape, Ridgetown, one trio; Thomas Cameron, Pottery, one cockerel; William Campbell, Amherstburg, one cock. I am importing a cock at a high price from Kepp Bros. they claim he is a grand one, and are holding him till after the great New York Poultry Show this month. Mr. Lee places an advertisement in this issue which should be noted."

R. J. GRACEY, proprietor of the Wainfleet Poultry Yards, announces that he has sold the last trio of White Wyandotts to Mr. Geo. N. Waterberry, of Hamilton, that he has to part with this season. He says he cannot sell another chick of any of the varieties he breeds; he has nothing left but his choice breeding pens for 1890. The cock just sold to Mr. Waterberry won first at Dunnville last winter, scored 95 1/2 points, the highest scoring bird in Canada at that time. At Dunnville Poultry Show this season among over 1000 birds he was first on old R. C. L. Leghorns, 1st on chicks, and on breeding pen, and on W. Wyandotts breeding pen, this is the only show he attended this year. Mr. J. says he has booked orders for eggs already, and that he could have sold 20 pairs more of these and fowls had he had them to spare, all through advertising in THE LIVE STOCK JOURNAL.

Remedy for Barrenness.—Parties having barren mares, or cows, irregular breeders, will lead a short and happy advantage by addressing H. W. Campbell, Redwood, Wic.—(Advt. 324)

SALES BY AUCTION, ETC.

The Seventh semi-annual Auction Sale of the Wyton Stock Breeder's Assn,

— WILL BE HELD AT —
WYTON, ONT., MARCH 27TH, 1890.

THERE WILL BE OFFERED FOR SALE

40 Head of Pure bred Holstein Cattle, Bull and Heifer Calves, Yearling Heifers and Bulls

ALSO OLDER CATTLE. All animals guaranteed Pure bred and Registered.

TERMS.—Twenty-five per cent. down; balance three and six month's joint notes, where parties are satisfactory.

— HOUR OF SALE 1.30 P. M. —

Wyton is situated on the St. Mary's Branch of the G. T. R.R., ten miles from London. Trains arrive at Wyton from London at 8 a.m. and 2.30 p.m. From Stratford and St. Marys 11 a.m. Trains leave Wyton for London at 5.50 p.m., and for Stratford and St. Marys at 11.30 a.m. For further particulars and Catalogues address **W. B. SCATCERD, Sec'y, WYTON, ONT.**

DISPERSION SALE OF Shorthorn Cattle, Shropshire Down Sheep.



ON WEDNESDAY, MARCH 19TH, 1890,

WE WILL SELL BY

Public Auction at our Farm, 5 miles south of London, Ont.,

= 50 HEAD OF SHORTHORN CATTLE, =

Comprising two Imported Cruickshank Bulls, and Cow and Heifer, and eight Home-bred Bulls of similar breeding, with representatives of families as bred by Silver-Cambell, Kenellar, and W. S. Man, Upper Mill. Also a beautiful lot of Imported Shropshire Down Sheep, and a fine lot of (in foal) Brood Mares and Fillies. On account of other business arrangements the proprietors are giving up farming, and will therefore sell without reserve. Teams will be in attendance to take out visitors to the farm the morning of the sale.

Credit of Eight Months on Approved Paper. See Catalogues.

FRANK R. SHORE & BROS.,
WHITE OAK, ONT.



PERCHERON HORSES AT BARGAINS!

We mean exact what we say. We have 146 Head Imported and Pure Bred Stallions and Mares, 6 French Coach Stallions, 38 Head of Grade Stallions and Mares, 20 Shetland and Exmoor Ponies, and 27 Head Registered Holstein Cattle, must be disposed of during this season, owing to change in our business. If you think of buying write us (describing what you want) for our Catalogue and Prices, and we will convince you that it will pay you well to buy of us.

Island Home Stock Farm. SAVAGE & FARNUM, Detroit, Mich.



T. W. PALMER'S LOG CABIN STOCK FARM!

150 PERCHERONS.
100 JERSEYS.

To be Disposed of this Season.

For catalogues and particulars address

MERRILL BLOCK, Detroit, Mich.

Important Public Sale

— OF HIGH-CLASS —
Pedigreed Shorthorns, Roadster Stallion and Clydesdale Mare.

J. & F. Gardner, of Britannia, (6 miles south from Brampton) announce that having leased one of their farms, they will sell by

Public Auction, on Wednesday, March 26th

The whole of their valuable herd of High-class Pedigreed Shorthorns, comprising 2 Imported Cows, bred by Campbell, Kinellar, Aberdeen-shire, Scotland, also several Cows bred by J. C. Snell, Edmonton, and F. W. Stone, Guelph, all in calf to imported bull; also 13 other pure-bred Cows and Heifers, some of them prize winners, and most of them in calf to imported bull; also 1 Bull, "Farmer's Fancy," rising three years old; and 5 young Bulls, all of first-class blood; also at the same time their

Roadster Stallion, "Belmont Junior,"

Belmont Junior is a perfectly modelled horse, 8 years old, of a fine bay color with black points. He is by Belmont Star and has won first prize two years in succession at the Industrial in Toronto. Also their Clydesdale Mare, "Dolly of Coleraine" [A. 65] winner of several prizes. Also other valuable stock, consisting of 20 Steers rising three years old, 11 Horses, 40 Sheep (all breeding ewes), and 7 Berkshire Brood Sows.

MR. JOHN SMITH, AUCTIONEER.

Sale will commence at 10 o'clock, sharp. Lunch will be served at Noon. Visitors will be met at at Brampton (G.T.R.) and Port Credit (southern division G.T.R.) and Streetsville (C.P.R.) on arrival of all trains. The farm is situated on the main centre road, and half way between Brampton and Port Credit. Catalogues may be had on application to the undersigned.

Terms of Sale.—Seven months credit on approved joint notes, or a liberal discount for cash.

J. & F. GARDNER, Britannia.

SALES BY AUCTION.

DISPERSION SALE

Pure Bred and High Grade Shorthorn Cattle,

Horses, Machinery, Implements, &c.



J. Y. Reid, of Hillside Farm, 2 1/2 miles south of Paris,

Announces that he will sell

By Public Auction on Thursday, March 13th,

Commencing at 10 a.m., the whole of his valuable stock of

PURE BRED AND HIGH GRADE SHORTHORN CATTLE,

Being representatives of the Waterloo, Knightly, and Roux Duchess Families,

Comprising THE STOCK BULL, LORD ARTHUR, (2 years old), sired by SIR ARTHUR INGRAM, of Bow Park Farm, the famous Canadian Sweepstakes winner, and out of Dam Julia, also of Bow Park and winner of several Sweepstakes at Toronto and London, and 4 YOUNGER BULLS, (from 12 to 14 months old), all from a Cruickshank Bull imported by Miller of Prussian, and 10 PURE BRED DURHAM COWS, nearly all of Duchess strain, two being from Bow Park, out of Ingraham's Chief, one of them a Waterloo, and 5 HIGH GRADE DURHAM COWS AND HEIFERS; also 8 GOOD HORSES, one of them being a good agricultural colt, one a fine carriage colt, and one an extra fine carriage mare. Also REAPERS, MOWERS, GRINDERS, and all other Machinery and Implements used on a first class stock farm, all in good condition. Sale of Machinery, Implements, &c., will begin at 10 a.m. Sale of Cattle and Horses will begin at 1 o'clock.

Auctioneer—Mr. D. A. ANDERSON, Paris.

Intending visitors to this important sale and purchasers will be met at any train at Paris on evening before sale or on day of sale giving notification. LUNCH will be served at Noon. Catalogues may be had on application. Address

JAMES GEDDIE, MANAGER, PARIS, ONT.

Catalogues may also be had from J. Y. REID of Buntin Reid & Co., Wellington St., Toronto.

DISPERSION SALE

—OF THE—

Lakehurst Jersey Herd, Oakville, Ont.,

—ON—

THURSDAY, APRIL 10th, 1890,

THERE WILL BE SOLD BY PUBLIC AUCTION,

Without reserve, the entire herd of American Jersey Cattle and Club Jerseys,

Comprising Young JERSEY BULLS, Cows and Heifers of the St Lambert and other noted families, including several prize winners at Toronto Industrial and great Central Fair, Hamilton 1887, & for further particulars see memoranda in Stock Notes Column.

For Catalogues, which will be ready for distribution early in March, apply to

T. E. BRAMELD, Oakville, Ont.

Extensive Credit Sale!

Of Pure-Bred and High Grade Shorthorn Cattle

The Subscriber has received instructions from

JOHN W. HOLBY

To sell by Public Auction at his farm, "Jumbo Stables," on LOTS 11 AND 12, CONCESSION 3, REACH,

In the County of Ontario, Province of Ontario.

On Wednesday, March 12th, '90

The following animals, viz:—

PURE-BRED.—Part Registered in the D.S.H.B., and part in the A.S.H.B.—all got by imported Cruickshank Bulls.

1 Bull 3 years old, 1 Bull 1 year old, 1 Cow served in Jan and Feb, and four of them have calves at side, 5 Heifers rising 2 years, served in Jan and Feb, 1 Bull Cal, 1 Heifer Cal.

GRADE.—4 Cows with calf to pure-bred bull; 1 Yearling Heifer; 1 Yearling Steer, 2 Bull Calves, about 10 months old, 2 Steer Calves, about 10 months old, 2 Heifer Calves, about 10 months old.

BEEF.—3 Cows; 1 Steer.

HORSES.—1 Young General Purpose Stallion; 1 Driver rising 3 years old, sired by L. H. Daniels.

TERMS.—12 months credit to persons furnishing approved notes with interest at 3 per cent. per annum. No discount for cash. Sale at 12 o'clock, sharp. Lunch at 12 o'clock. People from a distance will be met at Manchester station on G. R. and Myrtle on C.P.R.

L. FAIRBANKS, Auctioneer.

IMPORTANT SALES OF SHORTHORNS

And Leicester Sheep!

IN ENGLAND ON

MARCH 11, 1890,

40 Head of Pure Bred Shorthorns, principally of the Bates' Blood, (bred by the late Mr. E. Robinson Harbham, Hull, Yorks), also 300 Improved Leicester Ewes and Rams which have been prize winners. Sale at Driffield, Yorkshire, England.

APRIL 30, 1890,

At Beverley, Yorks Annual Sale of Pure Bred Shorthorns, chiefly young bulls. Several Bulls from these annual sales have been exported.

JOSEPH CRUST,

AUCTIONEER AND VALUATOR, Driffield, Yorkshire, England.

To sell lambs or sheep, or any other species of live stock at the highest obtainable prices should be the aim of every farmer. You cannot secure the highest prices unless you produce the finest qualities. You cannot breed the finest qualities unless you know how. To know how you must keep abreast with the times. To keep abreast with the times you must read THE CANADIAN LIVE STOCK AND FARM JOURNAL.

AYRSHIRES, HOLSTEINS, ETC.

JAS. DRUMMOND,

PETITE COTE, MONTREAL,

Importer and breeder of

PURE-BRED

AYRSHIRE

CATTLE

Of Large Size, and from Choice Milking Strains.

The herd numbers sixty-five head, and for three years in succession has won Provincial or Dominion Prize as best milkers. The imported bull, ROB ROY (3971), at head of herd.

Young Stock on hand at all times for sale



THE PARK HERD OF HEREFORDS.

This herd embraces over

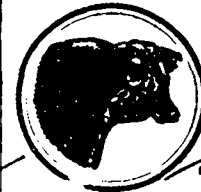
60 Head of Chol e Animals,

All registered. Catalogues sent on application.

F. A. FLEMING,

Weston, Co. York, Ont.

Farm, half a mile from C. P. R. and G. T. R. Stations, eight miles from Toronto.



CREDIT VALLEY STOCK FARM.

SMITH BROS., CHURCHVILLE (Peel Co.), ONTARIO.



THE GREAT BUTTER AND MILK HERD

OF PURE-BRED REGISTERED HOLSTEIN-FRIESIAN CATTLE.

Most first prizes of any herd in Canada at Provincial and Industrial Exhibitions, 1888 and 1889.

Best strains, as Mercedes, Netherland, Clothilde, Artis, Wayne, Aaggie, Mink, Siebje, Tensen and Ykema, for sale. Particular attention paid to individual excellence and good breeding combined. Prices low for quality of stock and wide range of all farmers. Send for catalogue.

SPRING BROOK STOCK FARM.

A. C. HALLMAN & CO., New Dundee, Waterloo Co., Ont.



IMPORTERS AND BREEDERS OF PURE-BRED, REGISTERED HOLSTEIN-FRIESIAN CATTLE.

The choicest and most uniform herd in Canada. Upwards of 40 head to select from. Only choice stock of highest milk and butter production selected from. Individual merit and pedigree a special object. Direct descendants of Aaggie, Artis, Netherland, Johanna, and Billy Bolyn.

Stock of all Ages and both Sexes for sale from above Families. Prices reasonable considering quality. Send for Catalogue.

JERSEYS.

JERSEYS. LAKEHURST HERD OAKVILLE, ONT.

St. Lambert and other noted strains—all registered in the American Jersey Cattle Club Register. Also Berkshire pigs. Stock for sale. Inspection invited. Address:

T. E. BRAMELD, Lakehurst Jersey Farm, Oakville, Ont. Oakville station on G.T.R. Midway between Toronto and Hamilton.

SHORTHORNS.

Belvedere Stock Farm!

3/4 Miles from Alisa Craig on G.T.R. Lino.



We Breed:—PURE BATES SHORTHORNS, AND LEICESTER SHEEP.

Our herd of Shorthorns is headed by Rosy Prince 6th, and it consists of the following families:—Coriander, Tily's Chesterfields Berthas, Rosettes and Darlings. We have for sale a choice lot of young bulls. Also a number of young heifers bred to Imported Duke of Salsbury, and they, like the bull, are descendants of good milking strains. Any person looking for stock is always welcome and will be met at depot if notice is given when they are coming. Prices and Terms Easy. GRAHAM BROS., Alisa Craig P.O.

BELVOIR HERD

Pure-Bred Shorthorns.



The Bates portion of herd headed by imported Duke of Leicester #9279 and consists of the following families:

- Waterloo Princess
- Constance Chalmers
- Darlington Filigree
- Garlands Seraphinas
- Etc.

Purchasers can depend upon fair treatment and liberal usage.

KOMOKA STATION 3 MILES

Richard Gibson - Delaware P.O.

CRUICKSHANK SHORTHORNS,

Clydesdales and Shropshire Sheep BOTH



IMPORTED and HOME-BRED

FOR SALE Seven Choice young Bulls, FIVE RED AND TWO ROAN IN COLOUR.

All of superior merit and out of imported cows. Also a few young cows and heifers and one imported stallion. Address

JOHN DRYDEN, BROOKLIN, ONT.

Inspection invited. Catalogues on application.

JAMES HUNTER, ALMA, ONT.,

BREEDER AND IMPORTER OF SHORTHORN CATTLE, CLYDESDALE HORSES, and Shropshire Down Sheep. Stock of both sexes for sale.

SHORTHORNS.

BOW PARK HERD OF



PURE-BRED SHORTHORNS

We have on hand eighteen young bulls fit for service, good animals and well bred, which we offer at reasonable prices and on liberal terms. Address:

JOHN HOPE, Manager, Bow Park, Brantford, Ont.

THE BRIARS, Sutton West, Ont.

Over 50 Head of Registered Shorthorns

Including 12 bulls of various ages, incorporating the best blood of the Sittyton, Kinellar, and Killerby Herds. Also Horses and Pigs. INSPECTION INVITED.

F. C. SIBBALD.

Arthur Johnston GREENWOOD, ONT., CAN.



Announces to his customers, and the public, that he is still doing business at the old stand, and has for sale the finest lot of mostly out of imported dams.

Intending exhibitors can be supplied with first class show animals of either sex and of various ages. New catalogues will be ready by January 20th, 1890. Send for one.

Claremont Sta'n, C.P.R., or Plekewing Sta'n, C.T.R. Write or wire me, when and at which station to meet you. No business, no harm.

SHORTHORNS

I have for sale six female Shorthorns from 8 to 20 months old, and three bulls, including

LORD LINTON

Winner at the Detroit International, has sired three, large, handsome, grandly bred and an excellent sire. He will be released from quarantine in 1890. These animals have been all bred by me from imported stock. D. ALEXANDER, Brigidon, Ont.

J. Y. REID, HILLSIDE FARM, 2 1/2 miles south from Paris, on the G. T. R.



WE have on hand and for sale a superior lot of show cows, heifers, and young bulls. This season's calves being mostly from the imported Scotch Bull,

EARL OF ROSEBERRY.

Intending purchasers will be met at Paris station. Apply JAMES GEDDIE, MANAGER, PARIS, ONT.

SHORTHORNS.

WE DO NOT INTEND

MAKING A PUBLIC SALE THIS YEAR



Hence to keep our stock within our capacity, we are now offering Cows, Heifers, and young Bulls of first class breeding and quality, and from our best milking strains, at prices that will suit you. Come and see them.

At MAPLE LODGE STOCK FARM.

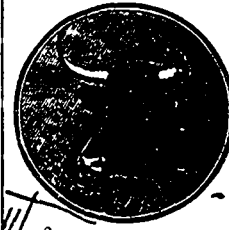
JAMES S. SMITH, Maple Lodge P.O., Ont.

DEVONS.

W. J. RUDD,

EDEN MILLS P.O., Ont

Breeder of Choice Devon Cattle. During the past five years, at the leading Exhibitions in Canada, my herd has stood first whenever shown, winning five Diplomas, one Gold, thirteen Silver and one Bronze Medal. Stock for Sale including Berkshire Pigs, Cotswold Sheep, and Plymouth Rock Fowls.



LITTLE'S PATENT FLUID
NON-POISONOUS
SHEEP DIP AND CATTLE WASH.

CHEAP * CONVENIENT * AND * EFFECTIVE.

The best Non-poisonous Sheep Dip and Cattle Wash in the world.

A "CHEMICAL FOOD" FOR THE WOOL. Rapidly increases the quantity and improves the quality.

IT IS EASY TO USE, Requires very little preparation, mixes instantly with cold water, leaves no sediment, no scum, no waste.

CERTAIN DEATH TO LICE, MANGE, And all insects upon Horses, Cattle, Calves, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, Saddle-Galls, Sore Udders, etc.

EXTRACTS FROM SOME OF OUR NUMEROUS CANADIAN TESTIMONIALS.

"We think a great deal of it."—Prof. Brown, late of Agricultural College, Guelph.

"Sure death to lice on cattle and colts."—Robt. Marsh, Lorrige Farm, Richmond Hill.

"Gives great satisfaction."—W. Whitelaw, Guelph.

"Best ever used."—Jas. Russel, Richmond Hill. 17 GOLD, SILVER AND OTHER PRIZE MEDALS have been awarded to Little's Patent Fluid Dip in all parts of the world. Sold in large tins at \$1.00.

Special terms to Breeders, Ranchmen, and others requiring large quantities.

MANUFACTURERS AND PROPRIETORS, Morris, Little & Son, Doncaster, Eng.

Ask your nearest druggist to obtain it for you, or write for it, with pamphlet, etc., to

ROBT. WIGHTMAN, DRUGGIST, OWEN SOUND, ONT. Sole agent for the Dominion.

The L.S.J. is read by 75,000 of the best farmers in Canada. Remember that when advertising.

CATTLE, SWINE, HORSES.

A GREAT BARGAIN.

We have decided to offer for sale

Our Entire Herd of Shorthorns,

Including animals bred by such breeders as S. Campbell, J. L. ...



ported and home bred bulls and heifers. A grand lot from Silver Medal Bull, owned by J. Russel bred by me and also some from Imp. Goldfinger, bred by L. Bruce. The bull I have recently using is a well bred Cruckshank.

TEAMS VERY EASY.

Joseph Redmond & Sons, Peterboro.

Two trains daily C.P.R. and G.T.R. Send for Catalogue

HEREFORD AND ABERDEEN ANGUS BULLS AND HEIFERS.

We have on hand for sale a number of Hereford Cows, Young Bulls and Heifers of the best of breeding. They are all from imported stock of the highest merit.

Prices Reasonable and Animals Right.

DAWES & CO., LACHINE, QUE.

Importers of Herefords, Aberdeen Angus and Jersey Cattle.

CLAREVILLE STOCK FARM.

Young stock from Canada Southern Railway, and Grand Trunk Air Line, Cayuga Stations.

I breed and have FOR SALE

A-I SHORTHORNS

Baron Constance 10th, heads the herd.

Leicester and Cotswold Sheep, Berkshire Pigs, Thorough-bred and Heavy Horses of all kinds.

Young Bulls a specialty. Supply always on hand. Come and see.

J. R. MARTIN, CAYUGA, ONT.

HAY & PATON.

KINNOUL PARK STOCK FARM, NEW LOWELL, ONT.



BREEDERS AND IMPORTERS OF CHOICE

ABERDEEN-ANGUS POLLS

We have reserved for the sale of our champion herd of Polls, some of the excellent females, with that splendidly bred Ruth bull, Runnmede and at their head and have started fresh to breed the comely doddie with individual merit (as prizes) the guiding star of our efforts.

We have also a flock of over a hundred head of pure Shropshire sheep, the ram lambs and shearlings of which we have now for sale at reasonable prices. Send postal card for list and terms.

Don't forget that the Canadian farmer's best hold, that the L.S.J. recognizes this.

THE GLEN STOCK FARM

Inverkip, Oxford Co., Ont.,

Scotch Shorthorns, Shire Horses,

Improved Large White Yorkshire Pigs.



A few young heifers and bulls for sale at reasonable prices. Our first importation of Improved Large White Yorkshire Pigs arrived home last month, from the herd of F. Walker-Jones, England, whose herd won over \$10,000 in prizes in three years. Orders now looked for young pigs. P.O. and Telegraph Office at Inverkip. Farm is one mile from Inverkip Station on the C.P.R. (Ont. div.), and a short distance from Woodstock Station on the Canadian Pacific and Grand Trunk R.R.

GREEN BROS., THE GLEN, INNERKIP.

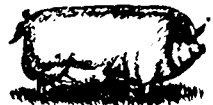
ONTARIO LODGE STOCK FARM

SHIRE AND CLYDE HORSES

IMPROVED YORKSHIRE PIGS

Stock Mostly Imported or from Imported Animals.

A fine collection of Fall Pigs yet for sale. Correspondence promptly attended to and Prices to suit the Times.



E. M. JARVIS, Proprietor, OAKVILLE, or CLARKSON'S P.O. on G. T. R., Ont.

HILLHURST HERDS.

HEREFORD, Aberdeen-Angus and Jersey

Heifers, Cows, and Young Bulls for Sale

At reasonable prices. Send for new Catalogue.

M. H. COCHRANE, Hillhurst, Que., Can.



Shire Horses

We have sixteen head of Imported Stallions and Mares on hand, all registered in the Eng. Stud Book. We want to clear them out, and will sell at very low figures. They are the right kind, low set and blocky.

SHROPSHIRE, BRED FROM PURE IMPORTED STOCK.

Address ORMSBY & CHAPMAN, THE GRANGE FARM, "Springfield-on-the-Credit," Station and Telegrams STREETSVILLE.

Improved Yorkshire Pigs

We have the Pioneer Herd of Pedigreed Yorkshire Pigs in America. All bred from the BEST ENGLISH STRAINS. Every pedigree guaranteed. Prices low. We are now booking orders for fall pigs. Also

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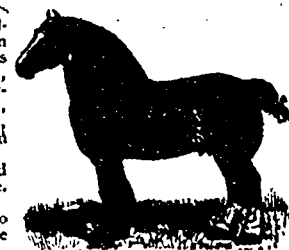
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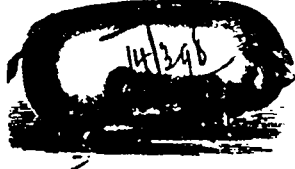
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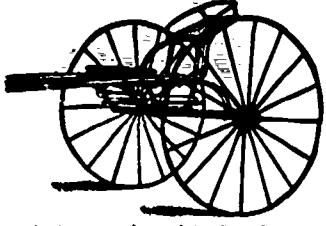
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