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Marmion (vol. x).

Jessie Macgregor (vol. x).

Macarthur (3815).

The Shetland Pony Nettie.

Macphail (4567).

GROUP OF CLYDESDALE HORSES.

Imported by and the Property of Graham Bros., Claremont, Ont.

Onirnbrogie.

Our illustration this month represents a group of Clydesdale stallions imported by the Messrs. Graham Bros., whose stud at Cairnbrogie is one of the rare excellence, the breeding of the horses being of the very highest order. They are rich in the blood of such sires as Macgregor (1487), Darnley (222), Prince of Wales (673), and a large number of others, who in their day, carried off the most coveted of the honors in the principal show rings of Scotland, and filled it with types of this famous breed so much desired by purchasers on this side of the Atlantic.

The central figure in the group is Macarthur (3815), the sweepstakes horse at the present time for the Province of Ontario. Bred at Auchengoll in 1883, and sired by Macgregor (1487), he has for dam Bet of Auchengoll (2417), by Prince (609), by Lochfergus Champion (449), by Salmond's Champion (737), by Farmer (284), and traces still back through illustrious sires to Glancer alias Thompson's Black Horse (335). Individually he is a grand, low set horse; heavier than most of his kin. When in flesh he weighs 2,050 lbs. He stands upon short legs, with bone broad and flat. His pasterns stand at the very desirable angle of about 40°, and his hoofs are firm and sound. His arm is powerful; shoulders strong and sufficiently oblique; breast broad, deep and full; neck beautifully arched; head sufficiently strong to mark well that masculine quality so necessary in a stallion—nostrils well dilated, and eyes set well up in the head, of medium size and well pointed. His back is short and straight and powerful; the ribs round as a barrel, and heart-girth roomy enough to give that freedom of lung and heart-play which are

the source of the matchless strength of this horse, and of his freedom of action and gracefulness of movement, which come as natural to him as motion to running water. His loin is broad with right forward slope; his quarter is heavy; and his tail is set high and well-supported. He has all the right qualities happily adjusted, which go to make up a horse capable of carrying out of the show ring the highest honors which Ontario can bestow.

Macarthur was a prize-winner in Scotland. At the spring show of the Markham Agricultural Society, 1886, he was first, and second at the Toronto Industrial the same year. At the Toronto Industrial, 1887, he was first and silver medal as best horse of any age; at the Ontario Central, Port Perry, 1st and silver medal as best imported Clydesdale, and gold medal as best imported or Canadian-bred any age, and silver medal for best stallion and three females owned by one exhibitor; at Markham he was first in his class, and won Mr. W. Rennie's special prize for best Clyde stallion or mare; at Uxbridge he won first and diploma as best Clydesdale any age; and at Goodwood first as best horse any age or breed. Every prize won by Macarthur in 1887 was a first.

Macphail (4567), a full brother to Macarthur, but one year younger, is equally beautiful, equally well proportioned, has equal freedom of action, and when fully matured will turn the scale at quite as high a number as the other. The two have rightfully come out of the same mould. The description of the one is the description of the other, and the reason why Macphail this year was the second sweepstakes horse for Ontario is that Macarthur was the first Macphail was second at Kilmarnock, and first at the Royal, England, as a two-year-old. He was

first at Toronto as a three year-old in 1887, first at Markham and first at Goodwood. It is surely a fact of great significance that two horses from the same sire and dam should prove the champion horses of the Province, each in his year.

Marmion (vol. x), was foaled June 10th, 1886. He was sired by Lord Marmion alias Bonnet of Blue (2620), who was got by Blue Ribbon (1961), winner of second prize at the H. and A. S. show at Perth in 1879. The sire of Blue Ribbon is the immortal Darnley (222). Bess of Newton 765, the dam of Marmion, was got by Dandy Jim (221) by the famous old Prince of Wales (673). He is a growthy colt, and gives promise of great development. Good judges agree that such legs, feet and pasterns can seldom be found, and he has already proved himself a king amongst Clydes, although so young. In 1887 he won first at Kilmarnock, at Edin'burgh, and at the Royal, Newcastle, and third at Glasgow. At Edinburgh he also won the champion cup, beating the unbeaten two-year-old The Macaulay. He was also first at the Toronto Industrial, first at Port Perry, and first at Markham, the only occasions on which he has been exhibited.

Jessie Macgregor (vol. x), the figure at the top of the group, was foaled May, 1885. As the name indicates, she was sired by Macgregor (1487), and is therefore half-sister to Macarthur and Macphail. Her dam, Bonnie Scotland (4430) is by Prince Galloway (601), by Gladstone (333), a H. S. prize-winner at Kelso in 1872. She is a filly of good size, of a rich dark color, perfect in form and mild in disposition. She promises fine style, and her action, both walking and trotting, are unrivalled. She won first at Toronto Industrial last autumn, first at Port Perry first at Markham and at Goodwood.

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THOMAS SHAW, RIVERSIDE FARM, EDITOR.

To Subscribers.—Subscription price, \$1.00 per annum in advance. Single copies, 10 cents each; sample copies free. No names will be removed from our subscription list when in arrears and without we receive instructions to that effect. Those in arrears will be charged \$1.25.

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To Advertisers.—Advertisements of an appropriate nature will be inserted in the JOURNAL at the following rates: For a single insertion, 18c. per line, nonpareil (12 lines makes one inch); for three months, 15 cents per line each insertion; for six months, 12c. per line each insertion; for one year, 10c. per line each insertion. Cards in Breeders' Directory, not exceeding five lines \$1.50 per line per annum. Copy of advertisements should reach us not later than the 25th of each month (earlier, if possible). If later, it may be in time for insertion, but often too late for proper classification. Transient advertisements payable in advance. No advertisement inserted for less than 75c. Contracts broken by insolvency or otherwise will revert to the usual rate of 18 cents per line per insertion.

To Correspondents.—All communications intended for publication in the JOURNAL should reach us by the 20th of each month—sooner if possible. We do not hold ourselves responsible for the opinions of correspondents.

Remittances may be made in registered letter at our risk. The receipt of the JOURNAL will be sufficient evidence to subscribers that their remittances have been received.

All communications to be addressed STOCK JOURNAL CO., 48 John street south, Hamilton, Ont.

HAMILTON, CANADA, FEB., 1888.

AN active agent wanted at every post office in Canada. Farmers' sons wishing to make a little money should write at once for particulars.

PARTIES sending communications for publication in the JOURNAL should in every case give their name and address, the latter not necessarily for publication. We cannot undertake to publish any communication, whatever may be its merit, without knowing from whom and from whence it comes.

WE are very pleased to be able to announce that we have secured the services of "Agricola," from whose pen contributions will appear regularly throughout the year. His knowledge of stock matters is full and ample, and will contribute in no small degree to the usefulness of the JOURNAL. The first of a series of articles from his pen on the Shire horse commences in the present issue.

WE have, on more than one occasion, inserted advertisements from stockmen who made our columns a medium of assisting in their designed knavery. Of course it was unwittingly on our part, but in no instance have they succeeded in repeating the fraud. Parties who wish the continued use of our columns in giving publicity to what they are desirous of selling, must make up their minds to deal squarely with their fellows. On more than one occasion has the crooked dealer insulted us by coming back a second time to try his hand again, but without avail. Till the oak that fell last winter rises up and grows again, he shall never succeed in a second effort.

FOR a short time the publishers will be able to begin all subscriptions for 1888 with the January issue, but at the rate new subscriptions are coming in we cannot promise to do so very long, so that intending readers should subscribe at once. We are bound to give our readers the best quality, and when necessary, though at a considerable direct cash outlay, enlarge the JOURNAL, and so give more practical, useful read-

ing matter for the general farmer, than any other paper in Canada. Let every friend do what he can and swell still more our advancing subscription lists. Send one, two, three or more new subscriptions with your renewal. See premium offers in November and December issues of 1887.

It is now pretty generally understood that the old style of making pork—very heavy and very fat—is not finding favor with consumers. This should be no matter for regret, for the average gain per day in pigs on a given amount of food as in other animals, is greater the nearer we come to the birth period, and vice versa. Meat with a less proportion of fat may be produced by feeding a mixed diet in due proportion. Food rich in carbo-hydrates, as corn, should be fed in conjunction with those rich in protein, as shorts, skim milk, etc. When the pigs can run in a pasture they will put on meat of a fine quality with a little assistance from a supplement of diet of a mixed character. Pork is never made more cheaply than when made in this way.

AS THERE was a shortage in the crop in most parts of Ontario last summer, which may make fodder both scarce and dear, we would remind the farmers of the wisdom of using economy in feeding it. It is not wise to feed lavishly at any time, much less in a winter following such a summer as the past one. The chances are that in many localities most all kinds of feed will be scarcer and dearer than usual. Bran is now selling in some localities for \$18 per ton, with no prospect of a decline before the season of grass. This puts it out of the reach of a large number whom it will not pay to feed in large quantities at the price. It would be well to cut fodder largely, both straw and hay, and feed in conjunction oat or pea meal, with a small addition of ground linseed or oilcake to regulate digestion. The latter is cheaper than usual, and may be made to render most effective service in feeding almost all classes of stock. We may never know till the winter is clean gone how long the feeding season may last. Close vigilance and careful supervision at the present time may save much labor and vexation, if not positive loss two or three months hence.

THE popular idea as to what constitutes a successful farmer is a very illusive one. The man who makes rich at farming is looked upon as the successful agriculturist without any regard to the methods by which this is brought about. So far from being a successful farmer he may be but a land spoiler. He has grown rich by the energy and tact which he has shown in reaping and selling the produce of a soil enriched by the deposit of departed centuries. The successful farmer is the man who has made well by his farm, and done well for it at the same time. He has not robbed it of its fertility. His example has been such as his neighbors might well afford to copy. He keeps stock which is at once a credit to himself and to his section, and he makes himself generally useful in the elevation of the social, mental, and moral tone of his neighborhood. He looks well after the education of his boys, and gives his girls ample opportunity of coming in contact with refining influences. He is withal a public-spirited man. He does not consider that he has made all mankind his debtors when he mends a sluiceway on a public road. He is greatly desirous of the elevation of his calling, and labors to thwart the efforts of other interests in the State who would place him under disadvantage. All this and much more is included in the definition of a successful farmer.

MR. G. F. FRANKLAND, the pioneer cattle exporter, stated in an address, from which a paragraph appears in another column, "I have learned to love and prize my profession or trade, as a feeder and dealer in all grades, and indeed all breeds of cattle." Here is a principle which we would fain see all the young stockmen of Canada embody in their practice. We would fain have them love and prize their profession. If they do so they cannot but succeed. When they engage in the work of breeding stock they should resolve to breed the best, and when they engage in preparing it for the shambles or for the market it should be with the resolve to do it in the best possible manner. The means by which this end is to be accomplished must not be lightly heeded. One cannot attain best results save by the adoption of best methods, and these are usually learned as a child learns the powers of speech—by imitation. Imitation cannot be practiced without an original from which to copy, and that original is some good feeder or feeder, whose experience can be copied, directly or indirectly, as through the medium of papers and books. Men have become famous as feeders who read but little themselves, but who can ever tell how much of the knowledge from which they copied was transmitted through the line of their predecessors by means of the press. At all events, men who grow great by keeping stock cannot do so without they cherish a love for the work.

SOME feel like following wherever the current drifts them, especially when it sets in the direction of preferment or success. This may be well sometimes, but it should not be forgotten that currents, especially swift ones, often lead to the waterfall, to go over which means ruin. The current of success in stock-keeping is never of that nature, but upon its bosom the oarsman must bend to the oar. He must never tire of the song interwoven in his practice, "pull away merrily, bend to the oar," for the moment his vigil ceases he may ground upon a shoal or grate upon a rock. But there are no waterfalls in his course to pass which mean to him inevitable ruin, if he but exercise a prudent caution. The very interruptions in the river-bed in which he sails, in the form of losses and disappointments, render ultimate success more certain because of the ceaseless vigil which they necessitate on the part of the voyageur. But with the prospect of a peaceful harbor and a successful journey, one can cheerily bear the privation. And this is the ultimatum in the case of the judicious and diligent stockman every time. His advance is not swift, but sure, in this land where live-stock diseases are practically unknown. The gains may be slow but they are sure, for there always is some demand, and generally a fair one for both live-stock and its produce. Sometimes the current runs quite slowly, as at present, but it is always running. And with the certain prospect of the harbor of success ahead, it is peculiarly becoming at such times more earnestly than ever to raise the inspiring song "Pull away merrily bend to the oar," and to embody all that this implies in our practice. When feed is scarce, as now, economise it more carefully, and make sure that the practice of this economizing is not left till next spring. Face all difficulties with a cheerful earnestness. "Pull away merrily, bend to the oar."

"We are well pleased with your JOURNAL and think from a stock breeder's standpoint it fills the bill exactly."—H. H. Beam, M. S. Beam, Black Creek, Ont.

"I like your JOURNAL well, would not do without it. I find it a great help in the care and management of live stock."—W. J. Lovelace, Olinda, Ont.

Alderman Frankland on the Fat Cattle Export Trade.

The following paragraph is from an address by Alderman Frankland, of Toronto, delivered at the byres of Mr. Geo. Gooderham, where 4,000 head of cattle are being bred, on the last day of the Ontario fat stock show. The occasion was a visit by the members of the Agricultural and Arts Association. But for the overcrowded state of our columns this quotation would have appeared in our last issue:

Mr. Frankland said: "It affords me much pleasure, as acting Mayor of the city of Toronto, to welcome you, not only at the City Hall, but in every part of the city where vast industries are engaged in the welfare of our community, and to meet you, accompanied by our tried friends, Mr. Drury, M. P. P., a past president of your association, and your indefatigable secretary, Mr. Wade, at this great cattleopolis, which I may say is the largest in the Dominion of Canada.

"For the past fifteen years most of my activities in the development of the cattle export trade have been passed here living amongst my cattle boys, and breathing and inhaling the same air as my cattle, and in constant intercourse and intimate connection with my four footed friends. I have learned to love and prize my profession or trade as a feeder and dealer in all grades and indeed all breeds of cattle. I add to my cattle experience that of cattle exporter, together with my love for Canada, especially Toronto and the firm whose tenant I am, and the enthusiastic interest I have always taken in helping to develop cordial relations between Canada and the mother country, whereby we might aid in doing missionary work by making known to the world what a rich and fertile land we possessed, and especially a capital of such enterprise as Toronto. Our good cattle have been our cheapest and best emigration agents in advancing a practical knowledge of our boundless resources (the truth of which could never be questioned) throughout the whole of Europe, and from these mammoth and comfortable stables, after seven months' feeding of the best productions of our land, they have been taken and distributed by myself and colleagues in the historic land of our mother country, England, Ireland and Scotland, by the thousands, and in hundreds at the markets of Germany and France. You, gentlemen, who are honoring this cattle city to-day with your presence, are performing a duty you owe to your respected and venerable association, an institution that has been the nursery of great agricultural projects. You have done incalculable good, and Ontario to-day is reaping the fruits of what you planted. Therefore, as the acting Mayor of this city for the time being, I should faithfully do my duty and introduce you to this great industry whereby millions of gold have flowed into this city and been distributed throughout the province. These stables have done a great work in helping the cattle export trade and in assisting to give the yearly advancement and steady improvement the country was making in producing such grades as were advantageous to our farmers and more acceptable to the British markets. Gentlemen, we have succeeded beyond our expectations both in the quantity and quality we have been able to export, and as a consequence the trade has gone on increasing. Over 60,000 head have crossed the Atlantic this year of 1887, and suppose they averaged 1,300 lbs., and the farmers receive only 4 cents per lb., that would realize \$52 per head, and 60,000 cattle at \$52 per head would come to the handsome sum of \$3,120,000 for cattle alone. And, sir, that is below the average."

How true it is, as Alderman Frankland says, "Our good cattle have been our cheapest and best emigration agents." There can be no mistaking the natural capabilities of a country which sends cattle to the extent of more than 60,000 head annually to Britain, second to none going from any country in the world. A properly prepared bullock is a species of literature which the most untutored can read aright. It is an object lesson in the sense of which we speak more powerful than the silvery tones of the most finished orator. It would be a curious piece of information, could we only know it, as to how many stalwart Britons have been induced to come to Canada by the sight and taste of our beef and cheese.

In this respect the cattle exporters have done a great work for the Government and people of Canada, and they have done it gratuitously. They were very naturally seeking the advancement of their own interests all the while, but the benefits to the country remain all the same.

Our farmers should show themselves equal to the occasion, and continue to produce a class of beef such as the exporters want. Small fed beef will always have this advantage over that finished on grass—that it will come into the market before the other can, and is likely, therefore, to continue to command paying prices.

The Holstein-Friesian Difficulty.

A wise man who lived many years ago put this trite truth on record. He said, "Behold, how pleasant a thing it is for brethren to dwell together in unity." And he might have added with equal truth how profitable as well. The Holstein breeders of Canada have had some unseemly wrangling during the past season which has certainly not tended to further the interests of their cause, nor to the promotion of that good feeling which is so necessary to secure a large measure of success in the first stages of any industry. That they are doing a good work for Canada few will deny, and it would certainly be most unfortunate if the principal hindrances to its progress should be found emanating from within the little band who are laboring so earnestly for the extension of their business.

Our readers will remember that the difficulty grew out of the admission of cattle to exhibition by the Toronto Industrial Exhibition Association, which, though imported and eligible for registration in the Netherlands herd book, were excluded from registration by the rules of the North American Holstein-Friesian Association, in whose herd book nearly all of the Holsteins on exhibition in 1886 were registered. A number of the breeders demurred, and notified the Industrial Exhibition Association that unless the rules were so amended as to distinctly specify "that Holsteins must be registered in the Holstein-Friesian herd book to be eligible for exhibition," they would not exhibit at the show of 1887. A circular was also addressed subsequently to the Holstein breeders which read: "This is to certify that until a Canadian herd book for the registration of Holstein Friesian cattle has been established, I will only accept the herd book of the Holstein Friesian Association of America, as the standard of purity for Holstein cattle, and will decline to patronize any exhibition accepting any other standard." This they were asked to sign, which some of them did, and some of them did not. The first result was that the exhibit of Holstein cattle at the Industrial was small in point of numbers, the second that it was large enough to encourage the Industrial Exhibition Association to adhere to the rule of admission to exhibition, which they had adopted, and which reads: "The pedigrees of others (than Short-horns) must be full and correct; exhibitors must produce pedigrees or certificates if required." A third result was the proclamation of division in the Holstein camp as to standards, which always has an unsettling tendency on the market when the interests of breeders of pedigreed stock are involved.

Our comment at the time, in the June issue of the JOURNAL p. 525, reads: "The breeders are the parties who should say what the standard of purity is in any country, and where they are well agreed on this, such undoubtedly should be the standard by which they are to be judged at any exhibition. To this position we adhere. If the Holstein breeders of

this country had in a regular way said this to the Industrial Exhibition Association, then we hold that body would have been acting arbitrarily and not in the interests of the breeders concerned, had it not given heed to their remonstrance. But this is what Holstein breeders left undone. Their protests did not emanate from the Association as such, but from individuals of that body, it may be a majority of them, but still the action was not that of an association taken in a regular way. Indeed the association itself was only provisional in its nature, for as yet it has no constitution or by-laws. Where the supporters of any breed form themselves into an association properly constituted, and as such agree upon a standard of registry, it is clearly the duty of exhibition associations to adopt that as the standard by which livestock shall be judged on exhibition; were it otherwise there could be no certainty as to what constituted pure-breds in exhibition rings.

It is with peculiar pleasure, then, that we hail the appointment of a committee, as announced in our last issue, to draw up a constitution and by-laws for the Dominion Holstein Breeders' Association. Due notice of the progress of organization will be given in our columns. The next step will be the adoption of a standard. And here it is that the utmost deliberation will be called for on the part of the breeders, and the exercise of much forbearance. Rash decisions might lead the breeders into vexatious complications which the legislation of years might not overcome.

We presume the great question will be, shall the standard of the N. A. H. F. A. be adopted, or shall a herd book be established for Canada? We can conceive many advantages arising from uniformity of standard in the two countries, especially if an interchange of cattle is to take place. On the other hand, if the adoption of a standard so hedges in the industry that none but men of large means can climb over the barrier, and that is sustained largely for the greater profit of those who by accident were early investors, then it should be rejected. Any breeders' association run in that style is managed on the assumption that its early investors are a privileged aristocracy, whose rights call for special protection.

There is a strong spicing of this in the management of the Holstein-Friesian Association of America, which there is no difficulty in pointing out, as we now propose to do.

(1) The membership fee is fixed at one hundred dollars, which is certainly not in the interest of beginners. Many a one convinced of the merits of Holstein-Friesian cattle, and desirous of breeding them, will be deterred from so doing by the thought of the \$100 membership fee.

(2) Before any one can become a member his application must be approved by a unanimous vote of the board of officers present at the time. If any person on that board holds any ill will against an applicant for membership, he has it in his power to decide that such applicant shall not be received. Absolute power is always a dangerous possession. An autocracy in a Holstein-Friesian Association is not different in principle from an autocracy in the government of a country.

(3) None but members of the association can register imported animals shipped from Europe after March 18th, 1885. The object of this rule is evidently to confine the importation of animals to the members of the association, or in other words, to keep new men out of the business. Where is the reason in prohibiting an individual from importing animals if so disposed, and of having them registered in the H. F. H. B. if he complies with all the other regulations unless

he pay a membership fee of one hundred dollars? This means that though Canada should have a herd book to-morrow, with identically the same standard as the H. F. H. B., he may not import animals from Holland, and get them registered in the latter without first paying a membership fee of \$100. But if he purchases from an American breeder whose animals are recorded, he can get the offspring of these recorded without paying a membership fee, and yet the Americans recognize the Netherlands, Friesian and North Holland herd books, in which the imported animals may have been recorded. It is equivalent to saying that the animal imported by a member of the H. F. A. of N. America is one thing, but if imported by one who is a non member it is entirely a different thing. Is not this the first time in the annals of live-stock breeding that the intrinsic merit of the same animal is made to hang upon the question of membership or non membership of an association on the part of its owner?

(4) "No imported animal under one year of age shall be examined (by the inspector) or accepted for registry." Why not? If a Dutchman wants to sell a Holstein calf to an American eligible for record in the herd book, why should he be debarred from doing it? or if an American desires to buy the same calf, why should he be told to go home without it, and either come on or send for it next year, if he is to get it?

(5) "The registry fee of each imported animal shall be twenty dollars, and an additional fee of five dollars for each animal is to be paid for its inspection. Pushing the statement to its extreme limit it means that persons desirous of importing one favorite from Holland, before he can get the same recorded in the H. F. H. B., he must pay \$125, although the beast may have been registered in Dutch herd books recognized by the H. F. A. of N. A.

Doubtless the American Holstein breeders can manage the affairs of the association without any gratuitous assistance from us, but if they are minded so to hedge in the affairs of the association for the benefit of the few and the powerful, to the detriment of the many and the weak, we in Canada should be very guarded lest we fall into a similar mistake.

We know the subject is full of difficulty, hence the breeders should meet in conference, take council as brethren who are seeking only what would prove the greatest good to the Holstein interest at large, and lay with the utmost carefulness the foundations of an organization that ere long may wield a powerful influence in the increase of the profits of the dairyman and farmer.

The Dorset Horn Sheep.

The few specimens of this breed as yet in Ontario are confined entirely, so far as known to us, to the flocks of Mr. V. E. Fuller, Hamilton, Mr. E. Stanford, Markham; and Capt. Rolph, also of Markham, Ont.

Owing to the fact that they may be bred at almost any season of the year, and that the lambs may thus be made to come in the month of November, so that by the time Easter comes they may be made great and heavy, the probability is strong that they will grow rapidly in favor with the people of this country, more especially those of them who live upon its heavily undulating portions. In England they are confined almost entirely to the counties of Dorset and Somerset, but they are grown in great numbers there, as on Poundbury fair day (29th September), in Dorsetshire county alone, no less than 12,000 to 16,000 ewes pass through the hands of a single auctioneer.

Mr. Chas. Harding, owner of the old established flock at Montacute, near Yeovil, keeps a flock of 350 breeding ewes, and he is but one of many very largely interested in the fortunes of the breed.

The Mark Lane Express says, in regard to them, "No sheep can come up to them in fecundity. In hardihood of constitution also they surpass most others, and yearn with such little difficulty and with so few losses that their owners seldom have any necessity to make lambing folds for them, unless the weather is very severe when the crop of lambs fall. They have always been considered to do best on grassy slopes, plains and hills of moderate elevation, having in their improved state a semi-mountain character, causing them to take well to a wide extent of country, neither too elevated nor too marshy."

They are a strong and vigorous breed, and take on flesh readily. At the Smithfield show of 1884 the average of the prize pen of ewes was 246 lbs. each; in 1885, 287 lbs., and in 1886, 271 lbs. Out of 3547 ewes bred in 1884, the property of seven breeders, only 60 ewes were lost, and they reared 4,425 lambs, or 125 per cent. of an increase.

We have much land in Canada of the character described as most suitable to the growth of these sheep, and if experience demonstrates that they take kindly to the conditions of this country, they cannot fail to become a popular breed. Our epicures will enjoy a roast of lamb considerably more in the months of January, February and March than in those of June, July and August.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Agricultural and Arts Association's Examinations.

BY F. J. SLEIGHTHOLM, HUMBER, ONT.

My reason for penning this article is not by any means that of the chronic fault-finder, but is rather that of one who desires, by all means within his power, to further the interests of agriculture generally, and Ontario agriculture particularly.

The following is a shadowy outline of the course of reading prescribed for the examinations held during the past summer (July):

FOR THIRD CLASS CERTIFICATE.

1. Soils—composition, texture, etc.; land exhaustion and restoration; farmyard and artificial manures, uses of same.
2. Tillage operations.
3. Rotation of crops; good and bad cropping.
4. Live-stock—kinds, management, etc.
5. Food—composition of Ontario foods and fodders; materials necessary for growth, for heat, maintenance and flesh production; feeding and fattening of animals.

FOR SECOND CLASS CERTIFICATE.

Same as for third, together with the following:

1. Roots; cultivation, etc.
2. Green fodders.
3. Land drainage.
4. Breeds of cattle, horses, sheep, and swine, with their management, common diseases and remedies, etc.
5. Diseases of crops and their remedies.
6. Orchards; treatment, diseases, etc.
7. Forestry.
8. Entomology.

A first-class course of reading, says one, and I heartily endorse the statement. But (and this is my principal reason for writing this article) not one half of this course of reading was required to enable the

candidate to pass successfully the examinations for second class certificates held last July. To the writer this seems a too palpable error; not that the study of the subjects unasked for in the papers would be any drawback to the student. On the contrary, they are subjects upon which all who are seeking eminence in the agricultural profession will do well to spend more than a casual thought.

If the object of the association is, as it says, to promote the development of a taste for reading and the acquisition of valuable information on the subjects mentioned in the syllabus, then why not *all* the subjects?

Is entomology a subject of so little import that it may be entirely overlooked, and that by an agricultural association? Is forestry not worthy of even a passing notice? Are the youths of our province to grow up with no knowledge of a science which has for its object the prevention of forestal denudation? Do the votaries of horticulture need no encouragement? When we consider that, with the exception of a few small areas, first class, well kept orchards of desirable fruits are the exception rather than the rule, an answer to the question is not far to seek. If the economic side of botany were a little more read and studied, the universally talked of depression would be no worse.

But what shall I say of the treatment which the breeding, management, etc., of first-class live stock received? A mere question or two about an industry which, in real value, stands above, yea, pre-eminently above, all other industries. Comment stands still.

By the time this article appears it may be the association will be sending out the course of reading for 1888; and shortly after the examination papers will also be ready. Now if there is a lack in the existing state of things, why not try to remedy it?

With all respect to the association, and with a sense of my own inability, I would briefly suggest two ways of improving the present system.

First, make the number of examination papers *six* instead of three, the present number.

Second, avoid devoting a whole paper, or more, to one subject.

Were these suggestions carried out, I fail to see why these examinations would not do a great good to Ontario agriculturists, and at the same time be a greater credit to the association from which they emanate.

The Imported Clydesdales of Cairnbrogie.

A reading was given in a number of the JOURNAL of 1886, of the Clydesdales of this famous stud. At the time when that writing was penned we considered them one of the finest lots of Clydes that ever came to Canada, but what was our surprise on our recent visit to Cairnbrogie, to find them nearly all supplanted by another lot of even a finer all round quality, that had been imported by the Messrs. Graham Bros., the youthful but spirited and enterprising owners of Cairnbrogie.

From the introduction of their private catalogue, just issued, which we consider one of the fullest and most complete of the kind that has ever fallen into our hands, we clip the following:

"These horses are selected in person by one member of the firm, and every care is exercised in the selection of that type of horses which has been found most useful for breeding purposes on both sides of the Atlantic. In making these selections no horses are chosen which do not possess proper shapes, a high degree of quality and a pedigree rich in blood that has been famous in old country show rings. Hence

it is that so much of the blood represented in the horses here catalogued is related to the famous sires, Darnley (222), Macgregor (1487), and Prince of Wales (673).

During 1887, at the eight large shows in Scotland, Darnley was represented by twenty-nine horses and mare, his immediate progeny. These amongst them secured 38 prizes, of which no fewer than 16 were firsts; and in addition they secured five champion premiums. The best three-year-old stallion, and one and two-year-old fillies were got by him.

At the same shows Macgregor was represented by twenty-five of his gets, which amongst them secured 37 premiums, of which six were firsts, and in addition they secured one champion prize. The best two-year-old colt of the season, The Macaulay (5187), which was unbeaten in his class, and the second best three-year-old colt, The Macneil (4566), were got by Macgregor.

At the same shows there were thirteen prize animals got by Prince of Wales (673) exhibited, and these secured 25 premiums, including five first prizes. The best yearling colt of the season was got by him; the two best aged stallions were his grandsons, and the best three-year-old mare was his grand-daughter.

To the lover of Clydesdale lore the catalogue referred to above will prove of much interest, as the notes found in it are in themselves an epitome of much of the best Clydesdale blood, both of the past and present.

At the time of our visit in December last, the stud consisted of 25 head, all imported, of which two were mares, but of whom a number have since been sold. Of the 22 stallions 6 were four-year-olds, 4 three years, 10 two years, and 2 were yearlings. No less than six of the number were the get of Macgregor (1487), and nearly all of them are well freighted with the blood from one or the other of the famous above mentioned sires. They are all of the low-set, thick type, which alone find their way into the Cairnbrogie stud, with that flatness of bone and strength and cleanness of limb combined, so eagerly sought for by the lovers of good Clydes, and the spirit and action which they manifest when at exercise remind one more of the antics of kittens than of massive Clyde horses. They are also rich in quality, that most desirable of all provisions in physical conformations.

Macarthur (3815) by Macgregor (1487) is king of the four-year-olds, and king of all Canada. He is more fully described on the first page. *Bannerman* (4825), a bay, was sired by Jacob Wilson (2178), dam Sypland Bet (937) by Young Sir Walter Scott (1031), trace back through famous ancestry to Glancer 1st (336). He is a horse of medium size and fine quality, with excellent legs and feet, and is a fine, clean, level mover and a sure and tried foal getter. *Royal Blue* (5310), is by Blue Ribbon (1961), a son of Darnley (222), and half brother of the famous Macgregor (1487). His grandsire, Ivanhoe (396) was a noted prize-winner at both the Glasgow and H. A. S. shows. Large in size, and of a rich dark bay color, he moves his well made body with the ease and style of a road horse, and is also a tried and sure foal getter. *Freedom* (4382), a bay in color, is by Liberty (2222), a noted stock horse in Scotland, has famous ancestry; several of them, as Bonny Scotland (1076), Prince Royal (647), and Glancer 1st (336) carrying the honors at the H. and A. S. show. *Bright Snile* (4268) is a massive and large horse, with grand style and action for a beast of his weight, and when in fair condition weighs 2,100 lbs. His sire, Prince Henry (1257), has won at the Royal of England, and such noted sires as Victor (892), Farmer (284), and Glancer (373) are amongst his ancestry. *Macandrew* (4551), a beautiful bay with three white feet, is a horse of good size, choice quality, and fine style, a flashy goer and a sure foal-getter. His sire is

Prince Albert (616), noted in the Girvin country, and beyond him are found Lord Lyon (489), Farmer (284), Victor (892) and Young Champion (938).

As Macarthur is king in the four-year-olds, *Macphail* (4567) his half-brother, reigns supreme amongst the three-year-olds. He also is further described on the first page. *Macinnis* (5193) is the very beau ideal of his illustrious sire Macgregor (1487), rich in color, perfect in form, and mild in disposition. His style is faultless and action very perfect. His dam Sally 3d (4904), is by Farmer (286), one of the best sires ever known in Scotland, and his g. dam Sally 2d (394) is by the equally famous Lochfergus Champion (449), Byron (101) by the famous Lofty (458), and Baronet (30), which was crowned king of Scotland in the Kelso competition of 1863 are also in the line of his ancestry.

Montrose Chief (5222) is a fine, well-backed bay horse of very even proportions, superior feet and pasterns and gay spirit. He is by the noted sire Charmer (2014), and his dam Darling of Twynholm (2884) has nursed famous prize-winners.

Pride of Corsock (vol. x) is by the famous Sir Michael (1530) crowned with a H. A. S. prize at Perth in 1879, and has long been famous in the Balnaghie, Midcalder and Brechin districts. His dam, Sally of Blackhills (282) is by Samson (741) by Lofty (455), whose ancestry were renowned in their day. Fred Archer (4380) is by the famous stock-getter What Care I (912). Honora, his dam, is by Lord Lyon (489), whose name figures so frequently in trans-Atlantic importations. Fred Archer is also a blocky, thick-set horse of much quality, style and action, with superior feet and pasterns, and thin, well feathered legs and kindly disposition. He was a first prize-winner at Dalbeattie in 1866.

Of the two-year-olds *Royal Lawrence*, vol. x, is perhaps the plum. He is a dark brown, showy, stylish horse, one of the finest movers ever brought to Cairnbrogie. His body is round as a barrel and his heart girth immense. He won 1st at Markham and at the Ontario Central, Port Perry, the only occasions on which he has been shown. His sire, St. Lawrence (3220), by Prince of Wales (673), has won prizes at the great Scottish shows. His dam, Bell of Carco (vol. x) is by Scotland Yet, whose sire William Wallace (805), came in 2d at the H. and A. S. show in 1869.

Golden Gem (5053) is very handsome, sprightly and well made; has choice quality and breeding, and will make a valuable horse, either for show or stud purposes. His sire, Goldenberry (2828), was sold by Mr. Montgomery to Lord Polworth for £600, and his dam Lovely 2d of Boreland, is by Lochfergus champion (449). *Lord Ullin* (5179), a bay, and winner of first prize at Goodwood, Ont., the only occasion on which he has been shown, is of large size, immense bone and substance; is well formed, and a lively, clean mover, as was his illustrious sire Darnley (222). His dam Larbrax Tibbie 2420, is by Young Macgregor (957), crowned with a red from the H. S. S. in 1872. *Macraith* (520), a dark brown, is also a coming horse. He is well formed, with strong bone and more than average style and action. He is a son of Macgregor (1487), and Dundonald (256), Garihaldi (312), Loudoun Jock (507), Young Champion (938), and Young Clyde (949), figure in his ancestry. *Albert Victor* (vol. x), a light bay with white face and four white legs, has enough of size, grand rib and quarters, and plenty of bone. His sire is Prince Albert (616). His dam is by Farmer's Fancy (302), and g. d. by Glenlee (364). *Hatfield* (vol. x.), a brown, a Dalbeattie bred horse, is by Honorable Charlie

(3693). His g. sire Tintock (Galbraith's) won 2d at the H. S. S. at Glasgow in 1867, and his dam Darling (74), is by Lord Salsbury (1205), 1st at H. S. S. in 1877, and sold for £1,600 to go to New Zealand. *Blacksmith* (vol. x.), a brown and a bonnie, well-made horse, is by Charmer (2014), which gained Northumberland premiums in 1882, and Castle Douglas in 1883 and 1884. Such horses as Bonnie Scotland (1076), Lofty (460), Largs Jock (444), and many others, bright stars in the firmament of Scottish Clydesdale lore, are thick in the ancestry of this horse. *Royal Crown*, vol. x, is beautifully formed, and is looked upon as a model horse. His sire, Crown Jewel, has been loaded with honors at Scottish shows, winning a place at the H. and A. S. show at Edinburgh in 1884. Orphan (1498), Prince of Renfrew (664), Young Ross (1370), Loudoun Tam (509), and Lofty (456), so famous each in his day and neighborhood, have all of them transmitted of their merit to Crown Jewel, who by the way is out of the dam Dor (192), which produced the famous Macmaster (3823), the Messrs. Graham's sweepstakes horse at the Toronto Industrial of 1886. *Lord Armadale* (vol. x) is a large horse, the embodiment of beauty and power, and, as may be gleaned from his pedigree, is descended from the most noted prize-winners that have ever been in Scotland, as Young Duke of Hamilton (4122), his sire, and Mons Meg (4221) his dam, Crown Prince (207), her sire, and many others which we must not stay to name.

Of the 1886 horses there are but two, *Marmon* and *Macindoe*, both registered in vol. x. The former, amongst other prizes of 1887, won the champion cup at Edinburgh and 1st at the Toronto Industrial and other shows in Canada. He also appears with notes more full and complete on the first page. *Macindoe* by Macgregor (1487), dam May Bloom (5367), by Pride o' Galloway (601), by Gladstone 2d at the H. S. S. at Kelso in 1872, is a big, fleshy, strong colt, well ribbed, with good shoulders and heavy quarters.

Jessie Macgregor, the peerless two-year filly, is sketched and described on the 1st page. *Local Gem*, the five-year mare, bred at Linlithgow, is by Sir Michael (1530), and has for dam Rosie (3711), in whose ancestry is found the renowned Conqueror (196), and for g. dam Nannie (3710) by the famous Lord Haddo (486). In pedigree and in shapes, quality and action, they are a remarkable lot.

As several importations are made every season, intending purchasers may at all times have an opportunity of selecting a good stock horse without the risk of undertaking a journey in vain. It is needless to add that all visitors to Cairnbrogie are most welcome and will be met at Claremont station on the C. P. R., some 25 miles east of Toronto, on receipt of timely notice. Claremont, which is the P. O. and telegraph station of the Messrs. Graham, is but one mile distant.

Experimental Agriculture and its Value to the Farmers.

Professor Saunders, director of the Experimental Farm Ottawa, delivered an address on this subject to the farmers of Almonte, December 10th, 1887. We regret that we can only find room for a portion of it. After some preliminary remarks he said:

Agriculture is and always has been an experimental science, and in the very nature of the subject it must always be. Most of the experience we have in agriculture has been obtained by the practical experimenting of individual farmers, a few facts gleaned here and there, and these added into one great sum constitute our present knowledge of the art. Up to within a very recent period very little had been done either by societies or by Governments to aid individual

effort in this particular line of work. It was only about thirty years ago that the first agricultural experimental station was established in Germany, and this was the first effort made in any part of the world to bring to bear on farming operations the benefits of scientific training. A number of farmers met together in one of the provinces of Germany and there resolved to establish an experimental farm on a small scale in order to save them individually the cost and trouble of each one experimenting for himself. They selected a manager for this farm, and started a course of experiments, and shortly after applied to the Government to help them in the matter. The Government enquired into the subject, and believing that this scheme was a good one, and that it was likely to produce excellent results, voted a sum of money to aid in the work. Within a few years several other similar institutions were started in other parts of Germany, and they have gained in popular favor from year to year until now, in most countries in Europe holding anything like an advanced position in agriculture, there are many of those experimental institutions where scientific work is carried on regularly, the results are given to the farming community, and they reap the benefit of the experience so gained for them. From the outset the cost and maintenance of those institutions has been borne almost entirely by the Government of the country in which they are located.

THE VALUE OF SCIENTIFIC EXPERIMENTS TO THE FARMER.

It has often been asked, "Of what practical use are those institutions to the farmer?" Well, there are many experiments which could and should be carried on to benefit the agriculturist which demand more time, more risk and more careful attention than farmers can afford to give, and the use of apparatus which farmers have not at their command in order to work out satisfactorily all the details connected with the tests, so that there are classes of experiments which farmers cannot well undertake for themselves, and which are of great value to the community.

CLOVER AS AN ACCUMULATOR OF NITROGEN.

There is not a farmer present, I presume, but knows the value of clover as a green manure. It is a subject that every one is familiar with, and there is, perhaps, no plant at present known which is so valuable an agent in nourishing the soil as a good crop of clover ploughed in green. If anyone asks why it is so, he usually met with the answer, "We know it is so, because it is the result of our experience." Now if we bring chemistry to bear on the question, we find that clover contains a large proportion of an element which is a very important fertilizer of the soil—nitrogen. This element exists in the soil in considerable proportions. It is found in every soil, and it forms as well the great bulk of the atmosphere we breathe. In the soil it exists in two conditions: One form, which is called available nitrogen, is that form in which plants can take it up readily as food, while in the other form, known as unavailable nitrogen, it is locked up in the soil and cannot be assimilated as plant food until it has undergone a change, which is usually brought about in a very gradual manner by the cultivation of the soil, and the exposure of every part of it to the action of the atmosphere, which gradually converts the unavailable nitrogen into the available form, and in that way the fertility of the soil is partially maintained. It has been shown by analysis that clover accumulates nitrogen in a large proportion from some source during its growth. It is not definitely known whether this nitrogen is obtained from that which is unavailable to other plants, or from the air; but it is known that a given weight of clover contains nearly fifty times as much of this valuable element as the same weight of the wheat plant. Hence, if clover with its weight of fertility, is ploughed under, it gives to the soil a dressing which will serve for the enriching of several succeeding crops.

UNKNOWN STORES OF NITROGEN.

The knowledge of this fact in connection with clover leads to another consideration. Clover is only one member of a very large family of plants which are known to botanists as leguminous plants, which include all the lupins, vetches, tares, etc., some of which are natives of this country and some of foreign countries. If clover has this quality of storing up nitrogen, other plants may have the same and some a superior power in that direction. One can at once see that here is a field for experiment in a direction which would be exceedingly valuable to the whole farming

community, to ascertain which of the leguminous plants, if any, are as good or better than clover for this purpose. There are some native to the north of Europe, and many more found in different sections of this great Dominion, all of which should be experimented with in order to ascertain whether they could not be made useful to agriculture, for it has been well said that the power of one plant to store up food for future crops of other plants lies at the very foundation of successful agriculture. Nitrogen is abundant in all animal fertilizers, and it is the presence of that element which gives to these fertilizers their chief value.

IMPORTANCE OF PERMANENT PASTURES.

Another point which I might use in illustration is the importance to farmers of permanent pastures for cattle. It is very uncertain, in view of the immense fertile wheat growing plains which we have in the North-west, whether farmers in the east will be able to compete in grain-growing with the farmers of the Prairie Provinces. Indeed it is very doubtful if they can. In that case the farmers of Eastern Canada will have to fall back on such lines of agriculture as they can make most profitable, and one of these is stock-raising. Permanent pasture may be defined as a mixture of perennial grasses containing those which will ripen at different periods during the season. A crop of timothy ripens and is harvested early in the year, after which there is a long period when that field is useless for the purpose of pasture, and not until the growth is strong enough, and has body enough to provide good grazing, would a farmer think of pasturing his cattle on it. But in permanent pastures you can get a selection of grasses, which live from year to year, some of which will ripen early in the season, some in the middle of the season, and others later on, so that the cattle may have a succession of that succulent food which they need and have it in such abundance as will enable them to put on flesh rapidly.

PROVIDENCE HAS NOT PLACED ALL THE GOOD GRASSES IN ANY ONE PART OF THE WORLD.

Most of the grasses which we have in cultivation have come to us from various parts of Europe, and there are some varieties in our own country which are quite as promising, perhaps, as some of the European sorts. In my late journey in the North-west I paid some attention to the native grasses, and found varieties there which seem to me to be quite promising, judging from their habit of growth, and from the fact that cattle show such a preference for them. When brought under cultivation there may be found among them species quite equal and perhaps superior in some respects to those at present in use. There are also in the North-west and in the Western States some varieties which are capable of standing very dry weather and some others adapted to very cold climates. By growing judicious mixtures of these grasses we hope to ascertain their true value. This important work will be carried on extensively at the Experimental Farm, and the object will be to show which are the best varieties, bring them into notice, and also to take such steps as will make them available to farmers. There are a score or more different kinds of grasses which can be obtained from seed-dealers in Europe and other countries, many of which would be exceedingly useful if their valuable qualities were better known. These facts serve to show that there are lines of experimental work which at first sight might appear trivial but are expected in the end to produce results of great importance to the stock interests of this country. Such experiments cannot be undertaken by the farmer. Few of you could afford the time or expense required to travel to the North-west and other places in search of such products; but if this can be done for you, the information obtained for your guidance and the material made available for your use, you must admit that great good is likely to result from such work.

(Concluded in next issue.)

"I am well pleased with the JOURNAL and derive much useful knowledge from it."—P. W. Ellis, Alsteldt, Ont.

"I have received three numbers of the JOURNAL and am much pleased with them. Hope to be able to get you some subscribers here."—Thomas McBurney, Mercer, Mercer Co., Pa.

"I am greatly pleased to notice the progress your JOURNAL is making. The information it imparts to farmers, stock breeders, etc. must prove invaluable to them. I heartily wish it increased prosperity."—N. H. Meagher, Q. C., Halifax, N. S.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Sheep Breeding.

An intelligent observer—in fact, Mr. Goldwin Smith—the other day asked Mr. Wade, the secretary of the Agricultural and Arts Association, how it was that sheep were only seen in such small numbers upon Ontario farms, and added that the people here apparently thought a score or two of sheep quite a large holding, whereas "at home" flocks of several hundreds were by no means uncommon in almost every county of the kingdom. Other people, including the President of the United States, have been struck with the same peculiarity: but the explanation must be found in some extremely simple and practical cause. Either sheep don't pay, or large flocks of sheep are unsuited to the average methods of Provincial and Eastern agriculture. We will endeavor to show that sheep do pay, and therefore that the system of farming should be changed. In the first place, where hired labor is scarce and expensive, it is an important truth that during the winter months 200 sheep can be fully cared for in the same time that would be expended on ten head of cattle, when cleaning out stalls, turning out to water, and other chores in connection therewith, are all accounted for. Moreover, sheep sheds cannot be too cheaply constructed; plenty of fresh air being good for sheep, and only actual shelter from storm and rain required. Choice cattle, on the contrary, must be housed in warm quarters, more expensively built. In summer time 200 sheep can be driven from one place on a farm to another in less time and with less trouble than twenty head of cattle. And both these arguments apply even more strongly in the case of horses. Sheep, again, come into profit earlier than either cattle or horses. When eighteen months old the young ewe is coupled with the ram, and as many breeds increase in the ratio of three lambs to two ewes, and the lambs at six months old are, under certain conditions, worth nearly as much as their dams, the prime cost of the ewe flock may be wiped out, while they are yet in their youth: and all is clear profit, after keep and attendance are charged. Now, if a man has a large run of natural pasture, there is no better way of extracting interest from it than to put a flock of sheep on it. Sheep, too, are the best improvers of worn-out farms. They are better weed-destroyers than either cows or horses. Their winter keep is in most part paid for by their fleeces, and their summer keep by the top-dressing they give to pastures. We are not advocating the keeping of a few sheep by every small farmer; we are only harking back to our text, that there is no reason why the owners of large areas should not have large flocks: much larger than any to be seen in this province.

If it be true that many farmers are determining to keep their sod intact, and rather to see their timothy stubbles gradually reduced to wild grass pasture than break them up and go to the expense and risk of cultivation, we shall probably see larger flocks than now prevail. Sheep must have range, and low grounds are an abomination to them; but on high or undulating lands, provided with shade and water, sheep will do well, whether the soil be light or heavy. In very few of our counties does foot-rot appear, and only in muddy, sticky soils and exceptionally wet seasons can it get any serious hold in our climate. Occasional cases of diseased liver or brain appear; but as it is impossible for many years yet to overcrowd Ontario with sheep, we are safe from any such fell destroyer as the epidemic fluke plague which a few years ago decimated English flocks. There is in fact no obstacle in the way, and the paucity of big flocks is one of those strange facts in the history of agriculture at

tributable only, we fear, to that mixture of prejudice and ignorance that characterizes too many farming operations. It is a dash of this mixture that makes many of our few existing flock-masters half starve their sheep, and so lose a proper return in weight and quality of fleece: and in the case of fine and medium-wooled sheep it would undoubtedly pay to provide some low shelter of boards under which sheep could take refuge in rainy weather even when out to grass. The retention of the yolk is thus secured, and a healthier sheep and a higher priced fleece is the result. There is also in our climate a peculiarly suitable purpose to which farmers might turn their sheepskins. Properly cured and dyed, a soft, close, smooth sheep-pelt may well be utilized, now that buffalo robes are no more, for every need filled by the curly brown friend of our childhood. The Boers of the Transvaal have, since their first settlement in Africa, used sheepskins with the wool on, for coats and robes. Why should the Canadian farmer despise or ignore the cheap substitutes for a buffalo skin that he has in his own farm yard? If Persian lamb coats are found good things for the rich men, a nice, close Southdown coat cannot be a very bad thing for his poorer neighbor.

Fashions in clothes, carpets and wraps affect fashion in breeds of sheep: but whether carding, or combing wools be desired, those who look to the wool crop prophecy an immense impetus to the sheep industry, while so far as mutton is concerned it should be enough to state that lambs are selling in Buffalo at \$6.60, or for as much as their dams are worth, and they are only nine months old. A young ewe can clear her own cost, therefore, in one year. Her fleece pays the winter keep, and we would like to know what other investment on or off a farm gives such a return as this in sure cash. Now-a-days a well-fed medium-wooled shearing clip is an average of 6 lbs. at 24 cts., and if a farmer makes his winter keep come to more than \$1.44 per head he feeds either unwisely or extravagantly. The accelerating rapidity with which a flock doubles up is an easy application of simple arithmetic, and we will not dwell on it. Sheep can be profitably kept where cattle will dwindle from poverty of the soil. They like our dry, bracing cold. They require but little attendance. If properly kept they pay. So long as the Americans are content to let Canadian importers be middlemen between the English breeder and themselves, it does not become us to quarrel with our lot. They are also the best buyers of our home bred animals, whether for breeding or killing purposes: and as one of them observed the other day to an importer—"Ours is a mighty big country to fill. You can't overdo either breeding or importation in a lifetime; for the progressive farmers of the United States are receiving recruits to their number every hour of every day."

So extraordinary has been the demand for Shropshire sheep this fall that the lucky owners of Shropshires have had to resist most tempting offers, rather than utterly deplete their flocks. We know of one breeder, Mr. T. C. Patteson, of Eastwood, who has made sales in Nova Scotia to the East, Dakota, to the west, and in most of the intermediate States of the Union. So impressed is he with the genuine character of the demand and with the fact that it has come to stay, that, as will be seen by our present issue, he has determined to centre his leisure energies upon horses and sheep, and to dispose of his valuable herd of Shorthorns next month without reserve. Eastwood may be peculiarly adapted to sheep: but what Mr. Patteson, the earliest bird in the Shrop market, discovered, will no doubt ere long also force itself upon many another stock farmer in Ontario, who will fall into

line, and minister to the wants of our neighbors. The day was when sheep paid and everybody went into that department of husbandry. Then the industry pined for awhile, and nearly everybody abandoned it. The day of revival has now again dawned, and whether it be in Leicesters, Cotswolds, Shrops or Southdowns that the venture is made, there is no room to doubt that a period of great activity is at hand.

Our Scotch Letter.

(From our Aberdeenshire Correspondent.)

THE LONDON FAT STOCK EXHIBITION—DOUBLE VICTORY FOR POLLED ABERDEENS—JEALOUSY AMONG ENGLISH BREEDERS.

In the largest exhibition and all round one of the best ever held in London under the auspices of the Smithfield Club, the Polled Aberdeen-Angus breed won, not only the champion plate, but the reserve place, and such a significant victory, as was inevitable, has formed a topic which has been much commented upon in this country. It is not so long ago when I used to be told that it was next to impossible for any breed except the Shorthorns or the Herefords, to win the championship at the London fat stock show, unless their claim to it was quite beyond question. There was at one time a feeling among Scotch exhibitors that the bench of judges who were selected were sure to lean to the Herefords or Shorthorns in the champion competition. Whatever real ground there may have been for such an opinion—and I do not think it was without some foundation—there can be no reason now for charging the Smithfield judges or the Birmingham judges with not giving due consideration to the merits of the great rivals of the "white faces" and "the red, white and roans." I am not sure, if the truth were told, that the jealousy that obtains between the "Shorthorn" and "Hereford" men had not something to do this season with the much-coveted marks of distinction—the Elkington plate and the Smithfield plate—being given to our native "Buchan humilies" or, as they are also called, Angus "doddies." It has also to be noted, however, that Scotch interests are much better attended to in the appointment of judges than they used to be, but as Scotland was in a minority in the special court which made the champion awards, the English judges must, on the present occasion, be acquitted of acting with partisan motives, at least as regards their Scotch opponents. I should not like to be understood that the two Polled Aberdeens, which so well upheld the credit of the breed, were specimens unworthy of the honors which were bestowed upon them. That was not so. They were capital specimens of a breed which seem to finish almost better than any other breed—they come to the black so ripe. The late Mr. McCombie used to speak about giving his favorite Aberdeens the "last dip," an expression which I think showed that in his opinion they possessed in a high degree this quality of finishing well. The chief organs of English agriculturalists, such as that influential newspaper, *The Live-Stock Journal*, have taken notice of the rivalry between the "Shorthorn" and "Hereford" men, which was quite apparent, both at Birmingham and London this year. A Birmingham it led to a deadlock, and at London almost to a "squabble." The sooner feeling of this sort disappears the better it will be for everything concerned. It were no credit to any breed to snatch a victory on account of the spirit of jealousy existing among the bench of judges. Neither Scotch exhibitors nor Scotch cattle need to win their victories by such means; they are quite capable of holding their own against "all comers," and it detracts from the honor of winning when it can be said of the judges that jealousy warped their judgments. The suggestion has been made, and there is a good deal of force in it, that to avoid—I had almost said such scenes as were witnessed at Birmingham and London—at least one direct representative of the consumers' interests should be upon the bench. After all, may we not depend on the good sense of Englishmen prevailing in the end? But should it be necessary to restrain their partisan preferences, in the meantime, the hint thrown out by the editor of *The Live-Stock Journal* might in some way be taken up. I should hesitate, however, before I put it into the hand of any butcher, however eminent, to be sole arbiter in such a case, as say the awarding of the Smithfield championship, if his colleagues were unable

to agree among themselves. Let the butcher element be represented certainly, but it must not be introduced ostensibly to keep the breeders right, though its very presence on the bench, I admit, may have that effect.

But to return to the Smithfield show. As I have already stated, it was probably the best on record, not on account of the outstanding merit of a few specimens, but as regards the general excellence of the display. There was a gross entry of 566 being 300 cattle, 183 sheep, and 83 pigs. In the cattle sections Mr. Stephenson, Newcastle, for the second time found himself owner of the Smithfield champion, the winner on this occasion being the five-year-old polled cow Young Bellona, which, as I stated in a former letter, won the blue ribbon at Birmingham. It was only two years ago that Mr. Stephenson accomplished the same feat with his noted polled heifer Luxury. It is certainly rather unusual to find the champion of Scotland and England in the shape of a cow. Cow beef is surely not the beau ideal of the English epicure! It is a wonderful performance for an animal that has had two calves, to carry the champion plate, and as a breed victory it is perhaps more significant than had the winner been a stot or a heifer. Still I am not surprised that the question should have been raised whether it would not be advisable to exclude cows from competing for the champion prize. Such a rule, however, is not really needed, as the chances of cows winning over heifers and steers have not very often to be taken into account. It is stated that her owner has taken Young Bellona home again for breeding purposes, but even should he succeed in getting her to breed, it is not an example that ought to be largely copied, as it serves no good or practical purpose.

The polled section was one of the best in the show. There were in all 27 entries, and the quality was exceedingly good. The Earl of Strathmore and Sir William Gordon Cumming carried the palm in the classes for steers, the latter winning in two-year-old oxen with Gordon, an animal of his own breeding, which showed great symmetry and ripeness; indeed, he was such a good one that he ran the champion cow, to which he was reserve, very close for the final honors, and he was awarded a special prize as the best steer in the hall. To me the cross-bred classes did not excel so much as some of the other classes. A good many breeders give rather too much attention to mere size as against real quality, and that was a conviction forced upon me as I scanned the different classes in this section, but it is quite true that it requires an uncommonly good little one to beat some of the enormous animals which are now shown, and exhibitors probably find that if they are to figure in the prize-list they must have something that will scale well. The Scotch polled crosses, as usual, more than held their own. They won all the first prizes except in one class, that is to say, the three first prizes out of four, and besides the special prize for the best "cross" went to an almost pure-bred Aberdeenshire from Aityre—a heifer which behind had no equal in the show, so deep, thick and true in her hindquarters and loins; indeed, had she been as good in front, I am not sure but she would have given the champion some trouble. The 66 entries of Shorthorns made as good a display as ever I have seen at London, showing that the "red, white and roans" are a truly grand race of cattle, and that they are still certain to keep their ground. Yearling steers have often been a stronger lot. Mr. Wilken, Waterside, won the first prize with an Aberdeenshire bred roan of great substance, which showed an extraordinary average daily gain of 2.43 lbs., but he had not quite the character of a Shorthorn which many judges like to see. The middle class of steers were headed by all the Birmingham winners, which, I think, were referred to in my notes of the show. Aberdeenshire Shorthorns have always a strong supporter at London in the person of Mr. James Bruce, Inverquhomery, who annually enters for competition a class of bullocks which are the admiration of everybody. They are big, thick-fleshed, well-proportioned animals, having a large dash of Sittyton breeding in their top crosses. For the third year in succession Inverquhomery bullocks have topped the aged class of Shorthorn steers, and on this occasion Mr. Bruce is not contented with first honors only, but he also gets the second prize. Rising four years old his bullocks gained respectively 9 feet 3 inches and 9 feet 2 inches, their daily average gain in pounds being 1.65. The premier ox was a splendid roan of fine proportions, which but for a little narrowness behind the

hooks, and not quite the foremost of handling, would have been heard of in the champion contest. Mr. Richard Stratton's The Dufferyn scored easily in a strong class of heifers in which the Birmingham horthorn champion was only third, with a splendid jaw with beautiful head and forequarters, great girth, wonderful crop, back and loins, wide and deep, and standing near the ground—a true model indeed, which might have almost been champion. Bred by exhibitor after Red Rover (46963), and out of Llan-wern 10:h. In some respects she reminded me of Mr. Stratton's champion heifer Cicile, but she was soft under the hand, and a little plain above her rumps, a defect which one of the special judges in the final competition seemed to lay great stress upon. It is not too much to say that she was by many good judges set aside as the winner of the champion plate, but her owner, though he has several times gained this trophy, had to be pleased with the prize of £25 for the best Shorthorn. The Queen's successes in the Devons and Herefords was much remarked upon. There would not have been much cause for surprise, although her best Hereford steer had got the blue ribbon.

Every succeeding year the fact is more and more being recognized that the older classes are the least profitable, and that the exhibition of fat stock might almost be confined to those under three years of age. One can scarcely realize fully the change that has been going on in this direction during the last nine years. I can well remember when the champions were commonly found among the classes for exhibits between four and five years old, the chief honors going to such specimens as Lord Lovat's Black Simon, a ponderous 4 years and 20 months old ox, weighing 25 cwt. and 16 lbs., which took the Elkington prize at Birmingham in 1878. In the same year the late Mr. McCombie's champion Scot was a bullock rising five years old, turning the beams at 21 cwt., 1 qr. and 7 lbs., but you seldom find anything in these times over a ton in weight. Early maturity has taken the place of these older and slower-feeding sorts. There is some reason to apprehend that quality is not as fully considered as it ought to be, but in deleting the classes for those ponderous animals to which I have been referring, the managers of the Smithfield and other exhibitions have certainly been moving in the proper direction. The attendance at the exhibition is a sign of the importance which the public attach to these shows, there having been from 90,000 to 100,000 visitors as compared with about 67,000 last year, and the attendance at Birmingham was similarly augmented.

December 17, 1887.

P. S.—It may not be out of place to mention that one of the best animals from Scotland this year would have been a cross-bred polled bullock, the property of Mr. Geo. Wilken, Waterside, which unfortunately had to be killed a few weeks before these exhibitions began. He was first in the one-year-old class at London last year, and at two years and ten months weighed no less than 17 cwt., 13 qrs. I understand he gave a good record when he was killed, but I have not the exact figures beside me. By good judges he was said to have been one of the finest animals ever reared in the Vale of Alford. An offer of £200 was refused for him a few weeks before his ailment—stone in the bladder—made its appearance, and caused his slaughter.

Higher Education for the Farmer.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I heartily approve of the manner in which you endeavor to uphold on any and every occasion the true interests of the farmer. I am a farmer, more, I trust, than in name, and as such endeavor to appreciate your efforts. Go on and prosper, as I feel you will, in the agricultural, literary and moral sense, so long as you persist in upholding right and combating wrong, as now.

I was much pleased with your article, "The Students at the Ontario Agricultural College" since I have practically tasted the benefits accruing from a course at that institution, having graduated in June, 1887. I can personally testify to the soundness and pertinence of your remarks.

Your paper is well edited and tastefully printed on first-class paper.

PROGRESSION.

Humber, Ont.

The Feeding Value of Bran.

BY JOSEPH OSBORNE, WYOMING.

(Continued from January.)

In shewing the feeding value of bran, I ask your attention to the following tables which I have carefully prepared from standard authorities. Only those foods we commonly deal out will be given.

	Albumenoids.	Carbo-hydrates.	Bone Ash	Cellulose.	Free Oil.
Wheat Grain	11.54	68.74	2.0	1.5	1.5
Barley Grain	10.84	68.31	2.3	2.5	2.5
Corn Grain	11.27	67.50	2.1	7.0	7.0
Oats Grain	11.84	63.30	3.0	6.0	6.0
Pease Grain	22.0	52.00	2.3	2.5	2.5
Grass	2.25	14.08	2.0	6.8	0.8
Potatoes	2.30	18.70	0.9	1.1	0.3
Mangels	1.54	8.54			
Parsnips	1.27	7.71	0.7	1.1	0.2
Carrots	0.66	7.80	1.2	0.2	0.2
Cabbage	1.50	7.09	1.2	2.0	0.4
Swedes	1.34	5.93	1.0	0.1	0.1
Pumpkins	1.03	2.03	1.0	1.0	0.1
Timothy	8.08	49.87	6.0	30.0	2.0
Clover	14.34	34.50	5.6	35.0	3.2
Wheat Straw	2.93	15.40	5.5	48.0	1.5
Oat Straw	2.75	15.65	4.6	40.0	2.0
Barley Straw	4.33	9.54	7.0	43.0	1.4
Corn Straw	3.00	39.00	7.0	40.0	1.1
Pea Straw	8.86	27.40	4.5	40.0	2.0
Linseed Cake	28.21	55.75	7.9	11.0	10.0
Flour	10.09	76.00	0.7	1.2	1.2
Bran, Roller	14.54	55.50	5.1	17.8	3.8
Buckwheat Grain	9.0	59.06	2.4	15.0	2.5

From what has been said of albumenoids and carbo-hydrates, the above table will be readily understood. The first and third columns show the flesh-forming and bone-forming percentages of the foods given, the second and fifth the fat-forming ones. The oil percentages, when not in excess are as 2½ to 1, so by multiplying the oil by 2½, adding the product to the carbo-hydrates, and dividing the sum by the albumenoids, we get what is called the nutritive rates. In this way we find that bran is richer in fat and heat-producing elements than any of our hay fodders, and is even more valuable than wheat flour.

The fourth column contains the percentages of what is called cellulose, crude fibre or woody fibre. This is the skeleton or framework of the plant or any of its parts, and in chemical composition is identical with starch, hence it ranks among the nutritive substances, and it will be seen by the table that bran contains a greater quantity of fibre than any of our grains.

It is worthy of note that the elements constituting the bran are highly digestible, and thus yield readily to the secretions of the stomach.

Of the albumenoids...	per cent. are digested.
" carbo-hydrates...	" "
" oil..... 80	" "
" fibre..... 30	" "

The value of this property of bran will at once be understood when contrasted with the indigestible hull of oats.

There is another feature not exactly connected with the subject of bran as cattle food, but which the farmer must not overlook, namely, the manurial or fertilizing value of bran.

One ton of bran as a direct fertilizer will give the following quantities of plant food, the only ones our Canadian soils are really in need of:

Nitrogen.....	48 lbs. at 16c.....	\$7 68
Phos. acid.....	65 " 6c.....	3 90
Potash.....	30 " 4½c.....	1 28
		\$12 86

Hence a ton of bran is worth \$13 as a manurial alone.

The following figures, taken from the Wisconsin report, will show the relative value of roller and stone-ground bran:

	Albu-menoids.	Carbo-hydrates.	Oil.	Fibre.	Ash.
Roller bran..	17.52	60.79	5.02	9.76	6.91
Stone bran	14.79	66.12	4.27	9.23	5.59

Passing from the chemical value of bran to its actual value in real cattle feeding, we find it has recommended itself to all cattle men, and, in view of winter dairying as a question being taken up at no distant day by the farmers of Ontario, experiments were conducted last winter at the Ontario Experi-

mental Farm with a view of testing the possibilities of carrying on the business profitably without grain. The test was made with four seven-year-old Short-horn grade cows in calf, and was kept up for sixty-four days. The daily ration consisted of 40 lbs. of turnips, 15 lbs. of hay and 8 lbs. of bran per cow. The only change in the ration was in the 15 lbs. of timothy and clover changed alternately to 15 lbs. of hay from permanent pasture. The result was that the animals kept up a uniform yield of milk of about 36 lbs. per day in mid-winter up to within a month of calving, and at the same time gained slightly in flesh. At the time this experiment was going on, another test was being conducted with a common Canadian grade spayed cow in order to find more exactly the effects of food on dairy products. The test in this case was a comparative one between bran and chopped stuff. The bran ration consisted of 9 lbs. of timothy and clover, 30 lbs. of sliced turnip and 18 lbs. bran daily. This ration was continued for twenty-eight days and then changed to the other, which consisted of the same weight of hay and turnips as before, and 2½ lbs. of ground pease, 2½ lbs. of ground corn, 2½ lbs. of ground oats and 2½ lbs. of ground barley, or 10 lbs. of ground grain, given altogether and continued for twenty-eight days.

The daily yield of milk from the two rations were as follows:

Bran ration.....	18.8
Chopped stuff.....	19.5

And the analysis of the milk:

	Water.	Fat.	Solids other than fat.	Total solids.
Bran.....	86.9	3.9	8.7	12.67
Grain.....	87.2	4.7	8.0	12.75

The summing up of this experiment, as given by Prof. Brown, is that the bran mixture gave a quality of milk 17 per cent. less value than the grain mixture, which would be equal to about one half pound of butter per 100 lbs. of milk, or about two cents less in value.

In the foregoing experiments at Guelph the test was for the dairy, but at the same time an experiment was going on in which the same rations as in the last experiment were placed against each other in the fattening of store cattle.

The trial was made with eight Shorthorn grade steers two years old, and divided into two equal groups as nearly balanced as could be. The experiment began on the 28th of February last, and continued to the 7th of May, lasting sixty-eight days.

Group one on grain began at an average weight of 1,334 lbs. and closed at 1,360 lbs., an increase of 26 lbs. per head in thirty-three days, or 12½ ounces per day.

The same group changed to bran ration began at an average weight of 1,360 lbs., and increased to 1,403 lbs. in thirty-five days; total increase of 47 lbs., or an average increase of 1 lb. 5½ oz. per day.

Group 2 on bran started at a weight of 1,300 lbs. and closed at 1,361 lbs., a total increase of 61 lbs. in thirty-three days, or an average increase per day of 1 lb. 15 oz. nearly; and when changed to grain the average animal ran from 1,361 lbs. to 1,382 lbs. in thirty-five days, an increase of 21 lbs., or a daily increase of less than ten ounces.

In the whole experiment there has been an average daily increase of from all sources of 1.10 lbs. per head. Grain gave a daily rate of two thirds (.69) of a pound, and bran over one pound and a half (1.53) per head, and the result shows that in fattening steers the bran ration, at one cent per head less cost, gave 100 per cent. more daily increase than the grain ration.

"Was the Decision a Just One?"

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I noticed in your December number, under the heading "Was the decision a just one?" a letter from one of the judges on draught horses at Ridgeway Fair, and I must say I think the writer is much better putting a question to suit his own purpose than he is a judge of draught horses. He said, "There were two entries, one a span of aged mares, and the other a mare and a two-year-old colt from the mare aforesaid. We gave the prize to the mare and colt, which very much dissatisfied the owner of the other team, and caused a good deal of comment among the spectators." He also said the colt was a perfect mate for the dam, but he forgot to tell you that the other team was very much better matched, being both matured horses, full sisters, the same color, dark brown;

the same size and of the same disposition, and were as well matched a team, all things considered, I think, as can be found in Canada, and were prize-takers every year since they were foaled, having taken fourteen first prizes by the time that one was two and the other three years old. They had never been beaten previously, and have since taken prizes every year as a draught team, taking first prize four years at Peninsular Fair at Chatham, and beat the team that took first at London in 1883 four different times, twice when the latter only got third. They were about a hand higher and four hundred pounds heavier than the mare and colt, being 3,600 lbs. in weight, and so much superior in looks that it is no wonder it caused a good deal of comment among the spectators, as was stated. Then to add insult to injury, he says one of the other team was slightly unsound. And right here I would say I am willing to allow any veterinary surgeon to examine them, and if he pronounces either of them unsound in any way or says they are not a better team than the team they gave the prize to, I will then acknowledge that I am not a judge of a sound horse or a draught team. But I still claim that there is no two-year-old colt, no matter how well matured, can fill a place in a draught team, for a draught team ought to be able to do any kind of heavy work. And if a horse buyer comes from the States here to buy horses for draught work, he will pay twenty-five per cent. more for a horse that is eight years old than he will for a two-year-old colt; and the reason he will give you is, that nearly one half of the colts become unsound if put to hard work before they attain the status of a horse at all, and have to be sold at a loss, as they are then unfit for hard work, while the aged horse goes on and earns his price with a good margin for profit. When I bought these same mares, one at two and the other at three years old, I bought them very much cheaper than I could have done had they been matured horses, although they weighed then on Bowmanville market scales 3,250 lbs. Mr. Robert Beith, in looking them over in my own stable three years afterwards pronounced them worth eight hundred dollars, just twice the amount paid for them when two and three years old. I have taken prizes on horses in each and every year since 1866, and on as many as six, seven and eight horses, different years, at the county fair at Chatham, that is, on all the horses I then owned, and I exhibited ten horses and colts at East Kent fall fair in 1886, and took a prize on each of them. This was the first time I ever refused to accept the award of the judges; and had I considered it at all reasonable judgment given, I would then have been willing to accept the award of the judges.

I do not believe in controversy through the public press, but I considered it my duty to reply to the letter referred to, as I considered it was a little too personal. Hoping I have not trespassed on your space in the length of my reply, I would ask, was the action a just one?

Blenheim, Ont.

E. B. TOLE.

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.

The Shire Horse.

(First Paper.)

The origin of this breed, the foundation of all heavy draught horses, is lost in the vista of time. One of the earliest accounts we have of England is given by Julius Cæsar, and there must have been an immense number of horses in the country at that time, as in his *de bello Gallico, Liber v.*, he mentions that "Cassioellannus, one of the British chiefs, after his defeat on the Thames by Cæsar, sent away the greater part of his forces, having given up all hopes of making a successful stand against the Romans, but retained about 4,000 chariots for the purpose of harrassing them." Cæsar, however, gives no description of the horses themselves, but they must necessarily have been possessed of considerable strength and size to have drawn the heavy chariots over a country densely wooded and destitute of roads. Youatt is evidently of opinion that a heavy breed of horses was existent at that time. There is, however, direct evidence of the existence of such a breed in the reign of Henry II. FitzStephen, who lived at that time, in giving

an account of a horse market held at Smithfield, expressly mentions "horses for the cart, dray, and plough are to be found here," showing that at that period there were animals suited for the purposes of heavy draught. In Henry the Eighth's reign it will be found that particular attention was directed to the raising and breeding of strong horses, and laws were passed specially with that object. To secure the strength and size desired it was thought necessary to select sires and dams of a certain size and mould; and mares and stallions were only permitted to breed under certain restrictions, so in the year 1541 (32 Henry VIII., cap. 13), it was enacted "That no person should put in any forest, chase, moor, heath, common or waste (where mares and fillies are used to be kept), any entire horse above the age of two years not being 15 hands high, within the shires and territories of Norfolk, Suffolk, Cambridge, Buckingham, Huntingdon, Essex, Kent, South Hampshire, North Wiltshire, Oxford, Berkshire, Worcester, Gloucester, Somerset, South Wales, Bedford Warwick, Southampton, Yorkshire, Cheshire, Staffordshire, Lancashire, Salop, Leicester, Hereford, and Lincoln." This statute served to build up what has since come to be called the breed of the Shire Horse, and was passed in order to obtain a larger and more powerful breed of horses for the purposes of war, to carry knights in heavy armor for tournaments, etc., and for the various pageants which formed a part of all grand State solemnities, as well as for cavalry and military purposes. Blundeville, who lived in the reign of Elizabeth, describes the majority of horses at that time as being "strong, sturdy beasts, fit only for slow draught." There are also still in existence a few old standard works which make reference to a distinct breed of English cart horse, notably a work by the Duke of Newcastle, published in 1658, entitled "The manner of feeding, dressing and training of horses for the great saddle, and fitting him for the service in the field in time of war, etc." which make mention of the "cart horse," and when Arthur Young wrote his work in the latter part of the last century describing his tours through the counties of England and Scotland, he mentions only two varieties of cart horses as deserving attention—Shire horses, the produce principally of the Shire counties in the heart of England, and the sorrel-colored Suffolk Punch, for which the sandy tract of country near Woodbridge is famous. King John imported 100 stallions of the Flemish breed, and these were probably crossed with some of the heavy native breed, to what extent it is of course impossible to say, but the results were presumably not a success, as a German merchant, who had imported some Flanders horses on a speculation, besought and obtained special permission from Edward III to re-export them, the exportation of horses at that time being strictly prohibited. At a later period another infusion of Flemish blood was tried, but for the last hundred years the Shire breed has been preserved free from intermixture with other breeds, or indeed with any alien blood whatever. The Shire horse, or the Black Cart Horse, as he was formerly called, has always been highly esteemed in England, especially in the counties of Leicester, Northampton and Lincoln, and the neighboring shires, where, such was the pride some men took in their teams, that there is a record of an old agreement by which the farmers in the parish of Dimmeswold in Leicestershire, bound themselves not to use mares; and some with a laudable disdain of the gelding, only employed stallions. Cully, speaking of this, says, "The vanity of the farmers in the south in regard to their teams is most extraordinary. I have in

Berkshire and the neighborhood several times met a narrow-wheeled wagon with six stallions, one before another, the first horse, besides having on a huge bridle covered with fringe and tassels enough to half load a common Yorkshire cart horse, has six bells hung to it, the next five, and so on to the last which has only one. And it is really diverting to see with what a conceited air the driver struts and brandishes his long whip." The prevailing colors of Shire stallions living in the first quarter of the present century were black, brown and grey, the black predominating over the other colors, so much so that the Eastern Counties horse was known as the Black Lincolnshire Horse. In Staffordshire the prevailing color was brown, and grey horses appear to have been common in counties south of Derbyshire and Staffordshire. It is only within recent years that the Shire horse has obtained a world-wide reputation. The want of, or rather the little known title of the "old English Black Horse" has led uninitiated breeders and buyers for export to believe that an un-named animal could not possibly be pure-bred. In the year 1878 the English Cart Horse Society was established, and from that date the breed began its still increasing popularity in every quarter of the globe. In 1880 the society held their first show, which has been held annually ever since with increasing success. In the same year the first volume of the stud book was published. In the discussion as to the title, a considerable number of the members being opposed to the adoption of the appellation "Shire Horse," it was resolved to leave it to the option of individual owners to use the term or not. The society changed its name in 1884 and took the title of the "Shire Horse Society," established to promote the old English breed of cart horses. In 1885 the society wisely decided that all horses selected for honors at their annual shows should undergo a more searching and complete inspection than had previously been adopted, and that this important duty should be relegated to a jury of not less than three qualified veterinary surgeons, one of whom should hold or have held a distinguished position at one of the veterinary schools, the other two to be selected by the council of the society from four veterinary practitioners of eminence, to be nominated by the professor so chosen. By this means the Shires are rapidly being cleared of sidebones, ringbones and other diseased forms of hereditary unsoundness. The Shire horse varies very much in size, style and character, in the different counties of England, occasioned no doubt by the nature of the soil and food and the requirements of the different localities: the heaviest dray horses being bred in the fens of Cambridgeshire, Huntingdonshire and Lincolnshire. Black, bay and brown are the prevailing colors of the Shire horse of the present day, the two latter colors being the most popular with importers to this continent, though there are many chestnuts, greys and roans, the last being a great favorite with draymen both in Liverpool and London.

For the selection of breeding animals Mr. G. M. Sexton gives the following definition of a Shire stallion: "There are few points of greater importance than his feet; they should be rather large than small, the sole concave, the hoof black. The forelegs should stand straight, neither turning inwards or outwards. The natural position of the toe should be immediately underneath the point of the shoulder. The forelegs to the knee should possess well-developed muscles projecting considerably at the forearm, which should be moderately long to give good walking action. The knees and fetlocks should be large and flat; the pastern joints moderately long and gradually expanding in an

oblique direction to the foot. Short upright pasterns are particularly to be avoided, for it is this malformation that to a near certainty produces that great curse, sidebones, and it also retards action. The hind legs should be straight, the hock broad in front and deep behind, the shank flat with well-developed tendons and short to the fetlock; the pastern is as important here as in front, and should be formed the same; and immediately below the hock the measurement should be at least an inch more than below the knee, whatever that may be, according to the size of the animal. The hind toes should stand square with the front ones, neither turning inwards or outwards, though the latter, if not excessive, is the lesser fault of the two. The hocks should go fairly close together when in action. The thighs should be round and full of muscle both inside and out, and well developed down to the hock. The head should be somewhat long, with a broad forehead, an indication of energy and courage; the ears rather long and thin, pointed rather forward; the eyes bright and somewhat prominent; the neck of medium length, rather too short than too long, and too thick than too thin, and moderately arched. The shoulders well let down into the chest and with a moderate slope (it is not necessary to be too oblique as in a hunter), encased with plenty of muscle, which will enable him to lean into the collar; the withers being low, the back will close in nearly level. The girth should be deep and the chest well developed. The back short and level, the loins wide and muscular, the ribs springing from it round, coupled up close to the hips, which should be wide. Carefully avoid short, flat ribs, but rather seek to get deep, round ribs and body; the animal has then what the "yokels" call a good cupboard, which means constitution, a most essential point in a cart-horse. Wide or ragged hips are a great sign of power; the quarters should be long and powerful, full of muscle and deep. The tail may be a trifle drooping: if set on too high, which many think a deal of, it is at the expense of thigh, which is then split up and thus loses muscle and power. The dock should be thick, stiff and strong; it is indicative of power and endurance. The mare should be long, low and lusty; from 15.2 to 16 hands high; short in the leg and measure from point of shoulder to full extent of thigh, longer than she is high, short in her back and long in her sides, and be as deep from withers to elbow as from elbow to ground. A horse thus made will deceive the eye as to its height, and it is points in its favor if it appears smaller and lower than it really is; this is a sure proof of symmetrical form. Hair on the legs is a characteristic of the Shire horse; it should be long and thin, finer on the mare than the stallion, and should grow from the fetlock to above the knee, and the same behind up to the hock. Hair, says Mr. Sexton, is an indication of bone and size, and hair is soon lost in the breed; if the breeder neglects it and uses stallions short of it year after year, he will soon be as short of bone as of hair. As walking is the pace of the cart-horse, it is important he should be a free, fast walker; if also he combines a good trotting action, so much the better.

The custom of overloading a stallion with fat cannot be too severely condemned, such a practice being extremely unfavorable to his procreative powers. A moderate condition, obtained by good food, with regular exercise of from three to five miles a day, according to the heat of the weather, will give far more satisfactory results in his offspring. Fillies that are well-grown and have been well kept, may be bred to the stallion when two years old, they are more likely to breed regularly if put at that age. Mares are usually

bred to the horse on the 9th day after foaling, and tried every three weeks after.

Mr. Robert Burgess, of Wenona, Illinois, the well-known importer of Shire horses, says that the 27th day from foaling is the proper time to breed a mare, and will much more surely get her in foal, and that after service on the 27th day the mare should be tried on the 9th, the 18th, and the 27th day following the service day. Occasionally a mare does not come in season; in such a case she should be twitched and bred to the horse, when she will usually come in season within a few days. The pregnant mare, during her term of gestation, can be kept at ordinary farm work up to the day of foaling, with advantage both to herself and her foetus, but she should not be used in carts. Backing or jerking is very objectionable; care should also be taken that she be kept well sharp shod during the winter. The period of gestation usually runs from 330 to 360 days. The appearance of wax on the teat is the ordinary sign of the approach of parturition. It generally appears a few days beforehand, but sometimes only a few hours. The bones also on each side of the setting on of the tail slacken, and subside considerably. When these symptoms appear it is advisable to place her in a roomy, well littered box, where she will be warm and free from draughts, and at the same time carefully watched.

(To be continued.)

AGRICOLA.

Importation of Galloways,

The first lot of imported cattle through quarantine at Quebec this season consists of 40 Galloways for Mr. McCrae, Guelph, and 2 imported for Harold Sorby, of Gourock, Ont. This shipment left the Clyde in the Allan steamer Carthaginian, 13th August, 1887. They had a good passage and were all landed at quarantine ground, Point Levis, in good order. Owing to their being the first lot this year they were detained longer in quarantine than the regular time and were only released last month, December. Mr. D. W. McCrae's herd consists of 4 yearling bulls, 4 bull calves, 3 three-year-old heifers with calves at foot, 20 two-year-old heifers and 6 yearling heifers. They were selected and shipped by Mr. James Biggar, Grange Farm, Dalbeattie, and are from the herds of Jas. Cunningham, Tarbreoch; R. & I. Shennan, Balig; Earl of Galloway, Garlieston; Alex. McCowan, Newtonairds; A. McConchie, Mains of Penninghame; Wm. Tod, Glenree, Arran; S. T. Clark, Howick; Thos. Biggar & Sons, Dalbeattie, and others. The two-year-old heifers are the feature of the lot and are the largest and heaviest at their age that Mr. McCrae has ever imported. The difference is quite marked and shows that of late years the point of size has been receiving marked attention among Scotch breeds. The sires represented in this herd are among the best in Scotland. Crusader (2858), winner of the Champion cup at the Centenary Show of the Highland Society at Edinburgh, 1884, is represented by six animals. A very good likeness of Crusader forms the frontispiece to the second volume of the American Galloway Herd Book. Harden (1151), winner of first prize at Carlisle, Dalbeattie and Alnwick and also at Glasgow Highland Society in 1882; also winner of Champion cup at Alnwick, for best animal in Polled Angus or Aberdeen and Galloway classes, with many other prizes. His portrait by Gourlay Steel, R. S. A., adorns the H. & A. Hall at Edinburgh, and a wood cut copy is in 4th vol. of Scotch Herd Book. Scottish Borderer (669), another very celebrated bull bred at Drumlanrig and for many years at the

head of the Earl of Galloway's herd. He is not only a prize-winner, but has sired a large number of first prize animals. Other sires represented are, Corporal (1838), of the stately family of Balig, Marksman of Drumlanrig (2632), a winner at the H. & A. Show in 1884; Earl Salisbury (1789), and Sir William (1787), both bred by the Duke of Buccleuch at Drumlanrig; Mackintosh 3d (2646), Charmer (3336) and several others. The best animal in the shipment is Countess of Annandale (9486), by Crusader (2858). She is the largest and heaviest of the two year old heifers and has fine moulded form, showing a good deal of her sire's figure.

Mr. Sorby's lot are a pair of young bulls of good form and breeding. Altogether, the shipment will add largely to the credit of the Galloways in Canada.

Stock Raising in Michigan.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—As I have never read anything in your paper from this part of the country, I thought it would not be out of place for me to write you a few lines telling you about farming in Michigan. Our principal grain crop is wheat. Most of our farmers who own one hundred acres of land calculate to have from forty to fifty acres of wheat per year. For the past few years the price has been so low that it scarcely paid the cost of production; still there is nearly as much raised as ever. We also raise a great deal of corn, and it is used mostly for feeding stock, as we grow no roots—that is, turnips and mangolds. We grow a good many oats but very little barley, and no peas at all. Michigan is known as a great stock State; nearly all the different breeds of cattle can be found here, especially the Shorthorns, Herefords, Holsteins and Jerseys, but more of the Shorthorns than all the others combined. The various breeds of sheep are well represented, especially the Shropshire and American Merinos; more of the Merinos than all others combined. The Merino ewes crossed with the Shropshire rams produce a fine mutton sheep, the lambs selling at three dollars per head when six months' old, and when well fattened will bring from five to six dollars per head in February or March. The various breeds of swine can all be found in our State, the Poland China and Chester Whites being the favorites. A cross of those two made an extra good market hog, as the Chesters are somewhat larger than the Poland Chinas, so this cross makes a pig that will mature early, and is of good size.

When writing about stock I must not forget the horse department, as that is one of our main items. The Norman-Percheron, Clydesdale, French Coach, and the trotting or roadster class, are all represented, but more of the trotting class than all others.

I think the LIVE-STOCK JOURNAL is one of the best stock papers published, and the price is low. Wishing you success, I remain,

Marshall, Mich.

An Interesting Letter from Alderman Frankland.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

DEAR SIR,—A busy week previous to yesterday (Sunday), for I was engaged changing two hundred fat hogs for three hundred lean. You will observe, no doubt, a want of forethought or watchfulness amongst our feeders. When sheep became plentiful in England and prices lower, Canada settled down almost at once to the thought that they were no longer wanted, and the numbers at once decreased, so that to-day those farmers who have them are reaping a good harvest. The same may be said of pigs. I have just sold to the Ottawa district a large number of hogs, slaughtered for me by W. Davies & Co., for \$7 per hundred, and I am replacing them by small lean ones at \$5.25, and no doubt cattle (fat) will average \$5 for export, beginning in April.

The last Council meeting for 1887 met last Friday night at seven and closed at two A.M. To-day the new Council meet especially for organizing; that is the reason I have left my bed to write you and a dozen others to whom I owe letters. For I have great responsibilities just now—doing a large business.

and in a critical time, for the ocean trade, has not been very encouraging.

I succeeded in getting the last Council to print me one thousand copies of a communication relating to our contemplated building, and on the outside wrapper I have instructed the city printer to place a paragraph directing the reader to follow up my communication by reading the LIVE STOCK JOURNAL published in Hamilton, the editor Mr. Shaw, and only \$1 for twelve months, to know more of the necessity of an agricultural hall.

Indeed, Mr. Editor, the farmers, by meeting often, would learn much of supply and demand, and probably get such information as would lead to profitable results. I desire to lead the minds of our people to a greater interest in the manifold works of our farmers, and at the same time I would hail with joy an increased determination amongst our thousands of agriculturists to make their farms and their homes educators in the land by beautifying their surroundings. How much could be done in this line by those who have a little money, and still prefer to add dollar to dollar at the expense of living in a miserable state of existence!

Your journal has written much of well managed farms, and illustrated their beauty. Take the grand drawing of Polled Angus cattle in the January number of this year; how beautiful they stand—what beauty, what symmetry of proportion! how we feel we would like to be amongst them! I shall never forget one day—a Queen's Birthday I enjoyed on the Bow Park Farm in the society of the late Hon. George Brown. It was beautiful then, but look at the strides toward greater perfection since that day! Did I ever tell you that I watched over the life of the 4th Duke of Clarence when he was crossing the Atlantic in a storm—just a wee fellow, and what has he not done for Canada?

There is a crockery house in Toronto which is selling plates and dishes of a beautiful character, with the noble herds of Bow Park engraved upon them. Some day I will write you an article on Bow Park in winter, and again, Bow Park in summer, for Mr. Hope is a friend of mine, and a great and generous soul has he. You remember a line of Keats the poet (often quoted), "A thing of beauty is a joy forever." How my heart yearns for the farmers to rise up—men and women, for even agriculture requires woman's hand—and make their surroundings lovely, with good homes, a carefully tended orchard, bees for honey, flowers and grasses for beauty, and well tilled lands with good fences, and not those barbarous wires. Oh, for a little landscape and a few shade trees, and a less eager and feverish desire for more wealth!

I must close this rambling letter. I wanted to say much and I have not succeeded, but I will keep you posted and send you as many copies of the printed matter as you desire to be distributed. The City's complimentary resolution was grand.

Yours, very sincerely,

G. F. FRANKLAND.

One word. One of the noblest men I ever met was a dyke-builder in England. When I knew him he was getting half-a-crown a day and his dinner. He said, "If a man only worked for pay, and that alone, the world would soon be poor; but," said he, "I build these dykes so that when people look at them they say, 'Bill Doughdale did that work.'"

FRANKHOLME, Toronto, Jan. 16, 1888.

"I hope the farmers will appreciate your good work and bestow on your effort their patronage. Robt. Blair, Almonte.

"I think the JOURNAL the best paper of its kind in Canada. —Wm. McKay, Morewood, Ont.

"I have taken your JOURNAL the past two years and am highly pleased with the contents. It is worthy of a hearty support from every farmer. In more ways than one you have placed the farmers under a debt of gratitude to you.—A. Annis, Oshawa.

"I wish to commend you for the stand you have taken in advocating the farmer's interest and the efforts you have put forth to arouse the farmers to combine for mutual improvement. Some of your articles I have read with great profit. —John Thorne, Amherstburg

"I would not do without the JOURNAL for five times its cost. I shall try and get you some more subscribers, as every farmer and stock man should read and study it. I anxiously look for it every month.—W. C. Cockburn, Aberfoyle, Ont.

Sheep Associations Needed.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR, — I see in December number of JOURNAL that you intend this year, among other things, to urge the establishing a Shropshire sheep association. Would it not be well at the same time to urge the same in regard to other breeds? And, Mr. Editor, I think the time has come when the breeders of all the leading breeds of sheep in this country should make a united effort to guard and protect their business as its importance demands. In fact, the sheep breeders are behind the age in that respect. The horse men, the cattle men, each have their association, as they should have. The sheep breeders, although they have expended large sums of money importing the best to be found in Britain—many times the Royal winners, and the choice of the best flocks of that country—and now have as good foundation stock as can be found in any country, yet have no recognized record of their breeding to protect them and their customers from fraud and deception, and that can be taken as reliable information on the subject. In the absence of C. U. with the U. S. we have a strong demand from there for first class, registered pedigree stock, and in order to successfully meet this demand we must use the greatest care in breeding to maintain the reputation our stock has already attained in that country. In what way can the desired object be best and most economically effected? Could it be accomplished through a sheep breeders' or wool growers' association, combining the interests of all the different breeds, for the purpose of keeping and publishing in one volume, under separate heads, the record of pedigrees of the several breeds, each having a subordinate association to arrange details? Or would it be best effected by a separate government for each of the different breeds and no C. U.? However, in either case the time has come when something should be done, and hoping soon to hear your views along with others interested in the sheep industry on the subject, and that you may initiate some scheme to have a general meeting of the breeders to discuss the matter with a view of forming an association or associations of as many of the leading breeds as the breeders feel disposed to organize.

JOHN JACKSON.

Woodside, Jan. 14, 1888.

{Will give our views fully in next issue—ED.}

Our Nova Scotia Letter.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR, — I was thinking to-day of the improvement in stock matters, since I first had, with others, the pleasure of reading my first copy of the CANADIAN LIVE STOCK AND FARM JOURNAL—even in Nova Scotia. The JOURNAL is also improved. It seems to me each monthly issue is still better than the last one. Well, this is about as it should be—it would not do for you to stand still. If you did, then your scholars, the average reading farmer, would have overtaken you. As he moves, so must you, always keeping a step in advance, so that he do not bark your heels.

Farming is looking up, I think, in Nova Scotia. We are getting recruits each year to our ranks, who have means to back up a desire to give the working of the soil a fair test, as a means whereby to make a living, or, in other words, farming in Nova Scotia is becoming fashionable and is being taken hold of by a class that a few years ago would not have thought of such a thing, but instead would have either gone into trade or some of the professions. Farming here, a few years ago—not a great many either—was considered about on a line with the ordinary laborer or shop-keeper, who, while his whole stock in trade would not foot up to a thousand dollars, felt himself socially much above the farmer. The farmer in off-times—that is, between seedtime and harvest like—was a hewer of wood and carrier of water for the "merchant," and did not think it *infra dig* to earn an honest dollar at anything that turned up.

But, sir, I am proud to be able to say it, as we are becoming more educated in our business of farming, we are also taking more pride in it, and find that it is not necessary to leave the farm to earn a dollar; that when we did so we were losing two in consequence. We now think there is no other means more honorable in fulfilling the sentence pronounced on Adam of old, when he, by being too soft on Eve, got the grand bounce out of the garden of Eden, for he and his inheritance to earn their bread in future by the

sweat of their face; and more, that in future he would have to do his farming on the back lots amongst stones, stickfast, stumps and Canadian thistles.

That the squarest way to fulfil that sentence to the letter is through the high and honorable avocation of a good, square, honest farmer, and that an honest farmer and his family about him, out of debt, and no mortgages hanging over him of any kind, is fit company for a king, and just as good a man; or, as an Irish friend would say, "sometimes a dale better, faith."

Any speculation that would necessitate the mortgaging of my farm to raise the money, would have to be a good one, and "dead sure." I would want to have the profit of it in hand first before completing the deed. Farmers should never sign a note or give a mortgage under any circumstance whatever. Experience teaches that nine times out of ten the sharper downs the granger in such transactions.

Now just a word or so about Nova Scotia, and Pictou county in particular. It's a grand county, rich in mines and minerals, with thousands of acres of excellent land, all of which is not taken up yet. We have lots of good farms for sale. We want farmers to come and buy up some of them, and cultivate them as they should be. My word for it, the farms under proper management will do their share in making sufficient returns to cause the investment to pan out a good and satisfactory dividend to the investor.

For the past few years you—I—we—you—he, and in fact everybody, have been booming the west out of all sorts of reason to the detriment of our own provinces. We have been too generous by half. We have been so anxious to see that far away section of our Dominion populated, that to do so we have been drawing too heavily on our principal of brain and muscle, by losing our own young men who had snap in them, who have left the farm here to take up land in the *Eldorado* we have assisted to picture for them, which many of them have found to their cost, not nearly so fine as our fancy pictured it.

I often wonder why it is that farmers from the old world, who seem to be so cramped for room that they cannot keep the pot boiling, do not come here. Our climate is mild, our lands are fairly rich. We are within easy reach of a market for all we raise, and all that the greater portion of our soils need, is the man who understands how to manipulate it, when it is ready to answer the call in bountiful returns. And good farms can be bought here within easy reach of church, schools, post and telegraph office, and a market, with good buildings, at from \$15 to \$40 an acre. We are free from all malarial diseases; no blizzards, no grasshoppers or gophers—everything about as it should be wished; and altogether I know of no better place for the average farm emigrant, with a few hundred pounds to start him, than Nova Scotia.

I think I had better stop on this head or some one will think I want to sell out, and that I am doing a little booming on my own account. However, such is not the case. I am perfectly honest in what I have written, and claim that Nova Scotia has advantages equal to any part of the Dominion, for the farmer who has to earn his living on the farm.

Quite an interest has and is being taken here in the improvement of our horses. We lean, if anything, to the road horse, a mild term for the "trotter." A number of our farmers have standard-bred mares, and there are in our county some really well and fashionably bred standard stallions. Our market is over the way—the other side of the wall that we hope soon to be leveled, so that we can have open and free competition with the American breeder—that is, if it can be accomplished without too much "fusion," whereby we may lose our national identity.

Last season our hay crop was short, but roots were grand. Let me tell you something. Yesterday I saw a lot of baled straw, and asked how much it was sold by the ton. Eleven dollars and fifty cents per ton, and not much in the market. Straw at \$11.50 should be a fair to middling crop for the Nova Scotia or Pictou farmer to cultivate. It makes the cows glad any way, for in the old time straw was about the whole bill of fare, but now it is too costly an article to feed to cows, and in consequence they get hay instead. Now here is a special case of protection given to us farmers within a reasonable distance of New Glasgow of upwards of \$5 a ton on straw. Still we do not take advantage of it, but instead, allow the railway to reap in freight hills what should be our "plum," if we had any snap; but instead we prefer, many of us, going

west to raise wheat for 30 cents a bushel, and burn the straw for firing, rather than stay home and raise oats which he can readily sell at 35 cents a bushel, and our straw at \$11.50 per ton. Surely far off fields appear green to some.

This extra straw demand is caused by glass-works and other such causes, that use up each year from 3,000 to 5,000 tons. The average price of straw in Nova Scotia will be about \$6.50 per ton, with a ready sale for all the farmer has to spare who happens to be within reaching distance.

Do you know all our newspapers now have a farmers' column. When first the JOURNAL came amongst us a very small portion of a large percentage of the papers of the province gave but a small space to the farm. "Straws tell how the wind blows." The fact of the present interest is a proof that farming is looking up in Nova Scotia, that farmers are now massing their interests, putting their heads together, inquiring into this matter and that—beginning to wonder why there are so many lawyers and so few farmers in Parliament, asking how it is that doctors, lawyers and professional politicians get so well paid for very little work, and that farmers get such little pay for so much work. Farmers are beginning to think the man to represent them should be one who fully understands just how much back ache is represented in ten or twelve hard hours' work on the farm, for in many cases very small pay in cash.

The fact is, farmers who read the best of the many farm journals (and, by the way, a great many of them do so now), and those that do are beginning to know just how many beans it takes to make five; hence the seeming great interest taken in the farmers by the average political hack papers, who in the past, just so long as they did not hear the farmer growl, and could use him when he was wanted, had nothing to say for him. One good sound agricultural paper, devoted entirely to the interest of the farmer, is worth a pile of such political fish-hooks as large as a hay-stack.

FARMER JOHN.

Multiplying Stud Books Needlessly.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—A few years ago we were laboring under the burden of two Shorthorn herd books, from which we mainly owe our release to your exertions; now we appear to be fast attaining the same proud position in the way of stud books. There is, I believe, already in existence a Clydesdale Stud book, and also a Shire Stud Book in process of formation, while in the neighborhood of Goderich there is an incorporated association called the Dominion Draught Horse Breeders' Society; and now comes the last straw in the shape of The Improved Canadian Draught Horse Association. In the first place, does Canada possess a breed of draught horses to be improved? There are plenty of grade Clydes, grade Shires, and horses of mixed Clyde and Shire pedigree on a Canadian foundation, but all the draught is owing to the crosses from the Clydes or Shires. The idea of a stud book for horses of mixed Clyde and Shire breeding is a good one, but why should we have two? The standard of the Goderich Stud Book is of course absurdly low, but it would be easy to raise it: certainly the title of The Dominion Draught Horse is better than The Improved Canadian Draught Horse. I hope, Mr. Editor, you will once more step into the breach and repeat your former success by uniting these two associations into one, either as the Canadian Draught Stud Book, or the Dominion Draught Stud Book (it does not much signify which), and spare the country the infliction of two.

[We have only been held back thus far by not having been put in possession as yet of a copy of the Constitution and By-laws of the Dominion Draught Horse Breeders' Society.—ED.]

Veterinary.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Weed

BY F. C. GRENSIDE, V. S., GUELPH, ONT.

An ailment amongst horses, which is by no means uncommon in this country, is very frequently designated by the term "weed," but a variety of names are applied to it in different countries—"Shake,"

"Shot of Grease," "Monday Morning Disease," and "Lymphangitis," are amongst the list of names used, the latter one being probably the most suitable, as it indicates that the lymphatic vessels and glands are the structures involved, which is really the case.

A horse is all at once found to be suffering pain in one of his legs; very occasionally two legs may be found affected, it may be a fore leg, but nineteen times out of twenty it is a hind one. The subject ceases to eat on account of the pain suffered; and if the animal is observed in the first stages, it is likely he will be found in a shivering fit, which may last several hours. The affected extremity is constantly moved about, up and down, and is often suspended in the air for several minutes at a time; in fact the leg is used in a manner which shows much irritability and pain.

If in a hind leg, by manipulation of the groin will be rendered evident a cord-like structure, which if pressed, the animal will show much pain, by throwing the leg outwards and upwards. The swelling soon increases and involves the whole limb to the foot. There is much constitutional disturbance shown. In addition to loss of appetite, the pulse is much accelerated, hard and bounding; with breathing hastened. If the fore leg is the one affected the tender spot will be inside the elbow. Swelling inclines downward as in the hind leg. The animal becomes confined in the bowels, with urine high colored and scanty. The thermometer usually shows a rise in the temperature of three or four degrees.

The real state of affairs is, that the system has become surcharged with nutritive fluid, and its presence in the vessels, and its passage through the gland in undue quantities excites inflammatory action, resulting in the symptoms described.

The cause of the trouble is undoubtedly due to a larger amount of pabulum being consumed than the system is able to assimilate. It is usually noticed to set in after a day or two's rest; hence the appellation of "Monday Morning Disease." Although the exciting cause is too much nutritious food, still very much depends upon the predisposing influence of depression from hard work impairing the assimilative powers.

I have taken occasion before in these columns to draw attention to the irrational practice of full feeding without work, and no disease better illustrates the ill effects of this error in diet than the one under consideration. A horse should not receive much more than half his usual ration of grain when he is laid off for a day or two, and some laxative and cooling food, as a bran mash, should take the place of the grain that is withheld.

All horses do not show an equal tendency to attacks of weed. Those of low nervous organization, or of a dull, lymphatic temperament, are most prone, consequently it is more frequently seen in coarsely bred animals. One attack renders an animal more subject to another.

From the sudden manner in which the disease comes on, and from its affecting the limbs, it is frequently confused with a violent strain, the supposition being that such injury was inflicted while the animal was getting up.

The treatment is by no means complicated or difficult, and if rational, is of much advantage. Some cases recover without much care, but judicious treatment saves much pain, expedites recovery, and tends to prevent the swelling in the limb becoming permanent, a condition that is very unsightly and lessens the value of a horse considerably. Unless in case of a mare in foal, a purgative dose of aloes is most beneficial, as it clears out the digestive tract and promotes the absorption and excretion of superfluous

food products. It also tends to reduce the resulting swelling in the limb, after the active inflammation has subsided. As has been remarked, there is much pain in the affected leg during the first stages of the attack. This is much relieved and recovery promoted by continual warm fomentations. The best plan of fomenting is to wring out a woollen blanket, folded in several thicknesses in almost boiling water and apply it round the groin until it loses its heat to some extent; then wring out again, and so on for several hours, if possible. On stopping the fomentations it is well to envelop the limb in dry woollen rags to prevent harmful reaction from cold. During the first stages of the attack, or while the pulse is full and strong, benefit will be derived from the administration of ten drop doses of Fleming's tincture of aconite, repeated every two hours until five or six doses have been given, or until the pulsations become lowered.

Bran mash given three times a day until the purge has finished operating is all the food necessary. As soon as the bowels become set, a little grain and hay may be allowed; and two drachm doses of saltpetre given twice a day in the food.

Exercise must not be neglected as soon as the tenderness in the limb has passed away, otherwise the swelling will be apt to remain, and become a permanent condition.

If this trouble recurs in the same limb, which it is very apt to do unless care is exercised in the management of a horse, it becomes a very difficult matter, in fact impossible in some cases, to prevent chronic enlargement resulting.

If the patient is a mare in foal, raw linseed oil may be used as a safe substitute for a purge of aloes—about a pint and a half is a suitable dose. In lieu of a purgative, ounce doses of salt petre, repeated three times a day for a couple of days will answer.

Cow with Caked Udder.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I would like to ask you if you know anything that would be good for a cow that has a hardness something like a rope running up in one quarter of her bag, and at times small lumps as it were come away with the milk from that teat, so that of course it is of no use. As she is an excellent milker I would like very much to get her cured. If you can give any information as to the cause or cure, it will be thankfully received.

GEO. S. ROBERTSON.

Cherry Hill Farm, Lucknow, Ont.

ANSWER BY F. C. GRENSIDE, V. S., GUELPH.

The chances are she will lose her quarter. However, care should be exercised in removing all fluid and clotted milk from the quarter. In the absence of a teat syphon, a knitting needle may, with great care, be introduced into the canal of the teat with the object of removing obstructing clots.

The syringing in of tepid water and milking it out, followed by injecting a one per cent. solution of carbolic acid, may afford some relief.

Shedding Teeth in Heifers and Lead Poisoning.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Do cows or heifers ever shed their teeth? A heifer three and a half years old has been thin all summer. Local quacks say she is shedding her teeth. She seems to be well.

A cow licked a white lead can out. She only lived three days afterwards, and died in great agony. Could she have been saved? By answering the above you will greatly oblige.

IGNORANCE.

Heifers usually complete the process of shedding the grinders—molars—at about three years of age, and then have a full set of permanent grinders. In many cases the permanent corner incisors are not present until after the completion of the third year.

In some cases the crown of the milk teeth that is being shed may remain wedged in between the permanent teeth, and cause a difficulty in masticating the food, leading to unthriftiness.

Lead poisoning is sometimes successfully treated. The bowels should be opened by a brisk purgative of Epsom salts. This, besides encouraging the removal of the lead by the bowels, also acts as a chemical antidote to some extent.

Iodide of potash in half ounce doses, three times a day, removes the lead by the kidneys, and also is an antidote.

All medicines should be given in skimmed milk that is thickened with eggs.

Breaking Service.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Would you please inform me through the JOURNAL if you or any of your readers could give me any information as to the following: I have a thoroughbred heifer two years old past, which I cannot get in calf. I have taken her to several bulls but she does not hold, and frequently she is in season, as about every nine or ten days; again perhaps not for eight or ten days. If Prof. Grenside or yourself would recommend something to overcome this, it would be a benefit to a great many readers besides your humble servant.

ENQUIRER.

ANSWER.

From the fact that the heifer comes on irregularly, and at shorter intervals than the natural period, would refer the source of trouble to some unhealthy condition in connection with the ovaries.

As ovarian derangement of this character is considered to be beyond the reach of remedial agents, no successful course of treatment of a medicinal nature can be recommended.

This heifer being young, and if she is otherwise healthy, I would not despair of her yet breeding. I have seen them act in the manner described for fully a year, and finally breed. It is wise in many cases to alter the diet to some extent.

The Farm.

The article on "Management of manure," in the farm department of the January number of the JOURNAL, p. 15, should have been credited to Mr. A. E. Laidman, Binbrook, by whom it was written.

"ALL accounts unite in placing the crop of clover seed as a complete failure." This significant utterance is taken from the November report of the Bureau of Industries for 1887. We look upon it as nothing short of a calamity to the agriculture of the province, since nearly all the clover seed sown next spring must be imported from other countries. In such an event the farmers will have to buy most of what they sow. The price will rise to the extent at least of the carriage of the seed. The farmers with their shortage of cash will be likely to sow more sparingly than if they had an abundant crop of seed, or than if they had just enough for themselves. A less quantity of clover seed sown would mean a less quantity of both hay and pasture the following year. A diminished quantity of these would mean a diminished quantity of beef, milk, butter and cheese. A vigorous effort should be made, therefore, to sow a full average to clover the coming spring. Another difficulty consists in the amount of foul seed that will come into the country along with the clover seed. There is no kind of seed so liable to contain impurities as grass and clover seeds, owing to their fineness. In this way clean farms become polluted and in a manner as insidious as though an enemy had sown them while the farmer slept. Oftentimes they get a firm foothold before the farmer recognizes them as intruders. The protection here consists in purchasing

from a reliable seedsman, whose improved winnowing mills can separate the pure from the vile. On no account sow a less acreage of clover because the seed is scarce, and allow nothing to induce you to buy seed of a doubtful character, because cheap, rather than that which the seedsman will guarantee.

Looking at the Situation.

The shortage in the Ontario crop of last summer is very grave indeed, compared with the averages for the past six years. In fall wheat it amounts to 5,162,693 bushels, or 21 per cent.; spring wheat, 4,080,762 bushels, or 42 per cent.; barley, 2,031,583 bushels, or 10½ per cent.; oats, 4,571,076 bushels, or 8 per cent.; pease, 759,118 bushels, or 6 per cent.; rye, 805,228 bushels, or nearly 47 per cent.; corn in the ear, 2,856,849 bushels, or 25 per cent.; buckwheat, 371,103 bushels, or 26½ per cent.; beans, 175,338 bushels, or 39 per cent.; potatoes, 7,682,115 bushels, or 41½ per cent.; mangel-wurzels, 1,764,714 bushels, or 23½ per cent.; carrots, 1,434,042 bush., or 40 per cent.; turnips, 7,546,093, bushels, or nearly 20 per cent.; and the deficiency was 4,937 tons in an average of 3,098,547 tons of hay, a difference scarcely appreciable. We find, therefore, in crops included above, and they are the principal crops grown by the Ontario farmer, a shortage all round of an average of 27 per cent., that is, averaging the thirteen per centages given in our enumeration, or not much less than one-third of all round shortage.

This deficiency should not give any alarm to the farmer, if as in the days of long ago a shortage in the crop was sure to be followed by a rise in price, which about equalized things for him. Such is not the case now. The deficiency in any country which sinks lower than the quantity consumed, only increases the price by the cost of carriage and duties, if any. If the shortage does not sink below the level of home requirements, the market will not be advanced materially. The prices in Canada may rise somewhat, but not very much, as we will not require to import much of the products enumerated. The farmers, then, of 1887, who live by growing grain, will find their returns lessened by 27 per cent. on an average, while their expenses were much the same as in former years. If, then, they were not laying by that proportion of their returns during previous years, this year they must come out behind. What, then, is to be done? Shall they give up in despair? Not a man of them, we trust, for when the farmers do not prosper in an agricultural country like Canada, few other persons can. Let them rather seek relief in other branches of agriculture. Dairymen, during 1887, have done well (the exact returns have not yet been given to the public), and meat producers have held their own with the promise of better things ahead. The agricultural greatness of Ontario must arise in future from growing stock and live-stock products. The limitless wheat-growing plains of the North-west now opened up, tell us this. So do the endless slopes of India, with their cheap labor. The 60,000 head of beefers sent to Britain every year tell us the same thing, so do the millions of English gold found jingling in the pockets of Ontario dairymen every year, and the 27,794 head of horses, 93,096 head of cattle, 588,163 head of sheep, and 28,437,238 doz. of eggs sent to the United States in the years 1885 and 1886, is but an echo of the same refrain. Would it not be supreme folly in our farmers to close their ears to facts like these, which cannot be gainsaid, and like the "running amok," continue to rush in the pathway of certain ruin?

The Red Lyon Wheat Swindle.

It is now pretty certain that the farmers of Ontario have lost to the extent of one hundred and fifty thousand dollars in the Red Lyon wheat swindle, concocted by the Ontario Grain and Seed Company, with headquarters in London, and operating under a charter obtained in the regular way. That is a somewhat large sum for the members of one guild to pay in a single year as the price of ignorance. It has been alleged that it is more the price of cupidity, which we desire may prove untrue, for in such a case every ground for sympathy with the aggrieved parties would be removed.

It is somewhat amazing that a fraud of so much magnitude could have been perpetrated in a community favored with so many opportunities of enlightenment. Its very possibility brings out in bold relief the very humiliating truth that a large proportion of the farmers of this Province either do not take an agricultural paper at all or that many of those who do are not close readers of the same.

Again and again we have warned the farmers against the machinations of those pitfall-diggers, but apparently without effect, for we have since learned to our deep regret that some of our subscribers have been taken in the net let down by those clever knaves, who have indeed made a large catch of our honest yeomen in the same.

It was in July, 1886, that we first got scent of the bloodhounds. Our attention was called to their depredations by Mr. J. Deans, Paris Station, who informed us in other language that a brace of robbers were at work in the neighborhood, and that they were playing on the credulity of the farmers by representing that their charter was from the Ontario Government, the farmer looking upon the charter as some special authority given to the company to deal in seed grain. We at once requested Mr. Deans to furnish us with a copy of the bonds they were issuing, the form of note they were taking from the farmers, and all the information he could obtain in reference to the company. The information sought came, but not in time for our August issue. We at once took the documents to our legal adviser, who told us that by publishing the same we would become liable to a suit for damages by the Ontario Grain and Seed Company. The question now arose, what course should be adopted. It was our own firm conviction that every farmer who gave his note for fifteen dollars for every bushel of the wheat purchased by him, was paying fourteen dollars and twenty-four cents a bushel too much for it, and that he would be cheated out of the price paid to that extent.

Some argued that was their own affair, and that if they (the farmers) allowed themselves to be thus duped, they deserved to pay such a price for their simplicity. That was not our own view. We felt obligation in virtue of our position in relation to the farmers. We had at our command a medium whereby many thousands might be reached in time to give them a note of warning, and so we determined. We could not put away the conclusion that if it was the duty of one neighbor to warn another the other side of his line fence, when he saw that reptilism was depositing eggs that would soon turn into vipers which would sting him, that it was also the duty of those who had it in their power to blow the trumpet that might reach the ear of many, and thus put them on their guard. Accordingly in the September issue of the JOURNAL, p. 246, we published the constitution, by-laws and copy of bond given by the company. Our comment at the close read thus: "In South Dumfries alone, we are told that notes have been taken

"for this Red Lyon wheat to the amount of \$3,000. The farmers of Ontario may give away their hard-earned money if they choose, but as for ourselves, when the Red Lyon wheat can be got for one or two dollars a bushel, we may get so ne. If the sellers thereof call on us at Riverside they will be treated to a 'double quick' to the highway."

In the month of March past, we were called upon by two men, well dressed and driving a fine conveyance. Supposing they had come to take a glimpse of the new barn, they were invited to partake of lunch, and their horses fed. This part of the programme was well under way before the nature of their business was disclosed. Our first impulse on learning it, was to have them landed on the highway more quickly than they left it, but in a farmer's house the rights of hospitality are sacred, and long may they remain so, for though sometimes stranger devils in this way get assisted, it is the duty of the farmer above all men to feed the hungry when food cannot otherwise be got. They told us the whole of their cleverly woven lie, they showed us the bonds of wickedness they carried; they bade us read the long list of names of farmer fish they held strung on their rod. And must we tell it, they bade us read the names of men whom we knew were good and honest farmers who were directors of their company—the tame lions in the inner cage, placed there to entice the untamed ones into the outer. They requested us to read a letter signed by a farmer in our own county, saying that he had been deputed by fellow-farmers who had bought, to inquire into the affairs of the company, that he had gone to London on such a mission and that he had found everything right. They showed us a local in the London press giving particulars of the annual meeting (we felt it was a paid one), and an advertisement in a Hamilton daily and in other papers. Hope beat high within them; they thought, no doubt, we were going into the cage, and fancied they heard the click of the trap door as it flew shut; but to their amazement, looking them straight in the face when their lucid explanations had been finished, we calmly informed them that we believed the whole affair was a swindle, and that we would give them a free advertisement in the CANADIAN LIVE-STOCK JOURNAL. They did not go quite so fast as the "trick dog" of the negro who ran away so quickly from the butcher's shop with a piece of meat, in the performance of a trick, a favorite one, with his master and himself, that he could not be seen for the cloud of dust that he made in the highway, but they left in a very considerable hurry.

In the next number of the JOURNAL, pp. 465-6, an editorial appeared. We give some quotations:

"A brace of swindlers are at present engaged in scouring the counties of Ontario picking up spoil in the shape of notes taken from the farmers for seed wheat, which they are selling at the rate of \$15 per bushel. They give a bond to take twice as much of the first crop from the farmer at \$10 a bushel, and the poor foolish farmers are greedily catching at the bait, and those of them which they have caught they are using in turn as bait to catch others, by referring to sales made by them, and in other ways. They are garnishing their villainy by using the names of respectable farmers whom they distinctly designate, representing them as leading officers in their company. Now in all coolness we desire to ask what guarantee have the farmers that the wheat sent shall be of the same kind as the sample shown, which consists of about one-third of a teacupful kept in a bottle? Where is the guarantee that the soulless men will fulfill the terms of their bond? The farmers, once their name is committed to paper, must pay the last farthing when their notes mature, but what assurance have they that the organized robbers will redeem their bonds? Where is the assurance that the so called variety of wheat is *new*, or that it is one whit better than the commonest variety in the country for milling

purposes, or indeed, that they will get the same variety as the sample at all? Where is the assurance that the wheat will ever become popular with the farmers? It may prove itself to be a fair variety in a land where as yet it is untried, but it may not, and, like the Bohemian oats of regretful days, it may turn out inferior to ordinary wheat, both in the quantity and the quality of the yield."

Yet still the work of the trained leeches went on. The news of fresh victims came to our ears from time to time, and we determined to make another effort. In the May number of the JOURNAL, pp. 492, appeared another leader. We quote from it but one paragraph:

"That story of a Government charter with a capital stock of \$35,000, and bonds deposited with the Ontario Government, is the siren song that catches the ear of the farmer, and so bewitches him that he becomes a running 'amok.' We have good authority for saying that the latter part of it is an infamous falsehood, that they have not one cent deposited with the Government as bonds. And so the farmers who have been caged will find to their sorrow when pay day comes, let them believe it or not as they please in the meantime."

And yet for some time longer, like the advance of a spring tide, the nefarious work went on. By and by it was whispered that the Red Lyon wheat swindlers were "awa' and o'er the border," with a very different treasure than that which was taken by "Jock o' Hazeldean." Then there were whisperings of Red Lyon wheat notes sold and resold, mutterings of Government investigation, and at last the thunderclap of the decision given in the law court of the metropolis in the case of Dennis vs. Temple, confirming what every one might have known, that the farmers had to pay the notes.

We believe that our readers will bear us out in the statement, that in this matter we tried to do our duty. We claim no credit for this. No man should take credit to himself for having done his duty, when in the path of duty we are only fulfilling the end for which life was given us. We are not greatly concerned to know who does or does not believe that we did our whole duty here, but we do greatly desire to know how far our effort tended to baffle the plunderers of the farmers. It would afford us unmeasured comfort to know that through the warnings in the JOURNAL the laying in wait of the jaguars was in some instances discovered. How many of our readers, may we be permitted to ask, tried to do their duty in this matter? How many of them reiterated our warnings in the ears of those whom they knew were not readers, observing in reference to this the golden rule, or, on the other hand, how many of them were influenced by the accursed doctrine, that in this world "a man's first duty is to look out for himself"?

The farmers of this country are bound together by the ties of a double brotherhood; the first is that of humanity, the second is that of a common calling; and it is as much their duty to warn a brother farmer and the whole community of the presence of thriving, deceitful agents, as of the presence of a rattlesnake.

Surely we may learn two lessons here. The first is that we cannot be too cautious in dealing with agents. We need not necessarily refuse to deal with all agents, for the world will no more consent to do without them. Some of them are true men, but we should be very cautious when they are strangers to us.

The second is, that ordinarily new varieties of grain should be bought by the farmers in the usual channels of trade, that is, from seedsmen. In purchasing from them we have a double safeguard. Their business experience makes them cautious whom they purchase from, and their reputation is inseparably interwoven with their sales.

The Central Experimental Farm, Ottawa.

It was our privilege to visit this farm last spring in the merry month of May, and from the extraordinary vigor and precision that was ther. being manifested by the director, Prof. Wm. Saunders, we anticipated good results, and we have not been disappointed. The second bulletin issued by the department there is now before us, and we proceed to glean from its pages.

TESTING THE VITALITY OF SEEDS.

In the first bulletin issued by the department, farmers and others in all parts of the Dominion were invited to send seeds to have their vitality tested. In response, 187 packages were forwarded, the major portion coming from Ontario and Manitoba. The specimens of grain sent from Manitoba and the Northwest Territories showed a higher average vitality than those from the eastern provinces of the Dominion, thus sustaining the opinion generally held, that grain grown in northern countries possesses more vigor and vitality than that produced in more southern latitudes, which of course makes it more valuable for seed. Comparing Manitoba and the Northwest Territories with Ontario and the provinces east, the few tests thus far made show the following averages:

	Northwest Provinces, Proportion of Vitality.	Eastern Provinces, Proportion of Vitality.
Wheat.....	96 per cent.	92 per cent.
Barley.....	97 "	73 "
Oats.....	95 "	65 "

This useful work is to be repeated yearly for a term of years.

Samples of melon and squash ten years old entirely failed.

A handsome sample of cream Egyptian oats, held for seed, was sent from Nova Scotia. These oats were plump and heavy, weighed about forty pounds to the bushel, and appeared to be in good condition, but showed under test a germinating power of only forty-seven per cent.; and the blades were weak and sickly, showing that the oats were quite unfit for seed. It is supposed that they were injured in the mow by heating. The lesson here is of great value. We are convinced that farmers have lost many a crop from no other cause, although they assigned other reasons as the root of the difficulty. All parties interested in agriculture in any of its branches are invited to send samples for testing the present winter. Of course there is no charge made, and samples addressed to the Central Experimental Farm, Department of Agriculture, Ottawa, pass free through the mail. Not less than 250 to 300 seeds should be sent.

IMPORTATION OF SEED GRAIN.

A large number of varieties of wheat, oats and barley were obtained in Germany, England and France, gathered from all quarters of the world. This included a large consignment from Riga, Russia, intended principally for distribution among the farmers in the more northerly sections of the Dominion. The quality of this wheat was excellent, plump and hard, and weighed 61 pounds to the bushel. Of this, 277 sample bags, containing about three pounds each, were sent to Manitoba and the Northwest, and 390 to the other provinces. Manitoba seed wheat of excellent quality was also similarly distributed in the eastern provinces to the extent of 482 packages. There was also sent to the Commissioner of Indian affairs, Lieut.-Gov. Dewdney, about 1,200 pounds of wheat from Northern Russia, to be distributed among the Indian agencies to be grown upon the reserves; a portion also was kept to be sown at the experimental farm in Ottawa.

Although but partial returns have as yet been forwarded, these have established the fact that the Riga wheat will ripen in Manitoba and the Northwest from ten to fifteen days earlier than the Red Fife, which will go far to secure the growth of this important cereal from the danger of injury by early frosts. The seed was necessarily late in going to the Northwest, so that another season even more favorable results are expected. A special bulletin will be issued later, giving its characteristics and qualities in bread-making. The very large number of applications from the Northwest for samples to sow next year, have necessitated the ordering of another consignment from Russia. It is hoped that its cultivation within two or three years may become general, if the farmers so desire it, owing to its very general distribution. No reliable data can be given as to results from the testing of the wheat sent from Manitoba to Ontario and the eastern provinces, and it is well to bear in mind in this connection that the favorable season in Manitoba may have produced the Riga at its best.

GRAIN TESTING.

Sixty-seven varieties of spring wheat were tested on the farm, thirty-one of barley and sixty of oats, but the season proved so dry that we shall have to wait another year for more reliable results.

POTATOES.

Two hundred and forty-five varieties of potatoes were obtained chiefly from Europe, but most of them in small quantities. The most promising productive sorts among the newer introductions are August Kidney, White Star, Emperor William, Queen of Potatoes, Manhattan, Jackson's Improved, Niagara, Ganea, Paterson's Napoleon, Crimson Garnet, Kings White Kidney, Erfurt Incomparable, Sugar and Giant. A very promising seedling, originated by Mr. Thomas A. Sharpe, of Wakepa, Manitoba, was also tested, and proved to be an excellent cropper. As the yield from the small quantity obtained was necessarily limited, it has been thought best to save the whole crop for seed and leave the question of quality for consideration next year.

HORTICULTURE.

Of large fruits, 297 varieties of apple trees were planted, of which 174 are Russian; 101 varieties of pear trees, of which 45 are Russian; 72 varieties of plum trees, of which 32 are Russian; 71 varieties of cherry trees, of which 54 are from Russia and other parts of northern Europe; 11 varieties of American peach trees; 4 varieties of apricots, of which 2 are Chinese and 2 European; and 12 varieties of crab-apple trees.

Small fruits—127 varieties of grapes have been planted, 20 varieties of standard currants and 100 new seedlings, 30 named sorts of gooseberries and 50 unnamed seedlings, 38 named varieties of raspberries and 200 unnamed seedlings, some of which give promise of great utility; 20 named varieties of blackberry plants, and 90 named sorts of strawberries, and 50 unnamed seedlings.

FORESTRY.

Eighty-eight thousand young forest trees and ornamental shrubs have been planted, comprising both evergreen and deciduous sorts, including many native and foreign species. The total number and varieties exceeds 500, among which are many never before introduced into Canada. This collection will be largely augmented by the product of the seed beds. Such sorts as prove hardy will be propagated for testing in other parts of the Dominion.

THE SEED BEDS

consist of 278 frames 12 feet long and 4 feet wide, in which there has been sown a large collection of the seeds of trees, shrubs and plants. Three hundred and thirty-five packages came from the Royal Gardens at Kew, London, England; 300 packages from the Imperial Botanic Garden of St. Petersburg, Russia, which included succulent and herbaceous plants from the northern regions of Europe, with a number of species of shrubs and trees from Turkestan and Siberia. One hundred and ten sorts came also from the Imperial College of Agriculture at Tokio, Japan, including 40 species of trees and shrubs from the most northern provinces of the empire, where the temperature is severe and the snow-fall heavy during the winter months. In addition, 1,200 sorts have been secured by purchase in Europe and America. Seeds from native Canadian forest trees and shrubs have also been planted, gathered in all parts of the Dominion. Thus and thus the good work goes on.

When we consider that ploughing was only begun on the 2nd day of May and seeding on the 6th of the same, the quantity of the work done is certainly astonishing, and we have no fears as to its quality, as we have not a doubt will be shown under present management when time will enable complete results to be given.

The Grazing of Sheep on Improved Pasture.

BY W. BROWN, C. E., PROFESSOR OF AGRICULTURE.

We have been trying for twelve years to impress our farmers with the fact that one of the prominent weaknesses of Canadian agriculture is unappropriated land and non-production of wool and mutton. The country is really doing nothing in this respect in correspondence with others, and what we could do by improvements, what by ordinary management, and what we are only doing now, may be thus illustrated:

Canada annually.

Present wool and mutton.....	\$9,280,000
By ordinary attention.....	20,000,000
By improvements.....	30,000,000

These have no reference to production of pure breeds as a speciality, but the use of them with the common sheep of the country in order to realize annual crops from our so-called comparatively worthless possessions, in addition to pasture connected with arable.

If the 3,793,800 acres of ranches already rented in our North-West Territories are equal to the ordinary hill grazings of Britain, they will maintain 1,250,000 head of sheep in place of the present 75,000 cattle, 6,318 horses, and 16,431 sheep (see Dr. McEachran's report just issued). These represent about 400,000 sheep; hence, were these natural runs improved, it is safe to estimate they would carry over 2,000,000 head, in addition to cattle, and would thus stand at an annual revenue of \$8,500,000 in wool and mutton alone.

We are not believers in an equal revenue being realized in wool and mutton by any breed per acre from our best cropping soils, as compared with, for example, dairy products, and so the object of the experiment now to be submitted was to test the ability of improved pasture on such soil to maintain so many sheep per acre per annum, and compare with cows and store cattle.

For this purpose we chose a four-year-old acre of permanent pasture, the wake-up, condition and management of which are now familiar to all interested. Divided field in two equal parts, and on 5th May put on five shearing ewes—Oxford, Shrops and Cheviot—that weighed an average 107 lbs. On 23d May put two others to keep down roughness of pasture, that averaged 139 lbs. As these seven sheep were unable to do this, we added seven stock rams on 9th June, thus making fourteen in all. Of course these were kept separate, and rotated from field to field. Removed the rams on 2d July, and on 3d August also removed the two extra ewes, when the extraordinary dry season was telling. No grain nor extra food of any sort was allowed.

At this critical time of grazing we made the following observations on appearance of the grasses and clover that composed the pasture in question:

Meadow Fescue.....	Most plentiful of any.
Alsike clover.....	A large quantity.
Canadian blue.....	Considerable quantity.
White clover.....	Medium in quantity.
Orchard.....	Medium.
Timothy.....	A good average.
Red top.....	Good.
Red clover.....	A small quantity.
Italian rye.....	Very little.
Fall oat.....	Very little.
Perennial rye.....	None.

The experiment with these sheep was closed on 1st October, as they were required for distribution to service. At this time the pasture looked well, a good bite having been left; hence other sheep were put on and grazing continued until snow came, on 20th November. It was not necessary to take advantage meantime of this subsequent depasturing.

The average grazed through the term from 5th May to 1st October was fully seven head per acre; the increase to weight was 22 lbs. per head. That is the statement; what does the Canadian farmer think of it?

Some will say, "Only \$7.00 value of wool and mutton per acre per annum after all." True in that respect, though the animals were pure bred, and upkeep of vigorous growth their case and not one of immediate consumption. The grazing of sheep is not usually looked upon as worth more than \$1.00 a summer in Ontario, but unfortunately the average is not a very bright thing, and usually requires one acre per head.

The correct criticism is to compare the result with something more familiar and under equal conditions. We had this immediately alongside the acre in question as given in Bulletin XX. There during 1887 4,010 lbs. of milk were obtained per acre, and consequently a value of about \$40. Then, again, it is usual to say that from four to five sheep are equal to one cattle beast upon pasture; in this comparison, therefore, we have this pasture representing actually one and one-half cow per acre.

But apart from these facts, we are gratified in placing on record for the use of our people the continued prominent good conduct of our mixture of grasses and clover under very severe circumstances, as a piece of temporary or permanent pasture in association with crop-growing. We have now demonstrated beyond doubt that such pasture produces milk, beef and mutton in quantity three times more than the present average of the Province of Ontario.—*Bulletin XXIII, Ont. Agr. Col., Guelph.*

The Ontario Agricultural and Experimental Union.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Being aware of the deep interest which the press of Ontario takes in the welfare of the agriculturist, and in whatever tends to the advancement of farming as an occupation, we beg space in your publication to set before your agricultural readers the objects of the Ontario Agricultural and Experimental Union. The next annual meeting of this Union will be held at the Agricultural College, Guelph, on Feb. 16th and 17th, and we issue a hearty invitation to all to be present and join us in the discussions and assist in such work as may claim the attention of the meeting. The Union is composed of students, ex-students and the officers, past and present, of the Agricultural College. In order to secure the co-operation of the farmers, the presidents of the various Agricultural Societies have been elected honorary members of the Union. The above, and any others interested in the advancement of agriculture are invited to take part in such experiments as the committee appointed by the Union may decide upon.

The course of testing during the last two years has been for the object of obtaining a better practical knowledge of the effects of some of the most easily procured Canadian fertilizers upon cereal crops. Not less than 180 packages of fertilizers, and 330 packages of grain have been sent free of charge from the Experimental Farm to members of the Union and other prominent agriculturists during the last season. The results of the tests will come before the next annual meeting. Many farmers are desirous of gaining a better acquaintance with the most economical methods of obtaining the greatest results from their fields, stock, &c., and often resolve to do a little testing on their own farm. The advantage of co-operative experimenting is that each individual, while making the tests, knows that many others over the Province are carrying on precisely the same line of work, with which

comparison of results can be made. The compilation of such tests is almost certain to afford very valuable information. Experiments in fruit culture, dairying, stock feeding and raising, bee-keeping, and results from other experiments outside of the systematic Union work are also solicited, and if sent in and approved will be published in the annual report.

It will be seen from the above that the Union has a worthy object in view and has entered upon a new and useful field of labor. In order to be of the greatest benefit to the county, the cooperation not only of every ex-student, but of every intelligent farmer is required to conduct experiments and give results from all parts of the Province. This body is growing year by year in strength and usefulness. Prominent agriculturists were at our meeting last year from whom we heard expressions which were very pleasing and encouraging, and which give us reason to expect their presence at the coming meeting. Several also joined us in experimental work during the last season.

Any one desirous of attending the next meeting can secure reduced rates by applying to the Corresponding Secretary for railway certificates, which must be filled in at the railway ticket office at time of purchasing the ticket.

Trusting, Mr. Editor, that you may give this publicity, that we have secured your co-operation, and that you will be at our annual meeting,

I remain, yours sincerely,

WM. J. STOVER, Cor. Secretary.

Norwich, Ont., Jan 16th, 1887

Farm Bells.

The methods adopted in calling the workhands of the farm to their meals are very various, sometimes rather amusing. The old-fashioned "hoo-hoo" is not so common now as in the days of long ago. The horn is still sometimes used, and sometimes a flag, but each of these methods has its objections. The "hoo-hoo" is very hard on the voice, particularly with the musical voice of a lady, too priceless by far to offer it on such an altar. The horn is hard to blow, and the flag is shaded by trees and hills. The best substitute for each and all of these methods is the farm bell, which is not costly, is of sufficient power to do its work efficiently on the largest farms, and the effort in using it is so slight that it may be rung easily by a child.

We have often wondered that so few of these are in use in the country, when their advantages are so apparent. It may be that most are ignorant as to the whereabouts of their manufacture. For the benefit of all who desire to know we may mention that they are very largely manufactured by the J. B. Armstrong Manufacturing Co., Guelph, Ont.

The use of farm bells should become very general. How pleasant the tingle tingle of these bells at every farm house announcing to the weary workmen that refreshments awaited them. The use of them would ensure much more regularity in the preparation of the meals, much needed in some farm homes, for the bell would prove a tell-tale when the maidens in the kitchen had been napping.

Permanent Grasses.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—In looking over your list of grasses, you deserve great credit for your article on "permanent pastures." Allow me to add one improvement. Take out one pound of small red clover, and add one pound of white Dutch clover. I find three pounds on rich land will smother most of the rest; in fact I have had to sow only one pound on some of my land. I find the three best grasses for pasture and putting on flesh are alsike, orchard grass and white Dutch clover. For pasture I would advocate orchard grass in all cases. I find the drought don't affect it as much as the rest. Last summer, when everything was dried up, where I had orchard grass it was green and good feed.

ALBIN RAWLINGS.

Forest, Ont.

"I would not be without the JOURNAL for five times the price. Every farmer should take it and read it and he will inevitably profit by its instruction."—Jas. E. Smith, Beresford Stock Farm, Brandon, Man.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Weeds.

BY PROF. J. HUYES PANTON, ONTARIO AGRICULTURAL COLLEGE, GUELPH.

III.

CLASSIFICATION OF WEEDS ACCORDING TO NATURE AND HABITS.

Order *Ranunculaceæ* (Crowfoot family). In this order there are no, what might be termed, pernicious weeds, but there are some plants which may be worthy of consideration, as they are somewhat common, and in some instances possess poisonous characters. Here we find herbs and woody vines with a colorless and often acrid juice, the leaves are usually much cut and the flowers vary much in character. Some very beautiful garden flowers are here, such as clematis, pæony, columbine, anemone and larkspur and the beautiful liver-leaf that heralds spring in the woods, but the plants which we wish here to mention individually are as follows:



Fig. 3. Tail Crowfoot (*Ranunculus acris*), reduced; 4. An enlarged flower divided, to show the insertion of the distinct parts on the receptacle; 5. A head of akenes; 6. A separate akene.

Ranunculus acris (Fall buttercup). The common buttercup, so frequently seen in low spots, not very serious as a weed, but yet in some places occupies a large space at the expense of plants more useful to the agriculturist. It can readily be identified from its golden-colored flowers.

R. bulbosus (Bulbous buttercup). This is called the bulbous crowfoot from the nature of its root; the stem erect, from a solid bulb; radical leaves three-parted. Like the preceding, it is perennial, and is found in meadows in low grounds; both are soon got rid of where the land is well drained and the soil consistently stirred.

R. sceleratus (Cursed crowfoot). This, an annual, bears many seeds. It has the reputation of being very poisonous, and hence should not be allowed to

grow, much less increase. It has an erect hollow stem much branched, and grows about one to one-and-a-half feet high, bearing inconspicuous yellow flowers. The juice of this variety is very acrid and blistering. Moist soil is its favorite location, hence draining and cultivation soon gets rid of it. These three plants are all more or less poisonous, but the last is considered the most virulent of the lot.

Aconitum Napellus (Monkshood, or wolfsbane). This perennial has escaped from gardens in some parts, and grows by the way side. There are very few plants more poisonous than this, and it is a risky thing to have it in a garden where children have access. Every part of this plant is noxious; the odor even of its leaves and blossoms has an injurious effect on some; the pollen, if accidentally blown into the eyes, has been known to cause pain and swelling. If the plant is handled when the skin of the hand is cut or torn, it will likely produce bad effects. Drying dissipates the poison to some extent, but not wholly.

Horses have been known to eat the withered plant without serious results. Monkshood has an erect unbranched stem about three feet high, bearing on its upper part a spike of dark, dismal, bluish-colored flowers. The upper petal of the blossom is arched and shaped like a cowl (hence the term monkshood), and the two side petals are hairy on the inner side. The higher leaves are not so much divided as the lower ones. The blue helmet-shaped flowers, arranged along the upper part of the stem, serve to distinguish it at once, and where found it should be destroyed.

CRUCIFERÆ (MUSTARD FAMILY).

In this order you find some very bad weeds, which are exceedingly prolific in seeds, that possess wonderful vitality. The four parts of the flower are usually cross-like in shape; the six stamens group into four long and two short, and the seeds are frequently in pod-like structures known as siliques or silicles.

Camelina sativa (Wild flax, false flax). This annual grows about two feet high, leaves somewhat long, arrow-shaped at the base, and sessile (i.e., without a stalk); the silicles are rounded and flat (about one-fifth of an inch in diameter). The flowers are small and of a pale yellow color, arranged along the top of the stem, the lower ones being in flower first, June or July.

In the early history of the plant it was often associated with flax, among which it became a common weed.

It cannot be said to resemble flax, yet its association with that useful plant has led some to view it as degenerate flax, and they have probably a good reason for the theory as some who declare chess is degenerate wheat. It is readily recognized in the field, and where thorough cultivation is followed it finally lessens in number, so that what remains can be pulled.

Capsella bursa pastoris (Shepherd's purse). This is one of the most common weeds we have, but never viewed as a difficult one to overcome. It grows on all soils, and apparently in all climates. It is ready to occupy any neglected spot, but as soon as cultivation begins this annual leaves the ground to plants of more economic value.

Lepidium virginicum (Pepper-grass). This com-

mon weed—another annual—is not considered a great pest; being an annual and kept from seeding by cultivation, it soon makes way for useful plants. Like the preceding, it is an occupant of neglected spots. The plant is about a foot high, presenting a tree-like appearance, with its main stem about nine inches in length branching much at the summit, and the whole becoming covered with small round pods, each with a slight notch at the summit.

These small pods, not larger than a shot in diameter, are on stalks about one-fifth of an inch in length, and arranged very thickly upon the stem. The tree-like form of the plant and the innumerable small pods serve at once to identify it.

Thlaspi arvense (Penny cress) is a more serious weed than those already referred to in the same order. It is very common along the Red River, Manitoba, where it is called French weed, and in some cases has quite overrun the fields.

Plants of it have been received at the College from the east for identification. It has likely reached Ontario in seed wheat from Manitoba; it should be destroyed at once, before it gets a foothold. The following description may be of service to identify it: Pods circular, flat, with broad wings and a deep notch; leaves oblong, arrow-shaped at the base, toothed, smooth; flowers white and very small; plant about a foot high. It derives its name, penny cress, from the size and shape of its seed ves-



PENNY CRESS.

sels, which resemble silver pennies. It is an annual, and no doubt if thorough cultivation is followed it will soon be overcome.



WILD MUSTARD.

Sinapis arvensis (Charlock, or mustard). This is one of the worst weeds found on the farm, and therefore we will occupy more space for its description and the best methods to get rid of it. Having had the opportunity of hearing the question of how to kill mustard discussed at several farmers' institutes, I am able to give a method adopted by some farmers who have been successful in keeping this pest under.

Unfortunately many farmers do not consider this weed serious until it has almost complete possession of the fields. They imagine that the fanning mill can separate it from the wheat, and consequently it is not to be viewed with alarm. Such forget that the plant is robbing the other plants of their food, and that in the course of time the field will likely produce more mustard plants than wheat or other grain.

This plant is an annual and produces an enormous number of seeds, which can resist adverse conditions that would destroy the vitality of most seeds. They have been known to grow after being buried for a period of fifty years. Two things should be remembered in dealing with this pest:

1. Allow no plants to mature and ripen seeds.
2. Cultivate so as to have what seeds are in the ground to grow, and destroy the young plants as soon as they appear, because at this stage they are very tender.

Keeping these points before you, the following modes of treatment are likely to be successful:

1. Immediately after the crop is taken off, harrow, so as to encourage the growth of seeds near the surface. A week or two after, harrow again; this will destroy many, if not all the young plants. Next, use the cultivator; this will bring more seed to the surface, and these will germinate and a new crop of young plants appear. If the season will permit, gang plough to kill these and bring new seed up, and afterward plough deep in the fall; if any young plants appear after this, the frost will kill them. Harrow in the spring to start a new crop, if any of the seed near the surface failed to germinate in the late fall; follow with the cultivator in a few days, and after a time use the gang-plough. Suspend operations for a while, then cultivate and sow buckwheat, to be ploughed under when about in flower (use a chain if necessary); harrow well and roll. Cultivate after a time at intervals until it is time to sow fall wheat. If this fails to get rid of all, pull the plants before seeding, and follow with a crop hoeed thoroughly.

2. Some vary this by harvesting the buckwheat and harrowing, etc., much as described in the first part of the preceding method. The next season manure well and grow a green crop, which must be thoroughly hoed and followed by fall wheat.

3. Follow a system of rotation in which spring crops are not frequent, and keep weeding out the plant as soon as its well-known yellow blossoms appear. In all cases exercise care to sow clean seed.

PAPAVERACEAE (POPPY FAMILY).

We are not troubled much with weeds from this order, in which the plants have a milky or colored juice, regular flowers, which soon fall to pieces and cover the ground where they have been in bloom.

Papaver rhæas (Corn poppy). This variety bears red flowers, which are exceedingly common in the fields of England and Scotland, but so far has not taken hold in Canada. The species *P. dubium* is common in some parts of the United States. In this species the leaves with their divisions are more cut than the preceding flowers, smaller, and lighter red. Hand-weeding is a good method to get rid of these weeds bearing showy flowers.

Chelidonium majus (Celandine). This is sometimes found by the wayside, having escaped from gardens where it has been grown. The flowers are small, of yellow color, and arranged in a sort of umbel; the pods long and slender. It is not likely this plant will prove troublesome where thorough cultivation is carried on.

(To be continued.)

Report of the Judges on Prize Farms for 1886.

(Continued from January.)

MR. ANDREW WAECHTERS' FARM.

Those who, in laying their plans in life, do not reckon disappointments, will be much mistaken. Failing to get through from Guelph to Walkerton as we had anticipated, we did the next best thing, that is, went to Hanover on the evening of the 2d July, and had thus the grim satisfaction of getting near the object of our search, in spite of the fact of the existence of a county town with only an alternate daily evening train. But this meant a seven miles drive overland to Walkerton, along the banks of the Saugeen, with its crystal tide, before the grey mists of the morning had lifted. It was vexatious to find the stubborn fogs so persistent in their brood, as to hide what we can't help but think is a charming water-course all the way. Nearing Walkerton, we spied a beautiful mansion with large pleasure grounds on the near bank of the river, a farm apparently attached. We concluded that the owner made his money more rapidly than ordinary farmers, and so it proved, for we were told that he was a very enterprising barrister of Walkerton who, like most professional men, found his truest enjoyment in tilling a piece of land.

The farm of Mr. Waechter, 3 1/2 miles west from Walkerton, comprises lots 1 and 2, concession 8, township of Brant, and composed of 200 of the 518 acres of Mr. Waechter's land, the balance being located across the highway and not in the competition. Nearing our destination, we observed the sides of the road strewn with stones, and on being told that it was opposite Mr. Waechter's farm, we spoke of it as being a reprehensible practice; but what was our surprise, on being told that they had been placed there to be erected in due time into a fence. How often in everyday life people are condemned before the witnesses have been heard.

The farm, as well as the country here, is beautifully undulating, not violently, nor yet tamely so, and on one of those medium swells Mr. Waechter has built his steading, looking over the billowy-shaped surface of this favored township, and also that of Greenock opposite. This farm carried the silver medal in the group contest, and its soil is a loose clay, almost a limestone shale, and the sub-soil only a little harder, so that much drainage is not required. Twenty years ago the forest stood here silent, unbroken, in fields where not a solitary trace of it is to be found to-day. In what other wooded country can silver medal farms be made in so short a time?

The fences were mostly stake and rider, and the farm was well laid out, and carrying heavy crops of wheat, barley, oats and peas, and a large field of roots, which, though young, were full of promise. The tidiness of the farm when we consider its youth, was a matter of surprise.

The best winter wheat that we saw in our travels grew upon this farm. It filled the fields to the level of the high fences and to the extent of 25 acres. The usual yield is 30 bushels per acre; oats 40, and peas, 35 bushels. There are 25 to 30 acres hay, and a large lot of pasture.

The rotation is one that favors the farm. There is first summer fallow, 10 to 15 acres a year; the balance of the manure left over from the roots is applied on this, which gets it all buried early in the season—a wise practice. It is then ploughed and ploughed until all the weeds are dead. The wheat sown here is seeded to grass, which is sometimes mowed 2 years and pastured 3 years, and is not cropped very much until it is re-seeded. Twelve to 13 lbs. is sown to the acre of grass seed. This restful process of tillage, along with the rich feeding that Mr. Waechter gives it, keeps it in fine heart, so that he is almost absolutely sure of a fair crop, whatever the season may be. To enable him to feed it thus we need scarcely add that he is a great fattener of stock, selling no grain from the place, only wheat. Last winter he fattened 34 head of shippers, which brought 5 1/2 cents per lb., and the very day of our visit a large contingent of fat sheep had been sent away.

The forest, 45 acres, is heavily timbered with wood, hard and soft; the orchard and garden are medium, and the obstacles are well removed, while some tree-planting for ornament has been done.

The barns are very good. The main one, 84 by 90 ft., rests upon a basement. There is a carriage-house, abundant implements, including horse-power and a Neustadt shaker. The large box slides for

throwing down feed have doors in them under one another, for guiding it to the different passages.

But the unique feature of this farm is its water arrangement. About three fourths of a mile away, on the further side of the other farm, and in a depression 63 feet below the level of the steading is a strong spring, which in its perversity only served to make more drear the waters of a fen, into which it poured its strong tide. A well was sunk and a hydraulic ram placed therein, and a ½ inch pipe was laid 3 feet deep, to be below the frostline, first to the barns on the Greenock side, where a constant supply is left in a trough, and then to the homestead barns, where through all the days in all the year, it brings its refreshing tide, the overflow running down into a valley beyond the barns. It was a bold venture, undertaken in the face of contrary advice, and has succeeded most charmingly. How many springs are there in Canada capable of doing a similar work, that waste their strength and substance, because the owners fail to give them work to do? If this record so arrest the attention of but half a dozen interested parties as to lead them to do in this matter as Mr. Waechter has done, it will be worth more to the country than the entire outlay expended this year in making these awards.

Mr. Waechter has done a great work within the past 20 years. Then he went into the forest with axe in hand; now he has 500 acres of valuable land, and although he has not won in this contest, he has taken a stand of which his county may well be proud.

(Concluded in next issue)

A Chatty Letter from the Ottawa.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I like the above title for a letter. It gives one every latitude: like an eclectic magazine you can put whatever you like in it, and can't be blamed for being too discursive. But lest this freedom to range should distract me from my main purpose, I will cut with it at once, and all my great wisdom and experience will be thrown into it—at a hater's cost, KESL! This is intended for you, primarily, and for such of your readers as are doing, as you are doing, over working yourself. It did not require Alderman Frankland to tell your readers that. But if you don't take my advice, and that soon, there may be no "green spots" and cooling shades for your "tired brain," save in the great hereafter. Perhaps you laugh at my warnings. I have known a dear talented young lawyer laugh a doctor to scorn when the latter told him that the best fortune that could befall him would be "to get put in gaol for six months." Yet in a few weeks I was sent for to lay him at his endless rest—killed by long hours—too many wanting his advice and services. You undertake too much; you are wanted at too many places, and discussing too many questions. I know how it is: you are full of matter that is in a ferment to get expression, and the clan of comparative youth shoots you onward. How many men in every walk of trade or calling are so impelled? Men like your friend, Frankland, of an adipose build, and some of the lymphatic mixed with his sanguine temperament, stand work much better than men of your spare, active form—what the French call *spirituelle*. So, take warning, and let others, too, take care, for the "sword wears out the sheath."

I noticed by some former issues of your JOURNAL that you had come upon Tommy Graham, near Ottawa city. When you met this man you met well—one of the best specimens of the human race. No man who knows Tommy Graham can ever despise mankind. His life has been one of great energy, and of a display of fortitude that even Ney could not surpass, and withal the best natured, or self controlled, of beings. I once plumped him into a river up to the arms one cold night in November or December, by heedlessly shooting a boat from under him. He just walked ashore, pulling a bagful of empty lags with him with out ever saying a word. What withheld him from either kicking or cursing me? Was it that neither, or both together, would have fallen short of what I deserved, though I need not say that I was as sorry as he was wet.

I don't think justice will ever be done to some men whom I have known here on the Ottawa. The lumber trade afforded many opportunities of displaying a self-sacrificing heroism that a purely agricultural settlement never could, and if ever I have leisure I may gather up the history of such acts, and hand them down to the next generation. But lest that opportu-

nity should never be given me, let me make this general remark, that I don't believe there exists on the face of this earth, men who are so willing and proud of work as the French Canadian shantyman. They don't work so much from a sense of duty, as from a sense of pride in their work. What a pity that so many of them spent their wages yearly as they were earned!

We are quite unsettled about here as to the best breed of horses to raise, and as a result there is a general mixture and confusion. Only some of us place much value on a pure-bred animal—most people are influenced by the look of the stallion that is offered for service. But a few pure bred Clyde and Percheron stallions have been brought in, and their stock is growing up. From what I learned of the latter, about Beauharnois and Chateauguay, where they have been bred during the last twenty or twenty-five years, I had become somewhat prejudiced against them; but it must be owned that the young stock look well, however they may turn out when put to work. But, save for sale, I believe the time of heavy draughts about here is past; they don't stand quick motion, and are not long-lived. If you could get a cross between what is nearest the old Canadian and a blood horse, to weigh eleven or twelve hundred pounds, he would have the perfection of a general purpose or farmer's horse; but it would be difficult to find either sire or dam to produce that. The Canadian, like the Cleveland Bay, if not extinct, is so very greatly changed and adulterated by every conceivable cross, that the old characteristic Canadian is seldom seen, and when seen is very small. While few blood horses that I have seen have sufficient width and substance to produce a strong beast, yet that is what would suit us best.

Here is a *bon bouche* for our mutual friend, Rodden. I read in the *Australasian* that a cross-bred Ayrshire cow, Daisy, bred by Mr. John Grant, of Seafield, Victoria, gave 157¼ lbs. of milk in two days, which made 7 lbs. 5½ oz. of butter.

We read a great deal during the summer and fall of the short supply of fodder for cattle, and we were in hopes of getting all our hay well sold, but it has not risen above ten dollars a ton, pressed, and delivered at railway stations, and the demand for shanty use is about over, and thousands of tons still in the barns.

WICQUEFUT.

With 2,000,000 head of cattle in Ontario, more than one half of which are unimproved, and a corresponding lack in all the other classes of stock; with more than 300,000 farmers in Canada, and only twenty of their sons entering one of the best conducted agricultural colleges in the world in the fall of 1887; with the best natural facilities in almost any country for making a good quality of butter, but little of which is made so; and with the farmers who, more than any other class, have made the country what it is, tied to the rock of disadvantage, fleeced, shorn, and walled in by disheartening restrictions, it is not easy for any one who has the welfare of his country at heart to take life easy.—ED.

The Dairy.

WE will receive regular contributions from the pen of Mr. James Cheesman on matters more especially pertaining to the dairy during the year. Mr. Cheesman is too well known as a practical writer in his line to require any commendation from us; his knowledge of the scientific side of this subject is also very extensive. With two such writers as Mr. Cheesman and Prof. James Robertson our dairy readers cannot go on stinted fare.

"On every farm where there is any pretence to good management, the food is prepared and mixed with meals and other feeding stuffs." Thus it is that a writer in the *Agricultural Gazette* speaks in reference to the management of dairy farms, and thus it should be in this Canada of ours, where due regard is paid to the proper utilization of foods. In such an

instance there may be a blending of foods not necessarily of any one class of ingredients, which will form a perfect food ration without any wasted whatever from rejected portions uneaten or from food not properly assimilated. The drop in the prices of nearly every class of food compared with prices years ago renders it imperative that, unless in the vicinity of towns and cities, where the cost of carriage is light and where fertilizers can be drawn back upon the lands, all that is grown upon them, save wheat, should be fed there, and fed in accordance with the most economical methods known. These methods cannot always be obtained from a neighbor's practice; they are to be sought in books, agricultural papers and reports—and sought diligently. If there is anything that should draw forth one's generous pity, it is witnessing a non reader experimenting in regard to what has been demonstrated before he was born.

One means of relief to the farmer in this time of depression is the engaging more largely in dairying in one or other of its forms, but dairying can never be a success in the full sense of the term without growing an abundance of supplemental fodders. We know that farmers in the winter season frequently engage in planning the work of summer, and in this they do wisely. They see in the vision of the future the crops that shall grow upon every foot of the cultivable area they possess, while their fields lie sleeping beneath the spotless mantle of the winter. Wherever cows are kept, we ask them to retain a corner for the growth of supplemental crops of fodder. When the season comes, this corner should not get the go-by until all the other crop is sown; it should be an object of especial care. It should be made fat with manure, and fine with cultivation, and if sown in drills, as in the case of corn, should be kept scrupulously clean. If the following summer should prove a wet one and the supply of grass plentiful, this supplemental plot will richly repay the labor expended upon it by the abundance of its yield for winter fodder. Our dairy farmers must not forget that they belong to a noble guild of manufacturers. Their raw material is cows, earth, air, water, fertilizers and brains; the finished product is milk, butter and cheese. May every man of them rise up next summer and show himself well worthy of his high vocation. The only protection that they require to make this great manufactory in the aggregate a grand success is prudent forethought and unflinching enterprise.

The Western Dairymen's Listowel Convention.

The Western cheese-makers opened their meeting on the Wednesday afternoon of January the 11th. President Caswell addressed the convention for a few minutes. Holding for high prices was, he said, the bane of the factory business, and such practices check consumption. Manipulating the market by rings and inflation of newspaper market reports, over-estimating or exaggerating the stock held, had the same result. Sometimes the opposite course was pursued and stocks were under-estimated, and then running prices down to panic followed. Liverpool buyers cable Canada for special makes of cheese, and their special excellence enabled buyers to pay a higher price for some factories that produced extra good cheese. Promote home consumption by making all fine goods. In the town of Ingersoll they sold cheese retail in his dairy store sometimes at 12 2 cents, sometimes at as high a price as 16 cents. The highest price cheese, being the best, sold eight times faster than the cheaper.

Mr. Hoard said quality was the great desideratum in the manufacture of dairy goods. It determined the price. But quality could never be obtained with out good buildings, plant and hired help. Cheap

buildings, poor plant and low-priced labor all meant inferior goods, and their market value would be measured accordingly. Curing-rooms, with a temperature in the fall varying from 50° to 70° would never make high class cheese. Cheese must be nursed through babyhood, youth and maturity if quality were sought for. The cost of making was down to a minimum and could not be much more reduced. Further reductions in the cost of manufacture must come from the farm where the milk is produced. In Wisconsin there was agitation in 1870 with the county society and now the State spent \$12,000 yearly on the propaganda. Then land sold for \$25 an acre and now for \$60. Then one farmer in Jefferson county had savings in the bank; in 1880 seventy were depositors. The speaker recalled the case of an old German who eleven years ago had nine cows, nine children and no money, and was selling butter at 12 cents per pound; now he was worth \$20,000 and owned sixty cows.

Mr. Daniel Derbyshire said the Eastern Dairymen's Association had adopted a plan of instruction in local centres, levying assessments of \$10 per factory. If this were done all over Ontario they could get a fund of \$7,000 for dairy education. Such instruction was intended to reach farmers and to let the average farmer get better milk and more of it. The cheese interest could not go on with the present style of buildings, half of which were useless. Making cheese in cold fall weather with an overcoat and mitts could not be tolerated. The building must be reconstructed to suit requirements. In the Brockville district some farmers sent six thousand pounds of milk to the factory, and many realized sixty dollars per cow. The average was only twenty-five dollars. This difference resulted from improved blood, feed and shelter.

Prof. Robertson said Montreal exported cheese from the milk of 375,000 cows. Seventy-five thousand of these returned \$36 per cow, while two hundred thousand returned only \$20. The cost of maintaining a cow yearly is \$21. They could all figure the profit and loss on these cows. Ontario farmers could increase their income two and three quarter million dollars in one year by improving the yield of their cows.

Mr. Francis Malcolm, Innerkip, read a paper on "Practical Dairying." Improvement lay in the breeding, feeding and care of animals. To reach a good dairy animal we must keep in view a special purpose and raise heifers which will come into profit at twenty six months. His own herd last year consisted of twelve cows and five heifers, whose milk was sent to a cheese factory during the season of six months, aggregating a total of 103,000 pounds, an average of over six thousand per animal, and returned \$54 per cow. He noticed that after June twenty cows fell short of milk. He then fed a supplementary food consisting of bran, which maintained the yield of milk till the close of the season. No dairyman should be satisfied with less than 5,000 pounds of milk per season. Twenty pounds daily for ten months was 6,000 pounds, surely nothing extraordinary.

President Caswell requested James Cheesman to address the meeting. He said he wished the board would now start a competition among farmers by giving \$500 for five prizes; the first to the patron sending the largest cow average to a factory in Western Ontario; the second for the cheapest made milk from the smallest area of land; the third for cows milking not less than three hundred days, or 5,000 pounds of milk in that period; the fourth to patrons raising their own heifers, and milking not less than three hundred days; and the fifth for the best winter milk farm. Nothing would affect dairy farming so much as a rivalry of this sort. When known, it would induce a general cultivation of green fodder crops for use after the middle of June when the milk commenced to fail. Many farmers in all the dairy districts had cows giving to the factories in six months five thousand pounds of milk. We want competition to give these greater prominence and to increase the average.

Mr. D. Hoard was asked to give an address on "Odds and Ends." He said Theodore Louis was the greatest pig feeder in America, and told them the most economical use of buttermilk, by so feeding it as to finish pigs for the market at eight months old instead of eighteen months. It was not economical to feed pigs after attaining 250 to 300 pounds inside of nine months.

RESOLUTION FOR EDUCATION.

Moved by J. B. Lane, seconded by Wm. Symington, and unanimously resolved, "That the scheme for the further education of dairymen, as outlined in Prof. Robertson's address, be accepted as worthy of our endorsement, and that the directors of the association be instructed to take steps to secure the services of competent cheese instructors and milk inspectors."

Resolved, "That we invite the co-operation of the Dairy Department of the Ontario Agricultural College, and recommend that the patrons of each factory be urged to contribute \$10 each to a fund, to be administered for the foregoing purpose."

Ten Weeks Spent Amongst Montreal Dairymen.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Having heard of the excellent quality and of the high per cent of butter fat contained in the milk supply of the city of Montreal, I thought it would be of great advantage to me before going into the dairying business in the city of Toronto, to visit Montreal and investigate for myself why the milk supplied to the private customer in Montreal is so much better than that supplied in Toronto. We are aware many people in the large cities attribute many of the outbreaks of contagious diseases to the milk supplied to families, while every dairyman knows how very susceptible it is to taint, either from cows being allowed to drink of impure water, from keeping them in filthy stables or from not taking proper care in milking and handling the milk.

There is one reason why Montreal is supplied with better milk than Toronto, it is in the fact that the producer supplies the consumer directly, for if the customer finds any fault the producer is able to find the cause and remedy the evil. In Toronto the milk is almost wholly handled by dealers, whose we may suppose are not as careful as they might be in the management of it. One of the dairy farms which I visited deserves especial mention from the way in which they have their stables arranged, the manner in which they handle the milk and the method of delivering it to the customer.

The Blue Bonnets dairy is managed by Evans Brothers and Tunholm, three young men who started in the dairying business five years ago with less than two thousand dollars and who have now, I should judge, sixteen to eighteen thousand dollars to show for their five year's work. The farm of two hundred French acres which they occupy is not what a person would call a good farm. It is rather low land, and the greater part of it is covered with boulders so that they are not able to cultivate nearly half of it. These young men started in the old way of handling and delivering milk—that is, in taking it into the city in large cans and measuring it out to the customer at the door, thereby allowing all dust, dirt, &c., to blow into it. In this way they worked their custom up to about fifty gallons a day by the end of the third year. Seeing the disadvantage of this method they thought they would put enterprise into the business and so built new stables, started bottling their milk and are now selling two hundred gallons a day; one hundred and fifty is put up in quart bottles, and they are receiving for this eight cents a quart during seven months of the year and six cents for five months and satisfying their customers very well both as to quality and price. I think if our Ontario cities desire a better quality of milk they must pay a better price than they do at present.

The plan this firm has adopted of feeding their cows and handling their milk is the best I have seen. They were milking one hundred cows and were receiving one hundred and ninety seven gallons of milk a day. They feed their cows good clean feed, oats, pea meal, corn meal and bran wet with cold water and allowed to stand for a few hours, together with pure timothy hay. The milk test was the best in Montreal, having over five per cent of butter fat, while the average milk supply of Toronto is only 3.8 per cent. Their cows are average Canadian grades, the most of them coming from Ontario. The stables are built on a stone wall eight feet high; the basement is used for their manure, there being trap doors with hinges attached through which the manure is put into the basement, thus saving the urine, and adding thirty per cent to the value of the manure. The stables are fitted up with patent fastenings, thus keeping the cows much cleaner than the chain fastenings, while the mangers are made so that eighty cows can be watered at one time. Two thirds of their cows are not let

out during the winter months, as it is found that they milk and fatten better. They pick out forty of their best cows every year and breed them in November and December. They stop milking these in May when they are sent out to the tow ships to pasture for three months; freight, pasture and insurance not costing more than five dollars a head. In this way they have new milch cows at a time when such are scarce and prices consequently high. In the milking and handling of their milk they are very particular. Always before milking the cows the udder and teats are washed with damp cloth, the milk is strained as soon as milked and is then taken into the milk room where it is again strained and put through a cooler which allows the animal heat to escape and takes away any impurities which might be in it. It is again put through a strainer into a large can holding thirty gallons, thus making the milk all of the same quality. The bottles having been thoroughly washed with two changes of hot water and rinsed with cold, they are aired for some hours. The way the bottles are washed is very convenient, as six hundred bottles can be washed inside of an hour. There are also taps fastened on to the large can by which one man can fill one hundred gallons in an hour. The milk is drawn out of the large cans and put in crates holding twelve bottles each, these being conveniently handled, their delivery wagons being made for the purpose. They can put eighty gallons in crates into them without appearing to be a large load. Such is a description of one of the best dairies near Montreal. May success always attend their praiseworthy enterprise. I also visited several other farms, some of them being very well managed, while of others, the less said of them the better. Hoping this may prove interesting to the many readers of the LIVE-STOCK JOURNAL, I remain,

Yours truly,

ALEXANDER BRUCE.

Toronto, Jan. 13th, 1888.

Ontario Creameries' Association.

INSTRUCTOR'S REPORT.

To the Board of Directors:

GENTLEMEN,—Having accepted your appointment in the closing days of April to act as instructor to the Creameries' Association of Ontario, I lost no time in arranging the work of systematic visitation. Accordingly, I began work on May the 10th at Whitechurch, and continued the visits to Teeswater, Londesborough, Clinton, Brucefield, Seaforth, Rossville, Galt, Ayton, Walkerton, Blake, Parkhill, Wycming, Wanstead, Amulree, Crosshill, St. Jacobs, Breslau, Haysville, Holstein, Dromore, Deemerton, Eden Mills, Iroquois, Ventnor, Inkerman, Coss Bridge, Connaught, Beureuil, Embrun, Ameliasburgh, Belleville, Bethany, Oaklands, Owen Sound, Collingwood, Penetang, Chatsworth, Elmwood, Ailsa Craig, Kirkton, Armow, Ripley, Formosa, Pictou, Cedarville, Essex Centre and London.

Though improvement is everywhere manifest in buildings, plant and general details of management, there are very few creameries entirely beyond criticism. The progress of the past season has been very satisfactory when viewed as a whole, very much having been done to raise the standard of the creamery business. Some of the creameries had entirely new buildings, many had been reconstructed and extended, with great gain both in general convenience and coolness. At one of these there was a complete cave for cold storage on a level with the work-room, and equally convenient for loading on delivering days.

The introduction of pure-bred dairy stock has made very encouraging progress during the year. In the east, central and north-western counties a large number of Jersey and Holstein bulls and heifers have been purchased, and also a sprinkling of Ayrshires. The long draught severely checked the operations of many of our creameries during the excessively hot weather. The experience of average years was this last year greatly aggravated in July and August: scarcely any food could be gathered from our pastures by the stock. The terrible shrinkage of food at this season of the year is a matter demanding your gravest consideration. The insufficiency of the food supply during the middle of the season has crippled the operations of the creamery. Unless we can show farmers a cheaper way of producing milk, the creamery industry will not develop very rapidly. It would be a generous and useful act for your board to institute some course of action to encourage the general

cultivation of green fodder crops for feeding stock after June. The progress of ensilage during the past year is a happy phase, and will give the convention the opportunity of doing something of a more practical kind than discussion only. The time has come for us to make winter feeding cheaper if we are to keep in the front rank as butter producers.

Besides this, we need to institute some sort of competition among farmers in raising cheaper food, to keep more animals on smaller areas, and to work up to a more economical cow than we use at present. This and other effort will call for greater outlay of money, and extend the work of this association. The demands of our industry are ever widening, making new claims, and enlarging the sphere of its work. With us sunset never comes, some unfulfilled task always remains. The faith, energy and determination that organized this association will see in its future hope opportunity and material enough to fully satisfy their ambition. Let us labor and achieve till the harvest is gathered.

The whole respectfully submitted,

GEO. BROWNING.

Farmers' Institute at Brockville.

(By our own correspondent.)

(Continued from January.)

Professor Robertson, in giving his views of the outlook for dairy farming in Ontario, said that the rapidity and continuity of the development and extension of the dairy industry in Ontario was unequalled. In 1877 the exports of cheese from Montreal alone amounted to 398,128 boxes. In 1887 the quantity had risen to 1,104,605 boxes. To manufacture that quantity of cheese, the milk from about 275,000 cows was required. On the average each cow yielded only about 260 lbs. of cheese. The average of the best milking herds in the province, aggregating, say 75,000 cows, was not less than 400 lbs. of cheese per cow. He cited the cases of several herds of cows in the neighborhood of Brockville, whose average yield for the past season—a severely unfavorable one—exceeded 500 lbs. of cheese per cow. The average of the poorest milking herds in the province, aggregating say 75,000 cows, was not more than 170 lbs of cheese per cow. Close investigation showed that the average cost per head for feed was not greater in the case of the 75,000 cows yielding the 400 lbs. of cheese each, than in the case of the 75,000 cows yielding the deplorably small average of 170 lbs. of cheese per head. The average annual cost of keeping milk cows in Ontario might be put at \$22 per head. It follows that each cow of the 75,000 poor milkers was kept at an actual loss to their owners of \$7 during the past year of high prices for cheese. The total loss from these herds reached half a million of dollars. On the other hand, each cow of the 75,000 good milkers, on the average, gave a net profit over the cost of keep of about \$13; the total profit aggregating nearly one million dollars. It is not surprising that there should be such a difference of opinion among farmers as to whether dairy farming pays. It all depends on what kind of stock they keep and how they keep it.

In five years time the average yield of the milk cows of Ontario can be increased fully one-third, and that at little extra cost in feed. Such increased yield would be mostly augmented profit. The extension of the cheese-making industry should now be in the direction of obtaining more milk from the same number of cows, rather than by seeking to occupy new territory. The undeveloped districts of the province can with more advantage turn their attention to the establishment of creameries and the making of fine butter.

Mr. A. Blue, of the Bureau of Statistics, read a paper on "The Resources and Progress of Ontario." The following are only a few of the facts presented in it: Within its limits, as now settled, the province extends over ten degrees of latitude and twenty degrees of longitude. Its breadth, from Point Pelee on Lake Erie to Fort Albany on James Bay, is more than 700 miles; and its length, from Point Fortune on the Ottawa River to Rat Portage on the Winnipeg, is more than 1,000 miles. It is larger than the States of Ohio, Indiana, Illinois and Michigan by 10,000 square miles; larger than Iowa, Minnesota and Wisconsin by 11,000 square miles; larger than the six New England States, with New York, New Jersey, Pennsylvania and Indiana, by 25,000 square miles; larger than Great Britain and Ireland by 78,000 square miles. Its situation on the great lakes is one that any state or empire of the world might envy.

Ontario has something more to boast of than a broad expanse of territory. It has a fertile soil, an invigorating climate, vast forests of merchantable timber, treasures of mineral wealth and water-power of limitless capacity. It has extensive areas, which grow a better sample and a larger average yield of the staple cereals than any other portion of the continent. The general average over the province, computed from returns of the threshing floor, was compared with like averages from the principal grain growing states of the American Union, computed from totals of acreage and products as given in the annual reports of the Department of Agriculture at Washington; and to make the comparison fair in every particular, those states were taken in which each kind of cereal gave its best results. In nine of the states the annual average for the five years, 1882-6, for fall wheat, was 13.4 bushels per acre, against Ontario's average for the same period of 21 bushels per acre.

Spring wheat in five states	12.6 bushels per acre.
in Ontario	16.1 " "
Oats in twelve states	31.2 " "
in Ontario	37.1 " "
Barley in six states	22.4 " "
in Ontario	26.0 " "

Ontario's grain, especially its barley, is also acknowledged to be superior in quality. There is no doubt that we possess a highly favored country, but has our prosperity been all it might have been? How are we growing, measured by our own standard of past years? How are we growing, measured by the standard of communities elsewhere?

By comparing the rate of growth in each of two periods, 1873-79 and 1879-85, it is found that the rate-payers in rural municipalities increased,

1873-79	by 40,367, or 16 1/2 per cent.
1879-85	by 13,360, or 4 1/2 " "

In urban municipalities the increase,

1873-79	was 38,597, or 34 1/2 per cent.
1879-85	was 31,529, or 21 " "

For the two periods, the area of assessed land increased,

1873-79	by 1,001,231 acres, or 5 per cent.
1879-85	by 622,978 " or 3 " "

Then the share of taxes for all local purposes, in townships in

1873	was \$3.25 per capita.
1879	was 3 " "
1885	was 3.60 " "

In cities, towns and villages the figures are

1873	\$5.42 per capita.
1879	was 6.32 " "
1885	was 6.58 " "

The average taxation per ratepayer in all the townships, cities, towns and villages of the province stood

1873	\$15.54 per rate-payer.
1869	16.27 " "
1885	17.20 " "

These municipal statistics show that in the six years, 1873-79, a period of intense business stringency, the country made decidedly greater progress than in the six years 1879-85, a period of revival and boom and vast expenditure of public money. Statistics of population show that in Ontario we are growing men for emigration to the United States. In twenty-two counties the rural population was less in 1886 than in 1879 by an aggregate of nearly 21,000 souls, and in one half of these counties the loss cannot be accounted for at all by an increase in the number of urban municipalities.

Mr. Blue's paper proceeded to show the relative progress of Ontario as compared with Ohio and Michigan. Ohio has 74 acres of improved land out of every 100 acres occupied; Michigan has 60 acres and Ontario 50 1/2 acres out of every 100 acres occupied. Ontario's wealth of minerals is truly enormous. The out-put of the copper mines of Ontario in the last census year was 170 tons of ore. The Michigan copper mines in the last census year produced 45,830,000 pounds of ingot copper valued at \$7,979,000; in the same year the iron mines of that state produced 1,838,712 tons of ore, while Ontario iron mines yielded only 91,377 tons of ore.

The advantage of our neighbors over us in the greater development of the resources of their country consists in having free exchange of commodities with 60,000,000 of people, spread over the area of a continent. Given security of the person, and property under free institutions, cities grow, manufacturers flourish, the increase of the earth abounds, and prosperity reigns in proportion as commerce is unfettered and free.

Poultry.

NO CLASS of people may have food so healthful as the farmers if they only would, for in regard to food supplies they may draw fresh from the fountain, while the people of the towns can only be supplied from the bucket in which the waters have remained for some time. What a delicious bite the farmers might enjoy in the form of a broiler now and anon, during a large proportion of the year, if they would only take the trouble to grow them, and to properly prepare them for table use. They should not be killed when lean no more than should a cattle beast, or the meat will be of the scrubby order. In order to have them prime for the table it is not necessary that they should be long confined when fattening, but a short confinement under right conditions will very much facilitate the fattening process. We would say to our farmer boys and girls, grow plenty of young chicks next summer, and don't let them all go to the market. A good leg of chicken is delicious in the dinner basket of a farmer lad at the rural school.

The Importance of the Poultry Interest.

It is very surprising the sum of the aggregations in little things, when they become very numerous. The smallest of our domestic pets, the fowls, are fast becoming one of the mightiest factors in the nation's wealth. In 1886 the export of eggs to the United States alone was 14,469,764 dozen, and the sum realized for them, \$1,893,672, which, of course, does not include a large sum from the sale of the poultry itself, and from sales to other countries. The number of turkeys has increased during the five years ending with 1886, no less than 70 per cent., and it is now highly probable that a flourishing trade in dead turkeys will soon be carried on between this and other countries. The export of fowls and their produce in 1886 exceeded the export of horses, although the latter amounted to \$2,123,634, of which 16,113 head, valued at \$2,104,355 went to the United States, and the balance, 121 head, valued at \$19,279 went to great Britain.

So important does the industry appear in the eyes of the Dominion Government, Prof. Saunders informs us, that it is proposed at once to establish a poultry department in connection with the Experimental Farm at Ottawa. Experiments will be carried on in this department with a view of determining the relative value of the different breeds and crosses for the production of eggs and dressed poultry for the markets.

We are pleased indeed to hear this announcement, and we confidently expect important results to flow from it.

Let our farmers profit by the lessons which these facts teach. If the department of our central Government consider this industry of sufficient importance to engage their earnest attention, the farmers individually, should not trifle with it. If our fowls bring us more of foreign gold every year than our horses, let us give the fowls a fair share of attention.

The good of our own families should lead us to do this. What can be more wholesome than eggs properly cooked, and what more palatable and nutritious than a piece of well prepared fowl! Every farmer may have these in sufficiency who so lays his plans.

AN active agent wanted at every post office in Canada. Farmers' sons wishing to make a little money should write at once for particulars.

The Ontario Show.

(From our own Correspondent.)

The annual exhibition of the Poultry Association of Ontario closed on Friday, January 13th. This is the second year in succession that the show has been held at London. Last year the entries were more numerous and the show was considered a great success, and had the same economy been exercised in details that has been this year, it would have been decidedly so. But owing to a more lavish expenditure in every department, the association, when they came to themselves, found they were one hundred and eight dollars behind. The president, treasurer, and one of the directors, generously waived their claims for the time spent by them, and all others were paid one hundred cents on the dollar. This season the directors thought it best to take off the third prize, thus effecting a saving of two dollars on each variety. They also decided to use the poultry building on the exhibition grounds, which the city granted free of charge, instead of using the City Hall, the current expenses of which would exceed fifty dollars. This resulted in a considerable gain, as the door money, although it would have been more at the hall, would not have been enough more to pay the expense. The saving that has been effected will almost, if not quite, wipe out the indebtedness of last year. If not, the exhibitors who have claims of five dollars and under will be paid in full, and those above that paid *pro rata* as far as the funds will go, as it is desirable to square up matters and hand the show over to St. Catharines, where it is to be held next year, with a clean sheet. The percentage which the latter class of exhibitors will lose will be very small, however, if any at all.

As far as quality of stock can make a show, this year eclipses all others. The number on exhibition, however, is less than last year. This is largely due to the prize lists not coming out in time. It is usual to have them out six months before the time, thus allowing ample time for distribution and making entries. This season they were out only one week before the show, thus causing great annoyance and seriously interfering with the success of the show. The executive, however, are not entirely to blame. They had purposed publishing the lists themselves, but at the eleventh hour the secretary informed them he had taken it upon himself to promise the printing to a Toronto man, and although as the time approached every exertion was made to push him along, they were very late.

We briefly note the chief points worthy of special notice. White Minorcas, a very nice bird, closely resembling the White Leghorn, shown by Geo. S. McCormick, London; also White Wyandottes, a breed for which we predict a brilliant future, by the same; also, by R. Oke, London, Black Minorcas were out in large numbers, and from the hands they are in will likely improve very much in the future. The greatest drawback in them is their very large combs and wattles, which will freeze when a rose or pea comb would not suffer any inconvenience. Wixon, Ingersoll; Bruce, Guelph; Doel, Eglington, and McCormick, London, were the principal exhibitors. The show of Brahmas was good. Mr. Cole, of Hamilton, showed the finest Light Brahma cock that has ever been shown in London, scoring 94 points, very high indeed for this breed. Porte, London, had some very fine birds. Darks made the best show we have ever seen of them. There were birds without a ticket that were superior to winners in some previous years. Five out of the eight prizes went to one exhibitor. Leghorns were numerous and of excellent quality. Dorkings good, and large numbers of them. Polands fine, but few in numbers, two breeders winning most of the

prizes in all the varieties. Langshans were numerous and fine; Cochins moderate in numbers and fair to good in quality. Aylesbury and Rouen ducks, the best shown for years; Pekins good. Bronze, White Holland and Narragansett turkeys, small in numbers, excellent in quality. Pigeons very numerous, about two hundred on exhibition, said to be very fine by those who were competent to judge. Singing birds, none.

At the annual meeting it was decided to hold the next show at St. Catharines. As already stated, Mr. N. M. Black, of that city, was elected president; Wm. McNeil, of London, 1st Vice; Mr. Scott, St. Thomas, 2nd Vice; R. Hamill, St. Catharines, 3rd Vice.

Messrs. Butterfield, Sandwich, and Jarvis, Port Stanley, affixed the score cards in their usually efficient manner.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

The Essex Poultry Farm, Managed as We Understand It.

BY ARTHUR HARRINGTON, KINGSVILLE, ONT.

Success in poultry-raising depends almost or altogether on the adaptability of the person contemplating it. The whole matter hinges on the question, do you like it? Will you be satisfied to prosecute it energetically as a means of livelihood? If the business is uncongenial to your taste; if you cannot find pleasure in caring for and watching the frolicsome little balls of down unfold and develop day by day, or if the work in any part is drudgery to you, our word for it, you will find far more profit in ditching at 75c. per day and feed yourself!

Compel a boy to do anything (we speak now of life work) when his whole soul is bent on something else, and the result is almost certain to be disastrous. The experience of Charles Lamb furnishes an illustration of this; and there are thousands more, were they only known. A person's natural inclination must be consulted in choosing any business as a permanency, if success in the superlative degree would be attained.

We never advise *any one in anything*: we simply give our views and opinion. People come to us and seriously ask whether a competency would be assured them in the poultry business, and we can only reply, that with the same amount of brains, industry, capital, energy and economy invested, as in any other respectable occupation we know of, the poultry business has the decided advantage, but you must creep before you can walk. You cannot learn it all in one day. Many try it only to find that an apprenticeship is as necessary here as anywhere else; but if you really think that you will not fail—feel it in your bones, so to speak—"make haste slowly," and forge ahead.

So much for preface; now to attack business, as possibly you have decided to run chances anyway, and we shall take pleasure in relating our mishaps and failures, and try to impart a little information at the same time for your benefit.

Perhaps, as location has a marked bearing on the question, it would be well to commence here. Boston, New York and Philadelphia, are the best markets with which we are familiar, and of course the nearer the place from which you can get the most direct communication with these places, is the one for you to locate on to insure highest prices; but there are many other places, Montreal, Quebec, Buffalo, Detroit, for instance, where a very profitable trade may be worked up. You are the best judge of where you can settle though, and existing circumstances will

determine the matter. Our choice of soil would be either gravel or sand. Dampness will upset all your calculations. Roup, catarrh, and general debility always follow closely in its wake, and where ample drainage is not secured, disaster must sooner or later overtake you, and it is generally sooner.

(To be continued.)

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Hints for Farmer and Fancier on Poultry.

BY W. B. COCKBURN, ABERFOYLE, ONT.

There is much in the selection of both male and female for breeding. The quality and proper number of hens to have in each yard are also very important matters to consider.

To breed good fowls and prize-winning birds of any of our improved breeds is not children's play, as many suppose, but requires study, skill and close observation of the different breeds. The male in all cases should be a model of his class—that is, of good size, perfectly healthy, bold and lively, clean made, with close, glossy plumage; he should be broad breasted, should carry himself with a proud air, and exhibit the distinctive characteristics of the breed to which he belongs. The good qualities of the hens, whether for laying or breeding are of no less importance than those of the male bird. They should be chosen to combine generous size, color, even and pure, of good constitution, and symmetrical form. From amongst their progeny select those best pointed and most perfect in general characteristics for future breeding, and you will be largely successful, as a rule. A cockerel is our preference to mate with old hens, for the reason that a young bird is more vigorous, and the old hens lay the largest eggs. Chicks from these will be larger and stronger, and we think preferable. The male has the most influence on the fancy points, while the hen has most in deciding the form and size. Birds are like other stock—but few are perfect, and when they are not all that is desired, the way is to breed out the defects. This can be done, though not without thought and care. The male influences color, the size of comb, wattles, earlobes, and color of legs, while the female largely transmits size, shape, length of legs, carriage and temper.

Now is the time to mate the breeding pens for next season's chicks. We prefer having them mated six weeks before saving eggs for the purpose of hatching. Let quality, not quantity, be the aim of all breeders.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

That Grinding Mill.

BY J. W. HARTLETT, LAMBETH, ONT.

In support of my position *in re* stones in fowl's gizzard, I submit the following by the distinguished French veterinary surgeon, M. Mariat Ditleux:

"After further strangulation and a short passage the food is sent into the third pocket or gizzard; this last stomach is formed by a thick and very strong muscular membrane; the external fibres are of a sinewy nature, and of a nacreous (pearl) color; the internal membrane which lines the gizzard is very thin, fibrous and hard; it secretes a yellow coloring matter, which appears to have the property to dissolve stones, principally carbonate of lime. Silicate of potash (flint) requires a longer process. Liquids taken as drink appear to be absorbed by the first and second stomachs: they are never found in the gizzard unless in case of disease. It is worthy of remark that a hen eats, when in health, about three grammes (48 dwt., Troy), of calcareous or silicious sand a day. Most naturalists and writers on poultry have been unanimous in attributing this phenomenon to the necessity that all gallinaceous birds have to eat gravel and stones to facilitate digestion; the stones, according to these writers, fulfil the office of masticating organs, or tritur-

ators of food. Without absolutely denying this opinion, so generally admitted, we think the usefulness of the stones, considered as triturators, is but secondary, and that their principal use is to furnish, by their dissolution in the gastric bag of the third stomach or gizzard, the salts of lime, of albumen, and of silex. This opinion is the result of experiments we have made on this subject.

"In depriving for four months some fowls of all sorts of stones or sand, we remarked that the shells of the eggs were much thinner, and that the albuminous white of the eggs was much more liquid than in the eggs of fowls which had their liberty. The yolk showed no difference. Are we not to conclude from this fact that the hen seeks for stones and sand, especially those of carbonate of lime, by natural instinct, so as to procure for her economy the salts indispensable to her existence, and for her eggs the elements necessary to the formation of the shell?"

The Apiary.

In the number of the *Canadian Bee Journal* of December 14th, a number of answers were given to the query, "Do you advise the North American bee-keeper to feed his bees (for winter stores) from 'honey or sugar syrup?" The majority of those who sent answers were in favor of feeding pure honey stores in the combs until wanted, although a number favored feeding No. 1 sugar syrup.

In the *Canadian Honey Producer* of December we read, "In the economy of nature bees are necessary to the perfect fertilization and fructification of the 'vegetable kingdom.'" The agriculturist cannot afford to ignore the important truth enunciated in our quotation. We should be thankful, then, if some of our neighbors keep bees though we do not. While we enjoy their busy hum, their cheery song, as they cluster in our tree-tops and cater amid our blooming meadows, they are doing us a most substantial service. Generous little workers, beneficence follows in their track. They give more than they get where they pasture, and take home their precious load to give it to another. Truly their lives are not their own, and they seem most happy when most busy. If we would but follow their example, the treasure we would gather would be sweeter to our taste than honey from the comb.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL Introductory and Other Matters.

BY ALLEN PRINGLE, SELBY, ONT.

In making my bow to the numerous readers of the CANADIAN LIVE-STOCK AND FARM JOURNAL, I feel that I am not only stepping into good company, but what is equally desirable, congenial company. I feel at home in this JOURNAL, and especially in this department of it, for the following reasons:

I was born on a farm, was brought up on a farm, and have spent the most of my life on a farm; and this means not only more or less familiarity with grain production, fruit production, root production and live-stock production, but also a deep interest in and strong attachment to all. I confess, however, that the overmastering strength of this attachment gathers around and centres in the honey-bee. For over a quarter of a century has this attachment been deepening and widening in studying and manipulating the wonderful and industrious little denizens of our hives. To me they are the most interesting, if not exactly the most useful, of our "live-stock." That they do properly belong to the live-stock department of the farm, and that apiculture is a legitimate part of agriculture, I have always thought. The gardens, orchards, fields and forests which so abundantly yield the variety products of the one also yield

meliferous treasures of the other. But, as a part of the live-stock of the farm, the bee, it must be admitted is somewhat *unique*. This singularity, however, takes a rather agreeable form, since the honey-bee is said to "work for nothing and board himself." Now, while this humorous dictum is far from the truth, it is nevertheless certain that the "board" of the bee, as well as the surplus sweets of which we despoil her, are not our direct product like the "board" of other stock, and were the nectar not gathered in by the bees, it would only be "lost in sweetness on the desert air." Furthermore, the great utility of the bee in carrying the fructifying pollen from flower to flower, thus securing fertilization and cross fertilization, is now well understood. In the production of fruit in our gardens and orchards, and in the production of seed in our clover fields, the honey-bee renders us immense service, which is as yet but partially appreciated.

Hence it is that bee-culture is not only a natural and proper appendage of farming, but an almost indispensable adjunct thereto. It does not follow from this, however, that every farmer ought to keep bees, but there ought certainly to be bees, more or less, in every neighborhood. Nor does it follow that every farmer who keeps bees ought to go into it on a large scale. We can keep a few for home use without going deeply into the science and art of apiculture, and without any very special adaptation to the business. The specialist who makes a business of it, to be successful, must have special gifts and qualifications in that direction, otherwise he is sure to fail. Only a few, comparatively speaking, have such requisite adaptation, and any general adoption of the business, as an exclusive pursuit, is not therefore to be advised. Although bees are kept to some extent in the towns and cities of Canada, the practice ought not to be encouraged, as they sometimes prove a great annoyance to confectioners, grocers and others.

I assume that the readers of this JOURNAL who are bee keepers are mostly amateurs. In connection with their principal business of farming or something else they keep a few colonies for home use, and possibly have betimes a surplus, more or less, for market. There will be a few advanced specialists, perhaps, and a few more, between the two classes, who combine about equally bee-culture with some other business. The bee-keeper, then, of each of these classes, will look for information and instruction suitable to his circumstances. Whether he keeps a couple of "skeps" in the old-fashioned box-hives, or a couple of hundred colonies in the best modern hives, and after the most approved scientific fashion, he will naturally look to this department of his paper for needed information or advanced disquisition, as the case may be. In endeavouring to cater to each and all of these classes, I trust I shall not appear unduly presumptuous. At any rate I have had a long experience, commencing with the "old box-hive" and the "brimstone business" nearly forty years ago. In this and future contributions I shall therefore aim at instructing the amateurs who need instruction, and at least entertaining the professionals who probably need no instruction.

Having thus occupied, perhaps, too much space in personal and introductory remarks, I may now come down to the business of practical discussion of practical work; and as knowledge acquired at the right time, just when it is not needed, is of much more value than that received *out of time*, only to be forgotten probably before the time comes for practically applying it, I shall keep this fact in view in any contributions I may make.

FEBRUARY WORK.

The bees are now in winter quarters, or ought to be, and hence require but little attention and no more manipulation than is absolutely necessary. They should be disturbed as little as possible during the winter. The reasons are obvious enough, yet some bee-keepers are apparently unable to comprehend their force. I know one especially, with over a hundred colonies, who keeps going into his bee cellar nearly every day in winter just to "see how they are getting along;" and this man loses about enough bees every winter and spring to pay for his confinement—that is, to pay him for shutting himself up so that he couldn't possibly get at the bees. Bees, to winter well, ought to be very quiet up to about the first week of March, when they usually begin to brood. During this period of quiescence they require but little food, and under proper conditions take but little. The proper conditions are—plenty of good wholesome food in the hive (capped honey); a repository with temperature about 45° Fah.; darkness; suitable ventilation both of hive and repository, and freedom from disturbance. When disturbed, they consume more food—perhaps gorge themselves—and bee diarrhoea is often the result. It is necessary, however, to look in amongst the bees occasionally in winter to ascertain their condition, but this can be done without exciting them. Should the entrances be clogged with dead bees, they may be gently cleared by means of a stiff quill and a wire slightly crooked at one end. With those badly diseased, which may be detected by the soiled, spotted appearance of the hive around the entrance, little can be done in the way of remedial effort till a day arrives sufficiently warm and fine to give them a flight in the open air.

This can be done by removing them to their summer stands, from which they can be returned to the cellar after their cleansing flight. Meanwhile, before the opportunity to fly them arrives, something may be done towards their relief. Should they be in the old-fashioned box hives, proceed as follows: Bore an inch or inch and a quarter hole through the front of the hive, within two or three inches of the top. Should you strike between the strata of comb, or clear of them, all well; if not, bore another hole near by. Now turn the hive upside down and spread a cotton cloth over the open top. Over this spread four or five warm, woolen quilts, or sufficient to make a covering about four inches in thickness. Should the summer entrance consist of a hole or holes near the bottom of hive, these should be stopped up. The quilts should be large enough to hang well over every side of the hive. If the temperature of the repository is below 40° Fah., it ought if possible to be raised to 45° or 50°. This must all be done gently and quietly so as to disturb the bees as little as possible. When a suitable day arrives, set them out on their summer stands right side up and return them in the evening after their flight.

Colonies in the movable frame hives, diseased, may be treated in the same way, with the exception of inverting and making a new entrance. The summer, propolized quilt, if present, should be removed, and cotton and woolen as above directed substituted, sufficient to make the colony warm and comfortable. Some apiarists resort to allopathic medication for the cure of bee diarrhoea, but as I have no faith in such modes of treatment I shall not point out the specifics used.

While there is not much necessary apiarian work in winter directly with the bees, there is generally work in plenty among the "fixings"—work which ought to be done in the leisure time, so that when the hurry

comes all will be ready. Whether the bee keeper uses the box hive or the best modern hive, he had better get his hives and all other necessary appendages ready during the winter, and when the active season comes around he will be fairly astonished at the amount of work he can turn off without fret or friction, when everything needful is at hand.

Horticultural.

IT is a mistake with many to plant trees too deeply. A large hole is dug, and the tree put down deeply in the cold earth several inches lower than the position it occupied when growing. If the land is a stiff clay, this hole becomes a ready receptacle of surface water, owing to the soil being less compact after having been disturbed, which is almost certain death to the tree. On the other hand, trees should not be planted too near the surface, as then the wind will sway them to and fro, if it does not blow them over; nor will it do to build a mound of earth around them, for then the rain will wash it away. It is a much wiser plan to plant about the same depth as the root was buried before its removal. Wet, cold lands are very unfavorable to the growth of fruit trees; indeed, they should not be planted in these at all until they are first made dry and warm.

The Trade in Fruit.

(Continued from January.)

THE TWO CHIEF OBJECTS OF OUR TARIFF

are: (1) To provide a revenue for the Government, and (2) to give to the home producer a measure of protection against foreign competition. The first of these is served to the extent to which duties are paid on imports less the cost of collection, and the second to the extent to which the home market is secured to the home producer by the exclusion of foreign produce. Well, has the tariff served the growers of fruit and fruit trees and of seeds and vegetables in Canada by shutting out or even reducing in volume the imports of these articles from the United States? To answer this question I might compare the years of the last decade with the corresponding years of the present one, and show that under the lighter tariff the competition was apparently less keen than then now. Our imports from the United States were less for the six years 1871-6 than for 1881-6, and

OUR EXPORTS TO ALL COUNTRIES

were hardly one third as much in the former period as in the latter. But let us compare the three years 1881-3 with the three years 1884-6, and see what the imports show. The following table gives the value and duty paid on our imports from the United States of green fruits (exclusive of oranges and lemons), of fruit trees, shrubs and plants, of field and garden seeds, and of vegetables for the two periods:

Classes of Articles.	1881-82-83.		1884-85-86.	
	Value.	Duty.	Value.	Duty.
Green Fruits.	\$642,967	\$123,322	\$929,133	\$165,836
Fruit Trees, Plants, etc.	198,340	41,006	227,346	43,597
Field and Garden Seeds.	333,357	54,017	714,849	107,470
Potatoes and Vegetables.	220,578	40,645	475,780	82,330
Total.	\$1,395,242	\$254,980	\$2,207,108	\$399,233

From this statement it appears that the imports of the last three years from the United States exceed those of the previous three by \$891,866—the excess in the valuation of green fruits being \$286,166; of fruit trees, plants, etc., \$29,006; of field and garden seeds, \$381,492; and of vegetables, \$195,202. These figures, it appears to me, demonstrate that the present duties do not serve the interests of the Canadian producers by shutting out United States imports, or even reducing their volume. A philosophic historian has said that extirpation is the only persecution which can be successful, or even not destructive of its own object. Well, I am disposed to believe that pro-

hibition is the only protection which can protect in the case of the trade we are considering. The fact is, that only in a very small degree do American products come into competition with the Canadian at all. The

FRUITS AND VEGETABLES WHICH WE IMPORT

from the United States are chiefly those which ripen earlier than ours, and which our dealers import and our people consume because they can be got nowhere else. The best information I can obtain from men in the trade is that, while imported strawberries supply our city markets a month earlier than the home grown fruit, they cease to compete when the latter comes in. Being brought a longer distance they have lost freshness and flavor, and besides the duty of four cents per pound becomes prohibitory in its effect. The same observation is generally true of apples, plums, pears, peaches and vegetables. They are imported from the Southern and Middle States for a few weeks before our own mature, and, with the craving appetite for new fruits and vegetables which the diet of a long winter begets, they are bought up eagerly at any price in reason. They compete for a brief season only with the native products, not merely because the trade is made unprofitable by the duty, but because they are by comparison of a poorer quality. If any proof of the correctness of this statement were needed, I have no doubt that it would be speedily forthcoming from the members of this association, but let me quote

AN IMPARTIAL AUTHORITY.

the report of McKittrick, Hamilton & Co., of England, on American apples for the season 1886-7. Here is what they say:

"Canada, as usual, has been to the fore, and we have had really perfect parcels landed here for which high prices have been obtained. The early supplies from the Dominion made about same prices as those from the United States, but once their fall fruit was in a condition for shipment they immediately took the lead, and while Boston, Maine and New York Baldwins made 10s. 3d. to 15s. 3d., Canadians sold for 16s. to 18s. 3d. This lead was maintained through the season; the general average of prices being very high."

And because it possesses this fine quality, a degree of perfection hardly equalled anywhere else on the Continent, Canadian fruit needs no tariff wall for its protection. We are able to compete with the American fruit growers at home or abroad, and I am persuaded that in the products of the orchard and garden, if in no other, it is the common interest of consumers and producers to favor a policy of Unrestricted Reciprocity with our neighbors. New York, Ohio and Michigan have not suffered by competition with each other, or by competition with sister States eastward, southward and westward, and the great centres of population in those States, growing greater every year, will maintain for all time the best of markets at our doors. There is one other aspect of the question of trade with the United States to which I must refer, viz: the relation of fruit and vegetables as articles of diet to the health of our people; and in looking up the best authorities on this subject, I ought to say that I have been aided by my friend, Dr. Bryce, the secretary of the Provincial Board of Health. A high English authority, Dr. Wynter Blyth, of London, stated in a recent address that "The importance of cabbages, carrots, turnips, of apples, pears, raspberries and strawberries is far more than their nutritive value, for without the addition of these substances, even while eating fresh meat, we are liable to decline in health and suffer from eruptions, while if we eat salt meat for any time, and consume neither potatoes, nor vegetables, nor fruits, then that terrible disease scurvy is imminent."

Another authority whom I shall quote is Prof. de Chaumont, who, in a lecture on Practical Dietetics (issued by the Council of the International Association of 1884), expressed practically the same opinion as Dr. Blyth. If the blood is in a proper, healthy condition, he stated, it is alkaline, but if it gets into an unhealthy condition, chiefly through being

DEPRIVED OF VEGETABLE FOOD,

then it becomes less alkaline, gets into a fluid condition and the result is the disease we know in its extreme form as scurvy. And he goes on to say:

"This disease in former years was the scourge of our navy, and it is on record that the Channel fleet in the

middle of the last century had sometimes come into Spithead with no less than 10,000 men disabled by scurvy alone; and one of the reasons why the enormous hospital at Haslar was built to hold 2,000 patients was on account of the tremendous stress put upon all hospital accommodation by the enormous number of scurvy patients. This condition of things was remonstrated against by the medical officers of the navy, who pointed out the remedy at hand by the use of vegetable acids a long time before it was adopted, but as soon as it was adopted the result was magical. Scurvy disappeared from the navy altogether, and that immense hospital at Haslar was left with only a few cases compared with what it was intended to accommodate. But I should mention that scurvy has by no means disappeared entirely, and so far is it from disappearing that if cases are carefully investigated in ordinary life even among the better classes, we shall find symptoms of scurvy from time to time. A great many people dislike vegetables, and even dislike fruits and neglect the use of them. Others from sheer ignorance do not use them, and the result is that again and again diseases that are apparently caused by quite other means are aggravated and complicated by a certain amount of this scorbutic taint."

It hardly seems necessary to point the lesson which these statements of eminent men so unmistakably teach. The use of fruits and vegetables in the diet of our people is so essential that the policy which makes these articles scarce and dear can only be regarded as

FATUOUS, INHUMAN AND STUPID

in an eminent degree. We are proud of our north land, with its bracing climate, its great lakes, its rich heritage of farm land and forest, and proudest of all of the men who have made and are making it. But let us never close our minds to the fact that it is and ever must be a north land, where winter reigns half the year, and that we can ill afford to make that winter longer still by a barrier raised to shut out the bounties of nature. And in our relations with our neighbor may we learn the wisdom of the philosophic maxim, "that of all the agencies of civilization and progress of the human race, commerce is the most efficient."

The Home.

Gwenfron.*

Musing o'er my lonely fire, on a chill autumnal eve,
Back my thoughts are sadly carried to the time I learn'd to grieve,
Heart so young as mine was, thank you, never knew a trouble's weight.

Ah! I almost think 'tis lighter than it was when I was eight.

Now I see the snow-white cottage, as of old, so fair to see,
Close beside the bridge-spann'd streamlet hurrying on to join the
Dec,
And I see a happy youngster pass it on his way to school,
Strange to think that I'm that youngster—I, who now have boys
to rule.

Never did I pass that cottage on my way from school or home,
But my eyes with furtive glances shyly o'er the whole did roam,
Seeking there a pretty figure that I well had learn'd to know,
And a face of sweetest frankness by the window bending low.

Of! I wonder'd why she never came to school or play'd at games
And I wonder'd what they call'd her, thought of all the pretty
names;

Never did I speak about her to the rough lads in the town,
Nor to one of all the lasses who to her were coarse and brown.

Summer days indeed did see her sitting on the doorstep clean,
Then my eyes would feast upon her, wondering what her eyes did
mean,

For she seemed to look so tranquil, yet so far away her gaze,
With sometimes a dreamy searching as of one in great amaze.

All the time she plied her needles, knitting fast some fancy frill,
Yet she wander'd all in dreamland, fancy thoughts did hold her
still.

Unobserved I pass'd her always, hoping always she would see,
Thinking, if she knew I wish'd it, she would even speak to me.

So one morning, rising early, gather'd I a posy rare,
And I wrote my tiny message, plac'd it with the tender care
In between the fragrant roses, just enough for her to see,
Peeping out above their petals with its simple humble plea.

Passing by that snow-white cottage on my way to morning school,
On the topmost step I laid it with a hand not firm and cool,
For my heart was throbbing mainly, and my face with fire did
burn,

As a thief I fear'd detection, so I quick away did turn.

All that morning work was harder than it ever was before,
For my thoughts were full of roses, and their Queen held all the
lore,

That could offer any rest for fancy wand'ring like a dove,
Then, indeed, that rest secur'd would make the labor one of love.

Homeward then I quickly hurried, till I reach'd her dwelling-place,
 There, O joy! O fear! I was standing with so calm, compos'd a face,
 On the lowest step of all, the Queen of all my flowers and me,
 Holding in her hand the roses, and the note I well could see.
 "Little boy," so sweetly said she, "was it you who sent me these?"
 I with a murmur nervously answer'd, "Yes, do take them if you please.
 We have many such sweet roses, and I thought I'd bring you those,
 And I tried to choose the finest that our little garden grows."
 "Oh, how can I fully thank you"—my name's Gwensfon, what is yours?"
 "Hywel." "Hywel, longer, Oh! far longer than their sweet perfume endures,
 I'll remember that you gave them, and this note please read to me,
 Mother read it—I would read it, but you know I cannot see."

Cannot see! oh, what is this? her eyes are open and they gaze,
 Far away on unseen glories, golden city, flow'ry ways;
 Sorrow-stricken, stunn'd, distracted, I could get no lit words find,
 Save to weep with grief and pity, and she heard me say it,—
 "Blind!"

Taking then my trembling hand in her soft grasp so tenderly,
 "Don't," she said, "oh Hywel! please don't weep for me so bitterly,
 Blind I may be to these roses, and to all the fair things here,
 But there is another country which to me seems very near."

Jesus said, and oft I've read it, 'Blessed are the pure in heart,
 God's fair kingdom they shall see it,' God to them doth light impart.
 And, methinks I view it dimly, beauties rare it doth contain,
 Nearer, too, I'm sure tis coming, for the distance seems to wane."

Thus she tried to soothe a sorrow, all too sudden, all too great,
 Why did she, so sweet, so beautiful, bear so grim, so cruel fate?
 I could answer nothing, not a word would flame itself, and then
 Smiling, said she, though with tremor, "Hywel, we shall meet again."

Tints of autumn scarce had touched the trees that grew on hill and dale,
 Summer glories left a train of splendour still in our Dee vale.
 But the deathly frost of winter held the havoc in my breast,—
 Her pure soul, all Heav'n beholding, had gone Home for ever blest.

* A Welsh name signifying White Breast, pronounced Gwensfon.
 H. J. EVANS
 - In November No. Sunday Magazine, 1837.

Jottings.

Farmer's Picnic—Thursday, June 21st, of this year, is claimed for holding the Farmer's Picnic of the County of Haldimand, on the Clairville Stock Farm of Mr John R. Martin, Cayuga, Ont

Exportation of a Cheese Maker.—The dairy associations of Wigton and Dumfriesshire, have decided to secure the services of an instructor in cheese-making from our own Ontario. Another tribute to the high state of perfection to which our dairymen have brought this industry in Canada.

The Growth of Wheat in India.—Mr. Bonham, the United States Consul General in Calcutta, is of opinion that to day India is only second to the United States in the quantity of the wheat produced, and that this production is likely to extend. Statements like these afford no encouragement to those who are looking for the return of high prices for wheat. Where live stock and live stock products can be successfully grown, let these receive the principal share of the attention of our farmers.

Personal.—It is with regret that we learn of the death of Mr. Davis, the senior member of the stock firm of J. R. Davis & Son. Mr. Davis was an old and very highly respected resident of the County of Oxford, and a useful neighbor and citizen of the section in which he lived.

Caution.—We are told that a certain young man is making himself busy in live-stock circles, ever and anon taking pencil sketches of animals at a high figure. He represents himself occasionally as doing work for the JOURNAL. We have only to say in this connection that the artist who does our work does not travel at all taking pencil sketches.

Live Stock Exports from the Argentine Republic.—This Republic has voted \$500,000 a year to encourage the shipment of live stock to Great Britain. The development of this trade cannot but affect the prices there, as the Argentine Republic has about ten times as many cattle as the Province of Ontario, and about fifty times as many sheep. The quality of these is all the time becoming improved by the use of sires from Britain, of a high order. It is seldom indeed that any government thinks it worth while to offer any bounties calculated to improve the condition of the farmer.

Journals Wanted.—We have had many enquiries for back numbers of the JOURNAL and are especially desirous for one dozen copies of April, 1884. Any readers not filing their JOURNALS will confer a favor by forwarding to us. We will also be pleased to receive numbers for Jan., Feb., March and Dec. of same year.

The Agricultural Hall.—Alderman Frankland is pushing this work by every means in his power. A committee of Toronto aldermen are at work and we hope for satisfactory results. The good alderman was lately presented with an engrossed resolution by the Agricultural and Arts Association for his efforts in this matter, and also one by the city council for the able and satisfactory way in which he discharged the duties of mayor during the absence of Mayor Howland.

Our Artist.—It gives us great pleasure to call the attention of our readers to the beautiful group of horses on first page of this issue. Messrs. Graham Bros. had an engraving of one of their horses appear elsewhere recently, but not feeling satisfied, commissioned us with the present cut, of which we are not only much pleased, but think our artist is deserving of the highest praise. We invite the attention of persons desiring illustrations of animals in the JOURNAL, to look over the issues of 1837.

Binscarth Stock Farm.—A pretty sketch of this Manitoba farm managed by Mr. Smellie, appeared in the January number of the *Nor-West Farmer*. This farm is owned by the Ontario Land Co. The Binscarth herd of Shorthorns have twice taken the championship of the province, and sheep are now to be introduced upon the farm. The prairie province is to be congratulated on the many good herds which it now possesses for so young a country, and its farmers on the existence of so bright and newsy a farm journal in their midst to help them on, as the *Nor-West Farmer* is proving itself to be. May unlimited success attend the efforts of stock men and farmers and their journalists.

Friends.—February is really one of the best months for getting subscribers. Our friends have done nobly so far, for which permit us here to thank them. Clubs have been formed in a great many unexpected localities this season, showing what can be done with a little effort. Those wishing a premium will please see our offers in Nov. and Dec. 1837. Almost any reader can form a club with a very little effort. Send for free sample copies at once to show your neighbor, and send in a good club list. By so doing you will benefit yourself, benefit your neighbor and benefit the publishers of the JOURNAL.

Mr. Tole's Horses Declared Sound.—A certificate has been forwarded to us, signed by S. E. Murphy, veterinary surgeon, Blenheim, Ont., declaring the horses of Mr. E. H. Tole, referred to in Mr. Gifford's letter in the Dec. issue of the JOURNAL, as sound. We take this opportunity of reminding our correspondents that due caution should be exercised in sending communications, lest private matters in this way get undue publicity. Our columns are for the uplifting of the farming community, not a battle ground for neighbors.

Enlarged Journal.—The JOURNAL for Oct. and Nov. was enlarged four pages in order that we might give our readers in full the prize lists of the leading fall exhibitions. Pressure of interesting and valuable reading matter compelled the publishers to enlarge it in January and we are again obliged to add four pages for February—undisputed evidence to our readers that we are determined to give them not only the *best quality* but the *greatest quantity* of practical and valuable reading matter, even though it be at a considerable additional cash outlay. All the leading intelligent and practical farmers throughout Canada tell us the JOURNAL stands at the top amongst the agricultural papers of the Dominion, and at the top it must stay.

Dominion Shorthorn Breeders' Association.—This association as stated in the advertisements, meets in the St. Lawrence Hall, Toronto, on the 22nd Feb. It is hoped there will be a full attendance. The business of an association representing so large a portion of the live stock investors can never be unimportant. We hope that the following questions will be taken up: (1) presenting Mr. John Hope, of Bow Park, Brantford, with a suitable reward for what he has done for honor of the Shorthorn interest in Canada in American show-rings. (2) The securing of a suitable building in Toronto for holding winter exhibitions and sales of live stock. (3) The arrangement for the discussion of subjects pertaining to the welfare of the breed, at the annual meeting of 1839.

Personal.—A deserved tribute was paid to Lieut. Col. John Ballachee, of Brantford, Ont, on the eve of his departure to Madison, Dakota, where he goes to take charge of a large stock ranch there. Mr. Ballachee was presented with an address by Mayor Henry, of Brantford, and a purse by Judge

Jones, in behalf of the donors, containing \$100. Mr. Ballachee had been commander of the Dufferin Rifles for twenty-five years, and was favorably known to many of the stock men of Canada as an extensive breeder of good stock. But like so many thousands who have gone before him, he is lost to us. He is gone to that land of attractions so wonderful that even Dakota blizzards cannot keep the people of other climes from trying to secure them.

Stockmen Will Please Read.—We are informed by Mr. J. M. Kennedy, the able editor of the *Essex Liberal*, that an American gentleman, seeking pure-bred stock, was brought into his office not very long since by a prominent resident of the place, asking for access to the file copy of the JOURNAL kept in that office, the Canadian visitor remarking at the same time that the JOURNAL was the best medium in Canada whence such information might be obtained. Breeders who have no advertisement in such a case, not even a *breeder's card*, will be left out and passed by. The same thing, has been asked of us repeatedly by American buyers who have been directed to our office. We have known instances wherein they have written to every breeder advertising in a certain line, taking the address from the JOURNAL, and they have done so with the intent to purchase if the stock kept was suitable. By an outlay of from \$3 to \$6 a year, any stockman may let every reader of the JOURNAL know where he is and what he is keeping. How would the merchant get on without his sign, even in the city where he can keep his wares at the door? How then can the stockman expect to be found out where there are no sidewalks, and where he cannot keep his goods placed at the door?

Religious Instruction in the Schools of Ontario.—A pamphlet of 20 pages, price 20 cents, with the above title has just reached us. It may be obtained from "R. I. S. O.," care of Toronto News Co., Toronto. It criticises the book of "scripture selections," claiming that they were chosen arbitrarily, and that the omissions of important portions greatly impair the value of the work, in a word that it would be much preferable to read daily the sacred text itself. It speaks of the selections chosen as being so negative in character as to "give offence to no one," whatever his religious opinions; so colorless as regards religion and morals as to commend itself equally to the Pagan, Christian, Sceptic, Protestant and Roman Catholic. There are six chapters: 1. Points of interest and importance regarding the school law. 2. The history of religious instruction in the schools. 3. The story of the scripture lessons. 4. The duty of the state. 5. The separate school law; and 6, a plea for the re-consideration of the school acts. The historical value of the pamphlet, on the subject of which it treats, is considerable. In many of the arguments used, there is no little force and reason, but the value of the work is impaired by its appearance as an anonymous production. Men who attack the powers that be can do it most effectively when they come down the ace of the hill saying, give me a man to fight me.

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Stock Notes.

Parties forwarding stock notes for publication will please condense as much as possible. If written separate from other matter, it will save much labor in the office. No stock notes can be inserted that do not reach the office by the 23rd of the month preceding the issue for which they are intended.

A correspondent, W. Patterson, from Birtle, Manitoba, writes: "There is getting to be quite an amount of stock in this country now. The best of it comes from Ontario and it is making much improvement in the commoner sorts. Our wheat here last year gave 40 bushels per acre on old cropped ground and from 50 to 60 bushels per acre on summer fallow and new ground."

Horses.

Mr. Robt. Ness, of Howick, P. Q., places a new advertisement in the JOURNAL this month, in which he offers for sale a number of imported stallions and fillies from the best studs in Scotland. See advertisement.

Messrs. Doubledde & Black, Raymond, Nebraska, U. S. write: "Last March we went to Canada and bought a number of stallions. Among the lot was a very fine one purchased from Mr. Thos. McKay Drumbo, Ont., which he had advertised in the JOURNAL. We expect to want a number this coming winter."

Messrs. Green Bros. write: "We have sold to Mr. C. H. Cotton of Merchiston Farm, St. Jean Baptiste, Manitoba, the pure-bred yearling Shire stallion Gladstone, sired by imported Regent (3281), dam, imported Buckinghamshire Beauty (vol vi, p. 209 E. S. S. B.), by Brown George (3505). Gladstone won first prize for the best yearling heavy draught stallion at Woodstock show last fall, the only time he has been exhibited."

Mr. David Annan, Pickering, Ont., is the owner of several good imported Clyde stallions. Jolly I addie (vol x), a dark brown with white face, is, as his name indicates, a jolly good colt all over, but thought by some to be a little under size. He was foaled 1st July, 1885, and bred by W. Gordon, Dalbeattie. Sired by Scots Wha Hae (4006), he has for dam, Bonnie Scotland (1075, s.d., by Lochfergus Champion (449). Mischief, a dark brown, with four white feet and small stripe, was also foaled 1885; a colt with good feet and patterns finely feathered. His action is good, and bone clean and hard. He was sired by Peter the Great (3884), dam, by Young Sir Walter Scott (1031). Brown James (vol. x), same age, a bright bay with white markings is a powerful colt, bred at Balmullo, Fifeshire, and sired by Lenoslove (1765). He has for sire of dam, Prince Imperial (1259). Fandango (4995), (vol. ix), a bay in color, bred by the Earl of Strathmore, Forfarshire, is a very large, good horse coming 3 years, sired by Morning Star (3017), dam, by Champion (121). He has for g. dam, Sir Walter Scott (757). Mr. Annan also owns a pair of good Canadian bred mares and other stock.

Mr. M. O'Connor, of Guelph, Ont., offers for sale his celebrated Percheron stallion, Pilote, which has obtained an enviable reputation in that locality as a first-class stock-getter. A description of this beautiful horse appeared in the June number of the JOURNAL for 1885. Particulars as to his pedigree and appearance will be found on page 64 of this issue.

We call attention to the sale of Shorthorns and Percherons by the Messrs. J. & A. B. Snider, of German Mills, Ont., in another column. No less than 18 head of the Shorthorns offered are descended from the famous Sittytown herd, several of them from Princess, imp. by Lancaster (360) and Pansy, imp. by Blaize (56). The entire herd will be sold, along with a number of imported and Canadian bred Percherons. This firm write that their milling interest is taking up too much of their time to enable them to give stock breeding proper attention. There will be some fine animals offered at this sale. Catalogues furnished on application.

Shorthorns.

F. J. Ramsey, Dunnville, Ont. will have, on March 11, a public sale of choice Shorthorn cows, heifers and bulls. See his advt. on another page.

Mr. Samuel H. Gorwill, of Ballymote, Ont., reports that his young stock of Shorthorns are doing well. Some of the calves in particular are making rapid progress.

On 21st of March, Messrs. Wm. Templer, Jerseyville, Ont., and John Ireland, Copetown P. O., who have for several years been breeding Shorthorns successfully, will sell by auction 30 purebred Bates Shorthorns, 10 Durham grades, 6 horses and 17 Leicester sheep. See advt. in this issue.

The attention of our readers is directed to the auction sale of Shorthorns by Mr. Geo. Thomson, of Bright, Oxford Co., on Wednesday, February 15th. Some excellent animals will be disposed of on that occasion. See advertisement.

Mr. Wm. Cornelius, Amaranth Station, Ont., writes: In our herd of Shorthorns two bull calves (twins) were dropped Dec. 14, 1887, color, light roan and red respectively, dam, Spot 1st; sire, Prince Charlie; also heifer calf dropped Jan. 17th, 1888; color, red and white; dam Violet 2nd, sire Prince Charlie.

J. F. QUIN, V. S., Brampton, Ont. Ridgling horses successfully operated upon. Write for particulars.

GEO. BALLACHES, JR. Edgemount, Brantford, Ont., Shorthorns, Percherons, Pedigreed Berkshires. Choice young stock for sale.

THOMAS TAYLOR, Harwich P. O., Ont., breeder and importer of recorded Clydesdale and Cleveland Bay horses. Stock for sale.

JAS LEASK & BROS., Ryland Farm, Taunton P. O., Oshawa Station, breeder of Clyde-dale Horses, Shorthorn Cattle, Shropshire Sheep and Berkshire Pigs. Seed Grain a specialty.

FOR SALE. IMPORTED PERCHERON STALLION
 Quetzel; aged 8 years; perfectly sound
 For particulars, apply to C. S. SMITH, Tilsonburg, Ont. Jan-3

BERKSHIRES For Sale. - A few boars and sows, September and October litters, 12 crosses of pure pedigreed ancestry. THOS. SHAW, Woodburn P. O., County of Wentworth.

FOR SALE - SIX VERY CHOICE
 Clydesdale Fillies, two years old, imported, four of them got by Macgregor; two in foal. ALEXANDER SMITH, St. Marys, Ont. Dec-4

FOR SALE TWO IMPORTED CLYDES-DALE Stallions, sired by the noted horses Lord Lyons and Prince of Wales. Address, WM. McLEAN, Napier, Ont. Jan-4

FOR SALE - A Roadster Stallion, raising
 4 years old; color, dark bay with black points. Winner of the first prize at the Industrial in Toronto for two years in succession. He is well broken to harness, and sired by Belmont Star No. (4980), Wallace's American Stud Bk. Vol. IV. Also a few choice young SHORTHORNS of both sexes. For further particulars apply to F. A. GARDNER, Britannia P. O., Peel Co., Ont. Jan-2

FOR SALE - Imported Cruickshank Bull, four years old
 Number one animal, perfectly quiet; used in herd three years. Price reasonable. Also an imported Clydesdale Stallion, two years old, bred by A. Cruickshank, Aberdeenshire, Scotland. Address, LEONARD BURNETT, Greenbank P. O., Ont. Jan-2

SHORTHORNS FOR SALE. - Young bulls and heifers, some of the former fit for service, at very low prices. Also from 40 to 50 head of Shorthorn grades, 4 years and under, all females, and those old enough with calf to the pure blood bull British Sovereign. They are sired by such bulls as the Ont. Experimental Farm bull Prince Hopewell and imp. Waterloo Warden (4722). THOMAS SHAW, Woodburn P. O., Co. Wentworth.

TWO CARRIAGE STALLIONS FOR SALE.
 Three and five years old, prize winners, well broke, Royal George strain, will be sold at a bargain. Also two DURHAM BULL CALVES, 12 and 6 months old, reg. in D. S. H. B.; will make fine animals. THOS DOUGLAS & SONS, Box 192, Strathroy, Ont. Jan-2

FOR SALE CHEAP.
 Two first-class Shorthorn Bulls, registered in the D. S. H. B., one three years, the other one year. Address, Jan-2 THOMAS CHISHOLM, Manswood P. O., Ont.

FOR SALE - THE AYRSHIRE BULL COMET, 3 years old, and two Ayrshire Bull Calves, 6 months old, also a Jersey Bull calf, 4 months old, by Mr. Fuller's Canada's John Bull, the best Jersey Bull in the world. E. W. WARE, Burlington, Ont.

CLYDESDALE STALLION FOR SALE.
 Coming 3 years old, sired by Imported Douglas, is dark brown color and very stylish. Address, JAMES RICHMOND, Washington P. O., Ont. Feb-1

FOR SALE - STANDARD-BRED HAMBLETONIAN TROTTER STALLION
 BONNER MORRILL No. 4910 Wallace's Trotting Register. Can trot in 2:30 when fitted. Color, dark bay. Weighs 1,200 lbs.; 16 hands high; sound. One of the finest stock horses in the country. Sire, Robert Bonner—record 2:37; he by Rysdyk's Hambletonian. Dam, Juliette, by Young Morrill, he by Old Morrill, he by Sherman Morgan. Sold as we have no use for him. D. M. FULLER & J. M. FORD, Feb-3 Covansville, P. Q.

HERD OF SHORTHORNS FOR SALE CHEAP.
 Bull, 4 years; 3 Cows, in calf; Heifer, 2 years, in calf; Heifer Calf; Heifer Yearling; 2 Yearling Bulls; 2 Bull Calves.

11 HEAD All registered in Dominion Herd Book. Some of them are noted prize winners.
TERMS EASY.
 Apply MAJOR LLOYD, Oakville, Ont.

WANTED.
 DORSET HORNED KWES. State ages, price and particulars to JOHN TELFER, Tranquility Stock Farm, Allamuchy P. O., Warren Co., New Jersey, U. S. Feb-1

Stock Notes.

An excellent opportunity is offered those wishing to invest in first-class stock by the sale at Mr. John Currie's farm, Everton, Ont., on Tuesday, 6th March next. Full particulars will be found in our advertising columns.

Mr. F. Birdsall, Birdsall's, Peterborough Co., Ont., writes: "My Shorthorn cow, Daisy Dean, dropped a bull calf, Chief Pundash, on Dec. 10th, 1887, by Inkerman, imp. bred by S. Campbell, Kinnellar, Scotland. The calf weighed 82 lbs. when dropped."

Mr. D. Mackenzie, Hyde Park, writes: "Since seeing you I have lost my stock bull 6th Duke of Vinewood. He was an excellent getter and has left a lot of very fine calves in my herd. The rest of my stock are doing very well. I have a number of fine cows and heifers on hand, but no bulls."

Mr. Jos. Magill, Janetville, Ont., writes: "I have sold to Mr. John Davidson, of Whutby, a very fine heifer calves, 1 out of Canadian Duchess of Gloster no 9. Also one of Village family. They trace to Champion of Fndland, also a very fine bull calf out of Lavender, imported by Mr. James I. Davidson. I have purchased from Mr. Geo. Kerr, Lifford, Ont., one imported Clydesdale filly. She is sired by and mate to the same horse as Mr. Galbreath's fine three year-old mare that took the honors at Chicago's great show this year."

Attention is called to Mr. T. C. Patterson's sale of Shorthorns. Mr. Patterson's experience with draft sales at Galt and elsewhere has not been satisfactory, and following the example of Mr. Richard Gibson and others who have held remunerative sales when putting up and selling the entire herd, this sale is to be absolute and nothing will be kept on the farm. We propose next month giving our readers some information respecting the animals in the Eastwood herd.

Mr. James S. Smith, of Maple Lodge Stock Farm, Maple Lodge, Ont., intends offering for sale about 20 Shorthorns, both sexes, eight of them young bulls, at his stables on Friday, 20th March. The whole of the offering will be good; some of them the very best. Mr. Smith writes: "The females are all going, including all the two-year-olds we have and other good things, sired by the grand old Baron Constance 5th, 2d Lord of the Manor and our present stock bull Duke of Colonus. And besides, we claim that we have in our herd what Mr. Marfield, of Kentucky, and others praise so highly—first-class milking qualities, combined with those of the best beefing animals."

Mr. Arthur Johnston, of Greenwood, Ont., writes us to say that his recently imported Shorthorns have arrived safely, and in right nice shape, at Greenwood; very much improved with their treatment in quarantine. Mr. Johnston says he would scarcely care to do away with quarantine if he could, though it costs so outrageously to keep them there, as the young things come home immensely improved. Though they were very thin on coming into quarantine in March, they are now in fairly presentable shape; in fact, looking extra well, quite fleshy enough and big enough for their ages.

The Maple Shade Shorthorn importation of Mr. John Dryden, M. P. P., reached home in safety, on Friday, the 20th January. Mr. Dryden writes: "I landed forty-one head in Quebec, and when they reached Maple Shade Farm they numbered fifty-one; having received an increase of ten, one of which was dropped on the cars on their way home. We have named him Traveller. They are now open for inspection. They have been so fully described in a late number of your paper by your Scottish correspondent, that nothing more is needed to be said here. If it were not considered blowing on my part, I would say that the young bulls are decidedly the best lot ever offered for sale at Maple Shade."

The Sylvan herd of Shorthorns owned by the Messrs. R. & S. Nicholson, Sylvan, Ont., won in 1857 the following prizes: At Toronto, 1st on two year old bull, and 1st and 3d on yearling heifers; 2d on heifer calf and 2d on herd, consisting of one bull and four females. At the Great Central, Hamilton, 1st on two year bull; 1st and 2d on yearling heifers; 1st on yearling bull; 2d on bull calf, and 1st and 2d on yearling heifer; 1st on heifer calf; 2d on herd, being beaten only by the grand herd of T. Russell of Exeter, in an entry of six herds. Owing to recent sales the herd now numbers only 30 females. The yearling calves are all nicely bred. One a Queen of the May is equal to any thing that ever left the herd. Twenty of the females are by the grand stock bull Prince Albert. The Messrs. Nicholson write that the present stock bull Warrior has done very well since the shows. His grand individual quality is well borne out by his kinship, in reference to which we may cite the following: Mr. John Fothergill, Burlington, while in Scotland in July, 1856, bought the 1st prize two-year-old heifer at the Highland Society's Show at Dumfries. He afterwards went to Kinnellar, where he was so pleased with the full sister of Warrior, that he paid £10 to Mr. Campbell in the exchange between her and the Highland Society's 1st prize heifer. Another full sister a year younger than Warrior took 2d prize at the Royal Northern held at Aberdeen in 1887. His dam Maid of Promise was considered the best cow in Mr. Campbell's herd. Considering his breeding and his individual merit we may be pardoned for thinking very highly of him.

Herefords.

Mr. R. J. Mackie, of Springdale Farm, Oshawa, Ont., writes: "I have now 60 head of Herefords, and will soon have my last year's number (74), although I have sold over 40 head within the year 1887, and 11 are all doing finely. My old cow Victoria, the silver medal cow at the Centennial, has a fine young bull calf. Victoria will be 18 years old on 24th May, and is in the best condition of any of my cattle, and can eat her turnips without having them cut for her."

Galloways.

Mr. Wm. McCrae, Guelph, Ont., reports: "Our cattle are doing well, both the new importation and the others that were here before. Susan 12th, dropped a fine heifer calf on Xmas day."

Stock Notes.

Ayrshires.

Mr Robt Ness Howick P O intends offering for sale in March his stock of pedigree Ayrshires numbering 24 head. One notice will be given in next issue of JOURNAL and catalogue will be ready in good time.

Messrs. H. & J. McKee, of Brookside, Norwich, Ont., report that their stock is wintering splendidly. They have now on hand fifteen head of pure bred Ayrshires, headed by the bull Kory O More (1670). He is a double grandson of the famous prize winners Mars 1 (803) and Burns Jean (447) imported. A milk delivery rout has been started in Norwich, and they find the Ayrshires greatly superior to the grades for milking purposes.

Holsteins.

The Messrs. Boller Bros. Cassel, Ont., write: "Since last report we have made the following sales. A young bull to Mr C. C. Fry, Bright, Ont.: 1 five-year-old cow and an 18 months heifer to Mr. James Elliot, of Bluevale, Huron County. These are, we believe, the first females of this breed going into that county; so the good work goes on. This cow is five years past and tips the beam at 1520 lbs., the heifer at 16 months 20 days weighed 1063 lbs., though but in ordinary condition. The testimonials we receive from our customers are numerous and very flattering, among others Mr. Miner, of Port Robinson, writes: "We find the milk of our cow very rich. Besides feeding calf from 21 to 22 lbs. per day of milk, she made 9 lbs., 10 oz. of butter the first week after her journey. Considering that the cow is now in a strange stable and cared for by strangers and just after the excitement and fatigue of the journey, we feel this is a very creditable record, showing that well bred Holsteins are most excellent butter producers."

Messrs. J. E. Page & Sons, Amherst, N. S., write: "We arrived last night from quarantine at St. John, N. B., with the following choice Holstein Friesian stock purchased of Smith Powell & Lamb, of Syracuse, N. Y.: Clothilda 2d s Artis, six months old, dam, Clothilda 2d, who has a milk record of 27,602 lbs. in one year, at four years. The largest record ever made by a cow of that age. She also made 24 lbs. 1/2 oz. of unsalted butter, as a six-year-old, in seven days. Grand dam, Clothilda, with a milk record of 26,021 lbs. 2 oz. in a year, as a six year old, and a butter record of 28 lbs. 2 1/2 oz. She was winner of the great butter prize at the New York dairy show last May. This calf was sired by Prince of Artis, winner of first prize at the New York State fair in 1886, beating Netherland Prince, Constantyn and other fine bulls. He was sired by Artis, H. H. No. 127, reported by the inspectors of the North Holland Herd Book to be the most perfect bull they had ever examined. Artis' sire and dam were both kept in the Zoological Gardens at Amsterdam as specimens of the breed. Prince of Artis' dam, Leize 2d, gave as a four-year-old in one month, 2,430 lbs. of milk, and in two months, 4,699 lbs. Granddam gave 96 lbs. in one day. It will thus be seen that in point of breeding this is unquestionably one of the best bulls in America. His quality, form and appearance are unusually fine. Also Carlotta, No. 1,256, H. H. B., which gave as a five-year-old, 71 lbs. 11 oz. and has a butter record of 22 lbs. 1 1/2 oz. in seven days, and 91 lbs. 2 1/2 oz. in 70 days, making a pound of butter from 18.28 lbs of milk. She was winner of first prize at the N. Y. State Fair in 1884. Four calves of Carlotta by Netherland Prince have averaged about \$1,000 each. Also Sophia L., a low, broad attractive cow, with a milk record of 421 1/2 lbs. of milk in seven days, and 17 1/2 lbs. of butter; and a very fine, straight, square bull calf dropped by Carlotta while in quarantine, and sired by Netherland Prince. We also bought at the same time a very fine Percheron stallion from the great Percheron breeding establishment of J. W. Aken, of Supton, N. Y. He is two years old, dark grey, fine head and ears, extra shoulders and chest, well rounded body, splendid skin, with the best of legs and feet; weighs 1,450 lbs., is active and very light on foot."

Sheep.

Mr. R. Thompson, Mohawk P. O., Ont., whose advertisement appears elsewhere, holds an auction sale on the 22d February, when he will dispose of his flock of Stophshires. "The heaviest flock in Canada."

Mr. J. H. Hanser, Canboro, Ont., reports the following sales of stock. 1 aged Cotswold ram to Alton Shaver, Canboro; 1 ram lamb to S. Swayze, Canboro; 1 Berkshire sow to Peter Mellick, Atercliffe; 1 boar and 2 sows to A. M. Swayze, Canboro; 1 boar and 1 sow to E. Miller, Atercliffe; 1 boar to M. Ray, Canboro; 3 Yorkshire pigs to W. Hodges, Atercliffe; 2 Yorkshire sows to N. Tice, Atercliffe; 1 boar and 1 sow to John M. Killens, Atercliffe. All at paying prices.

Mr. T. C. Patterson, Eastwood, reports the sale of choice Shrops to the agricultural college of Dakota. To Mr. Vorston, of Pictou, N. S.; to Mr. Hughes, of East Claridon, Ohio; to Mr. Randall of Fair Kendall, N. Y.; to Knox & Abbe, of Palmer Mass. (second large consignment), and one thousand dollars worth of lambs to Mr. J. Corning, of Tonawanda, Mich. He has had to turn away numerous intending purchasers, but is perfecting arrangements for the importation of one hundred shearing ewes in May.

Swine.

McDonald Bros., of Marshall, Mich., are extensively engaged in breeding Chester White swine. All breeding animals are recorded by this firm.

Mr. W. G. Cavan, of Galt, Ont., writes: "I have sold the following in the last three months and never found a better than at present: 1 boar to Geo. Doff, Cookstown; 1 boar to R. Peacock, Rosemont; 1 boar to J. A. McGilley, barrister, Uxbridge; 1 boar and 1 sow to J. Thredgyle, Walkerton; 1 boar to R. Henderson, Ashland Farm, Listowel; 1 boar to A. Dinismore, Thornbury; 1 boar to J. Webster, Rock Island, Ill., U. S.; 1 boar and 2 sows to R. Petch Lincoln, Neb.; 1 boar to Geo. M. Smith, Hayville; 1 sow W. Gay, Galt; 1 boar and 2 sows to J. B. Miller, Kokomo, Ind., U. S.; 1 boar and 1 sow to W. L. Ruddlell, Deerfield, Mo.; 1 sow to J. Bingham, Nash-

CHOICE BERKSHIRES.

All ages, at farmers' prices. Sows in farrow to prize boars. Very cheap, all from imported stock.

fe-1 W. G. CAVAN, GALT, ONT.

SOME Choice Young Berkshire Sows and Boars, two months old, sired by Imp. Real Briton (488), winner of first prize at Industrial, Provincial and Dominion Exhibitions in 1886. Also a few Sows and Boars fit for breeding.
J. E. BRETTHOUR, Burford, Brant Co., Ont. fe-1

FOR SALE.

A few good SHORTHORN females, some of them show animals and prize winners, in calf to an imported bull; can furnish a splendid young herd.

Michigan parties can visit me cheaply and quickly, just eight miles from river St. Clair; reasonable figures.

Address or see

ja-3

D. ALEXANDER, Brigiden, Ont.

—FOR SALE—

YOUNG SHORTHORN BULLS.

Fine animals; good colors; high-class pedigrees. Terms reasonable. Address,

H. QUETTON ST. GEORGE, Oakridge, Ont. Near King and Aurora Stations, N. R. dec-3

DORSET HORNED SHEEP.

Dorset Horned Sheep, the most prolific, producing lambs twice within the year, the most hardy, and the earliest to attain maturity. Full particulars of

DUKE & SON, Dorchester, England.

my-1 or, STANFORD & ROLPH, Markham, Ont.

Three Cleveland Bay Stallions For Sale.

King Fairfield, rising 5 years old.

McArthur, rising 3 years old.

Bay Comet, rising 3 years old.

These stallions are all highly bred, the three-year-olds are in bred Fairfield's dam was awarded first and diploma three years in succession at Toronto and Guelph Provincial. The dam of Bay Comet carried second at Toronto in 1855, 1856 and first this year as Carriage Brood Mare.

W. C. BROWN, Meadowvale, Peel Co., Ont. Farm, 1/2 mile from Meadowvale Station, C. P. R. ja-3

FOR SALE.

TWO IMPORTED HORSES.

ONE Cleveland Bay, 4 years old weighs 1,470 lbs., 16 hands high; winner of 3 first prizes and 1 silver medal. One Clydesdale, 7 years old, weighs 1,580 lbs., 16 1/2 hands high, and registered in 10th vol. C. S. B. of G. B., also C. S. B. of Canada, winner of 4 first prizes; also 12 varieties of pure-bred Poultry, at low prices. Bronze Turkeys a specialty. Correspondence answered by sending 3 cent stamps. Address,

12-1 MAJOR THOS. HODGSON, Port Perry, Ont.

LIVE STOCK

Sale and Purchasing Agency.

JOHN DIMON

respectfully announces to gentlemen who desire to purchase horses of all classes, and other animals of all kinds, also carriages and harness, that he will receive orders for the transaction of such business for a commission of 10 per cent. Office, 25 Adelaide St. (at his stables), Detroit, Mich. He will also attend auction sales, in any State, in the interest of his customer, and he feels that his experience of 38 years in the breeding, purchase and sale of horses, cattle, sheep, etc., and his experience as expert judge on live stock at the leading fairs in the U. S. and Canada, together with his extensive acquaintance with gentlemen, breeders and manufacturers should be of great value to intending purchasers as well as to farmers, breeders and manufacturers who wish to sell. References as to ability and responsibility cheerfully given.

FOR SALE.

—HOLSTEIN CATTLE—

Owing to the large increase of my herd, it is necessary to reduce it. I will therefore sell any of my animals. All are choice. This herd won this year at Toronto Industrial, Silver Medal, highest award for best bull of any age, Dominion Silver Medal, highest award for best herd. At Provincial Exhibition, Diploma, highest award for best herd. At Central Fair, Hamilton, Diploma, highest award for best bull and four of his get, and won in money prizes the largest amount ever won by one herd in Canada at the same number of exhibitors.

No fancy prices. Easy terms of payment. Send for catalogue. Address,

jan-1 JOHN LEYS, Toronto;

ville, Tenn., U. S.; 1 boar and 1 sow to G. Gardner, Abbott's Corners, N. Y.; 1 boar and 1 sow to E. D. Hale, Bellevue Ohio; 1 sow to C. E. Burges, Galesburg, Mich., U. S.; 1 boar and 1 sow to W. Chapman, Copac, Mich.; 1 boar and 3 sows to J. Smith, Pittsburg, Penn.; 1 boar and 1 sow with litter of 8 pigs to R. P. Scott, Columbus, Ohio; 1 sow to J. Wilson, Essex Centre; 1 boar to J. Kirk, St. Catharines; 1 boar to J. Masson, Rochester, N. Y. I have still a lot of choice things all ages, and have lately added some noted Berkshire stock to my herd and expect a grand lot of spring litters. Am now booking spring orders."

Poultry.

Mr. Wm. Hodgson, Brooklyn, Ont., offers for sale large variety of choice fowls. He gives special care to his birds and keeps only the best. See advertisement on another page.

W. B. Cockburn, writes: "Owing to want of time to give my ducks proper attention, I decided to dispose of my entire stock this winter, and have done so by advertising them in the JOURNAL, and could not supply the demand, having received many inquiries that I was unable to fill. At present I just intend to give my spare time and attention to Plymouth Rocks, Brown Leghorns and Toulouse Geese." See advertisement in another column.

PLYMOUTH ROCKS FOR SALE. Cockerels and

fine birds, of the famous Pilgrim strain; excellent layers. THOMAS SHAW, Woodburn P. O., Wentworth Co., Ont.

WESTMINSTER POULTRY FARM

J. W. BARTLIT, Proprietor, Lambeth P. O., near London, Ont.

Over one hundred choice well bred chicks for sale this fall—WYANDOTTES, PLYMOUTH ROCKS and DARK BRAHMAS.

Remember my stock with highest honors whenever and wherever exhibited.

PRIZE-WINNING BIRDS FOR SALE.

100 H and Dark Brahmans, Plymouth Rocks, Langshans, W. F. Black Spanish, Houdans, White and Brown Leghorns, Colored Dorkins, Black Minorcas, Bronze Turkeys, Rouen and Pekin Ducks, Toulouse Geese. Upwards of 40 prizes at the recent Poultry Shows.

Send three cents for circulars. Birds and prices right.

WM. HODGSON, BOX 12, BROOKLIN, ONT.



W. B. COCKBURN

ABERFOYLE, ONT., BREEDER OF

Plymouth Rocks,

S. C. Brown Leghorns

AND TOULOUSE GESE.

Birds score from 90 to 95 points.

EGGS, \$2 PER 13.

No Goose eggs.

FOR SALE.

A few exceptionally good B. B. Red Game Cockerels at \$2 apiece. Weight from 5 to 7 1/2 lbs. Can reach 30 inches. Eggs in season, \$2 for 13. McCALLUM BROS., Iona, Ont.

THE SECOND ANNUAL MEETING

—OF THE—

Dominion Shorthorn Breeders' Association

For the Election of Officers and other business will take place at the St. Lawrence Hall, Toronto, on Wednesday, the 22nd of February next.

JOHN DRYDEN, M. P. P., President.

HENRY WADE, Secretary.

Educational Scheme

FIFTH ANNUAL EXAMINATION ON AGRICULTURAL SUBJECTS

Will take place under the auspices of the AGRICULTURAL AND ARTS ASSOCIATION, in July, 1888, at the High School Examinations.

DIPLOMAS IN AGRICULTURE

will be issued to those who pass, also PRIZES will be awarded to those who get the highest number of marks.

For circulars giving particulars apply to

HENRY WADE, Secretary,

jan-2 TORONTO.

AUCTION SALE

—OF—

SHORTHORNS

The undersigned is instructed to sell

AT VANSITTART HOUSE, EASTWOOD,

On Wednesday, March 28th, '88

The entire Shorthorn herd of MR. T. C. PATTESON, comprising upwards of forty animals, mostly of Bates' blood, registered in the Dominion Herd Book.

N. B.—The proprietor having determined in future to devote his stock-farm entirely to the raising of sheep and horses, the sale will be an absolute dispersal, without reserve. Catalogues on application to

T. C. PATTESON, Postmaster, TORONTO.

OR E. GIBSON, Auctioneer, DELAWARE, ONT.

NOTE—The Editor of this JOURNAL being fully convinced of the bona fides of above sale will be glad to make purchases thereat for persons at a distance, charging only a small commission for his services.

IMPORTANT

AUCTION SALE!

Will be Wednesday, the 21st March, 1888,

At Woodland Farm, Ancaster, 3 miles from Copetown Station, G. T. R., 30 pure-bred

BATES' SHORTHORN CATTLE

(25 females, 3 males),

10 head of Durham Grades, 6 Young Horses, also 17 Good Leicester Sheep.

Cattle are a fine lot, with sound and reliable pedigrees, and well worthy the attention of the public. Sale to commence at 11 o'clock a.m. 25 Seven months' credit will be given on all sums over ten dollars. 25 Catalogues will be ready about the 15th of February. Conveyances will meet all trains on day of sale at Copetown Station. Lunch at noon.

JOHN IRELAND, Copetown P. O.
WM. TEMPLER, Jerseyville P. O.

AUCTION SALE

OF PURE-BRED

SHORTHORN CATTLE

BERKSHIRE PIGS

SPAN OF ROADSTER COLTS.

I will sell by Public Auction

ON TUESDAY, THE 6th MARCH, 1888

at my farm, four miles from ROCKWOOD, on the G. T. R., 17 head of pure-bred Shorthorn Cattle and two Shorthorn Grade cows; consisting of six bulls and eleven cows and heifers. A number of the cows will have calves by their sides and the rest will be in calf. The cows are all bred to our stock bull, (imp.) Baron (5243), bred by S. Campbell, Kinellar, Aberdeenshire, Scotland, which won first prize at Provincial Exhibition in 1886, prize and diploma at Hamilton same year, and first prize and silver medal at Provincial, Ottawa, in 1887; and Prince of Sunnyside, bred by James Hunter, Alma, Ont. These bulls will be sold at the same time. The cattle are all in good condition, and will be sold, without reserve, as the undersigned intends building a barn.

Conveyances will meet trains from East and West at Rockwood Station in the forenoon.

TERMS OF SALE.—Ten dollars and under, cash; over that amount, ten months' credit on approved joint notes. Six per cent. off for cash.

25 Catalogues will be ready in due time.

JAMES TAYLOR, Auctioneer, JOHN CURRIE, Proprietor, Everton P. O., Ont.

AUCTION SALE OF

A. J. C. C. JERSEYS

I will sell at Public Auction

IN THE CITY OF QUELPH,

On Friday, March 9th,

About 25 HEAD of Jerseys, consisting of Bulls, Cows and Heifers. The cattle are now in quarantine, and were selected from the best and richest herds in the United States, including the best families. 25 Catalogues ready March 1st, giving pedigrees, place, time, and terms of sale. Drop me a postal and catalogues will be forwarded.

D. T. ROGERS, CAYUGA, ONT.

IMPORTANT

Sale of Horses!

IN TORONTO

On February 9th, 1888.

The sale will take place at "TODMORDEN," three miles north of Toronto market.

MY LORD bay, white face and legs; weighs 1940 lbs.; foaled 9th May, 1883; bred by John Kerr, Glenygre, Stranreer; sire, Blue Ribbon (1961), Vol. 5; dam, Lovely of Glenygre (4717), Vol. 6, by Abbey Prince (2), Vol. 1.

SIR VERNON (1726), brown, star on face, two white hind pasterns; weighs 2000 lbs.; foaled 23d April, 1883; bred by John McWilliam, Kildrochat, Stony Kirk, Stranreer, Scotland; sire, Blue Ribbon (1961), Vol. 5; dam, Maggie of Kildrochat (2769), Vol. 6, by Merry Tom (536), Vol. 1; g. dam, Maggie, by Young Clyde (944), Vol. 1.

EDINBORO TON, a rich dark brown stallion, 10 years old, by Prince of Wales, dam, a celebrated shire mare. Same horse took first at Markham show three years ago, against 17 competitors, and first prize at county of Peel twice, against 15 competitors; a sure foal getter.

DANIEL (2715), bred 20th June, 1880; color, bay, mark on face, white hind feet; bred by John Howatson, Tulwood, Stewarton, Ayrshire; sire, Beaconfield (1942), Vol. 5; dam, Old Maggie (2355), Vol. 6; sire of dam, Champion (1090), Vol. 2; g. dam, Darling; sire of g. dam, Rob Roy (714), Vol. 1.

PRINCE OF KILBRIDE (1268), Scotch Stud Book, a fine, stylish, broad set Clyde stallion, 11 years old, one of the best stock in Canada to-day, and a remarkable sure foal getter; sired by Heather Jack (1154); 1st dam, Lofly (461); 2d dam, Champion (1901).

All the horses are Imported Clydesdales, with the exception of "Edinboro Toon," who is an Imp. English Shire Horse.

PUBLIC SALE.

I will sell by Public Auction,

On Wednesday, March 28th, 1888,

at my residence, 2 miles west from Alton Village, on line of C. V. & T. G. B. Railways, my entire

HERD OF SHORTHORNS

consisting of 7 Bulls and 23 Females, some of them imported, good animals. All registered in Dominion Herd Book. Full particulars in March number of this JOURNAL.

GEORGE THOMSON, Box 37, ALTON P. O.

AUCTION SALE

—OF—

Pure Bred Shorthorn Cattle.

We will sell by Public Auction on

WEDNESDAY, 7th MARCH, 1888

At our Farm, 3½ miles from Ailsa Craig, on the G. T. R.

18 Head of Pure Bred SHORTHORN Cattle

Consisting of six young Bulls and twelve Cows and Heifers. A number of the cows will have calves by their sides, and the rest will be in calf. They are all bred to our stock bull, Risy Prince 6th, bred by Richard Gibson, Delaware, Ont., and a full brother to the heifer Mr. Gibson sold last summer for \$666.

Our cattle are low, heavy, square animals, with broad, level backs and fine bone, with abundance of flesh and easily fed. Catalogues now ready, and sent on application.

GRAHAM BROS.,

Ailsa Craig, Ont.



Herefords for Sale

Four young Hereford Bulls, good animals, first-class pedigrees. Prices reasonable.

Our farms are four miles from Paisley station, six miles from Chesley, G. T. R.

McINTYRE BROS., PAISLEY, BRUCE CO., ONT.

I intend to sell by

PUBLIC AUCTION

On the 22nd day of February,
All of my Farm Stock, amongst the rest the celebrated
FLOCK OF SHROPSHIRE

Known as the Maple Grove Fleck, consisting of 24 ewes and 6 rams, all imported or bred directly from imported stock, and all eligible for registration. The flock have won 183 PRIZES during the past three years, and are, without exception, the heaviest lot of Shropshires in Canada. My first imported sheep were the choice of a flock of sixty ewes imported by Mr. John Dryden, M. P. P. These choice sheep were the foundation of my flock. Also a

VERY FINE STALLION

known as Sir James, Jr., bred from a Royal George mare, and got by the celebrated imported stallion (Clydesdale) Sir James. A conveyance will be waiting at American Hotel, Brantford, on day of sale, to convey intending purchasers to the farm.

The sheep will be sold in the afternoon, that persons from a distance will reach the farm before they are sold. The farm is midway between Brantford and Waterford.

TERMS OF SALE—8 months' credit on approved security; 6 per cent. discount for cash.

R. THOMPSON, JR.,
Mohawk P. O., Co. Brant, Ont.

AUCTION SALE

20 Head of Thoroughbred

Shorthorn Cows, Heifers and Bulls

Either registered or eligible for registration in the Dominion Herd Book.

7 fine bull calves, from 12 to 15 months old, got by Imported Statira Duke,

AT MOULTONDALE STOCK FARM
DUNNVILLE,

On March 13th, 1888.

Several high grade cows, some with calves at foot. 1 pure-bred Holstein bull calf, 10 months old, got by imported dam and sire and eligible for American Herd Book. Several fine one-year-old, two-year, and three-year-old colts, DRAFT and GENERAL PURPOSE. Also some pure-bred SUFFOLK PIGS.

TERMS—7 months' credit on approved notes.

DUNNVILLE is half way between Brantford and Buffalo on G. T. R.

25 Sale to commence at 12.30 o'clock sharp.

Catalogues after 1st March. F. J. RAMSAY, Proprietor, Dunnville, P. O.

PUBLIC SALE

—OF—

Shorthorn Cattle

AT MAPLE LODGE STOCK FARM,

On Friday, 30th March, 1888.

On the above date, we will sell by public auction about 20 choice Shorthorn cattle. Included in the lot will be 8 extra good young bulls; the balance young cows and heifers, sired by Baron Constance 5th, and Lord of the Manor, Duke of Colonus, etc. All females old enough will be in calf to Duke of Colonus. Our cows are first-class milkers. More particulars next month. If you would like a good animal, along with a good pedigree, attend our sale. Come whether you wish to buy or not. Catalogues out soon.

JAS. S. SMITH,
MAPLE LODGE P. O., ONT.

AUCTION SALE

—OF—

=SHORTHORNS=

The property of GEO. THOMSON, Sunnyside Farm, three miles from Bright,

On Wednesday, Feb. 15th, 1888,

AT ONE O'CLOCK P. M.

Having more stock than I can keep on the farm, will sell, without reserve, the following 6 young Bulls, fit for service; 10 Females, cows and heifers, calved and to calve, bred to the Scotch-bred Bull CASHIER. Also 3 Grade Cows, all in fair breeding condition.

Terms of Sale.—Eight months' credit on approved security, or 6 per cent. discount for cash. 25 Send for catalogue.

GEO. THOMSON, Proprietor, E. W. TOWN, Auctioneer, BRIGHT, Oxford County, Jan. 16, 1888.



Daniel DeConroy
BURNHOLM, ONT.

IMPORTER AND BREEDER
OF
OHIO IMPROVED
CHESTER
WHITE SWINE.
Stock for Sale. Registered pedigree.

JOHN DRYDEN,

BROOKLIN, ONT.
BREEDER AND IMPORTER OF



**Shorthorns,
CLYDESDALES
AND
Shropshire Sheep.**

IMPORTATIONS the past season include 115 Shropshire Sheep, and the entire herd of 41 Shorthorns owned by E. Cruickshank, Letheny, Aberdeenshire. The best lot of young bulls ever received at Maple Shade are now offered for sale. Also a few choice cows and heifers.

Inspection invited. Catalogues on application.

THE BRIARS FARM

Sutton West, Ont.



Choice of 50 head of **SHORTHORNS,**

Including three yearling bulls, by Butterfly Duke 6th, he by 4th Duke of Clarence of How Park fame; all from the best strains, and registered in the Dominion Herd Book. Also young Horses and Pigs. Inspection invited.

F. C. SIBBALD.

CLAREVILLE STOCK FARM

CAYUGA,

Lying between Canada Southern Railway, Deans Station; Cayuga Station, Grand Trunk Air Line. I breed and have



FOR SALE

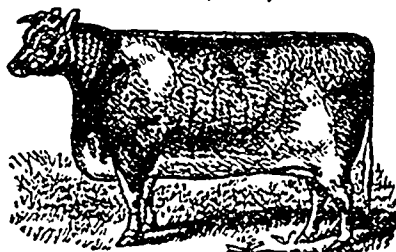
A-1 Shorthorns,
Baron Constance 10th heads the herd.

Leicester and Cotswold Sheep, Berkshire Pigs, **HEAVY AND LIGHT HORSES OF ALL KINDS.**

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

J. R. MARTIN, CAYUGA P.O., ONT.

ARTHUR JOHNSTON,
Greenwood, Ont., Can.



I HAVE now on hand and for sale 10 extra good young home-bred bulls, all by imported sires and mostly out of imported dams, besides an excellent lot of imported and home-bred cows and heifers. All for sale.

I expect my recently imported young bulls and heifers home from Quarantine about January 25th, 1883. New catalogue now ready. Send for one. I have also a good lot of imp. CLYDESDALE STALLIONS and MARES for sale.

Claremont Station, C. P. R., and Pickering Station, G. T. R. Parties met at either station on short notice. Come and see them. No business, no harm.

C. G. Charteris & Son,

BLACHNORD FARM CHATHAM ONT.

BREEDERS OF

Pure SHORTHORN CATTLE

The splendid young roan bull 10th Earl of Darlington, bred at "Belvoir," and post-famous strains, at head of herd.

Four bull calves for sale, sired by Crown Prince (1876) and Lord Byron (1881), and a few heifers, all registered in the new Dominion Herd Book.

2 Miles from Chatham on the G. T. R.

Visitors met at station

nov-17

HILLHURST HERDS

HEREFORD,

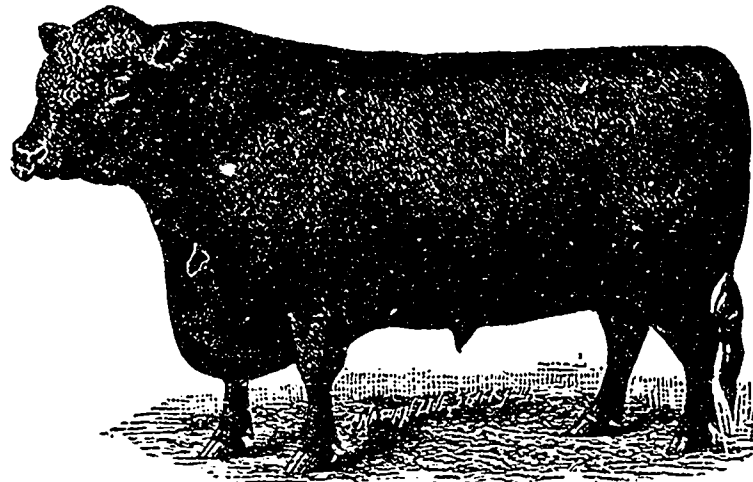
Aberdeen-Angus and Jersey

HEIFERS, COWS AND YOUNG BULLS FOR SALE

At reasonable prices, Send for new catalogues.

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

CANADIAN HOME OF THE ABERDEEN ANGUS-POLL



Imp. Chivalry, (1765).

The Champion Bull Chivalry (imp.) (1765) 2691 [2]

Winner of First Prizes, Medals, Diplomas and Sweepstakes at Barrie, Collingwood, Ottawa and Toronto. Sire of Miss Charcoal, Mary 3d of Knockiemill, Master Peter of K. P., and the invincible Emma of K. P. 8174.

In wishing our friends and patrons the compliments of the season, we take the opportunity of saying that we are in a position to supply young Bulls of the above excellent breed of cattle at prices within the reach of all, and as to their quality we need only mention that our herd finished this season by taking the medal and diploma, for the 10th year in succession, at the Provincial Exhibition, held in Ottawa. Send post card for our Illustrated Catalogue, and give us a call before investing.

HAY & PATON, Proprietors.

Kinnoul Park Stock Farm, New Lowell, Co. Simcoe, Ont., Canada.

THE GLEN STOCK FARM,

Innerkip, Oxford Co., Ont.

SCOTCH SHORTHORNS,

SHIRE HORSES,

BERKSHIRE PIGS.



Herd headed by imported Earl of Mar (4781), winner of the gold medal at the Grand Dominion and 30th Provincial Show, and numerous other prizes. P. O. and Telegraph Office at Innerkip. Farm is one mile from Innerkip station on the C. P. R. (Ont. div.), and a short distance from Woodstock station on the Canada Pacific and Grand Trunk R R

GREEN BROS., THE GLEN, INNERKIP.

HEREFORDS FOR SALE.

30

Imported Yearling Hereford Heifers



Eligible for entry in American Herd Book, all of which have been bred during the past season.

Will be sold from \$250 per head up.

ALSO A FEW CHOICE YEARLING BULLS

R. H. POPE, EASTVIEW, COOKSHIRE, P. Q.

A. FRANK & SONS

Cheltenham Station, C. P. R. R.,
The Grange P. O., Ont.

BREEDERS OF

Thoroughbred Horses

Shorthorns, Southdown Sheep
of highest strain and pure-bred.

SUFFOLK PIGS, all registered. Young stock of all the above for sale. All orders promptly attended to. A number of young Shorthorn Bulls for sale at moderate prices.



LORRIDGE FARM

SOUTHDOWN SHEEP.

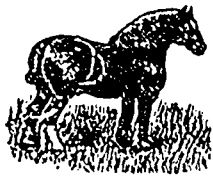
Flock first established 1857. Commenced exhibiting 1867. Since then have taken over 1,200 prizes, including a large number of medals and diplomas.

Imported Rams used only.
Stock for sale.

ROBERT MARSH, Proprietor.
RICHMOND HILL, Aug. 17th, 1886.



FOR SALE.



>25<
IMPORTED
CLYDESDALE

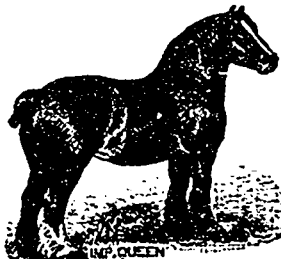
STALLIONS and MARES

3 Cleveland Bays, Shorthorn Cattle, Shropshire Sheep and Berkshire Pigs for sale at all times

at reasonable prices. Terms easy. Correspondence solicited. Our stations are Claremont, C. P. R., and Pickering, G. T. R., where visitors will be met by writing or telegraphing us a througham.

John Miller & Sons,
Brouzham, Ont.

D. & O. SORBY,
GUELPH, ONT.
Breeder and Importers of
Clydesdales.



27 registered ones on hand and for sale, including gets of the following sires: Darnley, Lord Lyon, What-Care-1, Macgregor, Belted Knight, Goldenberry, Corsewall, Top Gallant and Prince Charlie; of which 14 are Stallions and Colts, 8 of them our own breeding, which we can sell very cheap; the rest are Mares and Fillies, mostly in foal.

CLYDESDALES

FOR SALE

ON REASONABLE TERMS.



NOT long arrived, a superior lot of Clydesdale Stallions, ranging from one to four years old, including gets of the celebrated sires Druid, Lord Kirkhill, McCammon, Lord Erskine, Newman, Belted Knight and Garnet Cross.

Catalogues will be published shortly.
ROBERT BEITH & CO.,
Aug. 21, '86. **BOWMANVILLE, ONT.**

JAMES GARDHOUSE & SONS,
MALTON, ONTARIO, CAN.



Breeder and importers of
CLYDESDALE & SHIRE HORSES,
Shorthorn Cattle and Berkshire Pigs. Young Stock for sale. Terms reasonable.

JAMES GARDHOUSE & SONS,
MALTON STATION,
Highfield P. O., Ont.

GOLDSTREAM STOCK FARM,
Whitby, Ontario.

We have on hand and for sale a superior lot of imported and home bred Clydesdale Stallions

and mares. Several of them were prize winners at the leading shows in Scotland and Canada.

ALSO A FEW CHOICE SHETLANDS.
Prices to suit the times.

Address, **JEFFREY BROS.,** Whitby, Ont.



REGISTERED PERCHERON HORSES
FRENCH COACH HORSES.



We will be glad to see our friends and acquaintances and those with whom we have been in correspondence; in fact any and all who are in search of first-class PERCHERONS and FRENCH COACHERS, to look them over. We have an exceptionally fine lot, and our stud is so large that all may be pleased. We offer the largest number and greatest variety to select from. All our imported stock is selected by MR FARNUM himself, personally in France, and he accepts nothing but the best Horses of the most approved breeding.

Our homebred stock is all the progeny of selected sires and dams of the best form and most desirable breeding. We guarantee our stock. Sell on easy terms and at low prices.

We will be glad to answer all correspondence promptly; but we would strongly advise persons contemplating the purchase of a horse or mare, Percheron or French Coach, to get on the train and come and see us.

CATALOGUES FREE BY MAIL.

SAVAGE & FARNUM,

Proprietors of Island Home Stock Farm, Importers and Breeders,
Grosse Isle, Wayne Co., Michigan.

Address all communications to Detroit, Michigan.

IMPROVED YORKSHIRE PIGS

SHIRE AND CLYDE HORSES.

J. Y. ORMSBY, V. S.,
MEMBER
English Shire Horse Society,
Dominion Clyde Horse Association,
English Nat. Pig Breeders' Association,
American Shrop. Sheep Breeders' Assoc.
All our pigs registered in the English Herd Book.

ORMSBY & CHAPMAN,

ONTARIO LODGE,
OAKVILLE, ONTARIO.

SHROPSHIRE SHEEP,
GEO. S. CHAPMAN.

Imported and home bred stock for sale. Every pedigree guaranteed. Prices low. Correspondence promptly attended to.

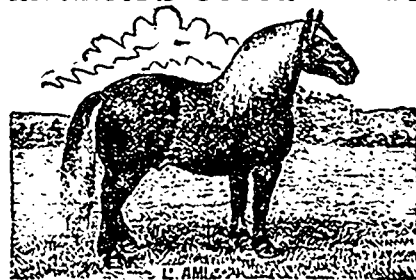
"Good Stock with Straight Pedigrees," our motto.

FOUR
Imported Registered
Clydesdale Stallions
FOR SALE.

All prize winners. Terms liberal.
'G. S. SHAW, Bowmanville, Ont.

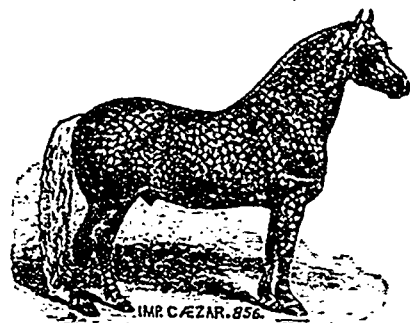


RIVERSIDE STOCK FARM!



DEGEN BROS., OTTAWA, ILL.,
Importers and breeders of
Percheron, Belgian Draft, and French Coach Horses.
We have now over 150 head of imported Percheron stallions and mares on hand. Our importations this year have been selected from the best breeding districts of France. Our Belgian Draft horses are all prize-winners and recorded in Belgium and America. Our stock is all recorded in France and in America. Our French Coach horses are the best that could be found in France. We will be pleased to show our stock to visitors. Correspondence invited and promptly answered.

Great Sale of Thoroughbred Stock
AT GERMAN MILLS,
On March 14th, 1888.



Consisting of 30 head **SHORTHORNS** Cruickshank and of Thoroughbred other noted families. Imported and Canadian-bred
PERCHERON STALLIONS and MARES, also a few **COACHERS.** All the animals are of high individual merit. A large number of the different animals were prize-winners at Provincial, Industrial and other exhibitions. Making one of the grandest sales of the season. Send for catalogue to the undersigned proprietors.

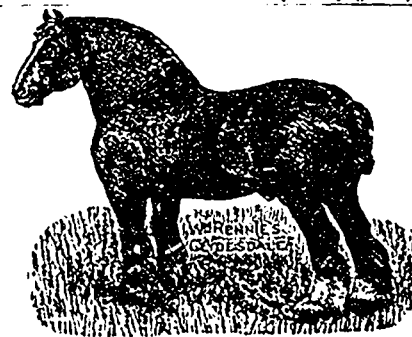
T & A. B. SNIDER, German Mills, Waterloo Co., Ont.
OR STRICKLAND BROS., Galt, Ont.

RECORDED PERCHERON

FRENCH COACH HORSES



Two importations this year. Nearly 200 of these popular breeds on hand. Every animal recorded with extended pedigree in their respective stud books. Choicest breeding and individual excellence combined. Coach stallions all purchased before the French government made its selection. Do not buy coarse, logy horses unsuited to your section, but come and see large, fine horses with the best of action. They will cost you no more. Send for illustrated catalogue.
JOHN W. AKIN,
Scipio, Cayuga Co., N.Y.



IMPORTED CLYDESDALE HORSES

23 HEAD lately arrived from Scotland, both sexes. Several of them prize-winners. This is a superior lot, bred by the following noted sires, viz.: Darnley (222), Corsewall (1420), What-care-1 (912), McCammon (3818), Harold (2854), Belted Knight (1295), etc., etc., for sale at reasonable prices; also a few Shetland Ponies.
WM. RENNIE, Toronto.
Stables, 88 Duchess St.

GRAHAM BROS.,
CLAREMONT, ONT.

RESIDENCE ONE MILE FROM CLAREMONT STATION.

Importers of Registered

Clydesdale

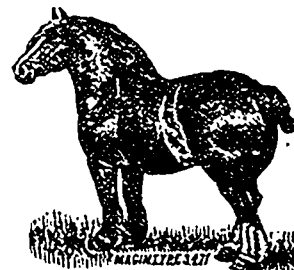
STALLIONS AND MARES

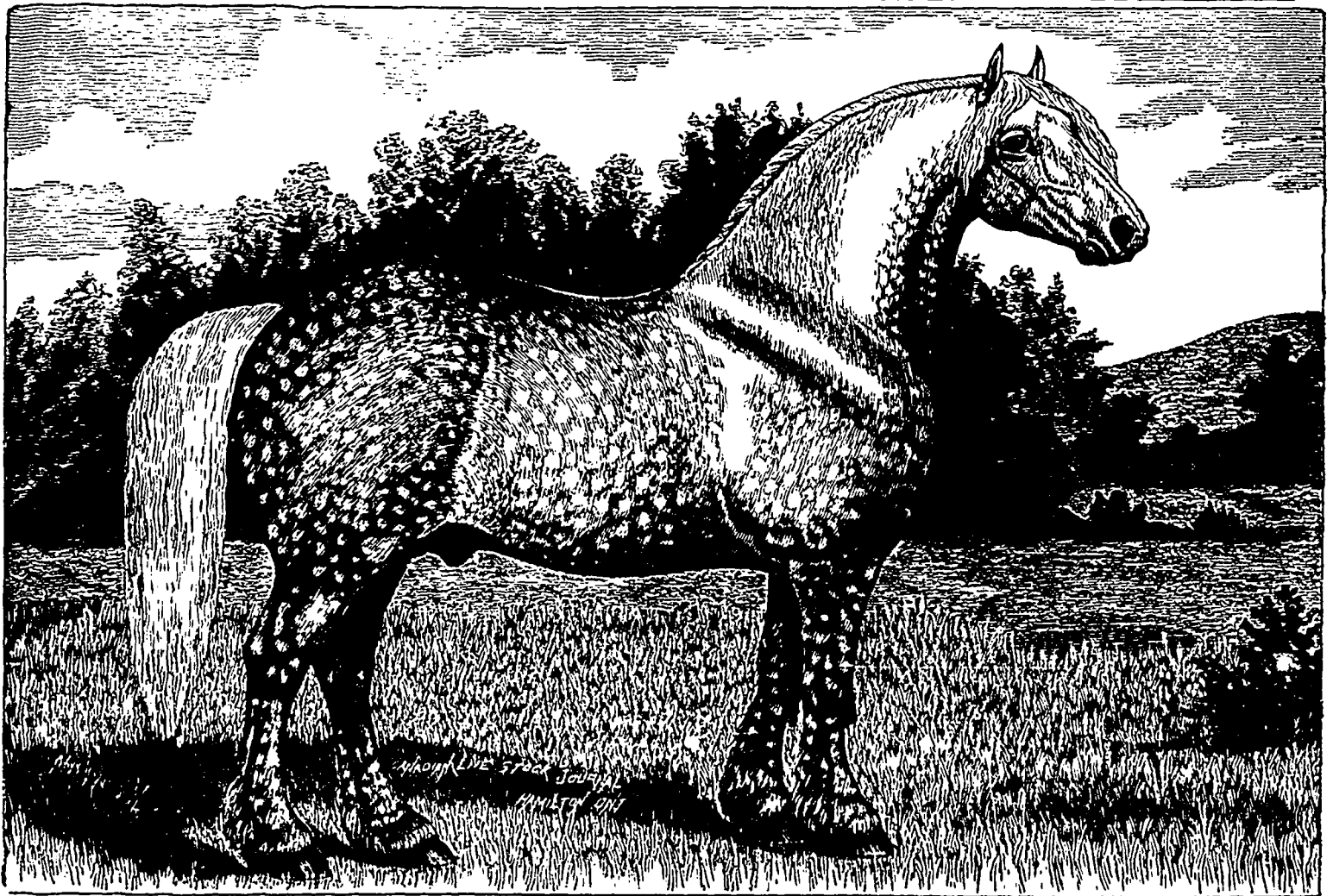
constantly on hand and
FOR SALE

At reasonable terms.

The importations of 1887 comprise a large number of one, two, three and four-year-old registered stallions and mares, the gets of such sires as Macgregor (1482), Darnley (222), and Prince of Wales (673). Also a few choice **SHETLAND PONIES.**

Correspondence solicited, and visitors always welcome.





PEDIGREE. PILOTE is a beautiful dapple grey, 7 years old, 17 hands high, and weigh over 2,000 lbs.; strong bone, good action, with all the desirable points of a first-class Percheron Draught Horse. Pilote was sired by Picador, and obtained first premium at Regional of Chartres in 1880; first premium at Regional of Mamou in 1881, and was bought from the administration of the French Government in 1892. Pilote's stock in this neighborhood is conclusive evidence of his qualities.

The subscriber offers **FOR SALE** guaranteed sound, **OR WILL EXCHANGE** for land the above horse on reasonable terms. Have no further use for him, as I have a son of his to take his place. **M. O'CONNOR, Box 534, GUELPH, ONT.**

Imported Clydesdales FOR SALE.

Prices moderate and terms to suit purchasers.

Not long arrived, a superior lot of registered

CLYDESDALE Stallions and Fillies

from 1 to 3 years old, and with the exception of three all have been prize winners at leading shows

in Scotland. Including gets of the celebrated sires Darnley, St. Lawrence, Lord Hopton, Macgregor, Old Times, Gallant Lad and What-care-l.

Our horses are all selected with the greatest care from the best studs in Scotland. We pay a little more for our choice than those who buy in job lots. Parties wishing to purchase superbly bred animals should inspect our stock.

DUNDAS & GRANDY,

Yelverton P. O.,

Pontypool station on the C. P. R., 50 miles east from Toronto.

RIVERSIDE STOCK FARM

1/2 miles from Exeter, on the London, Huron & Bruce Railway

The undersigned offers his entire herd of

SHORTHORNS

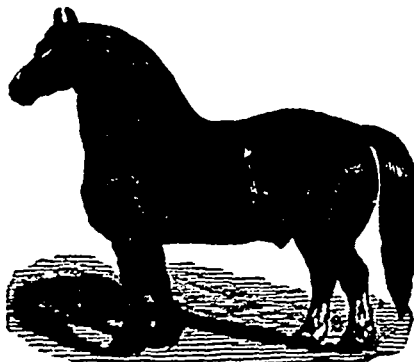
including the herd that was awarded 2nd prize in Toronto, 1st in London, 1st in Hamilton, and a grand lot of young bulls fit for service and reg. in D. S. H. H. B. Prices moderate.

THOS. RUSSELL,

EXETER P. O., ONT.

Dec 4

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MORRIS, STONE & WELLINGTON

IMPORTERS, offer for sale choice Stallions, Mares and Fillies, which are registered in the English and Canadian Shire Stud Books, including prize winners at the Royal Agricultural in England, and the Industrial at Toronto.

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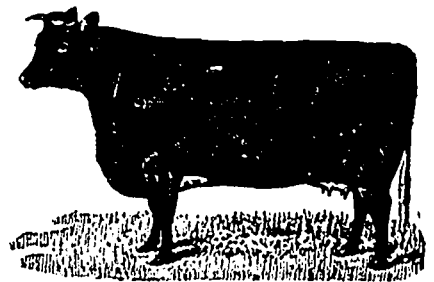
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Patrons, Governor-General of Canada and Lieutenant Governor of Ontario. The most successful Veterinary Institution in America. All experienced teachers. Classes begin in October. Fees, \$50 per session. Apply to the Principal,

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Have a grand lot of bull calves sired by our imp. Cruickshank bull Vermillion (50587), and a very choice lot of heifers, now in calf to Vermillion; also shearing rams and ram lambs from imp. sire and dams. Prices moderate. Terms easy.

Colonus Stock Farm.

Shorthorn Cattle

of the highest breeding and individual merit, and

OXFORD DOWN SHEEP.

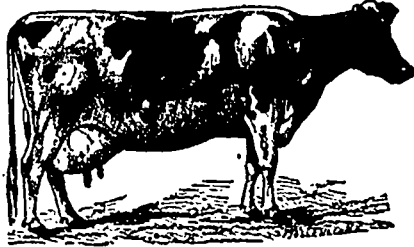
Young stock for sale of both sexes.

WM. MURRAY,

CHESTERFIELD, ONT.



The Manor Stock and Dairy Farm



HOME of the imported Holstein-Friesian bull MARS ELLIS No 661, Vol. 1, H. F. H. B., selected in North Holland by special request, and whose 3 calves secured first prizes at the Dominion Exhibition, held at Sherbrooke, Que., Sept. last, 1886.

Parties wishing to secure bull calves or yearlings from such a grand individual, and out of nothing but imported Holstein-Friesian cows, will find it to their advantage to write to
F. N. RITCHIE,
 Ste. Anne la Perade, Co. Champlain,
 on line C. P. R., near Quebec.
 No Reserve. All stock for sale, and in At condition.

JAMES DRUMMOND,

Petite Cote, Montreal.

Importer and Breeder of
 PURE-BRED

**AYRSHIRE
 CATTLE**



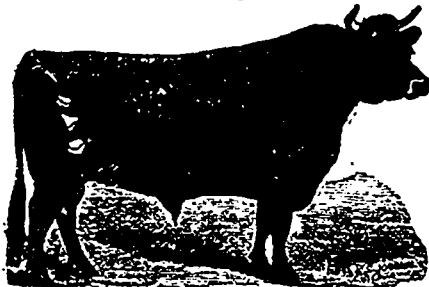
Of Large Size, and from Choice
 Milking Strains.

The herd numbers 65 head, and for three years in succession has won Provincial or Dominion prize as best milkers. The imported bull PROMOTION (3212) at head of herd.

Young Stock on hand at all times
 for sale. fe-1y

OAKLANDS 'JERSEY' STOCK FARM

(All registered in the American Jersey Cattle Club
 (Herd Register).)

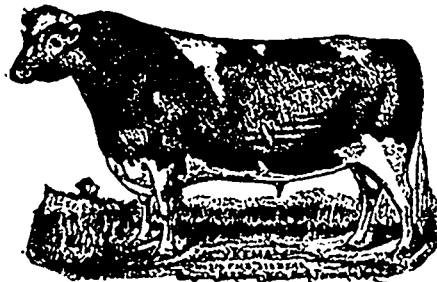


Cows with well-authenticated test of from 14 lbs. to 24 lbs. 13 oz. in one week, and from 81 lbs. to 106 lbs. 12 1/2 oz. in 31 days are in this herd. Young bulls (registered in the above herd book) for sale from \$100 to \$500 each.

A herdsman always on hand to show visitors the stock, and the stock-loving public are always welcome.

no-y **VALANCEY E. FULLER, Hamilton, Ont.**

**CREDIT VALLEY STOCK FARM.
 SMITH BROS.**

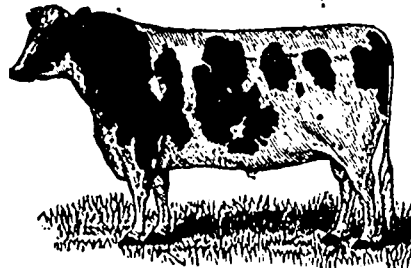


CHURCHVILLE, (IREL CO.) ONTARIO,
 Breeders and Importers of Pure-bred Registered

**HOLSTEIN-FRIESIAN CATTLE
 SADDLE and CARRIAGE HORSES.**

Stock always on hand for sale. Send for catalogue. Visitors
 always welcome. jae-6

**J. E. PACE & SONS,
 AMHERST, NOVA SCOTIA,
 On line Intercolonial Railway,**



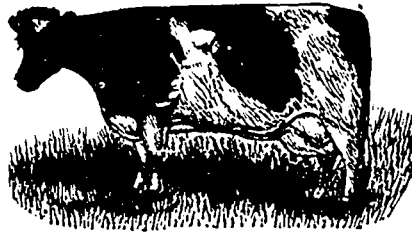
Importers and Breeders of

HOLSTEIN-FRIESIAN CATTLE

Including strains of the best milk and butter families living. Herd headed by CLOTHILDE and's ARTIS, whose dam, Clothilde 2nd, gave at 4 years old 24,602 lbs of milk, and made 23 lbs 4 oz of unsalted butter in seven days when six years old. G dam, Clothilde winner sweepstake prize at New York Dairy Show, has milk record of 26,080 lbs. of milk and 28 lbs. of unsalted butter in seven days. Sire, Artis, winner first prize at New York Dairy Show.

Young stock, all ages, for sale, including Carlotta's Netherland Prince, dam Carlotta, with butter record of 22 lbs. 1 oz. unsalted butter; sire, Netherland Prince. Prices low for quality of stock.

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Importers and Breeders of Thorough-bred

HOLSTEIN-FRIESIAN CATTLE.

Herd headed by the noted prize-winner Prairie Aaggie Prince H. F. H. B. No. 2, first prize at the Industrial and Provincial in 1886; dam, Prairie Flower, 5 yr. old butter record of 20 lbs. 1 oz. unsalted butter per week. This herd has been crowned with more honors in the showing than any other herd in Canada. Selections made from the finest herds and most noted milk and butter producing families in America. Every animal selected for its individual merit—symmetry, size and weight a special object. Our motto, "QUALITY." Stock for sale. Visitors welcome. Correspondence solicited.

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**HOLSTEIN AND FRIESIAN CATTLE
 A SPECIALTY.**

We have the only pure breed of Aaggie Stock in the Dominion, the head of our herd being Sir James of Aaggie, No. 1452, H. F. H. B., Vol. 6. Also Aaggie Ida, No. 2600, H. F. H. B., Vol. 6. This family is noted for its exceptionally fine milk producers. The largest herd of Holstein cattle in Canada, from which we are prepared to sell bulls and heifers. If you are in want, come and see us. Prices reasonable. Correspondence solicited.

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 ap-88 Secretary, Wyton, Ont.

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New Glasgow, Pictou Co., N. S.

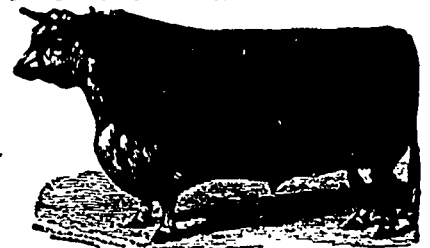
**STANDARD-BRED TROTTERS
 American Cattle-Club Jerseys.**

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**A HAND-BOOK OF PRACTICE FOR
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THIS book should be in every farmer's house and in every student's library; for the farmer it is a library in itself, and for the student a most valuable book for reference. Mailed on receipt of \$1.50. Address, DUANE H. NASH, Publisher, Millington, New Jersey.

POINT CARDINAL HERDS.



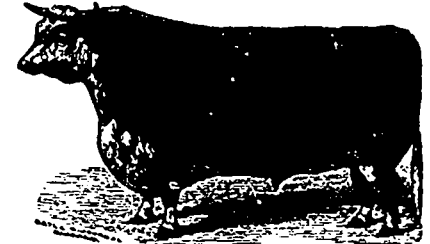
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Selected with great care from the celebrated herds in England. At the head of the herd stands the imported Marlow bull Ramtler 6th (6620) 13514.

SHORTHORNS

Heifers and bulls for sale, mostly sired by imported Duke of Hazelcote 68th, 65707. Also a number of fine Hereford grade heifers and young bulls. ap-y. **G. F. BENSON, Cardinal, Ont.**

LOWLANDS HERD



A CHOICE LOT OF

**YOUNG HEREFORD BULLS
 FOR SALE.**

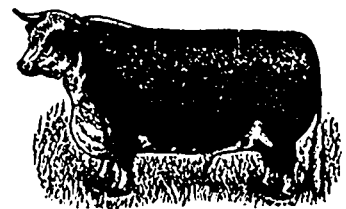
All eligible for or already entered in the "American Hereford Record." Amongst the sires of my herd are Auctioneer, Careful, Hayden Grove, Downton Boy, King Pippin, and Cassio. Also a fine lot of imported

Welsh and Shetland Ponies for Sale.

E. W. JUDAH.

"Lowlands," HILLHURST, P. Q.

THE TUSHINGHAM HEREFORDS

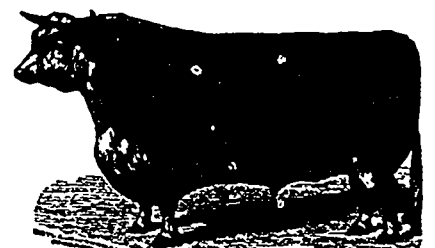


THIS herd, grounded on selections from the best blood in England, is remarkable for the number and uniformity of the good calves that it has produced during the three years of its existence, owing in a great measure to the excellence of the stock bull Tushingham (8127), by Charity 3rd (6350), by The Grove 3rd (5051). Several young bulls of his get are held for sale.

J. W. M. VERNON,

Tushingham House, Waterville, P. Q.
 WATERVILLE is on the main line of G. T. R., not far from the United States boundary.

The Park Herd of Herefords,



THIS herd embraces over fifty head of choice animals. All registered. Catalogues sent on application.

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

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PERCY & YOUNG

Bowmanville, Ont.

Home of the Provincial Renowned
Manfred (No. 58).

Have on hand for sale, on very reasonable terms, their 1887
importation, consisting of 8 very choice and carefully selected

REGISTERED CLYDESDALES

prize winners, of very superior quality, form and finish, consist-
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Our importation consisted of the get of Lord Erskine, Cairn-
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noted sires.

We invite the attention of intending purchasers to the rare
individual merit and excellence of our stock.

Also two very fine Canadian-bred Stallions, 3 and 4 years old,
almost solid colors, sure foal getters.



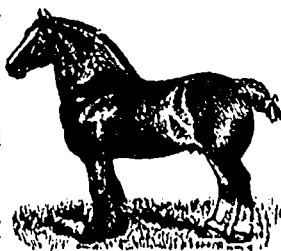
Imported Clydesdales For Sale.

FROM one to four years
old, stallions and fil-
lies from the best studs in
Scotland, including gets
from Macgregor, Harold,
Knight of Snowdon, Sov-
ereign, Crown Jewel,
McMaster, What-Care-I,
Clyde, Scotts, Laird
Craford, etc. etc.

The stock is selected
by myself with great care
Families wishing to put
chase would do well to
inspect personally before
deciding.

Also a few **Shetland Ponies.**
Correspondence Solicited. HOWICK STATION, C. A. R., on
the farm. (G. T. R. one mile from Howick also.)

Address, **ROBERT NEBS,** Woodside Farm,
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BREEDER of Shorthorn Cattle, all registered in the new
Dominion Herd Book. The highly bred Bates bull, 7th
Earl of Darlington, bred at Bow Park, at head of herd.
The herd is composed of a choice lot of young cows and heif-
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times for sale. Apply to

James Goddie, Manager, PARIS, ONT

RUGBY FARM



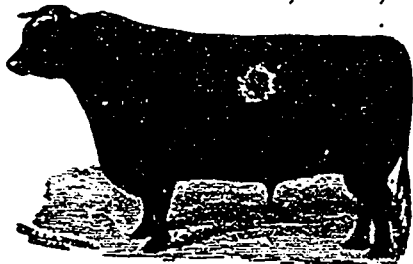
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BREEDER OF

Shorthorn Cattle and Berkshire Hogs

Herd headed by the Bates bull Duke of Rugby, and bred with
strict reference to individual merit and milking qualities.
Animals recorded in both American and B. A. herd books.

My Berkshires are of the choicest breeding—large size and
grand individuals. For prices and other information, address
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Clydesdale Horses and Shropshire Down Sheep. A good
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others are mostly Booth blood—are now
offered for sale.

TERMS REASONABLE.

100 PURE-BRED ABERDEEN-ANGUS CATTLE



MOSSON BOYD & CO.,

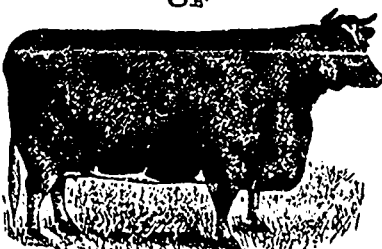
BIG ISLAND STOCK FARM,

BOBCAYGEON, ONTARIO, CANADA.

Ericas, Prides, Windors, Victorias, Sybils, Kinnochtry Blue-
bells, Westertown Roses, Ballindalloch Coquettes, and Lady
Fonnys, and animals of other good families, both male and
female, for sale.

Bobcaygeon is in the County of Victoria, 90 miles east of
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Toronto by the Midland Railway, a branch of the G. T. R., via
Lindsay, with which the boat makes close connection.
Telegraph and Post Office, Bobcaygeon.

BOW PARK HERD

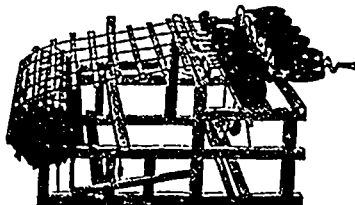


PURE-BRED SHORTHORNS

Have at all times a number of both sexes for sale.
Catalogue of young bulls recently issued.

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Will weave from 40 to 50 rods of fence per day. As cheap
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Or, we can supply you with 1 cove from 50c. per rod.

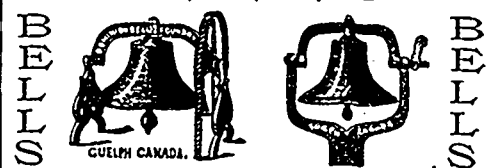
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Fruit Trees.**

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Send a list of your wants for prices before purchasing.

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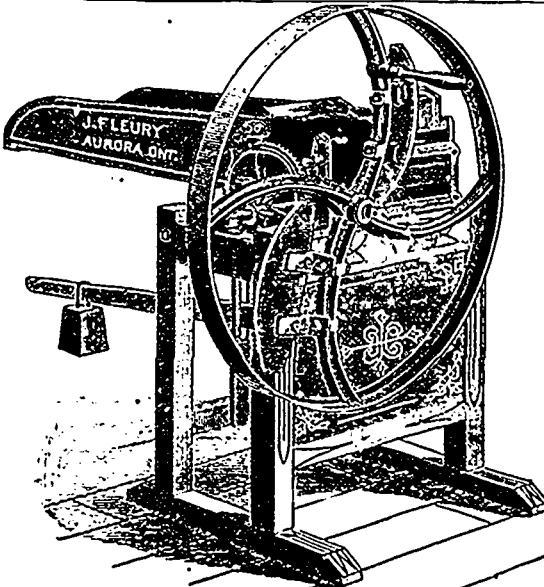
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STRAW CUTTERS.

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GRAIN CRUSHERS.



This cut represents our 10-inch
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Our 12 inch mouth box, same style
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These machines lead all others,
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and doing more work with same power
than machines of any other principle.

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