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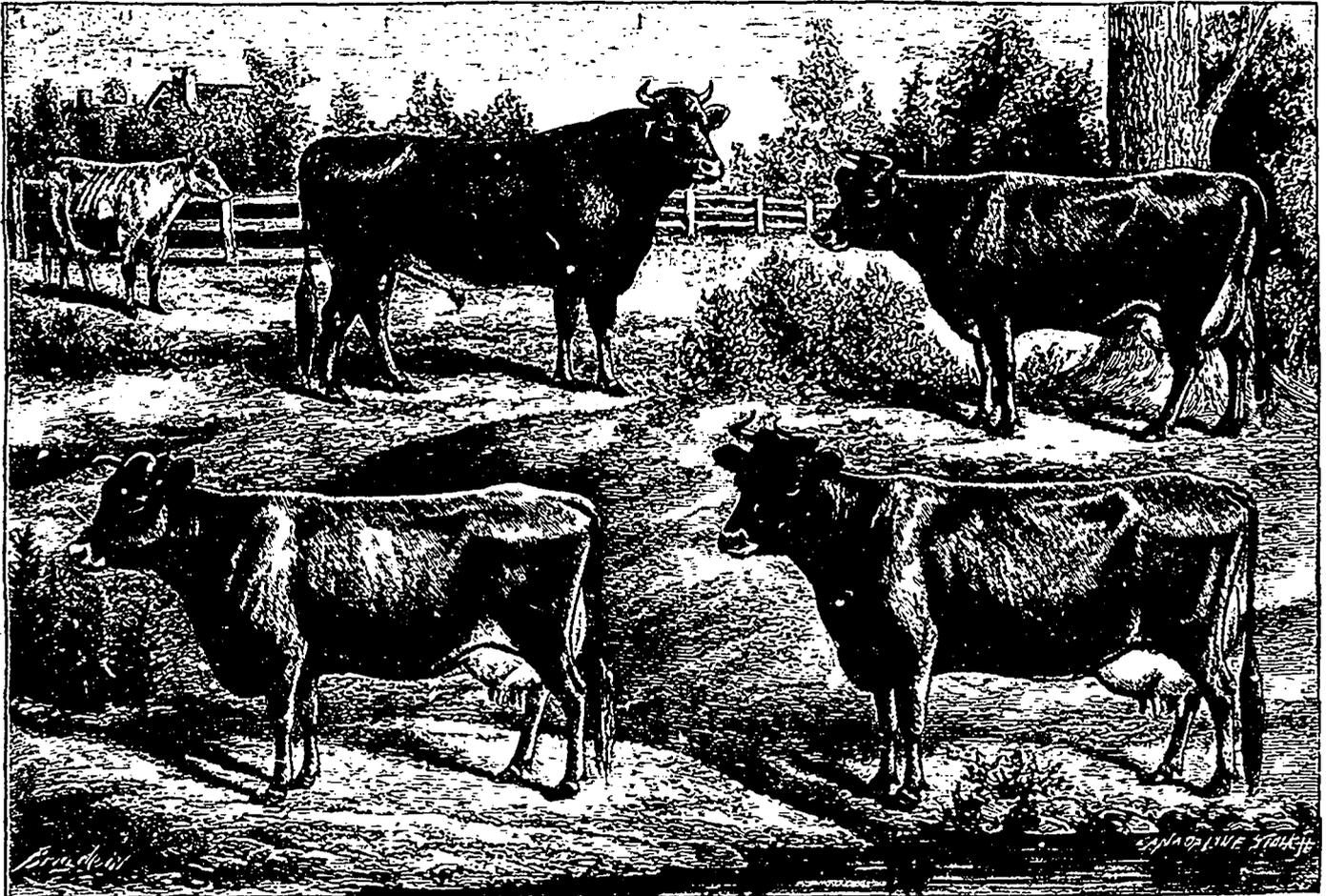
THE CANADIAN LIVE-STOCK AND FARM JOURNAL

DEVOTED TO THE INTERESTS OF THE STOCK-RAISERS AND FARMERS OF CANADA.

VOL. V.

HAMILTON, CANADA, NOVEMBER, 1888.

No. 61



A NOTED JERSEY FAMILY.

Bred by and the property of Mr. W. A. Reburn, St. Anne de Bellevue, Que.

St Anne's Jersey Group.

When the first gathering of the leading citizens of famous Jersey isle took place in the early part of this century, with the avowed object of improving their cattle, and to "preserve a trade that had hitherto been of so much profit to the island," little did they think of the grand proportions that this trade would attain, and much less did they conceive of Canada, with a climate so much at variance with that of the Channel Isles, having within her precincts such a group as those of Mr. W. A. Reburn's, of St. Anne de Bellevue, which we now present to our readers.

Jolie of St. Lambert (appearing in the lower, corner on the left side) was bred by Mr. Romeo H. Stephens, of Lambert, P. Q. She was sired by Lord Lisgar 1066, a son of the famous Victor Hugo. She has now five living daughters, four of which are at present giving an average of over 42 lbs. of milk per day. As may be inferred, she is a cow of immense capacity and great appetite, with an udder that measured this spring just before calving, 73 inches in circumference. A perfect network of milk veins, tortuous and voluminous, in conjunction with many

other qualifications upborne by her performance and pedigree, forces the conclusion that few dairy cows her equal exist at the present day.

On the upper corner opposite is a fine sketch of Jolie of St. Lambert 2d. She has $87\frac{1}{2}\%$ of the blood of Mary Anne of St. Lambert, being sired by Stoke Fogis 3d. More is given of this valuable animal in the description of the herd.

Jolie of St. Lambert 3d, appearing just below Jolie 2d, was dropped March, 1883. She was sired by Lord Banst 11110, a grandson of Buffer, the grand sire of Mary Anne of S. Lambert. This cow has proven herself worthy of her ancestral ties, as her record in the show-ring, given on another page, will testify.

The sketch of Jolie of St. Lambert 4th 38366, winner of the first prize as best two-year-old at Quebec in 1887, figures in the left hand upper corner. Having only dropped a calf the 13th September, she was prevented from contributing her share to the long list of honors achieved by the herd at the fall exhibitions. She is a full sister to Lord Lisgar of St. Annes, and she resembles her dam more than any of the others.

Lord Lisgar of St. Anne's 17792 was dropped May 23d, 1885. His sire, Orloff's Stoke Fogis 11157 is a son of Orloff 3143, a son of Lord Lisgar and Ophelia, in.p. Orloff has many daughters with good records, among which may be mentioned Lisgar's Etta, 16 lbs. 14 oz. per week, and Carrie Fogis, 15 lbs. 14oz. per week. Ophelia in turn is dam of Maggie of St. Lambert, the latter having a record of 16 lbs. 3 oz. per week. Lord Lisgar of St. Anne's is standard bred, his dam and his sire's dam having an average test of 18 lbs. $2\frac{3}{4}$ oz. of butter in 7 days.

We refer our readers to an inner page for a detailed account of the rest of this noted herd.

"I like your paper very well, and would not like to be without it, so please send it on." John Kerr, Red Hall, Wigton, England.

"I find a file of your journal so valuable for reference, that I would be obliged if you would send me the April, July and August numbers, as they never came to hand,"—W. W. Hubbard Oromocto, N.B.

"I am still well pleased with the JOURNAL, and think no breeder of any account should be without it."—A. C. Hallman & Co., New Dundee, Ont.

Canadian Live-Stock & Farm Journal

PUBLISHED MONTHLY BY

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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.

Clubs.—Any person is at liberty to form clubs. Clubs of five copies to any address, for one year, \$4.00. Clubs of ten copies to any address, \$7.50.

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 make 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, NOV., 1888.

Those who subscribe now for the "Journal" for 1889 will get it the remainder of this year free; also our beautiful picture of the Ontario Agricultural College and Experimental Farm.

THE unparalleled success of the JOURNAL is owing very largely to the devoted loyalty of its readers. Of the fine spirit uniformly manifested in this direction none are in a position to judge so well as the publishers. The one new name ever and anon sent in by readers when forwarding their own remittance, has done much to increase its circulation, and thus to widen the area within which the leaven of its teachings operate. While we thank them most cordially for past favors we again remind them that it is within their power to double the circulation of the JOURNAL before the dawning of the new year. One new name from each subscriber and the work is done.

WE are pleased indeed to notice the number of responses made to our premium offers, printed in September and October issues. As we anticipated, and so stated with the first announcement of those premiums, they afford an excellent opportunity of securing pure-bred stock and farm implements with no actual cash outlay. The best time for canvassing is now upon us. At the meetings of the farmers' institutes, now commencing for the season, and at municipal and annual school meetings an excellent opportunity is afforded for pushing the canvass, and we hope all who are in need of any of the animals or implements named will govern themselves accordingly.

MR. T. DYKES, a correspondent of the *Breeders' Gazette*, writing from Great Britain, says of the geldings he saw on the streets: "I was prepared to be disappointed, for the reason that I knew Clydesdale breeders have not been using the knife since the market set in between this country and America. You get in America all those horses which should be working in the shafts at home." Like state-

ments to these we have often heard, and we feel that such stigmas should not be given time to corrode their impress on the glistening honor-shield of our stock-raisers and breeders. We cannot deny that there are some grounds for these assertions, but they are too few and fragile to warrant such a sweeping charge as that we now have before us. A few importations have been made into Canada. That have been disgraceful to the importer and an insult to the horse-men of our Dominion. A number, infatuated with long and fashionable pedigrees, have bought animals of inferior individual merit, expecting to prey on the ancestry-loving stock-raiser. They bought pedigrees and not horses. The old Scotch saying, "Better a gude calf than a calf of a gude kind," arises to mind as relevant to this. But others have sought the opposite extreme, jumping from the pan into the fire. They seem to think that individual merit is the only requisite. Pedigree is valuable in as much as it gives a guarantee of the transmission of these good qualities to the progeny. Ribot, the great French scientist, says, "Heredity extends over all the elements and functions of the organism; to its external and internal structure, its maladies, its special characteristics, and its acquired modifications." Thus we see the true value of pedigree, and how a few of our importers have erred. But have we not in Canada numbers of horses, not only prize-winners in the Clydesdale's home, but possessing characteristics of utility and profit. Yes! and scattered over the length and breadth of our land we have descendants of Darnley (222), Macgregor (1487), and Prince of Wales (673); the triple fountain head of Clydesdale prize-winners. If such horses as we have from time to time given sketches of in the JOURNAL are only fit for working in the shafts, there may be some truth in what Mr. Dykes writes; but we hold that such animals are well worthy of the patronage of our horse-raisers if pedigree and appearance go for aught.

AN English contemporary is credited with stating that the Shires cannot be bred in America the equal of those in England, giving as the reason of such a statement, "that our climate does not admit of the growing of sufficient bone;" and further that "it is only in the moist, humid atmosphere of England that the draught horse can be fitly developed." The effect of climate in moulding the character of animals is recognized by all, and more so when the power of this factor, in influencing vegetable life, is considered. Perhaps its effect is more marked through this latter medium than any other. As regards his first statement, the author of the above quoted remarks is right to a certain degree. But he, in common with many others, have the erroneous idea that weight and bulkiness, and, as a rule, their attendant clumsiness, are the valuable features of an ideal draught horse. Granting that weight is an important consideration, yet we would ever make it subordinate to structure and quality. Sufficient bone is not the only question, but the vital one is its quality as regards firmness of texture. Canada can only lay claim to the production of one breed of horses, and that is the French Canadian pony. These sinewy and spirited animals are the only ones that have been markedly influenced by our climate. Any one familiar with them knows that their main feature of excellence is the quality of their bone. We know of no horse subjected to hard usage that would pass through the same as clean-limbed and sound-footed as these animals. That the Shire will suffer in becoming acclimatized we cannot believe. Not that we think these more wanting in quality of bone than other draught breeds, but that quality of bone is but one feature of our draught horses. As to what is meant by being "fitly developed," as the writer quoted above uses it, we are in doubt. We must construe all researches on the effect of climate in modifying animal structure differently from the writer of these statements. If an overgrown, unproportioned animal is one fitly developed, then we are heartily in accord with the writer; but if it means,

as we think it does, the development of all structures equally, so as to work in unison, then we disagree. The effect of climate, though not to be overlooked, is of minor importance in this connection when compared with the influence of proper exercise and management. But as far as an influence is exerted by climate, however, we are sure that Canada lacks nothing in this respect.

Our Premium Picture of the Ontario Agricultural College and Experimental Farm.

Reference has already been made in this issue to the very beautiful lithograph of the Ontario Agricultural College and Experimental Farm, which we are offering this year as a premium to all subscribers, both old and new, whose subscription is paid in full to the end of 1889. This sketch is admitted on all hands to be beyond all comparison the best one ever executed of the college and farm. Its size is 14 by 26 inches, and the view of the college and grounds, both in front of the buildings and beyond the main road leading into Guelph from Hamilton is admirable and true to life. The buildings are not grouped or artificially placed, but appear in their real position. To the left hand of the long line of handsome buildings is the residence of the Professor of Agriculture; next to it that of the Bursar, and just at hand the college itself, which contains the rooms of the president, a museum, lecture rooms, and accommodation for about 110 students, boarding in the building. Then follows the chemical laboratory, with its very complete furnishing. The buildings yet to be named are in the same direction, only to the rear of the first line. These consist of a carpenter's shop, implement house, office of farm foreman and tool house, residence of the farm foreman, and still to the right the magnificent barn, horse-stable, sheep-house and bull-house, inclosing a yard in the form of a square. The two main approaches appear in the distance. The main road cutting the farm in twain, is admirably brought out, and also the orchard beyond.

The whole sketch is admirably true to life and does honor to the artist who prepared it for us. One who never saw the college or farm can get a very accurate view of the former and the front portions of the latter from the lithograph. It will form, when framed, a most appropriate adornment to any farm dwelling which it may reach.

Single copies of the picture sell for 35 cents, but all subscribers of the JOURNAL for 1889 get a copy free.

FARMERS' INSTITUTES.

The Secretary, President or any member of any Farmers' Institute is hereby invited to send for copies of the Journal, which will be mailed free, to distribute among its members with the view of forming clubs for the Journal—a list of ten subscribers, at least, could be got at every institute in Canada. Clubs of five for \$4.00 and clubs of ten for \$7.50. Farmers' Institutes, agricultural societies, or any person wishing any of our live stock premiums can have them delivered now by guaranteeing the required number of subscribers.

Are the Feeders Asleep?

Not many years gone by the exhibit of fat stock at our leading shows was one of the prominent features. We have on some of these occasions stood outside the ring and watched with a very great degree of pleasure the marching in of a long array of lordly steers and heifers of all ages until the enclosure was filled, and the judges found much difficulty in making the awards, owing to the closeness of the competition. All this is changed of late. At no

one of the large exhibitions, unless it be the Industrial, were the classes filled sufficiently to capture all the prizes, and in many instances the prizes, if given at all, must needs be given to animals not at all high in the order of merit.

This does not arise from any weakness in the prize-lists, for these are now about as good as during those auspicious times when the great fat ox was regarded as the feature of the exhibition, nor is it that people are giving up meat eating and addicting themselves to vegetarian habits. The questions naturally arise, what has led to the change, and is it a change in the right direction? The answer to the first question will have a very direct bearing on the answer to the second. The lessons of the fat stock shows themselves have done more, perhaps, to drive away these aged giants than anything else. They have brought home to the farmer with much directness the folly of wasting feed on steers in preparing them for the shows or for market, beyond the age of three years. Some of them may have known this years ago, but not in the way in which they view it now in this calculating age of weigh-scales and records of daily gains. The price of beef is lower than it was in years gone by, and the price of cheese and butter are quite as good, if not even better. The idea has gone abroad, and no doubt rightly for the present, that these pay better, which has led many to abandon feeding steers and to become patrons of the creamery or the cheese factory.

While we rejoice in the attention given to the two latter rising industries, we shall regret to notice any tokens of decay in the former. The Anglo-Saxon races are not going to substitute butter and cheese for beef altogether, even in this esthetic age. There is every reason for believing that they will want beef as long as the world lasts, and that they will want it good. The prices of meat may not be altogether satisfactory now, but these are not going to continue so through all time. Prices, like variations of the waves, oscillate; at one time they are crest high at another trough low, and so they come and go amid the changes of the years.

Let those, then, who have been in the habit of turning off a good bunch of steers every year, think twice before they give up the practice. They have facilities for doing it that others may not have, and so can do it more cheaply and more effectively. It has proved a fair thing for the farmer's land wherever tried, and until recent years it was a fine thing for the farmer's pocket. Those who do not realize from the business now, should make a change with the utmost caution. No one excels in many branches, even of the same business, hence the successful producer of meat cannot be sure that he will be an equally successful producer of milk and butter until he has tried this, and proved it for himself.

It takes time to bring about changes in any live-stock department, and unless skilfully done, will entail more or less of loss either in the selling or the buying. By the time that the new industry is fairly launched, probably the old one will have revived and will then give better returns than the other. Continuity of purpose during a term of years is usually rewarded, while change is always attended with hazard, and more so in the case of those whose days may be in the yellow leaf. We have grand facilities for producing a fine class of beef in this country, and shall we not continue to do what we have proved ourselves so well capable of doing in the face of a world's competition, backed up by the rich nutrition of even prairie grasses?

We frankly admit that it is not wise to offer prize money for fat aged beast of any breed. It would

probably be wiser to take them off in the aged classes and to offer additional prizes for those that are younger.

At all events we think it very unwise to cease to make meat-raising one of the most prominent of our industries, both for the reasons that are given and for many that have not been given. The breeders of other than Shorthorn cattle should not lose the opportunity afforded them by the exhibitions of shewing what their favorites are capable of doing. If they are to become important factors in our meat production, we cannot conceive of a more direct way of bringing them before the notice of the public than by showing them pure or crossed in the fat classes of all our exhibitions.

Why Burn Food Wastefully?

Coursing through the animal body, that genial current, the blood, replete with nutritive material and its minute corpuscles laden with oxygen, it glides through minute capillaries to the uttermost extremities of the body. Tissue already stored up in the animal is decomposed, and diffusing into the blood it comes in contact with these oxygen carriers, and as a final result heat is evolved. For the rebuilding of this used tissue food is necessary, and thus it is that an animal in a cold stable will use more food to keep up its vitality than one that is stabled in warm, comfortable quarters.

The normal temperature of the cow or horse ranges from 99° to 101° Fah. Any variation of even 2° Fah., either up or down, indicates that disease is present. Thus they differ from what are termed cold-blooded animals, such as frogs, etc., as the temperature of these vary with the medium in which they live.

Placed in a stable heated above the temperature of the blood, the animal sweats and is cooled by the consequent evaporation. Thirstiness is then felt, and this feeling is only satisfied when the blood regains that water it lost in the process of sweating. It is not to cool the blood that we satisfy our thirst, but to replace the water that has been evaporated.

If the temperature of the stable is about zero, then the cow has to burn up sufficient food in her body to sustain her temperature, which is at least 100° Fah. Cannot this be done more economically, by making the stable warm, which is comparatively more lasting in its effect, than to be continually supplying food for this purpose? But not only that. If a cow, part of her energies are diverted from the production of milk, and if a steer, that fat which should go to increase the animal's weight is used up to produce animal heat.

Is it better to crowd the cows as close as possible that they may live in a tainted atmosphere, and make them warm a stable rather than the stable warm them?

Experience and science both combat this false and hurtful idea that possesses some, though happily few. Brother to this is the thought that a cold atmosphere must be purer than a warm one, simply on account of its coldness. Crowd animals in an unventilated stable, and be it cold or warm, it will become tainted and polluted.

Agriculture in our Rural Schools.

(Continued from October.)

This paper was read by the previous editor at the annual convention of the Teachers' Association, held in Toronto, 16th August, 1888.

It is very evident the author of this book will have no easy task. He must be a thorough master of his subject and cunning in the art of book-making above most of his fellows. Such a one will indeed be a public benefactor. Show me the man who has successfully accomplished the task and I will show you

the man worthy of double honor. He it is who should wear the lordly apparel and the garland of dignity, and before whom it is meet they should cry as they lead along his lordly steed through the public places, behold the man whom the Government and all Ontario delights to honor!

In the general directions of the departmental regulations I find the following in reference to the use of the authorized agricultural text book: "Special attention should be given to such points as, how plants grow and what they feed upon; how farms are beautified and cultivated; the value of shade trees; what trees to plant and when to plant them; the relation of agriculture to other pursuits; the effect of climate on the habits of a people; poetical selections on rural subjects; talks on natural history, should form part of the instruction of every Friday afternoon." I don't know who wrote these regulations, but with all due deference to the gentleman, I fear he was a book farmer. It is very well to know "how plants grow and what they feed upon," and something of this should be embodied in the text-book. Nor is it unimportant to know how to beautify farms, but less so than to know how to make them profitable. "The relation of agriculture to other pursuits," and "the effects of climate on the habits of a people," are not of little moment, but the study of these is certainly better adapted to maturer minds. The "poetical selections on rural subjects" I would relegate to the farmer's fireside, and leave the "talks on natural history" as part of the Friday afternoon exercises.

In the compilation of our text-book it should never be forgotten that the large majority of those who study it will never attend a higher school, and therefore the overwhelming importance of having it filled brimful of knowledge that is intensely practical.

I need scarcely dwell here upon the best mode of teaching it, for this has been already indicated. To my mind the mode of imparting and impressing truth by question and answer is much more effective than by means of the lecture. The first method compels some measure of attention, and is a sure gauge of the degree of interest taken by the pupil, while the latter gives unlimited latitude to listlessness and abstraction. Such a work would of necessity be adapted only to the higher forms, but children in the lower might be reached by an occasional lesson in the reading books on some feature of the great, grand science. Why wouldn't a reading lesson on the art of butter-making, free from all scientific technicalities, prove of immense service to the maidens and future matrons of the farm, and what harm would it do to any one? I am not one of those who find pleasure in saying that the former days were better than these, but the grateful memories that linger around the reading books of the old national series lead me to say this, that they were not only useful as text books to teach reading, but were at the same time replete with information on useful subjects. In that respect they excelled the readers of to-day, which have scarcely one lesson where reference is made to agriculture.

The relative importance to agriculture has already been touched upon in an incidental way. Its relation to other callings is not obscure. It is to these what rain and the sun are to agriculture. In most countries the measure of agricultural prosperity is the measure also of the prosperity of the artisan, the mechanic and the manufacturer, and of the professions as well. It is the oil and wine that mollifies the festering wounds of depressed business periods, and brings about more auspicious times. Improved agriculture means higher pay to workmen generally, whether handling matter or mind. Teachers of schools will form no exception; therefore, viewing the matter in the low light of self-interest, they should be diligent in teaching this subject. And because of its beneficial reflex influences upon all other material interests, the educational authorities should be diligent in procuring suitable text books.

The communities to whom agriculture may be taught should be clearly defined. It is surely reasonable that teaching it should be obligatory in all rural public schools, if the teaching of any other branches is made obligatory, for all dwellers in the country are more or less directly interested. In villages it might be left optional with the parents whether their children should study it, and in towns and cities with the school boards whether it should be taught at all.

It is quite possible that all the landmarks that fix the limit of its claims upon other classes may not be very easily pointed out. That agriculture has claims upon the favorable consideration of the whole com-

munity has already been shown, but the extent of these claims has not been defined. The forest of the vision here is so thick with underwood that I frankly confess I can scarcely see the light on the further side. Agriculture in Canada is unquestionably the great mustard tree, and the fowls that repose on its branches should be encouraged to do so, but how far they should be compelled to eat of its fruit is an open question. The lawyer of the city might not wish his son to spend time in the study of agriculture, while the member of the school board might choose differently in the case of his son. But the obscurity that hangs over this part of our subject will be dispelled before the advancing light of the expression of public opinion, which will ultimately make known the desire of majorities, as to how far the landmark that marks the limit of the introduction of this text book shall extend. In the meantime let us have the work at the earliest possible moment, and may it be a worthy forerunner of a magnificent Canadian agricultural literature that is yet to be.

(Completed.)

The Wisdom of Using Pure-bred Sires

Although instances innumerable present themselves attesting to the wisdom of using pure-bred sires, yet we seldom have the pleasure of placing before our readers such a clear case of benefit as the following: Mr. John Easterbrook, of Aldershot, Ontario, has a grade Jersey, four years old, that calved the middle of March, 1886. This animal, although then not two years old, has milked continuously from the time she first calved up to the fore part of August, 1888. During this interval she has nourished two calves; the last one she dropped September 1st, 1888, after being dry three weeks. But this is not all. The quality of her milk for butter-making is vouched for by the fact that when the rest of the herd went dry this one animal kept a family of ten in butter during two months up to the middle of June. This cow had a common cow for her dam, so common that she was inclined to go dry three months before calving; but herein lies the cause of such wonderful results, she was sired by a pure-bred Jersey bull, Thalmar, owned by Mr. Valancey E. Fuller. Could the most fertile brain invent a tale more illustrative of the oft-repeated maxim that "the bull is half the herd." We venture to say that there are hundreds of animals in Canada to-day that could give equally as good results either for beef or milk, if only improved by the use of pure-bred sires. Heading the herd with an animal worthy to do so, and then following this up with continuous and careful selection of dams, will in time produce a marked effect on the returns of the milk pail or butcher's block.

Western Fair at London.

Despite unfavorable weather the time-honored reputation of the Western Fair Association to devise an exhibition and carry it to a successful issue once more asserts itself. We do not allude to the so-called "special attractions," but to the more instructive and beneficial departments, consisting of the exhibits of live stock and agricultural produce.

CATTLE.

In this department the competition was especially strong. Representative herds of all breeds (with the exception of the Devons) were on exhibition.

Shorthorns—The hue and cry, still echoing in the distance, raised by some, that the Shorthorns have reached their greatest development and cannot even maintain their former prestige, does not apply to Canada, and it only needs a gathering similar to that at London to refute such statements. Bow Park Farm, of Brantford (T. Nelson & Sons, John Hope, manager), exhibited a herd of splendid animals. Mr. Russell, of Exeter, also had a number of well-bred animals, including a choice yearling and a promising bull calf. Five head were shown by Mr. J. Morgan & Sons, of Kenwood. These gentlemen show a

heifer of many good qualities, possessing depth and breadth, alongside of a bull calf of great evenness and symmetry.

Mr. C. M. Simmons, Ivan P.O., had a number of animals headed by his splendid show bull of grand proportions. We particularly noticed among the others a two-year-old of excellent stamp. Other exhibitors possessing animals equally deserving of notice and criticism, were the Smith Bros., of Exeter and Innerkip; H. Thompson, St. Marys; E. Gaunt & Sons, of St. Helens; H. J. Davis, Woodstock, and Shore Bros., of Westminster.

Herefords.—The "white faces" with their mossy and protective coats, were, on the whole, of excellent quality.

Mr. F. A. Fleming, of Weston, Ont., had on exhibition eleven head of vigorous and sturdy looking animals. Mr. M. H. Cochrane, of Hillhurst, P. Q., shows six head, including their stock bull Cassio. This animal is at present in fine show trim. His most marked excellencies are his fine handling qualities and depth and breadth of loin.

Aberdeen Angus.—The many qualities of the "black skins" were brought out clearly by the splendid exhibits of Messrs. Hay & Paton, of Kinnoull Park, New Lowell, Ont., and M. H. Cochrane, of Hillhurst, Compton Co., Que. The first mentioned firm had present fourteen animals. These were headed by the peerless Chivalry, whose prize-winning record should cause those who own him to feel justly elated over their possession. A herd of eleven head is also shown by Mr. M. H. Cochrane, of Hillhurst, including his stock bull Lord Hillhurst. Symmetry is a marked feature of the whole group.

Galloways.—We have heard it averred that as strength of bone and thickness of skin are noticeable features of the Scotch breed, breeding for quality would amount to naught. If those that accept this could have glanced along the row of fine animals owned by Mr. Thos. McCrae and Mr. Kough, of Owen Sound, they would see that tact and skill is as valuable to the Galloway breeder as to the Shorthorn devotee. Formerly Mr. McCrae was almost alone in his glory, but now he has a worthy competitor in Mr. Kough, who had eleven head of good animals on exhibition.

Ayrshires.—The Ayrshires were out in goodly numbers. Mr. Thos. Guy, of Oshawa, showed a herd of fourteen head. The Kain Bros, Byron, Ont., exhibited twelve head; Mr. M. Ballantyne, of St. Marys, five head, and Mr. Geo. Hill, four head.

Jerseys.—About thirty head of these animals were shown. The principal exhibitors were Mr. J. Turner, of Lakehurst Farm, Oakville; S. Smoke, Canning, Ont., and J. Leys, M. P. P., of Pickering. Mr. Cochrane, of Hillhurst, also showed a bull of this breed.

Holsteins.—The Wyton Breeders' Association had a fine lot of this breed, and the stock bull was a worthy competitor of that of Mr. J. Leys, of Pickering, Ont. The latter gentleman had about fifteen head, including his stock bull Adanac.

HORSES.

In this department bad management was plainly discernable. For instance, after hunting up the owner of a certain stall and seeing part of his animals, you are informed that he has several others on different parts of the ground. Go with him you must if you desire to see all the exhibits. Thus you spend most of the day walking across from one side of the ground to the other, accomplishing little though working hard. On this account we cannot report this department as the merits of the exhibits deserve. The final turnout on the second last day enabled us to get a partial glimpse of the quality of the horses shown and from this we think the exhibit was certainly a credit to those taking part in it.

Mr. W. H. Millman, of Woodstock, Ont., had a splendid group of horses numbering eight head. Among these was a 4-year-old Yorkshire coach horse, Sir Aduan. He possesses a grand barrel and fine knee action, though some, perhaps, would like him to be more rangy. An English Cob pony, 3 years old, was also shown. He is exceedingly well put together and of good bone. Two teams of Shires, one 3 years old and the other 5 years old, were included. The younger team were of good bone and substance, and as much can be said of the other team. Pride of Galla, a 4-year-old Clyde, was also an animal of fine bone and free and elastic action. Considering that these animals were all, with the exception of the Coach horse, imported during the month of Septem-

ber, they speak volumes for their caretaker and for their own constitutions.

Mr. P. Farrel, of Woodstock, exhibited a fine team of draught horses. They were well muscled, splendidly shouldered and weighty. This gentleman also had another team of 3-year-olds of fair quality and well built, and a 1-year-old trotting stallion out of Bookmaker, of good promise.

Longfield & McLaughlin showed a 7-year-old Shire stallion of many good points. He was well coupled and quartered and stood about 16½ hands.

G. F. Gurnett, of Oakwood, Ingersol, showed a light mare and also a 3-year stallion. The latter animal was of splendid bone, free and easy action and of first class breeding.

W. Vanpatter, of Aylmer, Ont., had a thoroughbred horse, Lapidus King, on exhibition. He was well coupled, rangy and full of spirit.

A 3-year-old Canadian bred Coach horse was shown by A. Hughes, of Kenwood, also a young 3-year-old filly. The latter had a magnificent shoulder, but lacked hone compared with the former.

We regret that we cannot do justice to this department, and we feel that until better facilities for getting information are provided, this feature of our exhibitions will ever be deficient in this respect.

SHEEP.

Although not of equal merit with some of the other departments, yet the sheep were on the whole good.

Cotswolds.—Messrs. Laidlaw & Jackson, of Westminster, had a flock of 29 head. In this flock was a ram, 3 years old, that was said to weigh 500 lbs. Thirteen head were also shown by J. Park, of East Oxford. Mr. McArthur, of Lobo, was also an exhibitor.

Lincolns.—The chief Lincoln men were Wm. Oliver, of St. Marys; Wm. Walker, of London township; A. Huslop, of Westminster, and H. Snell & Sons, of Clinton. From the foregoing names the conclusion may be justly drawn that the showing was good.

Leicesters.—These were out in good force. Messrs. Gaunt & Sons swelled the list with 13 head, while Messrs. Snell & Sons, of Clinton, Wm. Somers, St. Marys, and Wm. Fleming, of Westminster, materially aided in making the turnout of this breed very creditable to all concerned.

Oxfords.—Mr. Peter Arkell, of Teeswater, was the principal exhibitor. Mr. E. Grant was the only one who competed with him.

Shrops.—As usual the Shrops showed up well. Mr. W. H. Beattie, of Wilton Grove, had a flock of 25 head. Messrs. D. G. Hanmer & Sons, of Mount Vernon, showed a number, of good form and fleece. Other exhibitors were Mr. Wright, of Westminster; Snell & Sons, of Clinton, and J. Charlton, of London.

South Downs.—Although his flock was divided, Mr. Jackson, of Abingdon, showed a number of the usual good quality. Eleven head were also shown by Mr. A. Teller, of Paris. J. Barker, of Simcoe, also helped to better the Southdown record.

Merinos.—Mr. R. Baillie, of Union, had a flock of 20 head of these fleece raisers. Mr. B. also had a pair of fat wethers, which, by the way, succeeded in carrying off 1st prize in this class, open to all breeds. Mr. G. Deo also had a number of these animals, he being Mr. Baillie's sole competitor.

SWINE.

The swine exhibit, both in numbers and quality, was certainly a credit to those taking part in the display. Mr. Geo. Green, of Fairview, had a fine showing of Berks, 20 head in all. Improved Chesters were shown by E. D. George, of Putnam, Ont. J. Featherstone, of Credit P. O., breeder of Essex, Large York and Suffolks, also had a number of these animals on exhibition. As a guarantee of the merit of the exhibits, it is only necessary to mention the following breeders who took part: Simmons & Quarie, Ivan P. O.; H. J. Davis, Woodstock; Kains Bros., Byron; J. Auckland, Delaware; Geo. Hill, Ivan P. O., and Ed. Kendrew, Pond Mills.

Great Central at Hamilton.

If attendance be deemed a criterion of success, then the Great Central may justly claim that honor. We noted, however, that in the live stock department there was a noticeable deficit of exhibitors except in the line of horses. Animals were not lacking in merit

but there was a want of numbers. This may be accounted for by the number of other fairs that were held the same week.

CATTLE.

There was little competition in most of the classes. The Polled breeds were not represented at all.

Durhams.—In this class the chief contestants were R. & S. Nicholson, of Sylvan, Ont.; J. & W. B. Watt, Salem; Prof. Shaw, formerly of Hamilton, now of the Ontario Agricultural College, and J. R. Martin, of Cayuga.

Messrs. Nicholson had a herd of ten head, including their stock bull Warrior and a number of his get. He is a grandly quartered bull, of good depth and length. Among others, we had our attention drawn to a fine bull calf and a promising one-year-old.

The most noticeable feature about the Messrs. Watts' lot of ten head, was the excellent handling quality of the whole, from the bull down to the youngest. Perfection, a fine yearling, is a credit to his sire, the well known Barmpton Hero. A two-year old heifer Pauline, of excellent form and quality was also shown. Three other young heifers of equal merit complete the list.

Prof. Shaw exhibited a number of animals that attested to their breeder's skill. The eye was caught immediately by the evenness of the whole group. The county prize for best herd of Durhams was captured by this lot, and also third in the herd contest, open to all.

In grades and the fat class this gentleman was especially very successful, carrying all before him in the former class, and securing two reds in the latter.

Mr. J. R. Martin, of Cayuga, also had a number of good animals. He succeeded in getting second on a two-year-old bull of fine symmetry and quality.

Mr. Terryberry's exhibit consisted mainly of grades, on which he obtained a number of prizes.

Mr. Atkinson, of Guelph, had eight Shorthorn grades in all. They succeeded in obtaining for their owner a fair share of the prizes open to them.

Herefords.—There was a great want of competition in this class, Mr. R. Mackie and Mr. L. G. Drew, both of Oshawa, being the sole exhibitors. The former gentleman's stock bull Cecil, possessing loins of great depth and breadth, showed but little of the Hereford weakness in the quarters. A pair of tidy heifers, Silk and Velvet, prize winners from the time they were old enough to exhibit, were also shown.

Mr. Drew had on exhibition two bulls, one a year old, the other a calf. The latter is out of Conqueror, of the Guelph Experimental Farm, and shows the stamp of his sire. Halstock is a grandson of Lord Wilton on his dam's side, and the same of Horace V on his sire's side. His appearance does not belie his breeding.

Ayrshires.—While the cow boys made the air ring with the discharge of their fire arms in sham battle, a quieter contest was being held on the little mound near the cattle stalls. Mr. J. McCormick, of Rockton, and Mr. A. Gerrard, of Hamilton, were contesting for the herd prize in this class. The latter gentleman gained the supremacy. Mr. Gerrard had the advantage in the stock bull, but not in the females. In the latter, Mr. McCormick was especially strong, having some fine looking cows in his herd. Other exhibitors of good animals were Wm. Smith, of Fairfield Plains, and E. W. Ware, of Burlington.

Jerseys.—Oaklands Jersey Stock Farm was well represented, and as usual succeeded in obtaining the best places on the prize list. Canada's John Bull and a fine lot of his get were shown.

Mr. E. Thomas, of Burlington, succeeded in wrestling second on a two-year-old bull from Oaklands

Holsteins.—The principal exhibitor was R. S. Stevenson, of Ancaster. He had eight females and a bull. They were animals likely to give a good report at the milk pail.

SHEEP.

Cotswolds.—Messrs. J. G. Snull & Bro., of Edmonton, were the chief exhibitors. With their flock of 18 head they succeeded in carrying off many of the prizes. Mr. Wm. Perch, of Blackheath, however, followed them closely in most of the sections.

Leicesters.—J. Kelly, of Shakespeare, had a flock of 22 head of the usual quality. Mr. J. Nood also showed a flock of fine animals. Other exhibitors were Mr. Little, of Waterdown and Mr. Easton, of Nelson.

Oxfords.—There were only two with flocks of this breed, J. Tolton, of Walkerton, and S. Evans, of Gourcock. The former had 19 head and the latter 17. The prizes were very evenly contested, Mr. Evans succeeding in getting the pen diploma.

Shrops.—Mr. J. Campbell, of Woodville, had a fine flock of 20 head, and succeeded as usual in obtaining many reds. Ormsby & Chapman, of Oakville, had a pen of lambs of fair quality.

South Downs.—Mr. J. Jackson & Sons, of Abingdon, and A. Simenton, of Blackheath, well represented this breed. The former succeeded as well as customary with his noted flock.

Dorsets.—Twelve head of these animals were shown by V. E. Fuller, of Hamilton, and 8 head by Mr. Rolph, of Markham. This breed gives every indication of staying with us, as their admirers are increasing rapidly.

HORSES.

This department was undoubtedly the best on exhibition. To enumerate the separate animals and criticise them would be simply impossible. The younger members of the light horses made a very creditable showing and the same may be said of all the carriage and thoroughbreds. We can only find space to note a few of the exhibits, and we do not choose these because they were superior in merit over others.

Heavy Draughts (Imp.)—A number of splendid animals were shown in this class, but J. Fothergill, of Burlington, secured the red ticket with a 5-year-old Clyde of splendid quarters fore and behind, and with grand action for so heavy a horse. A. Harvey, of Kirkwall, secured second place with a dappled and well muscled, though rather light-bodied Clyde. In the 3-year-old class the honors fell on Mr. Isaac Balmer's (Burlington) grandly coupled animal. Messrs. Ormsby & Chapman had four Shire youngsters. They succeeded in obtaining 1st and 2d in the 2-year-old class and 1st in the 2-year-old filly class. The animals were lately imported and consequently not in first-class show condition.

Canadian Bred Draughts.—Among these we noticed particularly a likely looking stallion owned by J. & R. Morton, Carlisle, and another heavy bodied black, owned by J. McLagan, of Ancaster. In the 3-year-old class, Mr. A. McConachie, of Oneida, secured the red, while in the 2-year-olds, Mr. R. Young, of Beverly, obtained 1st with a stallion of heavy bone and fair body.

In the class, agricultural horses, stallion, 3 years old and upwards, Mr. Ed. Cox, Tyneside, secured 1st on an animal of good action and muscle. The first place in the 3-year-old stallion class was taken by Thos. Macklin, Hamilton. In the 2-year-old, J. Calder, of Carlisle, showed a well topped animal and succeeded in getting 1st on him. The Oaklands Jersey Farm obtained 1st and 2d on two teams of draught horses, Mr. J. R. Martin, of Cayuga, obtaining 3rd with a heavy team of geldings.

Thoroughbreds.—In this class the principal exhibitors were Wm. Hendrie, of Hamilton; John Dymont, of Orkney; J. R. Martin, of Cayuga, and J. Milton, of Paris. Quality was the special feature of this exhibit. J. Milton took first honors in the 4 year and upwards section with a handsome animal. Mr. J. R. Martin showed a markedly even and finely chiselled 2-year old, while Wm. Hendrie secured 1st on a yearling colt. J. Dymont took 1st and 2d on brood mare with foal by her side, and also the same on the foal alone.

Carriage Horses.—In every section of this class the competition was keen and close. In the aged stallion section 1st place was given to Orr & Hainson, of Milton, while A. Wilson, of Paris, followed a close second. In the 3-year-olds, A. Allan, of Ancaster, led the van with a dark brown, rangy stallion, a fine, firm boned, though rather light quartered chestnut of E. Scott's, being second. A. Wilson, of Paris, obtained 1st on a rangy light bay, in the 2-year-olds. Among the 1-year-old stallions some fine judging was called forth. The honors went to a well limbed animal of P. Miller's, of Binbrook. J. Dodd, of Nelson, obtained second place with a well-coupled and solid-bodied youngster.

To attempt to comment on the remaining exhibits in the carriage class, the geldings, etc., would be an impossibility, owing to the strong showing that was made. On this account we can only say that there is the material in the surrounding districts for the building up of a grand lot of light horses if the number and

quality of this exhibition may be accepted as a basis for such a statement.

SWINE.

Berkshires.—The principal exhibitors were Prof. Shaw, Thos. Wilkinson, N. H. Wickett, York, and Jas. Main, of Boyne. The first named gentleman took first on aged boar and also on aged sow. Mr. N. H. Wickett secured a red on a sow under one year. The quality of all the animals shown was good, and well sustained the past prestige of the Berk.

Suffolks.—Messrs. R. Dorsey & Son, of Summerville, and J. McAllister were the sole exhibitors of this breed, and between them the spoils were divided.

Essex.—Mr. J. Featherston, Port Credit, was the only representation of these fine quality porkers.

Yorkshires.—In this class the main contestants were Ormsby & Chapman, of Oakville; J. Featherston, Dorsey & Son and Thos. Wilkinson, of Hamilton. The greatest competition of all classes in the swine department was here, and close judging was necessary, yet Mr. Featherston obtained a red on aged boar, one on a boar under six months and another on a sow under six months.

Ormsby & Chapman secured a great many seconds, while Thos. Wilkinson gained first on a boar over six months and under one year.

Poland Chinas.—W. M. Smith, of Fairfield Plains, and Dorsey & Son were the only exhibitors, and between them the honors were about evenly divided.

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.

Reforms at the Industrial.

On entering the grounds one was at once struck with admiration at the ability of the administration in collecting so vast a multitude of all sorts and conditions of men, women and children, not omitting the inevitable babe in arms, into a space where there was barely comfortable standing room. In this respect there is no doubt the Industrial was a success, and there can be no question that the grounds should be considerably enlarged by next year. The board of management should bear in mind that a large proportion of the exhibitors and a great many visitors attend the Exhibition with the object of buying and selling, and it is obvious to the most unobservant that, owing to the crowded state of the sidewalks and alleys, business was almost impossible, even if by extraordinary good luck you happened to see the man you wanted. The plan as well as the arrangement of the horse-stabling is certainly not a success, but is as bad as bad can be, and would be a disgrace to any third-rate show: every horse shut up in a close stable, many locked up. Catalogued numbers were certainly nailed up, but did not run consecutively, and were consequently about as much use as the fifth wheel of a coach. About the best rule to adopt, if one was searching for a heavy draught horse, was to try and find a Shetland pony, the probability being one would find a heavy draught horse next to it. How easily all this inconvenience might be obviated and much trouble saved, both to exhibitors and visitors, as well as the superintendent, by simply adhering strictly to the letter of the rules. Refuse all entries received after the day specified as the date of closing, and at once commence making out the catalogue, allotting stall No. 1 to No. 1 in the catalogue, and so on, then send out to each exhibitor the number of his stall along with his entry ticket, so that on his arrival at the show ground all he would have to do would be to call at the superintendent's office for the key; then there could be no complaints of favoritism, as is frequently heard. It may be said that this plan would cause a waste of stabling, as some of the entries might not come. Even if it does, is it right that a society, after accepting the entry fees, should be allowed to speculate on so many entries not turning up? Supposing all the entries came, would they have to remain tied up round the track fence while new stab-

ling were being built? If a man pays for a stall I contend he is entitled to keep it empty if he chooses. The plan of the present stabling belongs to the dark ages, and it is time Canadian exhibitions got out of the old rut, which is now worn so deep it seems almost impossible to pull out of it. It is to be hoped the honor of so doing will be achieved by the Industrial, and that soon. In the meantime I would suggest the following scheme to the board of management, who are, I believe, contemplating putting up new stabling: Instead of building long narrow stables, build large, airy, well lighted stables, having a row of stalls up each side, with a broad and ample passage up the centre, and do not be afraid of the passage being too broad, but allow for the increase in population of the city. The horses should stand in the stalls with their heads to the outside walls and their hindquarters to the centre passage. For stallions and brood mares, instead of stalls, on each side of the centre passage there should be a row of loose boxes; the side of the boxes next the centre passage should be boarded up to about 4 feet 6 in., and above that iron bars, so that people can see from the passage without going inside. The sleeping places for the grooms, as well as room for feed could be made above each stall or loose box, and at night the outside doors of the stable should be closed and a watchman be on duty in case of a horse getting loose or other accident occurring.

Let me also urge the board to form a smaller judging ring for horses shown on the halter, apart from the driving-track, the acrobats, etc., where the genuine lover of the noble quadrupeds may tranquilly enjoy a view of the judging, with the naked eye, instead of an opera glass, to which he is now almost reduced. It would likewise be a boon to horse exhibitors, as many a time have they had to stand waiting, and sometimes not for short intervals either, in the large ring, while some performance went on.

The prize-list of the Industrial is always liberal, and the directors have hitherto acted generously, whenever their attention has been drawn to any desired increase or alteration in it. There are one or two points worthy of their consideration, and which would tend not only to increase the interest in the competition, but also lead to additional entries. No prize is given, as there is at the Provincial, in each breed of cattle for the best female of any age, although a medal is given for the best male. This is always a contest of great interest at the Provincial, not alone to the exhibitor but also to the public.

Again, in the calf classes, in which the competition is always very large, especially in Shorthorns, both in the male and female classes, only three prizes, and all of very small amounts, are given. Why not increase amounts a little, and offer a fourth, and even a fifth prize? The additional expense would be very trifling, and would result in a still larger exhibit.

AGRICOLA.

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.

Shorthorn Pioneers.

BY D. M'CRAE, GUELPH, ONT.

(Continued from October.)

The arrival of Rowland Wingfield at the new town of Guelph on that sultry September afternoon, was quite an event, and he was soon surrounded by the entire population, curious to see the animals all the way from "old England." He was the hero of the hour, and as such was feted and feasted. The stock got the best accommodation to be had, and we can follow their owner a day or two after, down to his Puslinch farm for his first visit. They came by the

Waterloo road, the same by which only five years before, John Galt and his party had been guided by an Indian through the wood, to the site of the future royal city. Then it was only a rut-marked way, winding around the trees and stumps; now it is a fine avenue with double rows of maples and elms on either side. It leaves Guelph running southwest, nearly parallel to the river Speed, and only the width of a field from it. About a mile from town a rising ground is crossed, from which can be seen a fine view of hill and dale, farms, orchards and homesteads. Away to the left in the distance is the agricultural college, and close at hand the valley of the Speed, with glimpses of the water here and there among the trees. In those by-gone days the scene was different—all woods, no clearings had been made of any size—nothing could be seen but trees, unless, indeed, the Indian camp just below the ridge, sent its smoke curling up from many wigwams. Just here the old Indian trail from Niagara to the Georgian Bay lay along the bank to the Speed, and here, for many years after, every fall an Indian tribe came to hold a grand feast and dance. It is said this was in commemoration of a great battle fought near this spot. For days, with much energy, high carnival was held, and the red skin gave himself up to feasting and enjoyment. They have long since gone; their very name is forgotten. This Indian trail for a time, and then the blaze through the woods would be his shortest and best road. Now the highway turns to the right, and the first turn to the left leads us past Woodlands, the residence of Walter Sorby, and the home of the Clydes. Next to it is the Wingfield farm; the corner posts marked R. W., 1831, are still there. We find a bit of bush still next the road on the line, but going through it we come to the river, running shallow over a rocky bed, and over against it a fine pasture-field that has never yet been ploughed, rich with blue grass and white clover, with a clear, cool, murmuring brook winding through it, the home still of a few speckled trout. The field is thickly sprinkled with limestone, and rises gently from the river. Across this field we find, on a gravelly ridge, an old orchard, and among the long grass stumble over the remains of an iron window-frame, and other signs of the Wingfield homestead. But when Mr. Wingfield reached it that September day, it was quite different. The house was not up; the land he had arranged to have cleared the winter before, and which now should have been under a crop of grain, was only slashed. The work had been neglected, though pre-paid, and there was no home there for the red, white and roan. He therefore arranged with Mr. Samuel Rife, who had a clearance a few miles down the Waterloo road, to take the stock and winter them. He set to with a will and soon had the land cleared and the house up, and by the next spring was able to take his stock home. With as yet no pasture, and only the food that the woods afforded, or the long grass of a beaver meadow near by, the Shorthorns did not fare very well. The neighboring settlers saw the advantage that such cattle were sure to give, and the bulls were largely patronized. Mr. Tolton, of Eramosa, which township had been settled before Guelph, purchased a bull from Mr. Wingfield. His neighbors thought he was crazy when they heard the price; but the very first year showed that Mr. Tolton knew very well what he was about. He received over \$150 for services that season, and some two years after sold the animal at an increased price to an American. Mr. George Tolton, of Guelph, remembers well, when a boy, making many trips down to pay sundry instalments in coin on the price of this bull. This was the first thorough-bred animal in

Eramosa, which has since had many good ones, and his stock took from the first a prominent place in the township. Of other early purchases I have not been able, so far, to learn anything.

Mr. Wingfield became a candidate for Parliament. The district was large and scattered, and the contest was conducted on the old-time lines of open house for all. As many of the inns as could be got to support him kept open house for all who might call for food or drink in the name of the candidate. This was carried on for weeks. A candidate from one of the more thickly settled parts of the riding was elected, and when the bills came in they were found so large that Mr. W. could not pay them without selling his farm and stock. Mr. John Howitt, of The Grange, Guelph, was the purchaser, and bought the property with all the live-stock. The whole were handed over. There was a dispute over the collie, Stranger, but even he had to go; and the Shorthorns were then transferred to The Grange. The homestead is still the property of the family, the eastern 400 acres, which includes the part on which the original bridge stood, being the property of Dr. Henry Howitt, of Guelph, and the western 400 that of Mr. Alfred Howitt, of Gourack.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Carp Culture.

BY D. NICOL, CATARIQUI.

(Fourth Paper.)

ENEMIES OF THE CARP.

The carp, like almost every other living creature, has many enemies, and when partially domesticated, becomes the more easily preyed upon by several of them.

The Kingfisher is one of the most persistent of birds, and it is really surprising to see with what alacrity he catches and kills young fish. He perches on an overhanging branch or on a stump or whatever he finds most convenient, and with a remarkably keen eye watches for his prey to come near the surface, when he darts on it with almost lightning speed, very seldom missing his mark. He swallows a fish much larger than one would suppose, for although he has a large beak, he has but a short body, consequently the tail of the fish he sometimes tries to swallow may be seen for a time sticking out at the side of his mouth, presumably until digestion of the fore part leaves accommodation in his stomach for the remainder.

When the rascal has satisfied his own appetite he often fishes for amusement, dropping his game on the ground; this may, however, be more with the view of showing the young kingfishers how it should be done. Being very presumptuous, and not at all timid, he is easily approached with the shot gun, which is the easiest preventive for his depredations.

The Crane is most admirably adapted for the business he follows, which is chiefly that of catching young fish. With legs twenty inches long, he plants himself in shallow water, and stands so dead still that the fish, never suspecting him to be a living creature, approach in shoals so closely that he, with his bill seven inches long, lengthy neck and keen eye, seems to have but little difficulty in obtaining abundance of food. But the carp pond seems to be his delight. This may perhaps be because the young carp are less timid than some other kinds of fish. The crane is, however, never in a hurry, and is easily reached with the shot gun. The best time to take him is just when he is rising on the wing; then the merest novice at shooting would hardly miss him.

The Fish Hawk (Osprey), with his eagle-eye, has a wonderful faculty for discovering convenient places, such as carp ponds, for his operations. He does not

deal in small fish, but in the breeding season carries off to his eyrie fishes more than half the size of himself. He is a shy bird, and to reach him with the gun requires considerable strategy. He should, however, not be allowed to frequent the carp ponds.

Herons and Bitterns, during the summer months, live chiefly on young fish; when they can be got conveniently, and should not be allowed any privileges about carp ponds.

Ducks and Geese, wild or tame, must never be allowed access to breeding ponds. The eggs of the carp are deposited on the under side of the leaves of plants growing near the edge of the pond, and there is no food more acceptable to this class of waterfowl than the spawn of the carp. They also catch young fish of larger size than would be supposed by persons not knowing their habits. Where ducks or geese are permitted in breeding ponds carp cannot increase.

Black snakes greedily devour spawn and fry, and should be shot at sight.

The Mink is a notorious fish thief. His presence is readily known by the remains of large fish to be observed lying on the banks of the pond near his place of entrance. He operates most actively in the fall of the year when ponds are covered with ice, and the carp have become lethargic and dull. Being a very expert swimmer, he seems to have but little difficulty in catching his prey, for he sometimes lands a large pile of fish in a very short time. Whether this is done with a view to future supplies, or mostly for the sport of it, one cannot say. He must not, however, be allowed such privileges in your carp pond longer than it is possible to prevent him. He is easily trapped as he almost invariably enters the pond by the same runway down the bank. A steel trap set just under the water where he enters, is pretty sure to catch him.

The *musk rat* does not catch fish, but he often plays sad havoc with dams, burrowing in the embankments and starting leaks, which result in washouts, and consequently great loss of fish. In this way I have found them a great annoyance. There are many contrivances now invented to prevent his depredations, but the simplest and most convenient that I have found, is setting steel traps partially concealed in the mouth of their holes, which are generally made to enter the bank just below the surface of the water. This enemy should be strictly watched and not allowed to propagate the species near carp ponds.

Turtles seem to have a peculiar liking for the spawn and fry of the carp. A plank floating in the pond affords them a desirable situation for sunning themselves, and makes them a convenient mark to practice with the rifle.

Other *kinds of fish*, despite the most energetic efforts of the culturist, sometimes get their way into carp ponds, and although some kinds may not prey directly on the carp, they are inimical to their best interests.

Frogs of all kinds and *toads* also thrive remarkably well on the spawn of the carp, and should be prevented as much as possible from harboring in ponds intended for profitable carp culture. Hence the necessity of turning the water off each pond in the fall of the year, when you may place all such enemies at your mercy. In order to have the pond cleared of all such enemies the fish must be placed for a time in another pond; and when the ponds are empty, quicklime scattered over the bottom where the enemies are most likely to conceal themselves, is the most effectual remedy. Let the pond stand empty for a week or so, and when the water is turned in again let it stand for a few days before putting in the fish, otherwise they may be injured from the effects of the lime.

(Concluded.)

St. Anne's Jersey Herd.

Though the British lord or Scottish laird may entwine around their manors legendary tales of treachery, deep and sinister, it is the proud prerogative of Canadian homes to be at least undarkened by the blackened cloud of moral impurity, while it is the privilege of a few to have a halo of historical interest; in its pure, unmixed light, shed over their hearths.

To be numbered with these few is the honor due to Norwood Lodge, the property of Mr. Reburn, of St. Anne de Bellevue. Here, within these precincts, Col. Burnaby, the grandfather of Capt. Fred Burnaby, of Kiva fame, found solace in the riotous days of '37.

Amid these scenes did Tom Moore receive his poetic inspiration, which, bursting forth in the Canadian Boat Song, has endeared him to those who love the name of Canada.

At the first sale of Jerseys to be held in Canada (1871), the foundation for the herd was laid by the purchase of stock from Mr. S. S. Stephen, of Lachine, and it was at this sale also that Mr. R. S. Stephen bought the foundation animals of the far famed St. Lambert herd. Three years previous to this Mr. S. S. Stephens had visited the Island of Jersey, and while there purchased five females and the renowned bull Victor Hugo. At that time there was no herd book in existence, but all animals that had won prizes at the Royal Agricultural Show were branded on the hoof. Mr. S. S. Stephens, giving due prominence to this mark of merit, bought only branded stock. When in England he visited the Queen's show farm, and there selected five females and a male. From this importation the fountain head of the present St. Anne's herd was chosen, and it may be asked from what cleaner well-spring could they emanate?

Lady Fawn, of St. Annes 10920 (one of the first purchase), was dropped Oct., 1870, her sire being the noted Victor Hugo, while her dam was Lisette 492, imp. The latter sold for \$300 at Mr. Stephen's sale, the highest price paid for any of the females, and a very high one for a Jersey in 1871.

When only two years old Lady Fawn calved, and at this early age, with straw as the principal part of her ration, this being at that time the ordinary way of feeding in Quebec, she gave twenty-five to thirty pounds of milk per day, from which a family of five were supplied with milk, and seven pounds of butter made per week. Owing to the great contrast between her milk and that of the other cows in the herd (pure bred and grade Ayrshires) her owner decided to sell the Ayrshire bull and use only the Jersey bull on all the females. Thus, blending the Ayrshire characteristics with those of the Jersey, quantity and quality were obtained.

The herd was enriched in 1876 by the addition of three females, viz., Clematis of St. Lambert, Sweet Briar of St. Lambert, and Pearl of St. Lambert, selections from the herd of Mr. R. S. Stephens. These three cows tested shortly after their purchase 14 lbs. 3 oz., 22 lbs. 12½ oz., and 14 lbs. 2 oz. respectively per week. The females of the herd now numbered seven head, as Lady Fawn had at this time three of her daughters to share her honors. The first bull to head such a noble harem was Lord Melbourne 5147, and he was sired by Defiance 196, and out of Beauty 1319, imported from the Queen's show farm. One of Beauty's daughters tested 20 lbs. of butter in seven days.

Jack Frost, of St. Lambert, 2419, a son of Buffer 2055, better known as being the grandsire of the noted Mary Ann of St. Lambert, was the next to be used.

Jack Frost, as his pedigree would indicate—he being 62½ % of the blood of Pride of Windsor, who

distinguished herself as a butter producer—proved to be a splendid butter bull, and his performance did honor to his pedigree, as four out of his six living daughters tested 14 lbs. or over, and further, one of his sons, out of a daughter of Lady Fawn, sired Flower of Glen Rogue that tested with her second calf 23 lbs., 14¾ oz. per week.

The only 50 % Victor Hugo bull in Canada present is Hebe's Victor Hugo, one of the present stock bulls of this herd. The history of the descendants of his renowned sire is replete with examples of tests that stand unrivaled. He has now over sixty-six descendants in the fourteen pound list, and it is remarkable that the dams of the largest milking daughters of Stoke Pogis 3d are cows having 50 % Victor Hugo blood.

In 1862 the herd was again increased by ten head of pure St. Lamberts, viz.: Hebe of St. Lambert 5117; Pet of St. Lambert 5123; Jolie of St. Lambert 5126; Duchess of St. Lambert 5111; Lady May of St. Annes; Queen of St. Annes; Pauline 2d, Oaklands Nora, Bessy of St. Lambert, and two heifer calves, daughters of Bessy and Lady May.

Jolie of St. Lambert after dropping a heifer calf (Jolie of St. L. 3d) was tested, and on winter feed, consisting of hay in the morning, corn stalks at noon, and oat straw at night, with the addition of from two to three gallons of oats and one pint of linseed per day, she gave 298 lbs. of milk in one week, from which was churned 15.13½ lbs. of butter.

Being impressed with the results obtained, on what to-day would be termed a meagre ration, her owner sought out and bought her daughter, Jolie of St. Lambert 2d, she being sired by the great Stoke Pogis 3d, who was also the sire of Mary Ann of St. Lambert and twenty-seven others that have tested from 15 lbs. to 36 lbs. 12¾ oz., of butter in seven days. At the same time he also bought a son of hers, Romeo of St. L. 16600, sired by Richelieu of St. L., a son of Stoke Pogis 3d, his dam being Hebe of St. Lambert 5177, a daughter of Victor Hugo.

Romeo of St. L., now one of the stock bulls, possesses 93¾ % of Mary Ann's blood, the only difference in their breeding being that she has 6¼ % of the Pride of Windsor, and he has 6¼ % of Laval 506, instead. A daughter of Jolie of St. L. 2d, May Pogis of St. Annes, sired by Lorne 5248, was also purchased at the same time.

In 1884 when the boom in St. Lambert blood occurred, Mr. Reburn refused to part with any of his females, although large sums were offered him, as he knew that they could not be replaced. There are now only three living daughters of Victor Hugo, viz.: Hebe of St. L., Lady Fawn of St. Annes, both in Mr. Reburn's herd, and Lucy, of St. L., in Oakland's herd.

Wonderful results were obtained in the testing of Lady Fawn of St. Annes, in the early fall of 1885, though she was then fifteen years old and had calved on the 23d of May. From Aug. 9th to 15th, she gave 256 lbs., 4 oz. of milk, yielding 15 lbs., 4½ oz. of butter; Aug. 23d to 29th, 259 lbs., 8 oz. of milk, giving 15 lbs. 14½ oz. of butter; Sept. 8th to 14th, she gave 263 lbs., 4 oz. of milk, from which was churned 16 lbs., 12½ oz. of butter. Since this test was conducted she has not been fresh, but for nearly three and a half years she has milked twice a day, and at present shows no sign of dying off.

At the Toronto Industrial of 1885, this herd began their series of victories in the show ring. At the request of Prof. Brown, Jolie of St. Lambert was entered in the milk contest open to all breeds, and from which she emerged with first honors, having given 31

31½ lbs. of milk in twenty-four hours, from which was made 2 lbs., 3 oz. of butter. Like honors were given to Rose of Eden at London, but in this contest she was given 2d, though followed closely by Sweet Briar of St. L. In 1887, Jolie of St. L. 3d, won the red ticket in a milk contest at Quebec, scoring 99.314 points, the highest number of marks made by any Jersey in 1887. The cows that won the 1st and 2d prizes at Sherbrooke, in the previous year in this contest ranked 2d and 3d.

This fall, at Kingston, the herd carried everything before it, but special honor was achieved by Jolie of St. L. Not content with the silver medal in the sweepstake contest open to all breeds, she also obtained a silver medal for the best Jersey cow; a diploma as best Jersey female of any age, and 1st prize in the class over three years old. This in the face of fierce competition, for there were fourteen cows that entered for the sweepstakes.

Though only a yearling Romeo's Hugo of St. Annes secured the red ticket in the two-year-old class although there were three bulls competing, and besides this he secured 1st as the best bull of any age, beating Rioter's Pride, the bull that won the first place at Toronto last year over Canada's John Bull. His breeding upholds his appearance, for his ancestors are rich in Stoke Pogis and Victor Hugo blood, and his dam has given excellent results.

Competing six times for the herd prize, this band of Jerseys has secured it four times, besides one hundred individual prizes, seven diplomas, three silver and two bronze medals.

As the result of selection and breeding carried on with earnest zeal for a number of years, this stronghold of Victor Hugo's and home of the old St. Lambert stands forth in bold relief as one of the leading, if not the foremost, Jersey breeding station outside of the far famed Channel Islands.

The Care of Pigs in Winter.

One of the most common troubles overtaking pigs in this country in winter, especially young pigs, is loss of power in the feet, and sometimes extending to the muscles of the thighs. The affected animal reminds one of a human being whose limbs have become drawn up and distorted with rheumatism. When they are confined and fed food containing a large percentage of carbon, as corn, the trouble is almost sure to overtake them. It is aggravated by a damp bed to lie in. Now that winter is at hand, those owning young pigs should guard against loss from this source before it is too late.

It may be prevented by adopting certain simple precautions. One of these is feeding the pigs a mixed diet. If it include milk-house slop, oats ground, bran, corn or peas, ground or unground, roots and middlings, so much the better. It is not necessary that these be all fed in conjunction. Indeed several of them may be dispensed with altogether, but if they can be fed in turns occasionally, all the better for the pigs. Ground oats will serve a good purpose. Middlings are excellent for growing pigs. Much bran is not required. Roots may be fed in moderation every day, and if the pigs are to be marketed in the spring in good shape, they must be fed corn or peas somewhat freely.

It is absolutely necessary that they have some exercise, and if it can be arranged for them to have the run of the barnyard a portion of the day, there is not much likelihood that they will go wrong.

The bed should be frequently changed, more especially when the weather is cold, to keep it dry. When they do go astray, lowering the diet, and thus

trying to induce them to take exercise, seems to be the only remedy, which can never be applied but at a serious loss, for they seldom or never become so thrifty again. To this must be added non-improvement in condition during the rheumatic period.

We are of the opinion that pigs cannot usually be prepared for market in winter so profitably as in summer, notwithstanding the better price of spring pork. Then their hair so imperfectly protects them from the cold of our winters, that a large proportion of the food is expended in keeping them warm. The exercise, so necessary to keep them well on their feet, also adds to this waste. But it would not answer for all to give up keeping pigs, in winter, more than their brood sows, for our local markets give good prices in spring for fall pigs, weighing about 150 lbs. when marketed; and they can be grown at paying prices when judiciously fed and cared for.

Brood sows should have the run of the barn-yard at least a portion of every day. It is simply marvelous how they get along in a yard containing other stock without injury, even when near the time of farrowing. Their food should be liberal, but not excessive. Corn

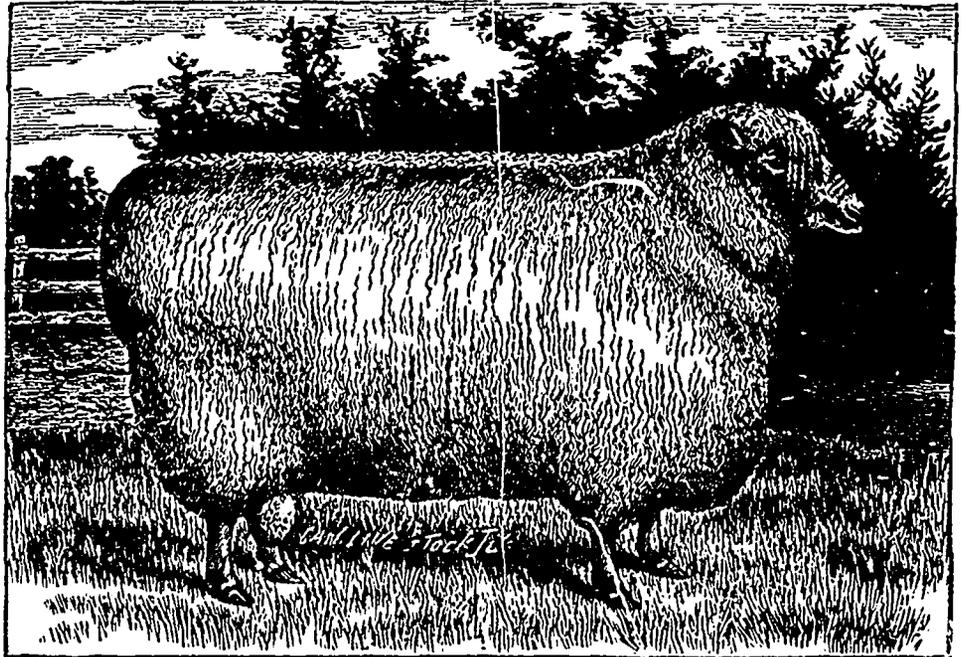
land, and imported by these gentlemen last August. A winner of the first prize in his class at the Oxfordshire, Bath and West, and the Royal shows, and also of the champion prize at Oxfordshire for the best ram of any breed, he is well fitted to head even their flock of prize-winners. When weighed on his arrival at "Willow Lodge," he tipped the scale at 380 lbs. At the Toronto, Provincial, and Hamilton shows he won 1st prize in his class, and also headed the 1st prize flock at each of these exhibitions. Although large, he does not lack in quality, nor does it interfere with his activity. He gives every promise of adding to his honors in the show ring as well as proving a useful sire.

Our Premium Picture.

OPINIONS OF THE HON. CHAS. DRURY, MINISTER OF AGRICULTURE, AND JAMES MILLS, ESQ., PRES'T ONT. AGR. COLLEGE, REGARDING IT.

AGRICULTURAL COLLEGE,
GUELPH, ONT., 23d Oct., 1888.

GENTLEMEN: I have received your engraving of the Ontario Agricultural College, and beg to thank



CHAMPION OF ENGLAND.

The property of J. G. Snell & Bro., Edmonton, Ont.

and peas must be fed to them with some reserve. They will make good use of a fair allowance of bran and middlings, or ground oats, the middlings being preferable, and flourish on a liberal allowance of roots. They should not be kept too fat, but in good heart and strong. Unless for those who have warm sleeping pens where frost visits are not severe, they should not be allowed to farrow in March, but where such provision has been made for them, it is with pigs as with other stock, those coming early usually become the best, taking them all in all.

Champion of England.

Among the foremost upholders of the Cotswold's well-merited prestige we find the firm of J. G. Snell & Bro., of Edmonton. How they maintain their standing as breeders enlists not the flattery of a free-flowing pen nor demands the use of ear-kissing arguments; it may be gleaned by a brief perusal of our above life-like sketch, a yearling ram, Champion of England, bred by Mr. Russell, Swanswick, Cirencester, Eng-

you for the same. It conveys a better idea of the institution and its surroundings than any cut we have had for a number of years. It perhaps makes things look a little better than they really are; but, on the whole, it may be pronounced a true and faithful picture.

Yours truly,
JAMES MILLS,
President.

The "LIVE STOCK JOURNAL,"
Hamilton, Ont.

TORONTO, Oct. 25th, 1888.

DEAR SIR: I received the engraving of the Ontario Agricultural College and grounds, and have carefully examined the same. It impressed me so favorably that I have had it framed and it is now hanging in my office here. I think it very good indeed, and it will, I am sure, be greatly appreciated by your subscribers as well as a benefit to the Agricultural College. I am, etc.,

Yours truly,
CHARLES DRURY,
Minister of Agriculture.

THE LIVE-STOCK JOURNAL,
Hamilton, Ont.

The Moreton Lodge Herds and Sale.

Like the short-lived butterfly flitting in the mid-day sun, many may hark in the fleeting glamour of showyard splendor; but for honest worth commend us to the breeder that has been tried by the searching tests of time and has not been found wanting. Fixity of purpose and trueness of aim are qualifications too rare in these fickle and swift-moving times.

Thirty-five years ago Mr. F. C. Stone laid the foundation for his Shorthorn herd by importations from some of England's best herds, among which were purchases from those of Col. Kingscote, Mr. Jonas Webb, and Mr. Ambler. From the latter source Eugenie was imported, and she bred the 3d Grand Duke (17993), who at Chicago in 1859, took first as best two-year-old bull, and subsequently took first prize at the Provincial in 1886 as a four-year-old; and further, besides capturing the diploma for best Durham bull and heading the prize-winning herd, he took the sweepstakes prize as best bull of any age or breed. This family is now represented by the Grand Dukes of York.

Fresh importations have been made from time to time of Bates topped Seraphinas from Mr. Roberts and Lord Suderly. (from which came the Seraph bulls); of the Craggs and Queen families from Sir J. G. Philips; of the Tellurias from Mr. Barber, and also of the Sultanas and many others from various sources. In 1875, Mr. Stone purchased from Lord Bective the very fashionably bred Bates bull, Baron Berkeley (36158), 22010, who has been largely used by Mr. Stone, and many of his get will be included in the sale.

By the purchase of a number of fine animals, including Hebe, the first prize heifer at the Canterbury Royal Show, from Lord Bateman, the foundation for the Hereford herd was laid in 1860. The following additions were made the succeeding year: Graceful, by Severn (1382), Peach, by Albert Edward (859), and the bull, Sailor (2200), from Lord Berwick, of Cronkhill, whose herd was thought at that time to contain many of the blue bloods of the Hereford breed. Another addition was the well known bull, Sir Charles (3434), by Guelph. A cut of him is used as the frontispiece to Vol. 8 of the English Hereford book.

From Mr. Green, of Marlow, came the Beauty family, and the bulls Rambler 4th (6131) 3930, and Governor 4th (4620) 1293, the latter being used by Mr. Stone, and afterwards sold to Mr. Grudgell. In 1879 an importation of thirty females was made, carefully selected from the herds of the best known and most noted English breeders.

From Mr. B. Rogers of The Grove were purchased Waxy, the dam of Wanderer; Cherry 6th, Pretty Maid 12th, and Blossom 7th, by Sir Roger 2d (4993), and in calf to The Grove 3d (5051) 2490, and also Cherry 7th, and Lady 2d by The Grove 3d.

It will be noticed that Grove 3d is a Blossom bull, being out of Blossom, by Sir Thomas (2228), who is the grandson of Mr. Stone's Blossom 7th. Moreton Blossom 4th, of this family, is included in the sale, a number of *line bred* Grove bulls, and also a few of the Grove 3d cows.

From Mr. A. Rogers came Spot 7th and Morella Cherry 2d, by Grateful (4622), a celebrated Royal winner.

From Mr. Green, of Marlow, were purchased Duchess 17th and Governess 14th of the long lived Governess strain, and Saturnella 2d, very similarly bred to the well known Lord Wilton (4704).

From Mr. Fenn came Lady Rose and Lady Lass, by Silver Chief (4952), and from Mr. Taylor Hazel

8th and Showle Beauty 2d, half sister on the dam's side to the noted showyard bull Tredegar (5077) 2478.

In the year 1883 Mr. Stone took 69 prizes and diplomas at the Provincial and Industrial, and has won the herd prize on many occasions.

Representatives of all or nearly all these families are included in the present sale, which will afford an opportunity such as seldom offered in America, of acquiring animals representing so many of the herds of the most celebrated English breeders.

The sale is being held owing to the want of room, and it was decided to hold it only a few weeks ago, so that the animals are in ordinary store condition. It will be held at the exhibition grounds, at Guelph, on Wednesday, Thursday and Friday, Nov. 21st, 22d and 23d.

The Shorthorns will be sold the first, and the Herefords the two following days. Catalogues may be had on application to Mr. Stone, at Guelph.

Our Provincial Exhibition.

We give a synopsis of a forcible speech delivered by Mr. Wm. McCrae, of Guelph, at the last meeting of the Ontario Agriculture and Arts Association, held at Kingston. Want of space has prevented us from presenting it to our readers sooner. It was in support of a petition gotten up by Mr. McCrae to ask Government aid to further the Provincial in the laudable work it is doing:

"In regard to the petition just presented I would like to say a few words. There is one paper yet to be brought forward which will help to swell the number of names appended to that before you. I am heart and soul for the Provincial. The first Provincial to be held in the city of Ottawa was in the year 1875. Twenty-two car loads of stock left Guelph for that city. Taking these away there would not have been present enough stock to have made a good township fair in the west. On our return four years afterwards we met with some competition. In eight years we went back to find still more, and in twelve years, on our return, we were beaten in that line on which they had centred their energies—namely, the breeding of Ayrshires. So you see what the Provincial has done here. Other districts have been benefitted likewise, but perhaps not to the same extent. I may say that when Canada bends her energies in any one direction she does it to win, and we are not afraid to meet the world in any line or branch of industry to which our country is adapted. Our Provincial has many things to contend with, such as having to move from place to place, and many objections are raised against it as regards our agricultural press, of which we have only two that I read. One is dead against it, and the other is too silent, which is to be deplored. There is another thing I would like to mention, and that is the system of appointing judges. I would suggest to the board the advisability of asking the various herd associations to appoint their own judges. For example, ask the Shorthorn Association to appoint their judges, and see that they are on hand at our annual shows, and then, if there is anything wrong in the judgments given, you can simply say they are the men of your own appointment.

Experiment in Sheep Feeding.

We are in receipt of Bulletin II, of the Cornell Agricultural Experiment Station, in which the results of an experiment in sheep feeding for fat and lean are given, on a somewhat similar basis as those of Prof. Henry's with pigs. We can only give a brief synopsis of the report. Six animals, chosen out of a flock of one hundred lambs for uniformity of size, weight and shape, were divided into two lots and placed under surrounding conditions as near alike as possible.

Lot I, at the beginning of the experiment, was fed daily $1\frac{1}{2}$ lbs. of oil meal and $1\frac{1}{2}$ lbs. coarse bran. To make the food still richer, 1 lb. cotton-seed meal was latterly substituted for the 1 lb. of bran.

Lot II was given 3 lbs. of corn meal daily. Good, mixed timothy and clover hay were fed both lots, care being taken to give them only so much as they would eat up clean.

Prof. Roberts, who conducted the experiments, gives the following as the effects of feeding sheep such a rich ration as that fed No. 1. 1. To decrease the production of wool $\frac{1}{4}$; 2, to decrease the strength of bone $\frac{1}{3}$; 3, to reduce the production of both fat and lean meat.

During the latter stages of the feeding four pounds of mangels were given both lots. Lot I, the average gain of which during the preceding periods was 11 $\frac{1}{4}$ per cent., then increased to 16 per cent. Lot II, for the preceding periods, gave a gain of 7 $\frac{1}{2}$ per cent., while the addition of the mangels increased this to 13 per cent.

This leads us to reflect on the feeding value of roots, which is so clearly brought out in this experiment. Their value as a food for sheep is acknowledged by all, but for fattening stores all feeders are not of the same mind.

To state the matter plainly, one ton of mangels contains about 1760 lbs. of water, and turnips fully more. We have heard some assert that this is not water, but "turnip juice." However that may be we leave for the chemist to defend, but it is apparent that the feeding value of turnips is not dependent upon the amount of nutritive matter they contain, but on their almost complete digestibility. Being very digestible, they exert a favorable influence on other foods that may be fed at the same time. This effect was very plainly shown in the above quoted experiment.

The Union Exhibition of the North Riding of Oxford, Blandford and East Oxford.

This exhibition was held at Woodstock, on the 4th October last. The weather, which was very unfavorable, being cold and showery all day, no doubt prevented many persons from coming, but during the afternoon there was a good attendance around the horse ring. There was a good display of draught horses, and the competition was close. In brood mares 1st and 2d were awarded to Messrs. Green Bros., two imported Shire mares. In foals Mr. Williamson's sorrel Clyde colt by Laird o' Logan, won 1st and also the sweepstakes for the best animal in the classes for young horses. In two-year-olds, there were 3 imported fillies exhibited, 1st and 3d being awarded to Mr. Swartz's bay Clydes, and 2d to Mr. Ficht's brown Shire filly. In heavy draught teams Mr. William's recently imported span of brown Shire mares were placed 1st; 2nd to a pair of reans sired by the Shire horse Roan Samson, and 3d to Mr. Farrell's Canadian bred Clydes. Light horses, with a few exceptions, were an indifferent lot, and it would seem that the County of Oxford, which was formerly noted for its light horses, is now going in for heavy draught. Considerable interest was taken by the spectators in a span of pacers, which showed great speed when driven round the ring, and also in the contest of hunting horses, when Mr. A. Ballard, who sits a horse remarkably well, got 1st for his brown, which was sired by Princeton, if we are not mistaken. Cattle were a larger exhibit than in previous years, and many good animals were on the ground. The principal exhibitors were Messrs. Ficht, Green Bros., McDonald, Donaldson, Dacres, Gould and Smith. A class was made this year for Holsteins, which brought out several competitors. The principal exhibitors were Messrs. Bean, Rice, Penrose, A. Green and Pearson, all of whom obtained a share of the prize-money.

The Great Northern Exhibition.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—The Great Northern Exhibition of Collingwood was held on September 25th, 26th, 27th and 28th, and was a grand success. The entries exceeded those of last year by about 1,000. In the main building it far surpassed any former show. The show of apples, plums, vegetables and field roots was something wonderful. The grain and dairy exhibit was perhaps not so large, but of a very superior quality. In bread, cakes and confectionery the display fairly eclipsed anything ever exhibited in this section of country. Those showing pianos and organs made a most beautiful and melodious exhibit. Live-stock was not quite so numerous as we have had on some former occasions, owing to a number of our old friends going to the London Exhibition; but on the whole the stock shown was of a very superior quality and did credit to our local breeders. The show of poultry was something grand.

The weather was fairly good, with the exception of a few showers of rain, which left the air rather chilly. Our fireworks and other attractions were very good, with the exception of the "Wild West Cowboys," which were a fraud in every sense of the word. Financially the exhibition has been a grand success. After this year I think our buildings and everything will be out of debt.

CHAS. LAWRENCE.

The above letter from the president of this Exhibition, has a very wholesome ring about it. We have watched with no little interest the enterprise shown by the management from the very first. It is quite in harmony with our views to give a free advertisement to the shoddy at the "Wild West." We will hail with gladness the advent of the days when people will go to the exhibitions to see the exhibits, and not the cowboys and the exhibits.—Ed.

The Merits of the Aberdeen-Angus Polls.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Having seen an article in the *Globe*, taken from the *Edinburgh Scotsman*, containing statements supposed to have been made by Prof. Brown, late of the Ontario Agricultural College, I cannot let it pass without at least commenting on some of the assertions credited to him. In that article the professor says that the farmers are going in more for dairying and not for store cattle. However true that may be for the whole Province, I am not prepared to state, but there are only two farmers in dairying here, and both of them are going into debt; while, on the other hand, I could mention dozens of stock-breeders who are well off.

Further, the article says that the professor stated that there are not many farmers in Ontario using Aberdeen-Angus bulls. Now I have one that I use for myself and my neighbors with splendid results. Every one who has seen him thinks he is a splendid animal. Last year, when only two years old, he weighed 1650 lbs. We had calves from common cows served by him that weighed 100 lbs. when dropped. The result of my experience is that they are far ahead of the Durhams, being hardier and easier kept. It was also stated in the article mentioned, that they are only bred in Ontario by three men, and by these only for the American market. I know at least six or seven who breed them. If they have proven good for Americans, why are they not so for Canadians? At Smithfield the Aberdeen-Angus cattle have carried off the sweepstakes against all comers for the last five years in succession.

Lucas P. O.

WM. STEWART.

Veterinary.

FOR CANADIAN LIVE-STOCK AND FARM JOURNAL

Horse Breeding.

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

(Continued from September.)

In the September number in my article on Horse Breeding I endeavored to impress upon breeders the necessity of careful attention to the form of the hock in a horse or mare to be used for breeding purposes.

Small hocks are particularly predisposed to the various ills so common to this joint, especially to curb. Although curb is not usually an obstinate cause of lameness, still it tends to depreciate a horse's value in the market about as much as any of the common ailments of the hock. Any undue fulness in the curby place is so easily observed, and forces itself upon one's notice so obtrusively as to constitute a constant source of annoyance; and many lovers of the horse could not be induced to purchase an animal that is curby, at any price. Curbiness is looked at very much in the same light as "over in the knees." It is seldom that a curb will be found in a hock when the tendons behind it are prominent and well defined.

If the natural bony prominence immediately in front of, and to the outside of the seat of curb, stands nearly as far back as the tendons, as a rule a hock so formed is narrow, and is often the seat of curb. Cow-hocks, or those with the points turned inwards, are not necessarily weak ones; but this formation is apt to be associated with sickle hocks.

Bowed hind legs, or those with the hocks deviating outwards, in addition to being very unsightly, are usually weak, being small, ill-formed, puffy, and prone to disease. In a hind leg with a badly-formed hock, particularly if it is a small, narrow one, we usually find a smallness, or what is called, tying in, immediately below the hock, and in such bone spavin is common.

It is unnecessary to proceed further in commenting upon the points below the hock, as the remarks made upon the fore leg below the knee apply also to the hind, except that it is seldom necessary to bestow much attention on the hind feet, as they are not often the seat of much trouble, and are usually good and strong, even in a horse with poor fore ones.

In addition to the defective formations of limb, there is no doubt that imperfections in the manner of moving, or the gait, are hereditary. Next to absolute unsoundness, perhaps, nothing tends to lessen a horse's value in the market more than a faulty gait; particularly if it is a horse used for light work. A horse should be able to co-ordinate his limbs so that one does not interfere with another in movement. The only excuses for cutting, brushing, or forging, are youth, low condition, or fatigue. Perfect action is straight, forward, and elastic. Winding one or both of the fore-feet, in dishing or throwing the feet out, straddling, or traveling too wide, are not only extremely ugly ways of going, but are a practical drawback in increasing an animal's labor in traveling, and consequently in inducing fatigue.

As has been stated, straight, forward, and elastic action, is most desirable, but high knee action is very fashionable, and meets with much favor in the market, particularly in harness horses used for pleasure. There is no doubt that for steady hard work there is a practical objection to high knee action, for the concussion to the legs is much increased, and there is unnecessary expenditure of muscular force that encourages fatigue. But certainly good high action is most attractive; and it would not pay not to encourage it by careful selection in breeding, for it is so scarce; and if it is not cultivated by hitting, etc., it is seldom possessed to a degree to be a drawback for any kind of work. As a rule, if a horse's action is good in front it is usually good behind; but there are many exceptions, and a good elastic way of going, or with plenty of hock action, as it is called, is indispensable to a good-actioned horse.

The danger of being misled by the trite saying, that a good horse is never a bad color, is considerable by the man who caters to the taste of a horse-

market. There is one thing certain, that a good horse is often a bad enough color to reduce his value considerably for many purposes in the market. But perhaps there is no point more carefully attended to by horse-breeders in general in this country, except in the heavy classes, where the light mealy bay is not as often passed by as he should be.

It is generally conceded that the darker shades of all colors are usually found in the hardiest horses. Bays, browns, and chestnuts are the favorite colors in the market. Liberal white markings are not, as a rule, favored; but few object to a couple of white hind-pasterns and a dash of white in the face. In matched pairs some buyers prefer plenty of white, particularly if it is evenly distributed in the two horses. Chestnuts stand more white than any other color.

Roaring, with its modifications, whistling, wheezing, etc., is not very common in this country; but it exists amongst entire horses of both the heavy and light breeds to a sufficient extent to necessitate its being carefully watched for in the selection of a sire for use; for there is no doubt that it is a hereditary disease; and where there is a predisposition to it, it is impossible to ward it off by any amount of care through the vicissitudes of horse life. Certainly only a portion of the get of a roaring horse develop the trouble; but sufficient to reduce the profit of breeding considerably.

It is frequently asked if heaves is hereditary. There is no doubt that there is a tendency to hand down the peculiarities of constitution, which seem to render an animal particularly liable to the development of "broken wind," as the possession of a shallow chest, and a voracious appetite; although a shallow-chested horse is not usually a good stayer, a good appetite is by no means to be objected to, and fortunately the gratification of which can be so controlled with care as not to constitute a source of danger. It is questionable if a horse ever becomes broken winded that only consumes a sufficient bulk of wholesome food. It is over-taxing of the stomach with too much food that is the chief exciting cause of heaves.

A not uncommon nervous affection called "string-halt" is hereditary. One might overlook it, in its incipient stage, when the irregular jerking movement of the hind leg is only exhibited occasionally, but as it is a progressive disease the symptoms of it are more constantly and plainly shewn as time goes on; and one is not likely to be misled by not noticing its existence.

The numerous points brought up in this article cannot be safely neglected, in order that the risks of horse-breeding may be reduced to a minimum.

(To be continued.)

Indigestion or Poisoning.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Would you kindly give me your opinion as to the following in your next issue:

About the 1st of August last I had a spring colt that took sick one forenoon and next morning he was dead. It would take choking spells, but seemed to get over them all right. Another colt acted the same way, and I gave it a dose of turpentine which seemed to do it good. Next morning, however, it was staggering around and falling down, with his tongue protruding. Lying down seemed to ease it considerably. It was troubled in this way for three days, when it died. Another showing like symptoms died in a short time. They all appeared healthy, and would get up and suck their mother in a few minutes after the fit as if nothing had been wrong with them.

Haavergal, Ont.

SUBSCRIBER.

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

I cannot offer an opinion from the description given.

of the cases, with any confidence in its correctness. I am inclined to infer that they were cases of indigestion, but it seems peculiar that three foals sucking different dams should be similarly affected at the same time.

Nothing is said about the source of their water supply. It might be poisoning with some mineral substance, at least some such symptoms would result from poisoning with corrosive matter, as arsenic or lead, or some of the other minerals.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I have a couple of questions I would like to have answered in the veterinary department of your valuable JOURNAL.

1. I have a young horse with a soft enlargement on the front part of the fore fetlock joint. It has been there for some time. I cannot account for it other than it may have resulted from the horse pawing in the stable while being fed. Can you recommend any treatment?

2. When standing in the stable, or even over night, the legs of my eight-year-old mare swell about the fetlock joint and a little above. What is the cause, and treatment best to adopt?

R. W. PHILLIPS.

Newmarket, Ont.

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

1. In order to get rid of this swelling in front fetlock it will be necessary to open it at its lowest part, and bandage moderately firm with a woollen bandage, keeping the cut open for several days by separating the lips of the wound a couple of times a day, and readjusting the bandage. It should, however, be attended to by a competent veterinarian.

2. Woollen bandages applied every night to the swollen legs will be the most effectual way of preventing them from stocking. The horse should be pretty well fed, and regularly exercised. If kept in the stable all day, withhold the evening meal of grain, and give in its place a bran mash. Give two teaspoonfuls of powdered saltpetre a couple of times a week.

The Farm.

HANDLE it as you will, there is a large amount of work connected with the care of manure. It is important, therefore, that as much of this work be done in the winter as can well be overtaken. Most persons are agreed that a large amount should be drawn in the winter, but all are not agreed as to what should be done with it. It is the practice of some to spread it, but this cannot so well be done where snow is deep and in drifts. Others put in small piles ready for spreading. This can usually be done accurately where the snow is not very deep, and has this marked advantage, that the manure is not to be drawn again. There are two objections to the system somewhat serious. The frost remains long in the heaps in a late spring, so that they cannot be spread early. This can be partially overcome by spreading what is thawed of the pile and finishing later, which is done, of course, at a sacrifice of time. The second objection is, that when spread on clay soils it keeps them long damp when they are to be ploughed early. The third method is to pile in large heaps and draw again for whatever is wanted. The objections here are, that it has to be handled twice, and that sometimes there is loss from over-fermentation. In our own practice we favor the second of these methods, on the whole, since it is practiced at a minimum of labor, and there is almost no loss of manure. It is our firm conviction that on most farms the greatest leak is that from the manure pile, the saddest feature of which is, that it is in the power of most farmers to stop it, and yet they do not.

FARMING, though toilsome and slow in its accumulations, is a safe business. Yet so varied is the knowledge required to its successful promotion that it should

get the concentrated attention of those engaged in it. To divide this with another calling is a fatal mistake. In proportion as this is done usually will there be a lack of success. When the undivided energies of the farmer are given to the farm, his capacity for increasing his returns constantly increases, where he takes care of his land. But owing to the slowness with which he accumulates compared with some who are on the rapid road to wealth in other callings, he is tempted to take up some side issue, commence dealing in cattle, or some other business that he is quite ignorant of, and so undermines his chances of success in the calling in which he is well versed. Men of the one idea, in farming will succeed best, as in other callings; those who make it a study, who aim at highest attainment in it, and who try to cultivate a love for it, or, better still, possess that love without the necessity of cultivation. Every temptation to abandon farming, which one has learned, for another business which he has not learned, should be resisted. Life is all too short to spend in learning a calling in middle life which would take at least half a dozen years to learn it well, when the powers of mind possess more of receptivity and adaptation than at any other period. Once fairly engaged in farming, stick to it, bring your energies to bear upon it, and you must ultimately succeed.

Farmers' Institutes.

These are now being held in nearly all the electoral districts of the province, and those of them which have not taken the advance step of establishing one are surely not sufficiently alive to a sense of the advantages to be derived from them.

Those who may have attended them and taken an intelligent interest in what was being done will know very well what these advantages are, but an overwhelming majority of our farmers have never yet attended one, and for the sake of the latter class we mention some of the benefits to be derived from them.

(1) They scatter *useful knowledge*. Agriculture is the great physical science. Compared with it all the others are pigmies. It is the great deep that has never yet been fathomed by the longest line of scientist, the mountain peak that has never yet been trodden by foot of man. Men have been wading in its shallows for near six thousand years, and though they have found some pearls of truth, those yet un-found will far outweigh the former. For the full study of such a subject life itself is far too short, and therefore it becomes every one of us to be up and doing while we have opportunity.

The very boundlessness of the subject may give birth to the thought that the hope to obtain the mastery in its study is vain, and tend to repress rather than to encourage effort. But it should not be so, for in the study of the manifold works of the creation, with all its wonders, we can only hope to obtain a knowledge of a part of the magnificent plan. It would be very unwise to refuse to behold the stars because we can never see them all in this life, and equally foolish to refuse to admire their silent grandeur by the aid of a telescope, if favored with the opportunity. It would therefore be a grave mistake to neglect the chances of acquiring all the knowledge that may be obtained on agriculture or on some particular branch thereof, because we cannot obtain the mastery of the whole.

At Institutes well conducted all the fragments of knowledge gained in the past on any given subject are shored in the one pot, and after the wild gourds have been skimmed out by seers who are present, all may

partake of the abundant repast. In this way the rays of light from a hundred different sources are focussed, and opportunity is given to all to view them through the well constructed lens of reason. The gatherings of scores of lives in any one department are placed on the altar of the community, and sacrificed for the general good.

In this way the results of the labored experience of long years may be gathered in an hour, and at the just cost of a membership for not exceeding one dollar, and outlay of time not exceeding four days in the year.

(2) They cultivate a *freedom of utterance* on the part of those who attend. O, the undeveloped genius and the powers of oratory that have never awakened, now forever locked in the domain of silence, lying in ten thousand rural graves in every part of this and other lands! The heart sickens at the thought. The waters of genius that might have turned a thousand wheels of usefulness, have bounded on toward the great deep of the grave, and the powerful springs which fed them have run dry, and no one has been the better therefor, and the latent eloquence that might have stirred rural communities to their centres has perished in the embryo, because the owners of these heaven-bestowed gifts did not know that they possessed them, and they did not know that they possessed them because of lack of fitting opportunity to draw them out. Once get a man to attend an Institute and take a part in the discussions, and if genius is slumbering there, the shaking of the Institute will wake the giant from his drowsiness, and if the tongue of eloquence is there the Institute will cut it loose and give free-vent to what is at once the door and window of the hidden chambers of the reasoning powers.

The men who will lead in the Institutes in coming days are the men who have been re-created, as it were, therein; children in a manner of the Institutes, or we predict falsely. Such leaders of agricultural thought will always have the overwhelming advantage of drawing their materials from the granary of experience, which cannot fail to be a source of great strength.

(3) They stimulate effort in the line of *improvement*. Men sometimes possess knowledge that is allowed to remain inert. It is always dangerous to act thus, but such action is not infrequent. The waters that cease to flow become poisoned with the spawn of noxious influences, and in turn become breeding grounds of poisonous gases. The tree that ceases to grow becomes diseased and dies, and the room unused is soon coated with thick dust. Hence the danger and the folly of possessing knowledge on agricultural topics that is not put to a good use. The Institutes, through the wondrous power of those subtle influences by which electrifying force is transmitted from mind to mind in meetings where men congregate, who are interested in the same subject, rouse up the energies that are dormant, fan the embers that are smouldering, and send the farmers home laden with fresh determination, new hopes and new aspirations. This form of influence furnishes the most wonderful form of electricity in the world. It is much less difficult to conceive how that subtle agent can transmit through the medium of material things, but who can divine the methods of transmission by which the friction of mind so acts upon mind as to electrify it with new life, and give it nothing short of a resurrection?

But the reality of the influence we cannot deny. We behold it in the school room, and even in the nursery, and it follows men even down the steep declivity that leads to the other shore. In more senses than one,

then, it is not good for man to be alone, and the more that men interchange wholesome thoughts through the medium of the Institutes, the more will they be aroused and incited to fresh activity.

(4) They bind neighborhoods more closely in their social relations. At least this is what they should do, if political and other prejudices are not allowed to come in. The blessing and the curse of politics often grow upon trees in the same yard, and if we are not wary we shall all eat of the fruit of both. Politics as such should be kept out of Institutes. If the fittest person for president is a Liberal, elect him to the office, and if the best paper on a given subject is forthcoming from a Conservative, invite him to produce it. We can readily conceive of men who once felt bitterly toward each other, discovering in the Institute that each was a better man than the other supposed, and of friendships springing up between kindred minds that will be mutually helpful through the remainder of life.

Institutes have been created for the good of the farmer. The privilege of holding them he should regard as a part of his inalienable birthright, the benefits of which none can deprive him of except himself. The duty of sustaining them he should most carefully consider, and in localities where one does not exist, let there be a pleasant strife amongst the farmers as to who shall be foremost in having one established.

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.
The Place of the O. A. C. in Education.

BY G. C. CREELMAN, B. S. A.

The farmer is very much inclined to underrate the profession of which he is a member, too apt to look up to other men, as though they were exalted high above him by the dignity of their various professions. He is rather inclined to look upon his life as one of drudgery, and envy the more fashionable exterior, and soft, white hands of the city clerk or attorney, forgetting the truth uttered by the greatest of poets,

"There is no better sign of a brave mind than a hard hand."

Agriculture is looked upon by men of other trades and professions as the most honorable and independent calling, and were all left to the employment of their choice, other things being equal, scarcely any would reject entirely the pleasures which naturally flow from the cultivation of the soil.

The mechanic, sick of the monotony of business, the ceaseless din of the machine shop, and its unwholesome atmosphere, longs to become the owner of a little farm, where he can become directly dependent upon his own right arm for all the necessities of life, and its many comforts.

The lawyer, disgusted with the glorious uncertainties of his profession, and the senseless technicalities, vexed by the obstinacy of some perverse judge, or some equally obstinate jury, longs for the peaceful pleasures and honest independence of rural life.

So is it with all the other professions. The physician, whose whole life is spent amid scenes of trouble and suffering, can but look upon the farmer with envy, or wish that his life were other than it is.

But in order for the farmer to estimate more correctly his profession, it is necessary that he divest himself of a prejudice which was formerly very common, and of which too much yet remains—namely, "book farming," or scientific agriculture. This opposition springs from a variety of causes. I admit that much that appears in our agricultural papers is of a trifling nature and not practical, but the man who tries to apply what he may read without the aid of his reason or judgment, will meet with disappoint-

ment in what ever occupation he may engage. And because written productions contain some very erroneous views of the subject upon which they treat, is that a sufficient reason for discarding all the important truths contained in them?

To refuse to read because error may be mingled with truth would close every volume for ever. Science that has required ages to bring it to its present state of perfection, would be entirely excluded from human knowledge, because there is no branch of science that does not contain error. The farmer, if he would be successful in his operations, should keep up with the age in which he lives. This is a progressive age; still many think the old way the best.

These same farmers who uphold the old way of farming and despise books, are also very tenacious in the belief that the changes of the quarter of the moon exercise a controlling influence over the weather, and that certain vegetables should be sown at peculiar stages of the satellite. With solemn visage they look at the new moon, and confidently prophesy wet or dry weather. They examine the almanac carefully, to ascertain what time to sow their peas and cucumbers, to wean their calves, and kill their hogs that the pork may swell in the pot; but when you recommend to them the perusal of some scientific treatise on agriculture, they shrink from it with as much horror as they would on beholding the moon over their right shoulder, or the preparations for commencing a journey on Friday.

The advocates of "the good old way" should be consistent, walk or go on horseback instead of patronizing these new fangled concerns called railroads. They should shove off their canoe and paddle along the shore instead of treading the magnificent decks of the mighty steamer. They should send their messages to friends by some traveller, instead of employing the lightning telegraph. They should do as their grandfathers did in all things, if they persist in imitating them in farming.

Why should farmers not dip deeply into the delightful fountain of knowledge, even from a dollar and cents point of view? "Perfect knowledge is highest gain," aside from the pleasure and satisfaction it brings.

But where, the farmers ask, are we to get this scientific knowledge. Where would you send your son if you wished him to become a lawyer or a doctor? Certainly to a university or a medical college. Where then should a young man go to be educated, who intends to follow farming? It follows, to an agricultural college. Still though our medical schools and universities are filled with young men, only one out of every five thousand of the farmers of Ontario honors the institution by sending one of his sons to the Ontario Agricultural College. The Ontario Government have spared neither talent nor expense in making the place what it now is, one of the best institutions of the kind in the world. Suitable college buildings, a good experimental farm, and a competent staff of professors. Notwithstanding all this, up to the present time the president has been obliged to take in young men from foreign countries, in order to keep up a creditable roll call.

The advantages to be derived from such an education have already been shown in this JOURNAL. Let us hope then that when the college next opens, the farmers will show their appreciation of the efforts put forth in their behalf by the Government, by the Professors of the College, and by the agricultural press of our Province, by sending such a number of earnest young men to the O. A. C. as will no longer necessitate the admittance of foreigners.

Swamp Muck.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Will you or any of your readers kindly advise me as to the best manure to apply to a 20 acre field that has been well summer fallowed, and is now free from weeds. All the farmyard manure I have is put on other fields. The soil is a poor clay loam, with a hard clay and limestone bottom. I have tried phosphate and do not consider it is worth what it costs. Ground bones can be obtained here for \$40 per ton. What is your opinion of swamp muck, and how should it be used?

Peterborough, Ont.

JOS. REDMOND.

As you have found that superphosphates do not give the desired results, we cannot recommend to you the use of ground bone, even at a more moderate price than that you quote. There is not enough difference in the composition and action of the two manures to lead one to expect very diverse results. Inferring, then, that your soil does not need drainage, we think the swamp muck, properly handled and applied, would do it good. It would act beneficially by rendering the soil more open, friable and mellow, which, besides allowing the air and rain to gain access to it and render fit for plant food insoluble constituents therein, would also make it more easy to work. In considering the value of such an application in respect to its mechanical action, it is important to remember that muck is very retentive of moisture; and as clay also possesses this feature to a marked degree, it is absolutely necessary that the soil be well drained. When we endeavor to arrive at its value as a direct manure, it becomes of primary importance to know something of its origin. Being but decayed vegetable matter, it is easily seen that its composition is apt to vary a great deal, both with the degree of decomposition it has undergone and the source of the material, whether leaves, wood, etc. The surest way of finding out its manurial value would be to have it analyzed by a competent chemist. This, however, may be arrived at roughly by noting the surrounding conditions, whether the deposit catches the wash of a rich soil near at hand, or whether its situation is such as to favor loss of its most soluble constituents by leaching. Further, the character of the herbage growing on it gives us an insight into its composition. If tall and rank, it may be inferred that it is rich in nutritive matter. However, one is not justified in forming the opposite conclusion if the herbage is scanty and consists only of mosses and sedges, as this scarcity of growth may be due to the sourness of the muck, which would be remedied on exposure to the atmosphere. Muck contains from 1½ to 4 per cent nitrogen, and a small quantity of other salts, which are very soluble. For the purpose of comparison, farmyard manure contains about 13 lbs. of nitrogen per ton, while fresh muck will contain about 20 lbs. of nitrogen per ton. The amount in the latter would be considerably increased on exposure to the atmosphere, as a small quantity of nitrogen would be absorbed from the latter source in the form of ammonia. By its decay in the soil, carbonic acid would be formed, which would slowly digest the rock particles and other insoluble matter, making them fit for plant food. Another value was formerly given to humus, viz., that it supplied carbon to the plant; but it is now known that the main source of carbon for plants is the carbonic acid of the atmosphere. There are two ways of preparing it for application. One is to expose it to the atmosphere by piling it up in small heaps (5 or 6 feet high) in a dry place, and shaped so as to shed the rain. By this means the excess of water is got rid of, and the injurious organic acids neutralized by the ammonia of the atmosphere, the addition of the latter also increasing the quantity of

nitrogen. The frost would also aid in making it more granular. Another way is to compost it in alternate layers with unslaked lime. A layer of muck 6 inches deep should be whitened with lime, and so on, layer after layer, capping the whole with a layer of muck to prevent the loss of fertilizing material. The lime uniting with some of the noxious acids lessens their injurious effect. The quantity of lime used varies with the nature of the muck, but generally 4 loads of lime to 25 of muck will be found sufficient to sweeten the latter. The rate of application varies greatly with different soils, the average being about 20 loads per acre.

Report of the Judges on the Prize Farms for 1887.

Continued.

ROSEDALE FARM.

The jubilee celebrations in honor of Her Majesty, who will undoubtedly be known to coming generations as Victoria the Good, interrupted our work of inspection after leaving Balsam Lodge, until Monday, 4th July, when we met again at Simcoe, and exchanged greetings with Mr. Wm. Dawson, who represents this district on the council of your association, and Mr. Thomas Murphy, secretary of the North Norfolk Agricultural Society, who showed their kindly interest in the work by giving counsel as to the most expeditious way of undertaking the inspection of the six examinations that were to be made in the county of Norfolk, a kind of assistance not always met with in the prosecution of this work. We then drove to Rosedale Farm, three miles to the north-east of Simcoe. We left the Gold Medal Farm of 1881, owned by Mr. J. B. Carpenter, on the right, and passed through a beautifully shaded avenue on leaving Simcoe, the "Forest Town" of Ontario, as London is the "Forest City." Rosedale comprises 390 acres, of which 310 acres were in competition. It is made up of part of lot 1, lot 2, and part of lot 3, in the 12th concession of the township of Townsend, North Norfolk. Lots 2 and 3 are separated by a side road. It is owned by Mr. Loder Culver, of Bloomsburg, who has gathered this fine property by successive purchases with yellow dust dug out of the rich sandy loam that covers this magnificent township, many of the farms of which would now bring \$80 to \$100 an acre. The surface is undulating, the swells, like the 20 acre fields being on a large scale, the subsoil is so porous that it does not require underdraining, and across three of the large pasture fields runs a spring creek in strong volume, which also provides water for several other fields. This creek, fed by hidden streams, which even the drouth of 1837, one of the most prolonged ever known since the settlement of Canada, failed to dry, and a windmill on duty at the basement barn on lot 3, supplied the stock with water at that farm.

The buildings, though neat and tidily kept, were of the style of former years, which, of course, told against the farm in the competition. The barn referred to above, 56 by 60 feet, with end drive, a good one in its external construction, is only adapted in the basement to winter stock in compartments, when they are loose in companies. On the portion of the farm competing there were 30 acres wheat (35 acres on the other portion), 30 barley, 30 oats, 20 corn, 4 turnips, 70 hay, and a large amount in pasture, that along the spring creek almost permanently so, and the forest comprises 12 acres of sugar bush, 17 acres in all, with 25 acres of cedar swamp elsewhere. The very large amount of labor entailed by the handling of so much produce is done by the help of three men and a boy, in addition to the work done by the junior Mr. Culver, bespeaking a large measure of economy in the handling of products.

The seeding to grass is done usually on fall wheat and on barley, sometimes on oats, but the results are less satisfactory; $7\frac{1}{2}$ lbs. of clover and $3\frac{1}{4}$ lbs. of timothy are sown to the acre. The grass land is broken up at the end of two years. If cut for seed the clover (the small red) is pastured till June 1st. The average of hay obtained is about two tons to the acre. Some of the broken sod is sown to wheat, some planted next year with corn. By sowing wheat after hay when the land has been promptly ploughed, Mr. Culver considers he gets as good crops of wheat as after summer fallow, although the latter process gives

less encouragement to the growth of weeds, and this we think is a common experience in many parts of Ontario. The wheat after sod is followed by fallow or corn. The corn is planted 3 feet 10 inches each way in the hill. Unleached ashes is applied at the rate of 10 bushels to the acre, the fill of a small hand scoop being sprinkled over four or five hills before the corn starts, which is found very beneficial in promoting its growth. It is run through once a week both ways with the cultivator, and usually only horse-labor is employed. Corn is followed by barley (1) sown to grass, or (2) by wheat after the barley sown to grass, and oats here get their too common fate of being sown on the lighter and poorer land.

Manure is drawn out in the winter or early spring. On the corn land it is put in heaps for spreading, or a few loads are put in a place and drawn about with a rake with steel teeth, the implement working on the principle of an old-fashioned horse-rake, and it is further scattered by hand. The balance is put on the summer fallow before the first ploughing, which is always done with a gang-plough. Salt is sown on barley land at the rate of 300 lbs. to the acre. It is sown from a cart or a wagon in which two men spread and one drives, which enables them to get over 30 acres in a day. Plaster is usually put on meadows the second year. The 10 acres of young orchard was cultivated and thriving.

The stock consisted of 11 head of working horses, including brood mares, 18 head in all, mostly of the general purpose class; 12 milch cows and a pure Shorthorn bull. The milk is sent to the cheese factory. There were 48 fall pigs, 17 of spring litters, 4 brood sows and a boar, all Berkshire grades. The fall bred ones are wintered and sold from the pastures during the following summer, when they usually bring five cents per pound live weight. It was an interesting sight to see the staring, excited look of the black fellows as they watched our approach in reclining posture from their summer paradise in the waters of the stream, from which they would emerge with an excited bound and scamper off in droves, without knowing why they ran. So it is with the movements of excited human nature, oftenest it flees from ills that are imaginary. Pork production on the plan indicated is much practised in this corn-growing country, and it is found to be an excellent way of disposing of the corn. Fourteen head of cattle were sold last spring off the grass at $3\frac{1}{2}$ cents per lb. Cattle a little better bred, a little better fed, and a little more quickly matured, would, we consider, have brought more and payed better. He never gets the best returns who does not provide for the best average market.

It has been Mr. Culver's experience in wintering horses that those fed on barley straw, oat straw, and having access to wheat straw, with a peck of turnips a day, came out better than those fed hay without the roots, and that stockers fed one feed of hay, the balance barley straw, corn straw and wheat straw; later on two feeds of hay, and a peck of roots with two to three quarts a day of corn and oatmeal from midwinter, and kept in basement stables loose, come out better than those in colder stables getting twice the quantity of meal, and an equally good ration otherwise through the entire winter. There is no manner of doubt that stone is the cheapest heating material for our stock in winter that we have.

The sales of the farm consist of wheat, barley, oats, corn, hay when dear, milk, beef and pork, a system which the rich, strong soil of Townsend will sustain for a long time, but not for ever, although it is only fair to add that the crops growing were nearly all looking well, especially the wheat and corn.

There were many commendable features in the management of this farm, but the fields on its north-west corner are yet to be delivered from the disputing occupancy of intruding weeds. The strong competition in its own district was another leading element which led to its being left out in the contest.

THE HOMESTEAD FARM.

In the afternoon we drove to this farm, owned by Mr. David Irwin, lot 17, 9th concession township of Townsend, North Norfolk, comprising 196 acres, although portions of farms almost immediately adjoining swell the number of acres to 344, and the ownership of other lots elsewhere in the township brings up the whole number to 594 acres, the fruits of honest industry, grounded on a capital of \$1,200 in 1852. It is a corner lot, and covers a portion of the ground on which stands Villa Nova, the nucleus of a neat little

Canadian village. Our way from Rosedale Farm in the direction of Waterford, led through the pretty tiny village of Bloomsburg, and along a lighter ridge of land than is the wont in Townsend. In the intense and uncommon heat the purple bloom of the pea was losing its crimson, and its stalk was languishing. We passed a hedge of Osage orange growing thriftily, but untidily trimmed. What is there that should hinder the growth of these hedges all over the lakeward portion of our province, providing they are planted on drained ground, and are pruned at suitable times to toughen the wood for winter? We have seen them flourishing in other parts, and they form a sufficient hedge in from three to five years, and a handsome ornament to the farm. The farm is divided by a private road running to the rear, with two tiers of fields on one side and one on the other; the C. S. R. also running across it. The buildings are conveniently situated a suitable distance from the highway. They comprise a sufficient frame dwelling house, a driving-house, and stable 48x50 ft., an implement house and stable 40x38 ft., a barn 40x60 ft., with basement room for 28 head of cattle, a barn cornering this, 58x33 ft., and an open shed opposite, 60x24 ft., with some lesser buildings attached. On the rear stands 39 acres of forest of fine, strong-growing hard and soft wood timber, through which flows the gentle waters of the Nanticoke, the fat black deposit on the banks of which speaks of great strength of soil. In this bush are some 800 beautiful ugar maples. The soil of the farm generally is a strong, but not heavy, clay loam, capable of enduring great cropping for a long term of years. About 9,000 tiles have been laid in the lower portions during the past two years.

The stock of the farm comprises 5 span of working horses, of which 1 span is heavy draught, and the balance general purpose—14 head of horses in all. The cattle are pure Shorthorns, and number 18 head, not including some grades; and the sheep—Cotswold and Leicester—44 head, with the usual complement of swine, of a Berkshire and Suffolk cross. A number of cattle are fed every winter.

Not much has been done by way of tree-planting, but there are 5 acres of orchard on the farm.

Although the farming is of the mixed husbandry order, grain-growing is largely relied on for the returns. This year of the area cultivated of the 344 acres comprised in the homestead and adjacent portions, 41 acres were under hay; 66, wheat; 19, barley; 23, oats; 23, peas; and 90 acres summer fallow. No wheat is sown save on summer fallow, and so clean is the crop kept that for the last 25 years Mr. Irwin assures us that he has not found one head of drips in his wheat. This experience surely strengthens the position of those who affirm that wheat never produces chaff and *vice versa*. He has also grown the same variety of oats since he settled on this farm, and has noticed no deterioration in them. His practice is to take out all the small seed every time of sowing. The rotation is hay two years, followed by peas, succeeded by barley, after which comes oats, then summer-fallow, then wheat, sown to hay from a mixture of seed, one part alsike, two parts small red clover, and one part timothy. The summer fallow is ploughed four times, the manure drawn in winter in large piles, and the residue later, to where it is wanted.

The average of wheat for some years past has been 30 bushels per acre; barley, 35; oats, 50; peas, 35; hay, two tons. The appearance of the crop at the time of our visit amply justified these statements. Much of the wheat lay in a tangle that would have caused one to toss on his pillow troubled, before the age of self-binders, which, like a wild beast sporting with his prey, follows in the path strewn with the results of the fury of the elements, and conquers with no less ease. The farmers and manufacturers of farm implements cannot afford to work against each other's interests, as these are mutual.

These are handsome returns. With a strong soil naturally, through years of patient industry, and well-supported by loans, for whom the mirage of city life has no attraction, Mr. Irwin has added to his possessions in a remarkable degree. But your judges could not refrain from asking each of the other: "Whether, under present conditions, the system followed is the best?" It keeps the farm clean, but at a heavy cost, providing all the help had to be hired. Thirty bushels of wheat per acre is a handsome return, but when two years are required in its production, the average is brought down to 15 bushels, and when four ploughings are required to bring about this

result, and the wheat is sold at 80 cents per bushel, the result is \$12 per acre. The expense of tillage and manure, and labor of handling taken from this would make a slim showing. But there must be added to the return the value of the straw additional, and the crop obtained in the other years of the rotation, in consequence of the treatment and the feeding of the land, during the years of its preparation for wheat. Then the wheat is sold, of course, and most of the barley, which in this year's crop, would amount to nearly two-thirds of the entire area of crop grown.

Where but little in the line of fertilizers are purchased in return, this continual drain must ultimately tell adversely on the fertility of the soil, even on the flat lands bordering on the Nanticoke. For these reasons, and because of the strong competition in this riding, we left no award for this carefully cultivated farm.

The Construction of Outbuildings on the Farm,

WITH A VIEW TO THE COST OF ERECTION, ECONOMY OF SPACE, AND CONVENIENCE FOR FEEDING STOCK. AN ESSAY BY MR. THOS. SHAW, TO WHICH WAS AWARDED FIRST PRIZE BY THE AGRICULTURAL AND ARTS ASSOCIATION.

(Continued from October.)

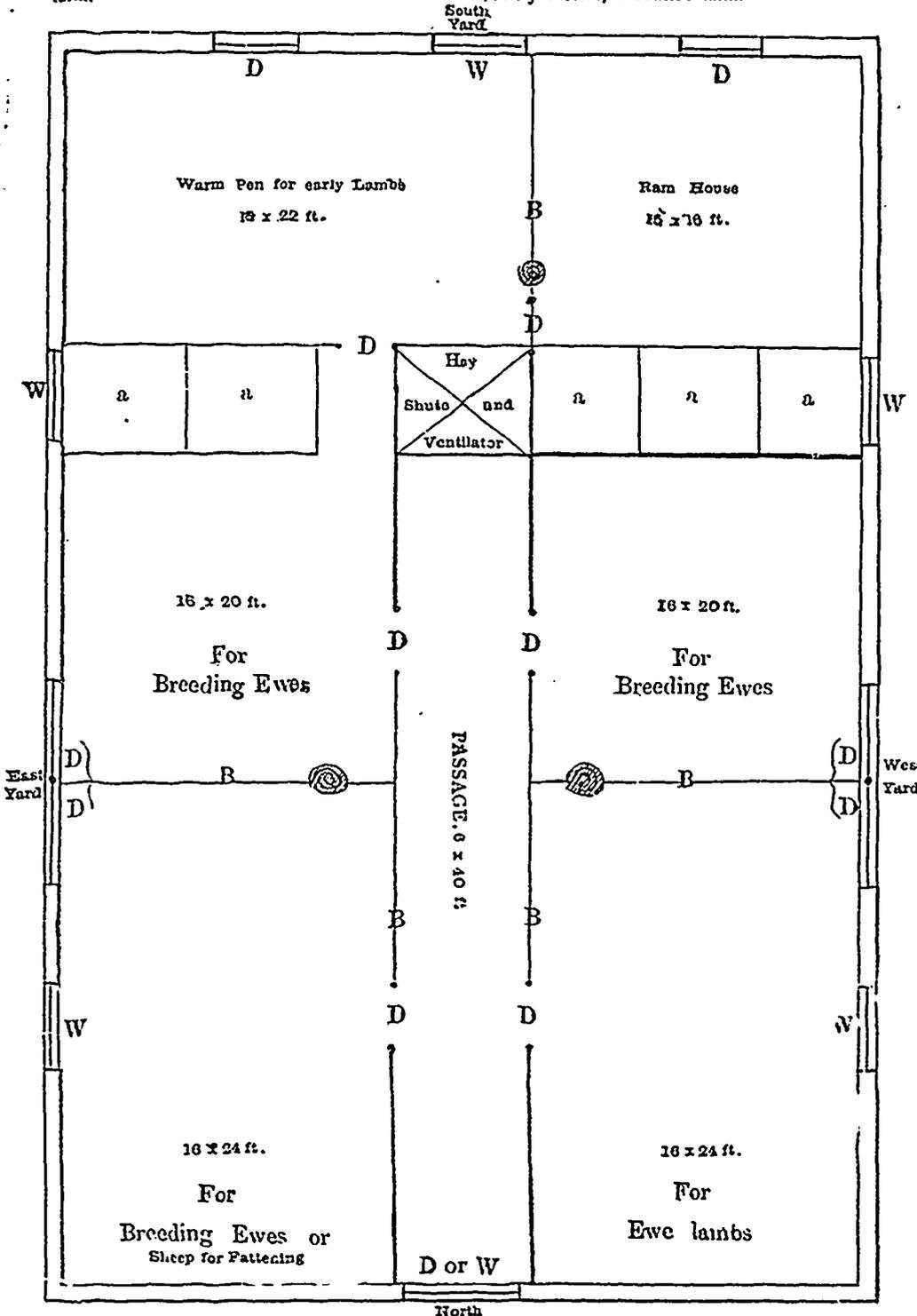
SHEEP-HOUSE WITH PLAN.

The plan of sheep-house given below was originally designed by Mr. John Jackson, Abingdon, Ont., whose name as a distinguished breeder of Southdown sheep, and signally successful exhibitor of the same, is a household word in Canada. In many of its features this plan is utilized in the sheep-house now in use at Mr. Jackson's, Woodside farm.

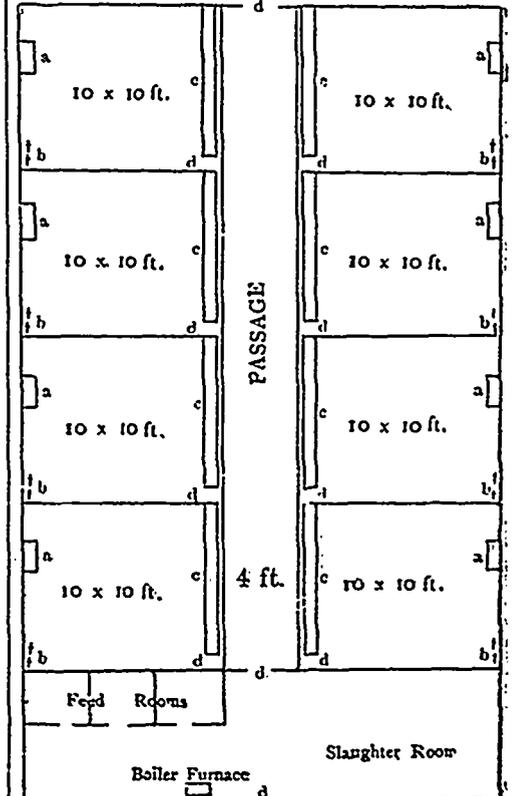
The design is for a building 40 by 60 feet, but may be varied to suit individual requirements, and the building may be constructed of stone, brick or wood. If of wood, it should be lined and filled with sawdust. The cross partition nearest the south end of the building should run up to the ceiling to provide warmth for early shorn sheep, or for early lambs. The partitions in the other portions of the building need not be more than four feet high. The compartments or divisions may of course be varied in size to suit the wants of the owner, two being thrown into one, if so desired, where movable partitions are used. The feed racks may be, say 12 feet long, with shelvings to protect the sheep from dust or dirt from the fodder, and these also have suitable troughs in connection for feeding grain or roots. They should be placed endwise to the passage, but they may also be used for partitions, movable or permanent, if so desired. The hay shute has a door opening into the south compartment. In the lambing pens the movable partitions have hooks—permanent—in the posts and corresponding eyes for them to drop into. They could thus be put up or removed in a few minutes, and when out would leave it convenient for driving in a wagon for manure. But before this was done the space could be utilized for feeding young lambs apart after the lambing period had terminated. By placing the water tubs well to the middle of the building, they would be less liable to freeze, and when water is supplied from an elevated tank, the tap can be boxed in with sufficient room for hose, which secures all against frost. The double outside doors have a bottom part to slip in, which admits of the raising or lowering of the door, as the snow or the manure fills in, or vice versa. Grain bins are arranged in the loft, with spouts leading into the passage. If the building was of stone or frost proof, and a root-house required, it could be taken off the north end to be convenient to the passage, or could be outside of the building altogether. When wood is the material used in building a sheep-house, it may be made fairly comfortable by using tarred paper between the thicknesses of the boards. The yards may be varied in size, and surrounded by a tight board fence. The windows may be made double and to slide, or single and to swing, to aid in ventilating when required.

PIGGERY WITH PLAN.

One of the best piggeries that we have met with in Canada is that used by the Messrs. Snell Bros. Edmonton, Ont., ground plan of which we subjoin.



GROUND PLAN OF SHEEP HOUSE.



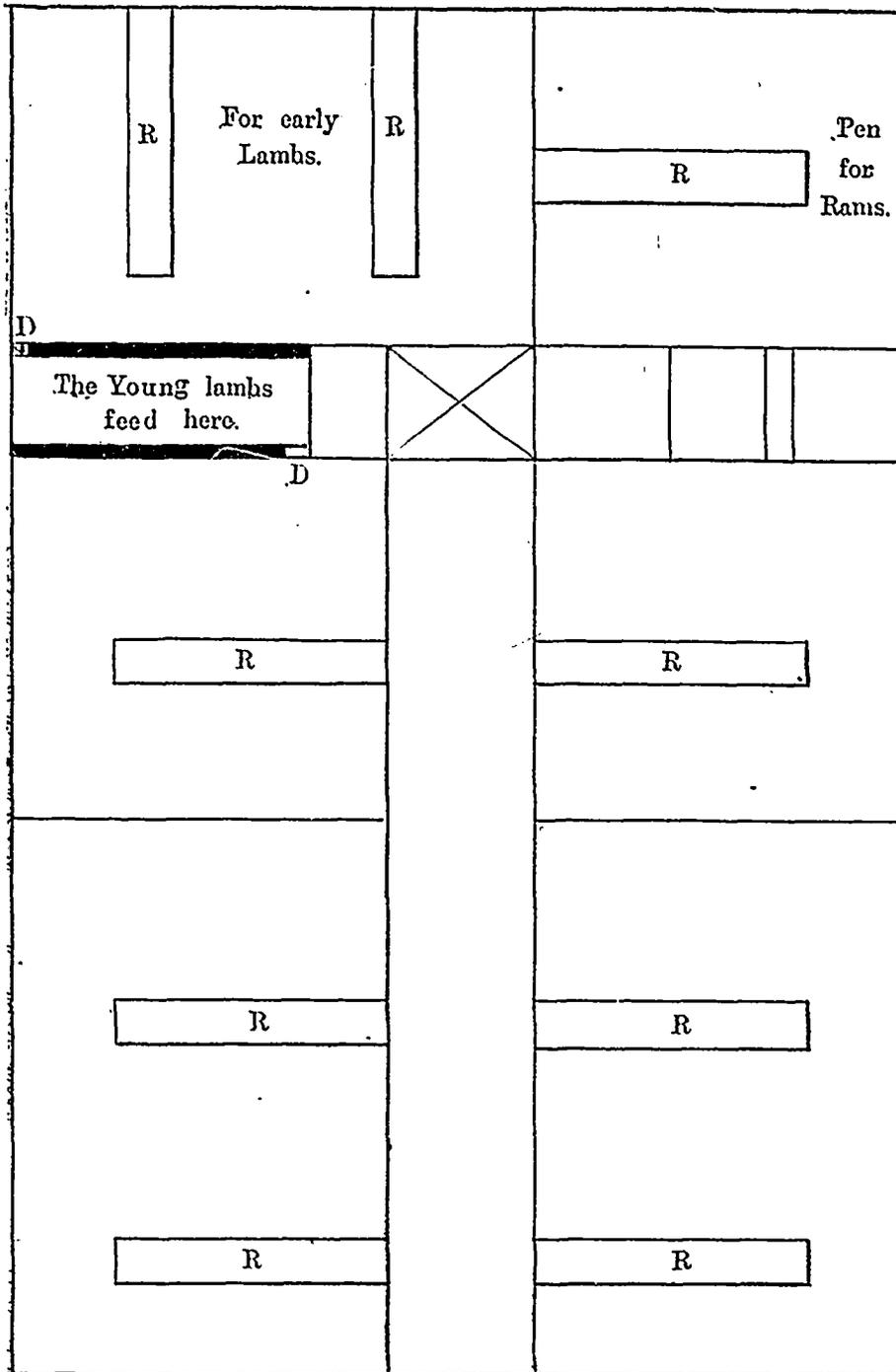
GROUND PLAN OF PIGGERY.

a—Movable lambing pens.
B—Movable partitions.

D—Small door. W—windows.
DD—Double door for wagon way.

x—Water tap and small hose for filling tubs.
⊗—Water tubs.

a—Window. b—Trap door. c—Trough. d—Door.



GROUND PLAN OF SHEEP HOUSE.

Showing how movable racks may be used.

D—Door or opening into feeding place of lambs.

R—Rack for feeding sheep.

The dimensions of this building are 50 by 24 feet, and may be extended lengthwise to afford any amount of accommodation that may be desired. The height may be adjusted to the use for which the loft is intended. If used only for litter it need not be high, but by elevating the roof the appearance of the building is improved, and a useful store-room provided for straw and other things. Brick or stone may be used, but the building should be above ground; where wood is the material it should be lined and filled with sawdust, or made sufficiently warm by the use of tarred paper. The size and number of the pens may be modified to suit the requirements, and the partitions need not be more than four feet high. The door from each pen into the passage renders it easy to change the pigs in the pens. The floor may be plank or grouted, or better still, concrete, made similarly to that of the floor of the cattle barn described above. It may be depressed toward the rear, or in the centre, the depression running across the stalls or pens, and length-

wise of the building from end to end. The excrement could be soaked up with the litter and none of it wasted. The floor above should have traps into the different pens, or into the alternate ones at least, for putting down bedding. The space for feed-room, boiler, furnace and slaughter-room, may be of any desired size, and should contain a well or other water supply. Where the water is fed from a tank or elevated reservoir, there may be one tap so placed that it would feed the boiler when desired. There should be a scalding-box, table and windlass in the slaughter-room. In front of the feeding trough, the door, extending its entire length, should be made to swing at the will of the feeder, that the troublesome inmates may be shut away from the trough while the feed is being placed in it. The windows slide into a pocket for protection when open, and may be of any desired size. The yards may also be of any desired size, and if there is access from them to the barnyard in winter for herding sows, it will be well.

Professor Jas. W. Robertson has outlined a form of pig-pen for use in connection with creameries when the former cannot be removed sufficiently far away to ensure safety from the ill effects of the odors arising. In these pens the passage is the lowest part of the floor, and contains a trough on each side of it, which may be a part of itself, the centre of the passage being elevated for walking on. The pens are highest in the rear, and the excrement runs under the feeding troughs into the depressions in the passage, which being inclined toward one end, carry out the excrement which may thus be absorbed by the application of earth. Much attention in this case should be given to the slushing of the passage conductors.

(To be continued.)

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.
The Education of Farmers.

BY J. H. SMITH, ANCASTER, PRESIDENT OF THE
 ONTARIO TEACHERS' ASSOCIATION, 1887-8.

(Continued from October.)

We note, as must also even the casual reader, numerous references in our public press to the number of young men leaving the farm to follow the learned professions. Thus it is that this Pierian spring, the farm, has been drained of its brightest and most sparkling waters. This we cannot but lament, for if brain power and studious habits are wanted in conducting any business, it is surely that of farming. The whole realm of science in its many applications to his work, is before the student of agriculture; master it he cannot; assimilate and apply it partly he can.

It is thought by some that muscle is the only requisite for a good farmer. Like the strong sea breeze that lifts the mists heavenward from off the waters, the vanguard of agricultural progress, in its steady march onward, has dispelled this idea from the minds it has befogged. Already overcrowded, the learned professions offer little inducement to devotees, unless they are fitted in an eminent degree for such work. Although in most professions there is always room at the top, yet to attain positions of trust and importance in them it calls for adaptability for such work on the part of he who labors.

It is quite evident that when an effect is produced there must be a corresponding cause, and when this cause is discovered, it is not so difficult to devise the means necessary to remedy the evil. If, therefore, we can diagnose the case with sufficient accuracy to determine what causes produce this overcrowding, we have made some progress towards solving this somewhat complicated problem. There are two primary causes to which, in our opinion, we may fairly assign the bulk of the evil complained of. These briefly stated are, (1) That there is a desire common to the majority of mankind to avoid manual labor, and secure what to them seems to be a more genteel or respectable means of earning a livelihood; and (2) that the influence exerted by our educational system aids in perpetuating this view, by directing the mental activities of our young people along the line of the learned professions. It will thus be seen that these two causes are very closely connected, and seem to be interdependent, the one upon the other.

In regard to the first it will hardly be necessary to advance any arguments, since it must be quite evident even to the most cursory observer, that this feeling pervades a very large portion of those who follow some mechanical pursuit, or belong to the laboring class. To any person who has mingled with these classes even to a limited extent, and who enjoys their confidence if only in a moderate degree, it will require no mathematical demonstration to prove that this desire is widespread and deeply seated. And justly so, for their lot has not been cheered by the light and knowledge which education brings in its train. The writer has frequently heard this remark from parents belonging to these classes, "that so far as their children are concerned they should have an easier time of it, and lead a more respectable life than that which had fallen to the lot of their parents." Now the only way, within easy reach of the parents, and by means of which this can be accomplished, is to educate them. Their first care, then, is to send their children to some convenient school. When they are enrolled in one of our public or high schools they are

subject to the influences which these exert, and their position in life is determined to a considerable extent by the course of study they pursue. It is only natural to suppose, or rather assume, that the children of those already in these professions do not desire to enter what to them, both from education and training, appears to be a lower and consequently less respectable position in life. Their ambition would lead them to aspire to something higher instead of taking them in an opposite direction. It therefore appears quite evident that there is a deeply-rooted desire in the minds of the great majority of mankind, especially on this continent, to occupy an apparently more respectable position in society than their parents did, and these professions are looked upon as being the desirable point to be attained.

In considering our second statement concerning the trend of our educational system towards the learned professions we are led to enquire: (1) Is it true? and (2) can any means be devised that will lessen this tendency, and direct the intellectual energies of our young people into more practical and useful channels?

To the first question we are compelled to answer in the affirmative. It must be apparent to the most ordinary observer that the great part of the work done in our high and public schools leads directly towards a professional career. The idea is rapidly spreading that in these schools the best interests of a large number of our young people are to a greater or less extent sacrificed to conform to this tendency in our educational work, and the time has arrived when we should ask ourselves the question, Whither are we drifting? This tendency will be more clearly seen if we look somewhat carefully at the various examinations candidates are required to pass, and at the direction in which these are leading our young people. The lowest is that for admission into our high schools, and the course of study in our public schools is so arranged that pupils of twelve or fourteen years of age, if reasonably well taught, have but little difficulty in passing this ordeal. Next in order comes the literary examinations for a public school teacher's certificate; then follow the matriculation examinations in law, medicine, divinity and arts. Now it will be observed that these examinations are literary in their nature, and are based upon the somewhat broad and comprehensive course of study prescribed for our high schools. The combined influence of the course of study and the associations surrounding the student while attending school lead directly to either a professional or a literary career in life. Recent changes have placed the teachers' examinations more directly on the line of a university course than formerly, and now first-class teachers' certificates are granted to students who reach a certain standing in the University course. In addition to these purely literary schools, there are normal and model schools for training teachers, and medical, theological and law schools for students desirous of entering any of these professions. Should any further arguments be necessary to prove the statements already made, we have only to turn to the official records for their confirmation. From the last report issued by the Minister of Education, we learn that there were 15,344 pupils enrolled in the Provincial high schools. Of these 1100 were preparing for matriculation into one or other of our universities, 723 for the learned professions and 5777 for teachers' non-professional certificates; making a total of 7600, or nearly 50 per cent. of the total enrolment. Against this we have 1733 who are taking up the commercial course, and not one solitary student devoting himself to the study of agriculture. There need be no wonder, then, that the professions are crowded, since they are constantly receiving accessions not only by the natural increase of those already within the ranks, but by recruits from the mechanical and laboring classes, and from the farming community as well.

(To be continued.)

Clover Seed Midge.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Having noticed a good deal of inquiry regarding the so-called midge in clover seed, I thought it only fair to give my own experience for the last five years regarding the same. I had come to the conclusion that the midge operated chiefly during the last half of June and the last half of August, so I cut my clover or took stock off between the 1st and 20th of June, and have succeeded in raising a good crop every year.

W. H. H.

The Dairy.

Freezing Milk—an Industry.

A short time ago we saw in one of our English contemporaries an article giving an account of a company in the Vosges, having for its object the freezing of milk so as to lessen the trouble in transport and enable them to compete with other milk vendors nearer Paris. Whether we can utilize our conditions of climate for this purpose—which the Dakota immigrant agent, partaking of the characteristics of his blizzard-riven district, terms "seven months Arctic winter and five months cold weather"—and whether the milk deteriorates in quality or not, are questions worthy of consideration. If the quality is not influenced in the freezing and after thawing, it is obvious that it would be a valuable means for keeping milk fresh for some time. One of the conclusions arrived at by those who experimented in this line, was that during the process of freezing it is necessary to avoid a stationary temperature of about 35° Fah., in order to prevent the formation of lactic acid, and also to hinder the rising of the cream. The milk being placed in vessels, is plunged into a refrigerator bath considerably below freezing point, and in about 5 or 6 hours, varying with the volume, the milk is frozen. Prof. Long says, "In examining milk which has been submitted to freezing it was found to be similar to milk which had not been frozen. Its taste was identical with milk newly drawn, and when two samples were submitted to twenty agriculturists and persons skilled in dairying, one which had not been frozen and the other which had, both samples being taken from the same cow, it was found impossible to point with exactness to the milk which had been frozen."

The microscope detected no difference in the globules from that of ordinary milk. Rennet had its usual effect, and even superior cheese was made from it by a renowned dairy. In summing up the experiments the conclusion was drawn "that no constituent was in any degree altered by freezing." It is further to be added, that milk thus frozen is not likely to absorb germs of any kind such as the ferments. It was also thought that the cold would destroy the germs if they did gain access to the milk before freezing, but we cannot accept this, having in mind a series of experiments conducted by Prof. J. G. McKendrick and J. J. Coleman. These gentlemen subjected milk, beer, and vegetable infusions, putrifying fluids, etc., to cold from 80° to 120° below zero for from a few hours to a hundred hours or more. The result was in every case the same. The putrefactive process was checked and made slower for a time, but in no case were the microbes thoroughly destroyed. They summed up the conclusion to their experiments by saying that the degree of cold they employed (which was far lower than that of frozen milk) may perhaps be competent to destroy living developed organisms, but not to kill the germs.

However, if proper freezing will only keep the milk sweet and permit of easier transport it is deserving of thought and experimentation at least.

Our Milk Standard.

At a meeting of the Dominion public analysts in May last a resolution was brought forward and passed having for its object the adoption of a milk standard for the Dominion. Acting on the resolution, samples of milk were taken from herds in the different Provinces, and these were analyzed and the results sent to headquarters. In the important work of collecting

these samples the cows were milked in the presence of the collectors, and after thoroughly mixing, the sample was taken.

The following is the average per centage of butter fat and the total solids found in the many analyses made:

	Butter Fat.	Total Solids.
Halifax.....	4.24	12.72
St. Johns.....	3.97	12.45
Quebec.....	3.54	12.39
Montreal.....	3.82	12.29
Ottawa.....	4.26	12.93
Toronto.....	3.38	12.68
Total average...	3.86	12.48

The chief analyst, in closing his report, says: "In the event of standards being established in Canada, it would seem wise to adopt the principle that milk must be of good standard quality, and to establish the following as the lowest limits for its contents in nutritive substances:

Total solids.....	12.0%
Butter fat.....	3.5%
Solids other than fat.....	8.5%

This standard is based on the results of the analyses conducted this summer, and hence we think it should yet receive verification, and we think the intention is to do so, before making it hard and fast.

It may be interesting to know that the British Society of Public Analysts have adopted as their minimum limit in pure milk 11½ per cent of total solids and 2½ per cent. of fat. On the other hand, Massachusetts has adopted 13 per cent. of solids, and intervening these two extremes we find New York, New Jersey and some others with the standard of 12 per cent.

Besides many tabulated analyses there are a few thoughts thrown out by the chief analyst which should be thoroughly digested. For instance in their analyses they found, as the above table will show, that there is a great range between the different samples, so that a rich sample might be watered and yet be as good as many of the poorer ones. This gives birth to the thought, Is it fair, as the analyst infers that the dairyman, who, mixing half and half, a skim milk containing only .5 per cent. butter fat with whole milk of 4.5 per cent. butter fat, thus making a product of 3.2 per cent. fat, should be punished while he who keeps inferior stock, gives them poor food and care, is allowed to escape unpunished, though his milk (which may be legally pure) contains only 2.75 per cent. of butter fat?

The necessity of a standard is apparent, both for the protection of the consumer and for the honest producer who has to compete with unscrupulous rivals. What difference does it make to the consumer whether the water comes through the natural medium, the cow, or artificially, through the pump? The origin of it is of no consequence as long as pure; it is the quantity of it that he considers.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Farm Influence on Creameries.

BY JAMES CHEESMAN, BOSTON.

One of the most humiliating confessions we have seen or heard of this year in the creamery business is the letter of Prof. Robertson's in the September issue. Most of us thought that the county of Wellington was above reproach, and that its farming would compare with that of any county in Canada. As Prof. Robertson tells us, the Experimental Farm creamery had to be closed early in August because farmers were unable to feed their cows for a longer supply of milk. Other counties in Ontario suffered severely for lack of water, but as far as I have heard, not even Prince Edward county was forced to close

down earlier than usual. As long as farming operations are so dependent on climate, it is utter folly for dairy farmers supplying creameries to suppose they can count on grass; besides, there is so much more economy in soiling than in grazing, and especially in a county like Wellington. It may be objected that this is unnecessary under ordinary circumstances. Indeed! The longer I live and the more I see of other people's experience the more convinced I am that the farm is like the climate, and both are extraordinary circumstances by turns. There is no safety on sole reliance on one kind of crop anywhere, and if the farmer who thinks he has planted too much has the good fortune to possess abundance of grass, why, he will have more hay to sell, or he can convert the extra food into milk or eggs. We loiter round the farm with hands folded in a complaisant sort of manner, as if everything would come all right, as in a pastoral life on the ranches.

During the summer I saw some of the finest fodder crops in various parts of Ontario that I ever expect to see anywhere. Among these were lucerne, peas and oats, Hungarian millet, Scotch tares and Southern sweet corn. What is there in the local conditions of Wellington to prevent the county doing as well as others?

From some of our creameries we have had most satisfactory reports, and a general improvement has been observed in feeding and caring for cows by the patrons. Next year the Creameries Association Executive will try the introduction of a few new plants of the cow-pea class, so as to vary the bill of fare and add another flavor to our list. The Southern cow-pea in its various forms, affords a prolific cropper on most soils for dairy cows. It can be treated pretty much in the same way as the field pea, and will yield much larger crops than the Canadian pea, as it gives a heavier vine, which may be converted into hay where surpluses are found. It deserves the careful consideration of farmers this winter, and will, in all likelihood, be discussed at one or more of the dairy conventions to be held after Christmas. Active measures will need to be taken if the creamery business is to grow and flourish in Canada.

Milk Cow Contest.

Through the kindness of Mr. Cheesman, who conducted the dairy contest at the Bay State Fair, held at Springfield, Ill., we are able to give the result to our readers. The awards were based on the following

SCALE OF POINTS.

- For each pound of milk solids..... 8 points.
- For each pound of butter fat..... 30 points.
- For each twenty days elapsed since calving... 1 point.
- For each twenty days of gestation..... 1 point.

ANALYSES OF TEST COWS' MILK—JUDGE'S AWARD.

SWEEPSTAKES FOR THE BEST MILK COW OF ANY AGE OR BREED.

Breed.	Milk lbs.	Specific gravity.	Solids per cent.	Lbs. of solids.	Fat per cent.	Lbs. of fat.	Days calved.	Days of gestation.	Score.
Ayrshire..	36	1.033	12.99	4.67	3.35	1.20	35	74	76.04
Holstein..	38	1.0305	11.81	6.85	3.08	1.78	53		110.01
Holstein..	46.5	1.0325	11.61	5.74	2.33	1.08	20		74.68

SWEEPSTAKES FOR BEST BUTTER COW OF ANY AGE OR BREED.

Jersey..	30.5	1.032	14.19	3.33	4.26	1.29	51		76.07
Holstein..	44.5	1.031	10.52	4.72	1.89	.84	28		64.44
Holstein..	53.5	1.0335	12.08	6.46	2.43	1.30	37		92.55

In concluding his report Mr. Cheesman makes some suggestions that we think worthy of thought. Besides taking the food fed into account, he thinks that the weight of the animals should also receive due consideration. It does seem unfair to demand as much milk from an 800 lb. cow as from a 1100 or 1200 lb. animal. To obviate this, Mr. Cheesman recommends

the making of three classes, irrespective of breeds, as follows:

One for cows not exceeding 900 lbs., another for cows between that weight and 1100 or 1200 lbs., and a third for all animals over that weight. Or, if thought advisable to attempt a sweepstakes competition, Mr. Cheesman suggests that it should be open to breeds on conditions which would enable small cows to compete on equal terms with large ones. For instance, five cows aggregating 4000 lbs. live weight, should compete with four cows weighing 4000 to 4200 lbs., in no case allowing a difference of more than 10% of carcass.

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.

The Ayrshires from an Economic Point of View.

BY D. NICOL, CATARQUI.

It has not yet been, and it is hardly probable that it ever will be definitely determined, which under all circumstances is the most profitable breed of dairy cattle. Indeed there is hardly anything definite in agriculture. Yet I think, and have long maintained, that by an honest, fair test of a given number of representative cows of each of the several celebrated breeds, fed under ordinary conditions for a full year, it would be quite possible to reach an approximate estimate of the capabilities of even a large herd of any of the breeds. This is what we Ayrshire breeders have long been desirous of obtaining. Mere assertions avail but very little practically.

Investigations in the line of economic feeding of dairy cattle, with a view of ascertaining the comparative merits of the respective breeds, would perhaps be quite as legitimate business for the Agricultural Experiment Stations, now established throughout the Dominion, as that of trying to ascertain the real value of any particular kind of grass, grain, fruit or root. Agricultural Experiment Stations are professedly sustained chiefly for the benefit of the farmer, and it is very desirable that efforts be made to determine questions that are of special interest in the practice of farming. Dairying is, at least in this part of Ontario, of the greatest importance; and while the actual economic value of any of the dairy breeds of cattle is not well known, experiments that will throw light on the subject must be of direct benefit.

A just decision can never be arrived at by the stuffing or cramming of individual cows, which can be fed and trained to produce enormously. There are, doubtless, in every breed some phenomenal cows, which, under extraordinary conditions, give extraordinary results. For the practical dairyman, however, extraordinary conditions are impracticable. The most important consideration for the practical dairyman is, and ever will be, as to how he can obtain the greatest produce with the least cost of food consumed in the obtaining of it.

Some inexperienced dairymen seem to imagine this can best be accomplished by using only the large cow that yields a great bulk of milk. It does not, however, follow that she is more profitable than the small sized cow that eats only half the quantity of food, and possesses better faculties for assimilating it.

The fact that some cows of certain breeds have produced enormously by extraordinary feeding, has led some to believe that every cow of that particular breed must, as a matter of course, be a great producer, but extensive and expensive experience has convinced many that in "live stock," as in "mineral stock," there may be woeful disappointments. Aside from all speculations in pure-bred stock, with high sounding

pedigrees, the practical dairyman will generally succeed best when strictly minding his own special business, never being induced to compete with professional breeders in the rearing of fancy stock for sale.

It is a very easy matter to mislead the public in regard to the actual worth of any dairy breed of cattle, by giving only partial reports of their performances, taking the phenomenal yields, and withholding the unsatisfactory ones which are commonly more numerous. There is no breed in which there are not some poor producers, and calves from even the best of any breed are not always satisfactory. It is, however, generally admitted that the Ayrshires are more uniformly good producers than any other breed of dairy cattle.

The capacity of a breed may, in a small measure, be judged by the yield of a few selected animals for a short period, but the real value of any breed can only be determined by the average yield of the whole for a full year. This fact accounts for the lasting popularity of the Ayrshires, which breed has stood the test for over a hundred years. It is also, doubtless, the reason why it has never been thought worth anybody's while to engineer a boom for them. They have never been worked with a view of appalling newspaper readers with extraordinary records made under unusual conditions, and although there is no doubt they could be worked to advantage in that respect, it is fortunate for their reputation that they have never been used in that way, because even some practical men might have been deceived with them, as has been the case with individual cows of some other breeds. Her reputation has come of the merits of the breed, not of its exceptions.

I do not despise any of the well-known breeds of cattle. Indeed I admire each breed when under careful management. Each breed has some particular merit. I rear Ayrshires because I believe that from a ton of hay and a hundred pounds of meal I can obtain more quarts of good, marketable milk than I can obtain from any other breed.

I know quite well that the Holsteins are generally large producers of milk when fed and watered abundantly, but I also know that they are large consumers, and that their milk is commonly below the analyst's test.

I know that the Jerseys and Guernseys generally give rich milk, and that there are to be found among them some great producers of first-class butter, but I also know that the great majority of them are but small producers, and that many of them are not more productive than good goats.

I supply confectioners with milk which must be of good quality, which I never failed to produce, and for which I receive a fair price. I could not supply my customers with Jersey milk, because I am certain it would cost me more than I could get for it.

I dare not offer Holstein milk to my customers, because I am certain it would not give satisfaction.

Many years ago I reared three grade Shorthorn cows, which for four months after calving gave a daily average of about sixty-five pounds of milk, but as they would not give milk more than eight months of the year, I was obliged to sell them for beef. The dairyman who undertakes to supply city customers must have cows that give milk eleven months of the year. I can show you two Ayrshire cows which for six months after calving give under ordinary conditions a daily average of forty-eight pounds of milk, and they have not been dry for over six years, although for some weeks before calving their milk has not been saleable.

As a result of long continued experiments at the

Ontario Agricultural and Experimental Farm, it was shown that the average yield of milk per season by the Holsteins was about 7,000 lbs., and that of the Ayrshires about 6,000 lbs. The Holstein milk produced less than 2½ per cent. of butter, while that of the Ayrshire gives nearly five per cent. of butter. It is now, however, well known that many select Ayrshire cows produce annually over 9,000 lbs. of good, marketable milk, with no other treatment than that common with all careful dairymen.

(To be Concluded in next issue.)

Poultry.

The Best Fowls and the Best Feed.

A subscriber asks the questions embodied in the heading of this article. Both are very difficult to answer, owing to the differences of opinion held on the subject by foremost feeders and breeders.

There is no doubt that some varieties are better for egg-production than others, and on the other hand some are better for table use, while some combine both qualities in a more marked degree than other sorts, just as some of the breeds of cattle are better adapted for milk and butter combined than others of them.

The Brahmas, Leghorns, Plymouth Rocks, Wyandottes and Hamburgs are good layers, but they do not comprise all the good laying sorts. To say that any one of them is absolutely the best would at once bring the writer into a hornet's nest, for men honestly believe oftentimes that the breed which so arouses their enthusiasm that they can scarcely examine into the merits of another breed, is really the best. Brahmas are good for the table, but they are sluggish in their habits, an advantage to the city poulturer, but a disadvantage to him who has wide areas of range.

The Plymouth Rock fills the bill of the general purpose fowl very well, but we do not say that they are the best general purpose fowl. We know this regarding them, that certain strains of them lay remarkably well, and that they are also good for the table. Pure-breeds give best results during a term of years, for with mongrels there can be no certainty.

The best food is affected by conditions, as climate, confinement, season or locality. As a rule the morning meal should be soft, as a mixture of middlings, boiled potatoes and such like, with meal of some kind added if you please; the noon meal of grain of the lighter sorts, as oats and barley; and the evening meal of wheat, peas or corn, or of the three combined. In winter they should have fresh meat occasionally, lime, ashes, gravel and broken bones. In summer where they have range, they will search these things for themselves. Green cabbages or other green food chopped, in the morning meal, are excellent. If confined to any one kind of grain for some time, let it be wheat, but the greater the variety duly proportioned, the better the results. The more liberty they have, the better for the fowl, but not perhaps for the garden or the crop in the adjoining fields.

Poultry Manure.—Its Value and Use.

If we figure out the value of the manure produced by poultry, on a similar basis as that by which the value of other manures is arrived at, and crediting the hens with such, we have no hesitation in saying that the hen coop, if properly attended to, would give as good returns as any other department of the farm. Too often, however, the manure is carelessly pitched aside and allowed to go to waste, and it is with a hope of having such preventable losses saved on the farm that we pen these lines.

In determining the value of any fertilizer there are only three elements that are considered, viz.; nitrogen, phosphoric acid, and potash. These three are not only absolutely necessary for plant life in common with some others, but owing to their scarcity in nature, they are of special value. Chemists, to have a basis of comparison for manures, value these three constituents according to their worth in the market at the present time.

The following is the composition of hen manure, as given by Storor:

Nitrogen	1.60 per cent.
Phosphoric Acid	2.00 per cent.
Potash	.00 per cent.

This is a little lower than that ordinarily given. As both the liquids and solids are combined, an increased value is given the manure on this account. Being very soluble, these constituents have the highest trade value, viz. eighteen cents per pound for the nitrogen, six cents per pound for the phosphoric acid, and five cents for the potash. The value of a ton would then be about nine dollars. Farmyard manure, valued on a similar basis, would be worth about three dollars.

In using hen manure, owing to its richness or strength, it is best to compost it with loam, muck, plaster, road dust, or some other absorbent. A plant can be fed too much as well as too little. Too rich feeding tends to produce a rank growth, susceptibility to disease, and late maturity, hence it is better to dilute the hen manure before using it. The following is a good method to adopt: Compost it with four parts loam or any of the above mentioned substances, let it stand a week and then overhaul it, breaking the lumps; after standing another week it may be used or kept indefinitely as desired. For corn or cabbage, ½ of a shovelful to the hill, mixed thoroughly with the soil before dropping the seed, will be found sufficient. It is estimated that the manure from fifty fowl, properly composted, would furnish hill dressing for at least two acres.

As a top dressing, it should be applied in spring, as it is a very soluble and quick acting manure. Lawns will be greatly improved by a top dressing of this nature.

The pure manure diluted with water is a valuable application for house plants, giving the foliage that bright, green color indicative of healthy growth.

A Plea for the Layers.

It appears to us that at most of our poultry shows too much importance is attached to the feathers and markings of the fowl on exhibition, thus shoving aside, in too many cases, form and other features indicative of utility either for the table or egg production. It is this element of utility that is eagerly looked for by the practical poultry keeper, and we consider that an exhibition of fowl best deserves patronage when the wants of the practical man are not overlooked. Beauty of feather, etc., should not be slighted on any account, but we maintain that it should ever be made subordinate to utility. Why not then, to obviate this, have well conducted egg-laying contests at our large exhibitions? Objections there may be, but we see none that are insurmountable.

It would serve to put the merits of the different breeds on a firmer basis, and besides this yield information of some value to the poultry fancier. It would infuse more spirit into the poultry department, which is greatly needed, as even the most casual observer at our exhibitions may testify. We at least think it worthy of the consideration of those interested.

Disputed Color of Pekin Ducks.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Having seen nothing from Mr. Bartlett in your September issue as regards color of Pekin ducks, I thought he was convinced of wrong, and, therefore, let the subject drop; however, he wishes to make clear

to your readers that he now yields to my statement that white birds are by far in the minority, as all Pekin fanciers are well aware that this is, and always has been. As I meet many of my brother fanciers at the Industrial, and give close attention to those on exhibition, which was the largest ever made in Canada, not one bird had the slightest appearance of pure white, while the winners were the richest creamy white on exhibition. Certainly, Mr. B., I am aware that the standard of 1883 reads, "plumage any other color than white or creamy white," but after looking up the article in the JOURNAL of 1884, which was I to quote? Not wishing the JOURNAL to be quoting in 1884 from the American Standard that clause which reads: "Disqualification, plumage any other than creamy white," and knowing Mr. Gain to be a noted Pekin fancier, I concluded to again quote the same standard, which I have claimed for the first. While thanking Mr. B. for his generosity, I'm not beggared for a dollar yet, (but his two dollars has not showed up though). Now, Mr. B., when I so feel I can give to the most charitable institution from ten to twenty dollars, I may do so without laying bets, as I have never won money in this way.

Thanking you, Mr. Editor, for the space in the columns of the JOURNAL for this article, I will not, unless necessary, reply further on this question, but leave it for the readers and fanciers of this breed to judge for themselves as to color of Pekin ducks.

W. B. COCKBURN

Aberfoyle, Oct. 13th, 1888.

[The \$2 above referred to has since been forwarded to Mr. Cockburn, as desired by Mr. Bartlett. We had hoped that a speedy settlement of the difference would have taken place without such action on our part, and hence our excuse for not fulfilling Mr. Bartlett's wishes at an earlier date.—ED.]

The Apiary.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Candied Stores, Marketing Honey, etc.
BY ALLEN PRINGLE, SELBY, ONT.

After last month's writing I discovered that a portion of the honey gathered early in the summer during the drouth had granulated in the comb in the hives. It is a generally known fact that extracted honey of nearly all kinds will, after being duly ripened, granulate and become quite hard and "gritty." The fact that comb honey will also sometimes granulate sooner or later after removal from the hive is not so well known. Such, however, is the case, and sometimes, though rarely, comb honey will granulate in the hive in a few weeks after being gathered. This has happened the past summer in some localities. It has been doubtless due in part to the excessive drouth. The honey gathered at such time has much greater density or specific gravity than that gathered in wet weather, and hence granulates more readily.

Upon finding that a portion of the stores in the hives designed for winter was granulated, and, therefore, unfit for such purpose, I went over the yard, removing all such, and replacing with suitable food. As the result of candied winter stores would be disastrous to the colonies possessing them, those bee-keepers who have neglected to look into this matter, had better do so at once. Better disturb the colony, even in November, than run the risk of losing it altogether. But the examination can be made without much disturbance. Generally the tests can be made at the tops of the frames with a penknife, without removing them or even loosening them. When the trouble is found to exist, and there is no good comb honey in frames on hand to supply them, it would not be advisable to feed syrup so late in the season. Instead of that leave them alone till into winter quarters (a warm repository, for such is necessary for winter feeding) and then put on a Jones winter "Feeder" with sufficient stores to do till spring. Or supply them with the "Good Candy."

MARKETING.

The meagre proceeds of the apiary this season, one would think, could be disposed of without any trouble; yet so unskillful are some people in this important branch of the business that we find them even in the scarcity going about seeking customers, and offering their diminutive stock at starvation prices. Such people have neither patience nor prudence, and they spoil the market till their stock is exhausted. The regular apiarist has these always to contend with, but the annoyance this time will be of short duration, as the small stock will not go far in the public market. Not that I am in favor of taking advantage of the scarcity to demand an exorbitant price for what we have. We only want a fair price. Considering the skill and labor required for the production of honey, and the risks involved in wintering, etc., the price has been hitherto too low for fair profit and remuneration. For this the bee-keepers themselves have been to blame—the small ones, and even some of the big ones. The prime cause is premature rushing of the crop on the market, whether it be large or small. Before the hot weather and fruit season are over, while there is yet little or no demand for it, it is hurried on, much of it unripe, and sold for what it will bring. Honey, being largely carbonaceous as food, is for autumn, winter and spring use, not specially adapted for summer food. In hot weather people want cooling fruits and vegetables, and not much honey. Hence the folly of rushing honey away from the hives in the summer to the market when it is not wanted. A chief reason for such action is no doubt the inability to properly preserve the honey, especially the comb honey. Extracted honey is easily preserved good for months and even years, but the comb honey, to preserve it good for any great length of time, requires very proper handling.

HOW TO PRESERVE HONEY.

If the extracted honey is properly cured before being taken from the hives, or evaporated afterwards, it will usually granulate when a few weeks old, and will then save almost anywhere. But with comb honey it is quite different. No matter how well cured and capped when taken from the hive, if not kept in a suitable place, it will greatly deteriorate in quality. And it will sometimes granulate no matter how kept. The granulation, however, is not essentially injurious, but the deterioration from low temperature and dampness is decidedly so. While we are not able always to guard against the former condition, we may guard against the latter. To preserve comb honey from deterioration, and in a measure from granulation, it must be kept in a *warm dry place*, duly ventilated. No matter where the place is so long as these conditions are subserved. When the time comes to market the honey, one half of the secret of success lies in the injunction, "Do it decently and in order."

I used to know a bee-keeper who would come to the market with a lot of "black strap," buckwheat, candied honey, in an old rusty milk can with no lid, and a dirty old pair of rusty scales to weigh it out on, and old black newspapers to match. That, in an old spring wagon with an unkempt, rickety horse, was his outfit. For an hour or two after he had left the market he could be seen delivering his sales here and there, from one to five or six pounds of honey in each hand on a piece of the aforesaid paper duly exposed to sun and dust. Fortunately, such specimens of bee-keepers are rare. The fraternity on the whole are characterized by cleanliness and taste as well as good judgment.

It is astonishing how far neatness of package and taste of get up will go in selling honey. Try it, ye

who practically ignore these pre-requisites, and see for yourselves. Have a label for glasses, tins and pails advising purchaser that extracted honey will almost always granulate, and instructing him how to liquify it without injury to flavor or quality. Give your grocer packages and crates with which he will not be ashamed to adorn his shelves. Be sure your honey is ripe before you take it to market. Let the comb honey also be labeled with name and proper advice. Something like the following would answer for both. "Pure honey from John Smith's apiary. Almost all kinds of pure extracted honey will granulate and become quite solid in cool weather. To liquify without injuring it, melt slowly in warm—not hot—water, by placing the tin or glass of honey in another vessel containing warm water. Comb honey, which must be kept in a warm, dry place, will also sometimes granulate, and must then be used in that condition, as a temperature sufficient to melt the honey would also melt the comb." Some such form may be neatly printed on a moderate sized label, and will always explain itself.

The next essential in marketing is to sell at home instead of looking abroad for a market. Sell to your neighbors round about and develop "home market." The consumption of honey has enormously increased in the past ten years, and can still be enormously increased. As soon as the people understand that honey is not only nutritious and wholesome food, but a cheap food, the consumption will be greatly increased. Having the advantage, in addition to the above qualities, of being highly palatable, it must in time inevitably take its place on the tables of the land as a staple article of diet. As soon as the people understand that there is as much nutriment in a pound of honey at 12½ cts. as in a pound of butter at 25 cts., and as much in the pound of honey as in 3 or 4 lbs. of fat pork at 10 cts. per lb., as soon as they understand that more honey on their tables and less butter and meat, not only means economy but health, the change will be made. It remains for us to so educate them.

*Horticultural.***Sowing Forest Seeds.**

Of all divisions of farm work, that in connection with forestry is most difficult of reduction to a dollar and cent basis. This, however, is apparent, that if we desire to have descendants in whose breasts a patriotic fire shall ever rage, we must strive to render home as true an ideal as is possible for the most tasty pen to delineate. By rendering home surroundings beautiful and enticing, ties are woven more enduring than the strongest bonds of Mammon. Homes unadorned and unwelcome may be looked upon as one of the most fertile causes of the dislike of farmers' sons for the work of their fathers.

One of the best means of beautifying home surroundings is by the planting of suitable trees for shade, shelter or ornament. This resource is within the reach of all. Nature works as diligently for the poorest cottager as she does for the owner of the most palatial residence, if her wants, few and frugal, are fully satisfied. We write this to merely draw the attention of our readers to the fact that many of our forest trees are at present ripening their seeds, and that the time for planting such is at hand. We cannot go far astray when we follow nature's method of procedure in such a case as this; and on this account we would recommend the sowing of the seeds as soon as they are matured, with the after management as near as possible to that which nature follows. The soil should

be as finely worked as possible. If the plot is not large it should be well spaded and raked. Weeding is easier when the beds are about 3 or 4 feet wide, and the plants in rows. Plant nuts at least a foot apart, and seeds of all kinds, as a general rule, at a depth equal to twice their diameter. After seeding, the beds should be rolled to make the soil firm. Mulching is advisable, late in the fall with leaves or straw. If any one requisite is necessary more than another, it is that of keeping the beds free from weeds. If allowed to once obtain a footing, it implies future work and annoyance. In the case of the evergreens, while young they require to be protected from the sun by means of boards or brush.

One's patience may be sorely tried by the tardiness with which many of the nuts give indications of life. The young plants from them appear at different stages of the season, as they do not seem to follow any regular course in germinating.

As regards the varieties to plant, among nut-bearing trees the most suitable are black walnut, butternut and black oak. Among evergreens, the best natives are spruce, cedar, hemlock, and white pine. Norway spruce is one of the most valuable trees for a wind-break. Its value is due to the degree of closeness its branches may interlock and still live. Other trees, equally commendable, are the American elm, the linden or basswood, and the maples.

Where young trees of a suitable size may be obtained from the woods or half cleared lots, it is perhaps questionable if even this small amount of trouble in seeding and after management should be taken. But if such cannot be readily obtained, then by all means start a little plantation. It is sometimes difficult to obtain young trees without getting them from a nursery; while on the other hand, the nuts are plentiful in most districts.

A few persons are narrow-minded enough in their policy to refuse to plant a few trees because they are afraid they shall not live long enough to enjoy the results of their work. Let such as these dispel those thoughts by thinking for a moment how dependent our happiness and prosperity has been on generations now unheard of; and surely, then, they will be filled with a desire to transmit to generations yet unborn blessings equal in magnitude.

Cut Worm.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Many farmers and gardeners in Cape Breton have suffered severely this season from the depredations of what is here called the "cut worm." This insect somewhat resembles the ordinary currant bush worm in appearance, but is less inclined to physical exertion, contenting itself with lying under the surface of the ground, only emerging sufficiently to enable it to nip off young plants close to the ground. Beans, peas, beets, parsnips, carrots, corn, etc., in the garden, with oats, barley, potatoes, and in some instances, young grass in the fields were ruined, while less useful but more ornamental plants did not escape. So far as I can ascertain, local applications to the plants did not save them from the ravages of the pest.

Can you suggest any method for preventing the return of these enemies next season? If so, it will certainly confer a great favor on many besides

AMATEUR GARDENER.

Cape Breton, August, 1888.

The term "cut worm" is applied to the larva condition of many insects, but from our correspondent's letter we draw the conclusion that it is the larva of the genus *Agrotis* that is wreaking such destruction on their crops. Although there are many different varieties of this insect, yet their habits are so similar that a separate description would be unnecessary. It is during late summer or spring that the moth lays her eggs, either on a plant or on any support she may find near the ground. When laid in late summer, the

larvae come forth in early fall, and entering the ground feed upon the young roots of herbaceous plants. Being about two-thirds grown when winter approaches, they descend deeper into the ground, and there they remain until the following spring, when they issue forth, and so ravenous are they that they devour almost anything green that comes in their way. When full grown they descend deeper into the earth, remaining there two or three weeks appearing as moths in June, July or August. As regards the best way of destroying them, knowing their habits proves of use. They all feed by night, and in the daytime they conceal themselves near the plant they have been feeding on. By looking for them many may be found and destroyed. Fall ploughing, done as late in the season as possible, so that they cannot protect themselves from winter by again crawling into the ground, will materially lessen their numbers. We take an extract from Prof. Fletcher's last report, where he quotes Prof. Riley in the following words: "If the worms should appear in great numbers by immigration from the surrounding fields, we would sprinkle the fields at night while the worms are at work, with a dilute emulsion of kerosene." In another page he gives its method of manufacture, as follows: "Kerosene or refined coal oil, 1 pint; common laundry soap, ½ oz.; rain water, ½ pint." The soap is boiled in the water until it is all dissolved, and the boiling soapuds is poured into a watering-pot containing the kerosene, and churned with a garden syringe until the emulsion is complete. This can be bottled for future use. When used, it has, however, to be diluted with nine times its quantity of warm water. Remedies to prevent them doing damage in the garden are more plentiful. Coal oil mixed with sand in the proportion of a teaspoonful of coal oil to a pailful of sand, spread around the plants, has been found useful; and the same can be said of small sheet-iron or tin hoops placed around the plant. Brown paper has been recommended, used in a similar manner to the tin. A curious fact in their history is that they cannot crawl up a perpendicular bank of earth. Taking advantage of this peculiarity they have been trapped in smooth holes made with a stick around the plants attacked by them.

Do Grafts Degenerate?

One of the most remarkable phases of plant life is the ready faculty with which most of our cultivated plants are propagated. By taking a cutting of almost any of our green-house plants and putting it under favorable conditions of temperature, moisture and soil, it soon takes hold and grows; similarly the bent branch of a grape vine, covered with soil, sends out many fibrous roots ready to become an independent vine. Perhaps the begonia shows this feature more markedly than any other. If a small piece of leaf is cut off, planted in fine sandy loam and given suitable conditions for growth, it soon becomes a separate individual.

We take a cutting (scion) of an apple, but instead of putting in the ground we make another tree furnish the apparatus necessary for feeding from the soil. The graft assimilates and elaborates that which is necessary for the production of its own product, little influenced, if any, by the nature of the stock. All vegetable and animal bodies consist mainly of but four elements—carbon, hydrogen, oxygen and nitrogen. With these chiefly are found the great multiplicity of animal and vegetable bodies around us. When we strive to fathom the forces that mould the form these elements shall take, we enter the realm

of mystical science. When grafting a MacIntosh Red on a Hyslop crab, the inquisitive mind may be pardoned if it asks why should the former variety, luscious and palatable, be produced when it is fed from the same source as the dry and unpalatable Hyslop. Herbert Spencer formulates it thus: Each organism has an inherent physical tendency to complete its own organic form in somewhat the same way as a broken crystal placed in a solution of its own material has a tendency to replace its lost portions.

We are told by Grant Allen in the October number of the *Popular Science Monthly*, that the vitality of a plant must suffer by artificial propagation, such as grafting, etc. The original vigor of the parent plant becomes exhausted and the cutting or graft becomes weakened, and will in time succumb to the work required of it. He says:

"This seems to be the case at the present day, for instance, with the cultivated potato, which has been propagated from the tubers almost exclusively for many years, so that the existing plants must be of immense age, and have grown effete and feeble for want of proper sexual renewal. How are plants which have thus reached their dotage to restore their youth? How are they to carry on the future life of the species?"

This he answers in the next paragraph, which reads: "Nature has answered the problem of life by the wonderful device of intercrossing. The organism, like every other machine, tends in time to wear out and decay. But, unlike other machines, it contains in itself (through the action of natural selection) the means of manufacturing its own successors."

It seems hard to believe that plants may continue producing fresh material for ages, and it should not excite wonder when we say that it must eventually reach a stage when it becomes incapacitated for this by loss of vigor attendant on old age. As to the remedy he proposes, there is a certain difficulty about it. There is an indefiniteness as regards the result of intercrossing, and gardeners prefer the surer and less troublesome methods, as grafting, etc. As our knowledge of plant life and the influences that attend it are better known, then intercrossing may be pursued with more certain results.

The debt we already owe to intercrossing may be easily seen by briefly glancing over any of the catalogues of nurserymen. Perhaps it has been more used in the vinery than in any other department. It is wonderful the number of different varieties we possess, and each with a distinct separate feature, making it valuable for the meeting of certain conditions and requirements.

Until every farm with its many conditions necessitated by soil, aspect and climate, has a special strain most suitable for its environment, intercrossing will continue to be an important factor. In mating plants, results can be obtained in a shorter time than is the case with animals. But owing to the general want of knowledge it has been neglected by even those it most concerns. We think the operation important enough to demand a separate article in some future issue.

Dessert Apples.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Will you please answer in your next issue the following question: Which of the two collections given below do you consider the better for dessert apples?

No. 1 contains St. Lawrence, Golden Pippin, Duchess of Oldenburgh, and Snow.

No. 2, Snow, Autumn Strawberry, Sherwood's Favorite, Pomme Grise, and Russet.

"HOMWOOD."

Mount Forest, Ont.

Like all other vegetable productions, apples vary greatly according to surrounding conditions. The

quality, color, etc., will be greatly influenced by differences of soil, care and climatic surroundings. All kinds of fruit are said to improve in quality and deepen in color the farther north they can be grown. Perhaps this may be accounted for by saying that in northern climates the fruit season is drier and also shorter. However that may be, we know that pruning, etc., has a very marked effect on product. Soil also has its influence, which is more or less noticeable in different districts. This being the case, it is easily seen that in passing judgment on any variety as a whole, it is apt to be more or less modified according as these conditions vary.

As a dessert group, leaving out of consideration all other qualifications but those of quality, flavor, color and size, we would prefer the first named collection.

The Home.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

In Vain.

BY MRS. HANEY.

She said she'd come, and I worked away
All through that long November day.
I left no stone unturned to make
Everything bright for her own sweet sake.
Then I folded and locked away my care,
Changed my dress and smoothed my hair,
Set my coral brooch in its place,
A reef in a mass of foamy lace,
And set me down where my eyes could rest
On the grey road, running east and west,
And thought how happy I soon would be,
With her clinging lips a-kissing me.
The minutes passed like shining flowers,
Knitting themselves into golden hours.
While my heart sprang up in a merry tune,
Like a joyous bird in the rosy June.
I watched and watched till the daylight fled,
And the flow'ry minutes were cold and dead,
With a longing ache in my heart and brain,
But my darling never came back again.
And still I watch with a strange unrest,
Where the grey road runs from east to west,
With a heavy heart and an aching brain,
But my darling will never come back again.

The Power of Numbers.

There is a power in numbers that cannot well be over-stated, both in material and spiritual things, and that is not always duly weighed by those who labor for the well being of the race. Things that are weak and insignificant in themselves can overthrow those that are mighty when united in their action, and the least powerful of forces, when acting singly, may be made more than a match for the strongest when acting in combination.

Let us look at the power of numbers in material things. The flame of a match is insignificant, it will scarcely burn the finger, and a little child can blow it out, and yet the same material elements that produce this little light, when sufficiently multiplied, will wrap a country in a winding-sheet of flame and melt into confused heaps the material of its proudest cities. A drop of water is in itself an insignificant power. Falling into a flame alone, not even the momentary appearance of vapor is visible to the eye, and yet when acting in conjunction with the marshalled hosts of its companions, it can assist in a few minutes to wipe out of existence, every vestige of the same devouring element, exulting in its triumphant march throughout a burning and a ruined country.

Again, what is more feeble in itself than a particle of snow. It falls upon the cheek alone, and scarcely awakens a sense of its existence till it is dissolved in vapor, and can no more be seen. But let the winds bring from the north land myriads of its fleecy com-

panions, and in a few hours the highways are piled brimful, the commerce of a realm is suspended, the march of armies is stayed, the iron horse returns in vain to the charge, and one wide expanse abounds on every hand, where death reigns triumphant, unless where animal life is protected by structures above the ground or below.

Behold this power in the *vegetable* world. A blade of grass will scarce suffice to make a grasshopper's evening meal, and yet the blades that grow upon three acres will feed a cattle beast to the full for a whole year, and the blades that grow upon the hills and valleys of Ontario alone will sustain in a happy content two millions of the bovine tribes every year, in addition to all the families of the other quadrupeds. A leaf alone upon a tree would do very little indeed to hide its nakedness, or to perform for it the functions of respiration, and yet when multiplied in millions, those forest leaves crown our landscape with a living beauty, and swell the trunks of all the trees that crown our forests, until the meridian of full vigor is attained.

Look at this power in the domain of animal life. A grasshopper alone is an insignificant creature. Nobody cares to listen to the monotone of his unmelodious song, and he makes but a particle of a breakfast for a chicken that happens to cross his path. Yet bring them on in myriads, and they fill the inhabitants of a whole realm with consternation. Before the devourers spreads far and wide one broad expanse of vegetative beauty; behind them is desolation. Mightier than the hosts of Tamerlane or Zenghis Khan, their track is dreary desolation. A bee is a tiny little creature. It lives but a few months of busy life, and when it dies, what is the sum tototo of its labors? It has gathered a few drops of honey and generously donated it as a legacy to the world. Yet sum up the results of the labors of those workers in a province in one season, and we have more of the precious fluid than the Great Eastern could carry in one voyage to realms beyond the sea.

But it is in spiritual things that the power of numbers is most apparent, whether for good or ill. Solitary and alone, the false faith of but few men is impregnable. Thus situated, like the surface rocks that lie exposed to the influence of sun, and rain, and winds which crumble them away, this faith gradually yields to the light of the true faith that shines around it, and which ultimately supplants it. It is when heathenism with its hoary superstitions presents a united wall of living breasts to the attack of the evangelist, that the magnitude of the work he has undertaken is best seen, and the necessity of super-human aid most felt. A dissipated brawler in the slums of London may be an object of but little concern to any one, but let him become the leader of some 50,000 infuriated men clamoring for bread, and he throws the mighty millions of the city into alarm. This man may be won over by the solitary worker and transformed through the aid of Divine grace into a workman in the Master's vineyard. But what power shall transform the 50,000 men who followed him in crime, into workmen for the Master? Thanks to their brave, bold spirits, the corps of the Salvation Army, who have undertaken the work. They have gone down into the den of lions, and may God go with them, for when they succeed, as likely succeed they will, it will be through the constant pressure of increasing numbers.

Heathenism is numerically stronger to-day than it was a hundred years ago, and though this is not to the honor of the Church, it may not be altogether to its discredit, as wars are growing fewer and disease is better understood, and thus the conditions to an increase of population are more favorable.

The inroads that have been made upon heathenism of late have been neither few nor unimportant. The weaker parts of the wall have been discovered, and there are indications that bye-and-bye the fortress shall be taken. But through what agency, we ask? It will be, under Divine guidance, the united efforts of numbers. It is this that has accomplished so much of late, and when the glad day comes, when every Christian in the world shall do his whole duty, heathenism shall fall to rise no more.

It is reserved to these latter days to do things on a scale that would have astonished the inhabitants of all past centuries. In the days of the good Jehoshaphat a prayer meeting was held in which hundreds of thousands took part, but now every year the world has a grand prayer meeting in which millions join their efforts, and thus and thus it is that the idols are so often consigned of late to the realm of the bats, and the good work goes bravely on.

Think of the power of numbers in the individual outgoings of a single life. A man may sin but a few times in outward act in a single day, and he looks upon it as a light matter, but multiply this by three hundred and sixty-five days in the year; and by, it may be, three score years and ten. Remember at the same time that through all these years every form of thought has been allowed freely to pass through the heart of this man like the public thoroughfare of a city on which all manner of people tread, and what have we? Why, a picture infinitely more ghastly than the last judgment of Michael Angelo, black as the picture given us by Dante of the *Inferno*.

Take another view. We do but one good act in a day, and it may seem a little one, and we speak but one kind sentence, thus carrying happiness to someone who may thank us in the long forever, if not here. Three hundred and sixty-five good deeds are set down by the Recording Angel in one year in the Lamb's Book of Life, and in a lifetime thus spent, what a magnificent record is there to greet us on eternal shores. But suppose instead of one good deed, born daily of a love to the Master, there are a score, and thus it is through all our journey below, what a magnificent picture will greet us in that eternal mirror, which so perfectly reflects in all its beauty a well spent life here below!

It is when every man in the church puts the shoulder to the wheel, that great prosperity is enjoyed by the same, and when the work of any church is found languishing, it is because the labor is mainly left to a few.

To every reader of these fragmentary thoughts, we would like to bear a message, and it is this: Let no day pass without the aroma of some good acts to lead a fragrance to the memory of its departed hours at nightfall. Act upon this suggestion, and it will be worth a thousand times more than the advice offered by the dervish to the king for one thousand dinars. The daily quota of a life thus spent may seem like the gleanings of a scant harvest, but in the aggregate what a magnificent heritage shall have been laid up in the treasure-house of Eternity!

Jottings.

Subscribers in arrears will please notice that our premium picture will not be sent them until all arrearages are fully paid, along with their subscription for 1889.

Cauliflower Seeds.—The only place in America that cauliflower seeds are matured as a crop is said to be in the market garden of H. A. March, on Fidalgo Island. He grows acres of these seeds, and supplies them wholesale to eastern seedsmen, who formerly obtained their supplies from Ellort, Germany. The plots are irrigated as soon as the dry season sets in.

Exports of Cattle.—The shipments of cattle from Montreal to British ports have been this year, for May, 11,183 head; for June, 8,725 head; for July, 7,919 head, and for Aug., about 8,500 head. The August shipments were composed mainly of ranch cattle; those of June and July, pastured cattle of Ontario, Quebec, and the Maritime provinces, and those of May, animals that have been stall fed.

Clydesdale Registration.—We would impress on those interested the importance of sending in their entries for the third volume of the Clydesdale Stud Book at once, as no entries will be accepted after the fore part of December. If omitted now, a year or so must elapse before they can be printed. Those not versed in the requisites for registration, etc., may become so by writing to the secretary, Mr. Henry Wade, Toronto.

Nursery Stock.—We are in receipt of the catalogue of Messrs. Geo. Leslie & Son, 1164 Queen St. east, Toronto, containing a price list of the surplus gold medal stock of Toronto nurseries. Fruit trees and vines are offered, of the most prolific and hardy kinds. This firm has also on hand a good showing of ornamental evergreens and deciduous trees, as well as a fine assortment of flowering shrubs and plants suitable for garden culture. They will fill orders up to the end of November.

J. Fleury's Sons Implements.—We desire to call the attention of our readers to the advertisement of J. Fleury's sons, of Aurora, Ont., which appears in this issue. The confidence of the trade being secured, this firm is now doing a brisk business in meeting the many orders they are called upon to fill. So unusual has been the demand for their new sulky plough that they cannot meet it, and have had to refuse orders. It is their stated aim to secure the patronage of the public by the production of machinery of the best quality and finish, constructed with a view to economy and saving of labor.

Personal.—While we are pleased to hear of the appointment of Mr. Cheesman to the office of secretary treasurer of the New England Creameries' Association, yet we regret the loss of such an earnest advocate to the cause of Canadian dairying. Our readers are well aware of the good work this gentleman has done for dairying, and we feel we have their assurance in saying that we have lost one of our best writers and most pointed speakers on dairy topics. As he has charge of the educational work and improvement of the society in general, we do not hesitate in saying that the future success of the Association is assured.

Booming.—The JOURNAL is going ahead with greater success than ever. Last month we mentioned the names of F. R. Hamilton and John Dauncey who had secured Farm Bells as premiums for sending in respectively twenty and twelve subscribers. This month we give the names of two more, Andrew Cameron, Westwood, Ont., who has received a choice Leicester ram lamb for thirty subscribers, and Mr. A. Cates, who gets a pair of Pekin Ducks for twelve subscribers; but space this month compels us to stop. Those who are working for premiums, work away. The premiums are ready for you any time. Send along the subscribers.

Northern Business College.—We desire to direct attention to the advertisement in this issue of the Northern Business College at Owen Sound, of which Mr. F. A. Fleming is principal. In a neat little volume which can be had on application, the merits of the institution are well set forth. This college has received many prizes, medals, diplomas, etc., for excellency in penmanship, notably among which we mention two medals received at the Colonial and Indian Exhibition, at London, Eng. The course embraces bookkeeping in all its forms, commercial arithmetic, practical measurement, business papers and commercial law, spelling and composition, business letter writing, lectures, banking, joint stock companies, penmanship, partnership settlements, shorthand, etc.

Mr. W. Rennie's Autumn Catalogue.—We have to hand Mr. W. Rennie's autumn catalogue of bulbs, seeds, etc. Seedsmen are often blamed unjustly for supplying seeds that fail to germinate, the fault being with the purchasers, who do not give the proper attention to planting, etc. As a guard against this Mr. Rennie gives in his catalogue the best methods of cultivation, etc., of the plants he supplies. Hyacinths are quoted at reasonable prices. Cost cannot now be the reason for not growing these beautiful flowers to enliven the home at Christmas tide. The Tulip, Narcissus and pretty Cyclamen are all represented in great variety in companionship with the usual flower and vegetable seeds supplied to the fall trade. Mr.

Rennie's office is on the corner of Adelaide and Jarvis street, Toronto.

Hornless Shorthorns.—Strange anomalies are frequent in this progressive age, but we doubt if there are any more so than the above title. The dishorning craze so fierce with our neighbors across the line, loses some of its force from the fact that an enterprising American, W. S. Miller, Elmore, Ohio, has a herd of eight polled Shorthorns, which he exhibited at the Ohio Centennial Exposition, at Columbus. These animals are all pure-bred, being registered in the xxxiii vol. of the American Shorthorn Herd Book. The characteristics of the pure-bred Shorthorn are said to be retained with the exception of the polled peculiarity, there not being a scar or any sign of a horn. They are all descended, either through dam or sire, from Oakwood Gwynne 4th, by Marquis of Geneva (10451), hence it is concluded that the characteristic is now established.

Evolution of the Shire.—To follow the trend of Mr. Walter Gilbey's reasoning in his late contribution to Shire history (The Old English War Horse or Shire Horse) is very interesting, not alone for the presenting of garnered facts, but, what is not a feature of these times, it possesses the charm of originality, giving it a spiciness and relish not otherwise attainable. Starting with engravings on coins over two thousand years old, Mr. Gilbey gradually unwinds the thread until he culminates his history by cuts of our modern Shires, What's Wanted 2332, and Honest Tom 1505. Intervening between these extremes (for such they are to a marked degree) are engravings reproduced from medallions, state seals and famous paintings. The lovers of the Shire will welcome this as a worthy addition to their literature. The work is published at a moderate price by Vinton & Co., 9 New Bridge St., Blackfriars, England.

Bell's Pianos and Organs.—We direct attention to the advertisement in this issue of Messrs. Bell & Co. Hamilton. It is said that this firm carry the largest stock of pianos west of Montreal, comprising no less than eight different manufacturers' productions, including all the best known and most celebrated makers. The "Bell" piano is one of the latest additions to the manufacturers' list, and these instruments are as finely finished and as carefully toned as their organs, which is sufficient guarantee of their fine qualities. A full line of the different grades of organs manufactured by them at Guelph is always kept on hand. They also have a large assortment of small musical goods, which are imported direct from Germany and offered at lowest prices. Band instruments, sheet music and instruction books for every instrument always kept. Any person wishing any thing in the musical line will do well to give W. Bell & Co., 44 James street north, Hamilton, a call.

Herefords for P. E. Island.—Mr. W. J. Palmer, of Charlottetown, P. E. I., a graduate of the Ont. Ag. College of Guelph, making use of the rich stores of knowledge garnered while at the above institution, has begun his career as a stock raiser by making several draughts on the best of Ontario's noted herds. A young Hereford bull, Conqueror IV, out of Conqueror, was bought at the recent annual sale at the College. Personal inspection bears us out in saying that this animal, though young, gives indications of merit, equal to even his distinguished ancestors. Mr. Palmer also purchased two yearling Hereford heifers from Mr. F. A. Fleming, of Weston, Ont. The name of this latter gentleman is sufficient guarantee of their quality. Other purchases were made from noted breeders, including a pedigreed Berkshire boar from Mr. P. Arkell, Tees water; a Berkshire sow from Mr. Rudd, of Eden Mills, and a Suffolk sow from Frank & Sons, of Brampton. As the elements of success are largely based on individual ability and acumen, we have no hesitation in predicting for Mr. Palmer unbounded prosperity in the future, and we feel sure that the many qualities of the "white faces" will never suffer while they are under his guidance and patronage.

Stock Notes.

Mr. Chas. Grant, Thorbury, who made so excellent an exhibit at Toronto and other leading fairs this year and during past years in all kinds of spring grains and field seeds, made a very complete sweep of prizes at the Industrial Exhibition, Buffalo. Mr. G. is eloquent as to the generous and kind treatment he received at the hands of our American neighbors.

It has pleased us to see the correspondent of our apiary department, Mr. Pringle, of Selby, Ont., receive in a local paper a modicum of the praise that is due. With characteristic enterprise he made an exhibit at Lennox Fair that drew the attention of even the most careless observer. Honey was shown by him in a dozen different styles of glass holders of various sizes; also two styles of crates and a number of hives of his own invention. If the many devotees of the apiary would display like energy in embracing every opportunity of placing their wares as attractively before the public, we feel sure that great good would result therefrom.

Advertising Rates.

The rate for single insertion is 18c. per line, Nonpareil (12 lines make one inch), for three insertions, 25c. per line each insertion; for six insertions, 35c. per line each insertion; for one year, 10c. per line each insertion. Cards in Breeders' Directory, not more than five lines, \$1.50 per line per annum. No advertisement inserted for less than 75 cents. Contracts broken by bankruptcy or otherwise, shall revert to the regular rate of 18c. per line.

Copy for advertisement should reach us before the 25th of each month (earlier if possible). If later, it may be in time for insertion, but often too late for proper classification. Advertisers not known at office will remit cash in advance. Further information will be given if desired.

G. BALLACHEY, Brantford, Ont., offers some choice Shorthorns, Shropshires and Berkshires cheap. au-3

FOR SALE—Fine Pedigreed Berkshire
Swine and September litters. Can furnish boars and sows not related of these young litters. THOMAS SHAW, Woodburn P. O.

FOR SALE.

Shorthorns and Southdowns
Young Shorthorn Bulls and Heifers, got by imp. Cruickshank and Campbell bulls. Good color and good animals. Also a lot of choice Southdown Rams and Ewes, bred from imported stock. Prices to suit the times. JOHN MILLER, Markham, Ont. oct-17

FOR SALE—COTSWOLD SHEEP and BERKSHIRE SWINE, bred from imported stock. Apply to GEO. M. SMITH, Haysville P. O., Ont. Hamburg Shipping Station, G. T. R. oct-2

WANTED—A SITUATION AS OVER-SEER or FOREMAN on a farm. Has had 21 years' experience as stock and grain farmer in Ontario. Best of reference given. Address, YORK COUNTY FARMER, Toronto, Ont.

COTSWOLD RAM LAMBS.

A few choice Ram Lambs, bred straight from best importations, full of quality and character. Prices reasonable. JOHN SNELL'S SONS, Edmonton, Ont.

BERKSHIRE BOARS.

A few good young Boars, 3 to 8 months old, bred straight from first-class importations. JOHN SNELL'S SONS, Edmonton, Ont.

Well-Bred St. Lambert Bull Calf,

Six months old, registered, for sale cheap. Solid color. No fancy price. No room. Address, nov-1 J. P. STARNAMAN, Box 375, Berlin, Ont.

BERKSHIRES FOR SALE—(Imp.) REAL BRITON (488)

Winner of first prizes at Toronto, Guelph and Sherbrooke Exhibitions, is a sure getter and an extra breeder; also a good young BOAR, fit for service, and a few SOWS. Write for prices. H. & W. D. SMITH, Hay P. O., Exeter Station. nov-6.

FOR SALE—A fine lot of Young Shorthorn Bulls, nearly all reds. THOMAS SHAW, Woodburn, Ont.

Holstein-Friesian Stock For Sale.

One young Bull, sire noted Barnton, aged 9 months, mother imported; also one Bull, 3 months; on as reasonable terms as can be found, stock considered. Correspondence answered.

WELLINGTON MUISINER, Port Robinson, Ont. nov-17.

FOR SALE—Ten good, strong, well and evenly developed Bull Calves, 14 months and under; all reds in color but one, and all sired by the Cruickshank bull Macduff.

nov-17. JOHN I. HOBSON, Moshorough, Ont.

Berkshire Swine for Sale.

ONE BOAR, 9 mos. old; 1 boar, 8 mos.; 2 sows, 8 mos.; 1 brood sow, 2 years past; 1 boar and 3 sows, 4 mos.; 6 sows, 5 weeks old. All registered or eligible for prizes at fairs on seven head this fall. Must be sold. Prices low. Honorable dealing guaranteed.

JOSEPH RIGHTMYER, Wooler P. O., Ont. Trenton Stn., G. I. R. and C. O. R.

FOR SALE.

A number of choice Southdown Shearling and Ram Lambs, bred from first prize and imported stock. Also a few Durham Heifers and Heifer Calves. Prices to suit the times and satisfaction guaranteed.

R. RIVERS & SON, sept-3 Spring Hill Farm, Walkerton, Ont.

Farmers will find it profitable to read the advertisements, and will confer a favor by mentioning this Journal when corresponding with advertisers.

Horses.

Mr. Chas. Laurence, Collingwood, Ont., is giving increased attention to the growth of Shire horses. The flock of Shropshire Downs is flourishing, and now numbers some thirty five head.

Mr. Samuel Staples, of Ida, Ont., who showed the beautiful thoroughbred stallion Lord Ludley which won first at Toronto in 1887, was successful in winning good prizes this year again. He is a horse of grand spirit and action.

Mr. W. B. Scott, Vanneck, Ont., owns an imported Clydesdale mare, Kate 2d, of Congeith, imp. 1886. She is by Macgregor (1487). Another pair are by McCombie and Corporal respectively. They also own a small herd of Shorthorns.

Mr. Robt. McEwen, Byron, Ont., owns The Times (3358), by Good Times. During the three years of his ownership he has proved a good stock horse. He also owns a two year stallion from imp., and the blooded stallion Inspector, bought from W. Hendrie, Hamilton.

Mr. Andrew Marshall, Ayr, Ont., breeds and imports Clyde horses. Owns four imported stallions and some mares, the gets of such sires as Belted Knight and Gillie Callum. Strathbrook, by Young Duke of Hamilton (1222), and Wonderful Boy, by Mr. John Fothergill's Prince of Airds (4641), are two of the number.

Mr. Angus Mackenzie, Lucknow, Ont., showed the English Shire stallion Grove Shire Oak (5097), by Tom of the Shires (2628). The investment in this horse has proved a satisfactory venture.

Mr. Wm. Robinson, St. Marys, exhibited four Clyde horses at London, and won four prizes on them, and a diploma. Owns six head of pedigreed horses, several of which are imported. Darnley Maid, by Old Darnley 222, in foal to Prince of Wales 673, a three-year mare, took first at the Western. Mr. R. has imported some sixty head of Shropshire sheep, and owns a herd of some sixteen head of Shorthorns.

Messrs. Dow & Colquhoun, Exeter, Ont., have seven Clyde stallions in their stud at the present time, all but one imported. Charming Charlie, five years old, took 2d at Aberdeen in 1887, and 1st and diploma for best Clydesdale mare, at the Western. He is a fine, massive, well ribbed and well proportioned horse. Another two-year-old came 3d at the Western, in a lot of thirteen entries.

Mr. Jas. Henderson, Belton, Ont., had on exhibition at the Western Lord Ullin (5176), by Darnley (222). He is now three years old, and this year made a good season. Another, Boy Wallace, by Lord Derby, also made a good season. He is three years old, and his foals won first at the Western.

If price obtained is any indication of the public estimation of a breed, then the Clyde must surely lead the draught horses. Prince of Albion (6178), the unbeaten two-year-old colt, was sold for £3000 net cash to Mr. John Gilmour, of Montrae, by Mr. Jas. Kilpatrick, Kilmarnock. Prince Albion was got by the renowned Prince of Wales (673) out of a Darnley mare. The following prizes have been captured by this high priced colt: 1st at the Highland and Agricultural Societies Show at Perth, 1887, and 1st this year at Kilmarnock, Edinburgh, and the Agricultural Show at Glasgow.

We take the following from the *Farming World*: "Mr. Ferguson, of Renfrew, sold a promising yearling colt by Cairngorm, to Mr. Maharey, and a big, powerful built Prince of Wales mare four years old to Mr. Geo. Eadie, both from Canada." A short time ago we had the pleasure of seeing these two animals among others imported by these gentlemen. The importation of such stock is a credit and an honor in the highest degree to the importer, and we wish these gentlemen every success in the good work they are doing in improving the horses of the eastern counties. In this work they are materially aided by Messrs. McKay of Morewood, and Black, of Russell. The readers of the JOURNAL were treated in our last April number with a sketch and description of Mr. McKay's Pride of Avon, and hence, comments by us are unnecessary. Mr. Black recently imported a number of animals, all of which are capable of bearing the brunt of criticism, severe though it may be.

Mr. W. H. Millman, of Woodstock, Ont., we are pleased to learn, has imported a number of excellent horses, among which are included the following: A fine, upstanding, six-year-old thoroughbred by Silvio, a winner of many races; a Cob pony three years old, which obtained a diploma at Toronto, and one also at London; a five-year-old Welsh pony that secured a red ticket at Toronto in a class of fifteen. Many other choice ponies are owned by this gentleman. Of heavy horses, the following were recently imported: A fine Clyde Pride of Galla 5248, of extra quality and finish, a free mover, finely limbed and footed; five Shire mares; two four-year-olds which obtained first at London; two five-year-olds, securing first at Toronto, and a yearling to which first place was given at Toronto. Of Shire stallions he has three two-year-olds which will yet be heard of in the show ring.

Mr. Donald Clarke, of Lucknow, Ont., is a breeder of Clyde and Shire horses. He now owns a nine-year-old brood mare, from which they have a two-year-old stallion, Duke of Argyle, that obtained 1st at the Western. A suckling colt, from the same mare, also won a red ticket. An English Shire, Oliver, imported by Mr. Clarke, sustained his past reputation as a prize winner by securing first place in his class. A two-year-old filly of this horse's get came 2d at London.

Mr. Charlton, Duncreef, is the owner of four pure-bred stallions, of which three are Clydes and one a coach horse. They are all imported. At the Western Exhibition he was awarded 1st and diploma on his four year coach horse, by name Yorkshire Lad. He is a fine animal, and well deserves the honor given him. First and a diploma was also obtained on a five-year-old Clyde mare, Polly Craig, by Darnley (222). A daughter of hers added to her honor by securing first also. The firm also own a six year stallion named Goodkind, a three-year-old, Baron 2d of Drumlanrig, by McGregor (1487), and a two-year-old by Garnet Cross. He imports his horses in person.

Mr. Wm. Thompson, Burnham, Ont., has two good Clyde stallions in his stud. One of these, Druid King (2732), by Druid (1120), is out of a dam by Prince of Wales (673), imp. by Mr. J. Duff, Everton. He has been a great success as a stock horse. The other, Macklinon, 3 years old, by Macgregor 1457, dam by Lochfergus Champion (449), took 3d at Western Exhibition in a strong class. He is a neat, good, all round horse.

Shorthorns.

We see by the *Glengary* that Messrs. R. R. Sangster and R. McLennan, both of Lancaster, Ont., have been very successful in the show ring with their Shorthorns and other stock. Markedly so at the Glengary Exhibition, where these two gentlemen practically divided the honors between them. In other classes, such as the fat cattle, grade cattle, etc., they have been equally well rewarded.

Mr W S. Lister, of Lakesfield, Ont., has commenced a nice herd of Shorthorns. The bull Lancer, bought from Mr. A. Johnson, Greenwood, heads the herd, which is now fourteen strong.

Mr. Geo. B. Bristow, Rob Roy, Ont., owns some sixteen head of Shorthorns. One is a Campbell cow named Wimple's Gem, a great flesher. The bull Vanguard, Queen of the May stock, with two top-crosses of Socrates and Knight of Waulaby blood, heads the herd. The Booth blood largely predominates.

Mr. Donald McDonald, Sutton West, Ont., owns a fine 260 acre farm, with good basement stables under the outbuildings. He keeps a pure-bred Shorthorn bull. Mr. McDonald this year raised eighty acres of wheat that averaged twenty-five bushels per acre.

Mr. Jas. Chalmers, of Sutton West, has laid the foundation of a pure herd of Shorthorns, having bought from the late Jos. Thompson, Whitley, a Sibyl cow, Maggie ad, bred by J. Miller, Brougham. The bull Royal Prince, used for a time, came from the same place. Roan Duke bred by John Bell, Atha, followed. His herd at present numbers five head.

Mr. Seth Heacock, Kettleby, Ont., owns twenty-five head of good Shorthorns and sixty head of Southdown sheep and a goodly lot of Berkshire pigs. The stock is all doing admirably, and a goodly lot of young stock is now ready for the market.

Messrs. E. Gaunt & Sons, St. Helens, Ont., have now on hand sixteen head of pure Shorthorns. The bull, Lord Lovatt 2030, a son of Barmpton Hero, is at the head, and of a matchless cow. The young stock look fine, and the flock of Leicesters numbers forty head. Fared well in prizes at the Western Show.

The Shorthorn herd of Mr. H. J. Davis, Woodstock, Ont., now numbers some twelve head, of which nine are females. The imported Kinellar bull, Roan Prince, is in service, and a fine, useful animal he is. Mr. Davis also breeds Berkshire pigs, and is meeting with brisk sales.

Mr. J. S. Smith, Maple Lodge Stock Farm, reports that his 40 head of Shorthorns are doing nicely, and being in a thrifty condition he expects them to winter well. Included are some fine choice bulls that will be fit for service the coming season. Their Leicesters are all sold with the exception of a few ram lambs that they have kept for their own use. Their Berkshires are also nearly all disposed of, a couple yet remaining on hand.

Mr. W. J. Biggins, Elmhurst Farm, Clinton, Ont., owns no less than fourteen head of Shorthorns. They are essentially Cruikshank in breeding. The bull imp. Excelsior (51233), four years old, bred at Lethenty, is in service. He is essentially Booth in the early crosses. Imp Red Rose, also bred at Lethenty, calved Feb. 6th, 1885, is a beautiful beast with a grand front and back. Matchless of Elmhurst, six years old, out of Statesman, bred at Richmond Hill, is also very fine. The former won 2d prize at the Western.

Messrs. F. Shore & Bros., White Oak, London, Ont., are now the owners of some 55 head of Shorthorns, mainly Scotch in breeding, and headed by the Cruikshank bull Vermillion, imp., bred at Lethenty, Aberdeenshire, Scotland. Quite a number of prizes fell to Mr. Shore at the Western Fair, where prizes were hard to win. This bull, red himself, usually throws calves of the same color. A large lot of young stock is on hand. Mr. Shore has also a goodly lot of Shropshire ewes and lambs, Silver Grey Dorings, Brown Leghorn fowls, and fox terrier dogs.

The following sales have been made recently from Maple Lodge Stock Farm, property of Jas. S. Smith, Maple Lodge, Ont. To C. H. Wilson, jr., Greenway, Ont., the young bull Sholto, got by Duke of Colonus 9282, dam Mabel, by Baron Constance 5th 1378, and one aged Leicester ram; to D. Harvey, McGilivray, Ont., 3 two-shear rams, 3 ram lambs and 1 two-shear ewe; to A. W. Dewar, Kirich, Ont., 2 shearing ram; to Jas. Windsor, McGilivray, 1 ram lamb; to A. E. Hughes, Maple Lodge, 1 ram lamb, to W. Stevenson, McGilivray, 3 ewe lambs; to W. A. Henderson, Nairn, Ont., 1 young Berkshire sow, to Jos. Jackson, Mitchell, Ont., 1 young boar, to John McKay, Ailsa Craig, 1 young boar.

Our readers cannot have forgotten the beautiful sketch of the Briar Farm, the property of Dr. F. C. Sibbald, of Sut on West, that appeared in our October number. It will be remembered that an important sale of pure-bred Shorthorns was to be held there on the 18th ult. Owing, however, to a sad and painful accident that overtook the proprietor, it was the prevalent opinion that the sale would not take place, and a poor attendance resulted as a consequence. As there are yet 60 head to be disposed of, we would impress upon those wanting first-class animals to head a herd or grade up stock the importance of this fact to them. Catalogues will be sent on application. See advt. this issue.

Mr. Daniel Reid, Glanford, Ont., is building up a nice herd of Shorthorns. He also owns about sixty head of pure bred Leicester sheep, of good quality.

Clydesdale Stud Book
VOL. III.

ENTRIES for Vol. III. CLOSE EARLY in DECEMBER. Send your pedigrees in at once. Apply for forms of entry to the undersigned.
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HERE IS PROOF.

THE Managers of the ST. CATHARINES BUSINESS COLLEGE will give \$100.00 to any charitable institution named by any person or rival college that can furnish the name of a student who has taken a full course in shorthand at this college and who has failed to secure a position; or the name of a student who has taken a full course in any department and who has lost his position through incompetency.

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N. B.—The best costs no more than the poorest.

Edgemount 5th Annual Sale

Of 12 Shorthorns, 25 Berkshires, Shropshire Rams and Horses, at the Farm,
ON WEDNESDAY, 5th DEC. NEXT,
At 11 a. m. Eleven months' credit on approved joint notes. For catalogues apply to GEO. BALLACHEY, JR., Brantford.

IMPORTANT PUBLIC SALE OF HEREFORDS

SHORTHORNS

Guelph, Ontario, Canada,
ON WEDNESDAY, THURSDAY and FRIDAY,
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MR. F. W. STONE,
OF MORETON LODGE, GUELPH,
Will offer for sale on the above dates about
180 HEAD of his pedigree Hereford and Shorthorn Cattle. Catalogues can be had after Nov 5th, on application to MR. STONE.

FOR SALE.

My stock bull **STATIRA DUKE 12th** (50518), Bates; color, dark red; 5 years old; splendid server and a sure getter. Has every year from a calf taken first prize and diploma at county and other local shows. Would exchange him for one equally as good.
BULL CALVES of his get also for sale.
A HOLSTEIN BULL CALF, 8 months old, from imported stock. Dam, sire from Lord Barrington. Grand dam imported.
SUFFOLK PIGS, 6 weeks old, for \$5 each, or \$9 a pair.

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MOULTONDALE STOCK FARM,
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BULL FOR SALE.

Durham or Shorthorn bull, Prince Rex, registered in Dominion Herd Book. Calved in 1883, sire, Baron Baringtonia (28502); dam, Juno 2nd. Color, rich roan. One of the finest animals of the kind in the Dominion. To be seen at Libbytown, 3 miles from Ayer's Flat, on Passumpsic Railway, near Sherbrooke. Will be sold cheap as proprietor has two others, his progeny.
Address, **W. H. DAVIDSON,** Libbytown, P. Q.

FOR SALE.

TWO IMPORTED HORSES

ONE Cleveland Bay, 3 years old, weighs 1470 lbs., 16 hands high; winner of 3 first prizes and 1 silver medal. One Clydesdale, 2 years old, weighs 1,800 lbs., 16½ 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 speciality. Correspondence answered by sending 3 cent stamps. Address,
MAJOR THOS. HODGSON, Port Perry, Ont.

Mr. Jos. Redmond, of Peterboro, writes: "The two-year old Durham that took 1st prize at Kingston this year, stood at my stable at \$1 per cow, and did not make enough to pay for his care." Comment is nonplussed. The work of the JOURNAL is far from completion while such a state of affairs exists. However, "work and despair not" shall ever be our motto.

Mr. Jas. Ballantyne, Sebringville, Ont., now owns some twenty head of pure Shorthorns, with the Scotch bull Methlick Hero, of W. Duthie's Collynie breeding, at the head. The young bulls are all reds and are an extra nice lot. They have all two or three Scotch crosses on the top.

Messrs. Thos. Douglas & Sons, Strathroy, Ont., own about 30 head of pure Shorthorns. The cows are essentially Bates in the foundation, as The Fashion and other strains. The 22d Duke of Airdrie is the sire of a number of the cows. Royal Favorite and 3d Lord Red Rose are the sires of others. The present sire is Rob Roy 2d, from Rob Roy of the Ontario Experimental Farm. A few individuals were shown at London, which came in for a share of the honors.

The herd of Shorthorns mainly Cruikshank in their breeding, owned by Mr. John I. Hobson, Mosboro, Ont., are in fine breeding shape this year again. The bull calves are an unusually fine lot, having the strong backs and even, deep, fleshy bodies peculiar to the Cruikshank cattle of to-day. See advertisement.

Mr. T. Russell, Exeter, Ont., showed two young Shorthorn bulls at the Western Exhibition, taking 1st and 2d prizes. They were both sired by the stock bull Mariner, whose girth now is nine feet. There are five young bulls in the herd, and all exceedingly good ones, for sale. The old bull Mariner came out in fine form, and retains his shapes well. His neat head, massive breast, great girth, even lines and admirable stock getting properties are amongst his best points.

Mr. Jas. Drummond, Clifford, Ont., is the owner of seven head of Shorthorns, the foundation at first coming from the herd of Mr. Jas. Hunter, Alma. In 1855 two cows were bought from the Sunnyside herd, one of which was Queen of the May. The bull Waterloo, bred by W. Douglas, Caledonia, heads the herd.

Mr. John Atkinson, Utoka P.O., Ont., is the owner of thirty head of excellent Shorthorn grades, a number of them from the herd of Mr. John Fothergill, Burlington. Some of the herd are also pure Shorthorns, bought at first from Mr. John Currie, Everton. He also owns an imported Clyde stallion aged four years named Champion of Oxton, sired by Pointsmen. Mr. Atkinson, who has not been many years at this work, deserves credit for the progress he has made.

R. Rivers & Son, of Spring Hill Farm, Walkerton, were fairly successful with the stock at the Northern Exhibition this fall. Victory, their present stock bull, again carrying first honors in the two-year-old class over an imported animal, his calves taking a 1st and 2d prize. Their Shorthorn grades are a nice lot. Autumn Beauty (now five years old and never beaten in a show ring), is a deep, massive animal of the Shorthorn type, attained by a judicious use of good sires on common cows. Took all the 1st prizes in the grade class with the exception of two, and took, besides, diploma for best herd of females, also won diploma for best pen of Southdown sheep, and the reds with one exception, and 1st prize for best collection of seed grain.

Messrs. J. Morgan & Sons, Kerwood, Ont., have now a herd of some ten head of Shorthorns. One line is from the foundation cow Crimson Flower, by imp. Royal Barmpton (32995), her dam by Scotsman 2d imp. (34485). Another is built upon Fair Queen 3d, bred by J. Russell, of Richmond Hill, by British Statesman imp. (2848), dam Fair Queen 2d, by imp. Inkerman. Some are from Isabella, by 3d Earl of Darlington, by Sheriff imp. (2996). The bull Golden Star, imp. in dam, is from the Duke of Buccleugh's herd. He was bought from A. Johnson, Greenwood, Ont. This firm showed seven head at London, winning 4 firsts and 1 second. At Toronto, 1st on grade and 2d on Durham bull calf. This calf has lately been sold to John Currie, Everton, for \$250, where he is to head the herd.

Ayrshires.

Mr. M. Ballantyne, St. Marys Ont., is increasing his fine herd of Ayrshires, which now numbers 25 head pure, and tracing to an imported foundation. The bull, a 2 year, Tom of the Lee, was bred at Rock Island, P. Q.

Mr. Geo. Hill, Delaware, Ont., is the owner of nine head of Ayrshires. The young stock is from Kains Bros' Experimental Farm stock bull Stonerley. Mr. Hill has lost the old cow Laura, which won in the milk test at the Provincial in 1885. She is the dam of Gen. Grant, at present the stock bull of Thos. Guy, Oshawa, a bull that has taken five silver medals. Mr. Hill's stock are all descended from this cow.

The Messrs. Kains Bros., Byron, Ont. (near London), are the fortunate owners of about thirty head of Ayrshires, all pedigree. The model farm bull Stonerley (imp.) stands at the head, and the young stock are from him. The Shropshire Down flock numbers about twelve head. The Ayrshires are kept for dairy purposes, and have been so bred more or less for 25 years past. They carried a good share of prizes at the Western Exhibition.

Jerseys.

Mr. J. P. Starnaman, Berlin, offers for sale a six months old Jersey calf, of St. Lambert blood. See advt. this issue.

Mr. J. Turner, Oakville, Ont., is the owner of about twenty-four head of Jerseys. They are Stoke Pogis and St. Lambert. At the Western he showed eight head, and secured two first and four second prizes. The bull Rambler Pogis, a two-year-old, by Rambler of St. Lambert 5287, A. J. C. C., one of the best sons of Stoke Pogis, heads the herd. He is out of Sweet Lemon 2218, A. J. C. C., and was bred by Mr. Fuller. At London Mr. Turner sold a three-year heifer and a bull calf at a good price.

Herefords.

Mr. Jos. K. McMichael, Waterford, Ont., has invested in Herefords, having bought six head from Mr. Henry, of Oshawa. The bull Tredegar 2d leads the herd.

Holsteins.

Major Foster, of Davenport, Ont., has commenced a herd of Holsteins. In 1887 he bought from Smiths, Powell & Lamb, Syracuse, N. Y., the bull Prince Rutherford, a son of the celebrated Netherlands Prince. The females are of the Aaggie strain, so noted for their milking properties.

Messrs. Smiths, Powell & Lamb, of Syracuse, N. Y., write under date of Oct. 19th: "We desire to call the attention of your readers, and particularly the dairymen of Ontario, to the superior merits of six head of Holstein Friesian cattle recently purchased of us by Messrs. A. C. Hallman & Co., of New Dundee, Ont. This is the second lot of choice Holstein Friesians that these gentlemen have selected from our herd and taken to their home. While the six head each possess good quality and are exceedingly well bred, we will mention but two of them particularly. The bull which is to head their herd, Netherland Statesman's Cornelius, is rarely, if ever, surpassed for beauty, fineness and vigor, combined with a pedigree (considered from the standpoint of actual performance at the pail and churn) of the highest standard. His immediate ancestors are celebrated as prize winners. His sire, as the name implies, is Netherland Statesman, the best son of that noble sire Netherland Prince. His dam, Aaggie Cornelia 2d, is one of our choice cows, her milk record of 14,610 lbs., 9 oz. in a year, and butter record of 19 lbs. 6 oz. in a week, being the best evidence of her worth. Her sire is the famous Alexander (whose daughters and granddaughters have made so many large milk and butter records). Through her dam (Aaggie Cornelia, milk record 16,794 lbs. 11 oz. in a year), Aaggie Cornelia 2d, becomes the granddaughter of Rooker, the fountain head of the well known Aaggie family. Briefly stated, the dam of this young bull, the dam of his sire (Lady Fay), and the dam of his g. sire (Lady Netherland) have made butter records averaging 20 lbs., 14 oz. for seven days, while the milk records of his five nearest female ancestors averaged 16 570 lbs. 10 oz. in a year. One of the cows selected by Messrs. Hallman & Co. was Princess Margaret, a fine specimen of the breed. As a four-year-old she made a butter record of 20 lbs. 1 3/4 oz. in a week, and it required but 14.79 lbs. of her milk to make a pound of butter. This brief mention will give a slight idea of the merit of this choice little herd. We believe that the neighbors of Messrs. Hallman & Co. will appreciate what these gentlemen are doing for the dairy interest of their country, and we wish them the best of success in their enterprise."

Sheep and Pigs.

Messrs. J. D. Naylor & Son, Fenelon Falls, Ont., have been breeding Southdown sheep for some years past, getting the foundation stock from R. Marsh, Richmond Hill, and also Suffolk pigs, which came at first from Mr. Perrin, of Cameron.

A pair of two-year-old fat wethers shown by Mr. Rock Bailey, of Union, Ont., against Lincolns and Oxford at the Western Exhibition, came out first. This makes a good score for the Merinos.

Mr. W. Somers, St. Marys, Ont., showed twenty-two head of Leicester sheep at London, and took five firsts, one second and two thirds, and a silver medal for best pen. Has sixty head, and finds good sale for what he can part with.

Mr. John Park, Oriol, Ont., breeds pure Cotswolds, grounded on imported stock from good flocks in England. The stock numbers some twenty-five head and is increasing.

Mr. C. W. Gurney, Paris, Ont., has been breeding Shrops and Berkshire pigs for some two years past. Both are increasing in numbers, and what is more important in all breeding, in quality. The Shrops number twenty-five head, and were grounded on an importation brought out by Mr. John C. Ross, Jarvis, Ont.

The Messrs. A. Telfer & Sons, Paris, Ont., have for more than twenty years been breeding Southdown sheep. They are now also breeding Shropshires and Shorthorn cattle. The Shorthorns are from the herd of Mr. Geo. Thompson, Brant. The Southdowns number about thirty head, and the exhibit of these at the Western did very well.

Messrs. H. George & Sons, Crompton, Ont., breed Suffolk, Berkshire and Chester white pigs. They have also recently imported an English thoroughbred Shire stallion.

Mr. Arthur Simenton, Blackheath, Ont., showed at Hamilton ten head of Southdowns, out of a nice flock of fifty head, and won 2 firsts and 3 seconds, including pen prize and 3 thirds. This is a rising flock.

Mr. A. Reid, Hamilton, has just sold a pure Berkshire boar, first at the Great Central, Hamilton, to Mr. T. Wilkinson, who so ably manages the Hamilton asylum farm; also a Leicester ram to Mr. F. Ecker, Binbrook.

At the Toronto Industrial exhibit of Poland China pigs, the Messrs. R. Dorsey, Summerville, were awarded first on boar over one year, and on boar under one year first and second. These were credited to the Messrs. W. M. & J. C. Smith, Fairfield Plains, in the prize lists published at the time. They also won first in the sow classes all through save in the under two years old.

THE NEW BOOK, by J. H. SANDERS, on "HORSE BREEDING," in which the general laws of heredity are exhaustively discussed and applied to the practical business of breeding horses, especially with reference to the selection of breeding stock, and the management of stallions, brood mares and young foals, will be sent to any address, post-paid, on receipt of publisher's price, \$2, or will be sent to any person forwarding six subscribers to the JOURNAL for 1889.

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4 years old, bred by Sylvester Campbell, Aberdeenshire, Scotland, has been our stock bull for three years, and is now for sale; as his own stock is coming in, we are obliged to part with him. His calves have been prize winners at both Kingston and Ottawa, not to mention our local shows. Baron is a grand bull of great substance and good qualities. Warranted to be a sure stock-getter or no sale. Weighs 2450 lbs., girth 8 feet 9 inches, 6 inches more than any bull shown at Toronto, Kingston and Ottawa this year. For terms and further particulars, apply to

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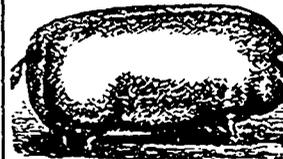
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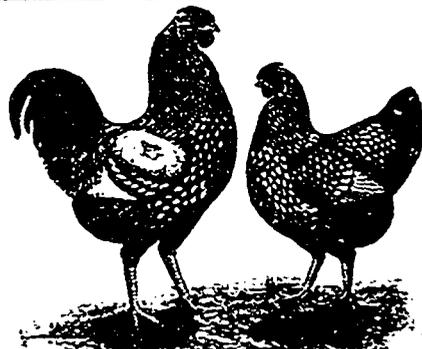
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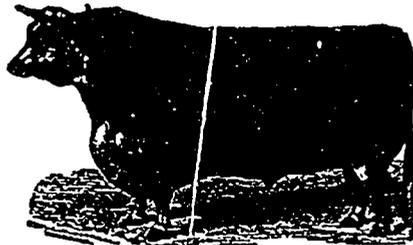
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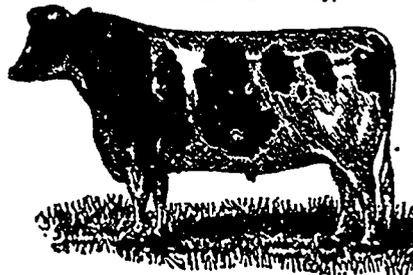
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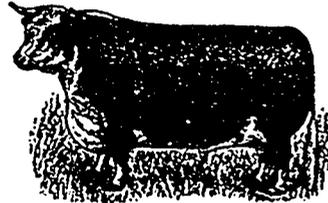
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Young stock, all ages, for sale, including Carlotta's Netherland Prince, dam Carlotta, with butter record of 22 lbs. 7 oz. unsalted butter; sire, Netherland Prince. Prices low for quality of stock.

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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.

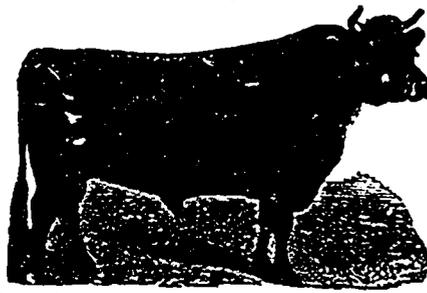
J. W. M. VERNON,
Waterville, P. Q.

Tushingham House.

WATERVILLE is on the main line of G. T. R., not far from the United States boundary.

OAKLANDS 'JERSEY' STOCK FARM

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



Cows with well-authenticated test of from 24 lbs. to 24 lbs. 13 oz. in one week, and from 81 lbs. to 106 lbs. 12½ oz. in 31 days are in this herd. Young bulls (registered in the above herd book) for sale from \$100 to \$500 each.

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

VALANCEY E. FULLER, Hamilton, Ont.

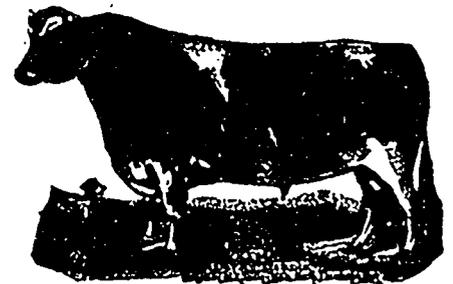
BROOKSIDE FARM

New Glasgow, Pictou Co., N. S.,

STANDARD-BRED TROTTERS

American Cattle-Club Jerseys.

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



CHURCHVILLE, (FERL. 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. June-6

JAMES DRUMMOND,

Petite Cote, Montreal.

Importer and Breeder of

PURE-BRED

**AYRSHIRE
CATTLE**

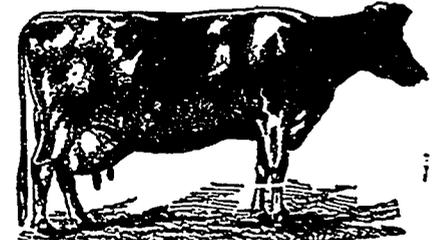


Of Large Size, and from Choice Milking Strains.

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-17

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

H. N. BITCHER,

Ste. Anne la Perade, Co. Champlain,
on line C. P. R., near Quebec.

No Reserve. All stock for sale, and in A1 condition.

The Park Herd of Herefords,



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

F. A. FLEMING,

Weston, Co. York, Ont.

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

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

THE BRIARS FARM
Sutton West, Ont.

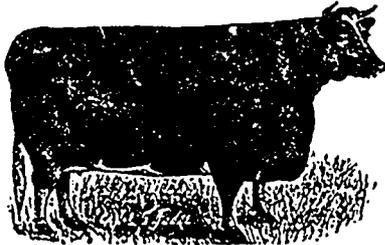


Choice of 80 head of
SHORTHORNS,

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

F. C. SIBBALD.

BOW PARK HERD
OF



PURE-BRED SHORTHORNS

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

ADDRESS, JOHN HOPE, Manager,

my-y. Bow Park, Brantford, Ont.

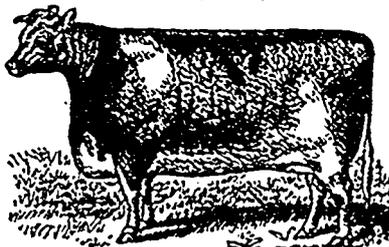
D. ALEXANDER,

Brigden, Lambton, Co., Ont



My Shorthorn herd now consists chiefly of imp. Lady Violet Lustre and seven of her daughter's, and two daughters of imp. Beauty 15th, almost all sired by one bull, and of one character, thick, and fine quality. Can furnish a splendid young herd, including an imported bull. Trains twice daily. Station one mile.

ARTHUR JOHNSTON.
Greenwood, Ont., Can.



I HAVE still on hand and for sale an excellent lot of imported Bulls, Heifers and young Cows, besides an exceedingly good lot of home-bred Heifers and Bulls—all by imported sires and mostly from imported dams.

I can supply intending exhibitors with first-class show animals of either sex and of various ages, from calves upwards.

I have also a good lot of imported CLYDESDALE STALLIONS and MARES for sale.

Claremont Station, C. P. R., or Pickering Station, G. T. R. Write or wire me, when and at which station to meet you. Send for catalogue. No business, no harm.

CLAREVILLE STOCK FARM



Lying between Canada Southern Railway, and Grand Trunk Air Line, Cayuga Stations.

I breed and have

FOR SALE

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

Leicester and Cotswold Sheep, Berkshire Pigs,

THOROUGHbred AND HEAVY HORSES OF ALL KINDS.

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

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

FRANK R. SHORE & BROS.
R. R. STATION, LONDON. P. O., WHITE OAK.



BREEDERS OF

SHORTHORNS AND SHROPSHIRE

Have a grand lot of bull calves sired by our imp. Cruickshank bull Vermillion (50387), 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.

MAPLE LODGE STOCK FARM

We breed and have

FOR SALE

Shorthorn Cattle
Leicester Sheep

AND
Berkshire Pigs

of the choicest quality and best breeding.

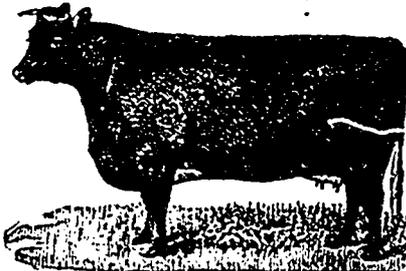
Herd established 1857.

Our stables are one mile west of Lucan crossing, on Grand Trunk and London, Huron & Bruce Railways.

Several females and young bulls, sired by Duke of Colonus = 9282 = can be purchased now at very moderate prices. We are pleased to show our stock.

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

J. Y. REID, HILLSIDE FARM,
(2 1/2 miles south from Paris.)



BREEDER of Shorthorn Cattle, all registered in the new Dominion Herd Book. The highly bred Estes 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 heifers, all of the ROAN DUCHESS strain. Young stock at all times for sale. Apply to

James Geddie, Manager, PARIS, ONT.

CRUICKSHANK SHORTHORNS,

CLYDESDALES

AND

Shropshire Sheep

IMPORTED AND BRED BY

JOHN DRYDEN,

BROOKLIN, ONT.

FOR SALE Superior & Old Cows, Heifers and Bulls, of the best Cruickshank families.

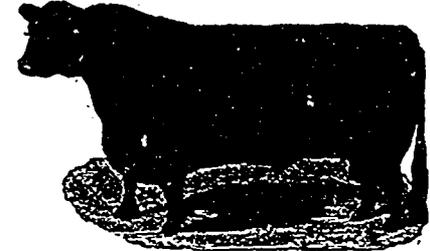
Purchased in England, for arrival in August, 175 Shropshire sheep, including Rams and Ewes, winners at the great Royal show and other exhibitions.

Inspection invited. Catalogues on application.



THOMAS McCRAE,
J. G. Guelph, Canada,
Importer and Breeder of
**GALLOWAY AND
POLLED-ANGUS CATTLE**
CLYDESDALE HORSES AND
COTSWOLD SHEEP.
CHOICE ANIMALS FOR SALE.

ABERDEEN-ANGUS POLLS



The undersigned 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 last season by taking the medal and diploma, for the fifth 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,
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A. C. HALLMAN & CO.,
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Importers and Breeders of Thorough-bred

HOLSTEIN-FRIESIAN CATTLE.

Herd headed by the noted prize-winner Prairie Aggie 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 show-ring 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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Stock-Breeders' Association

BREEDING OF PURE

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. 1457, H.H. B., Vol. 6. Also Aaggie Ida, No. 2600, H.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.

Address

WM. B. SATCHERD,
Secretary, Wyton, Ont.

2p-58



G. G. Charteris & Son,
BEACHWOOD FARM, CHATHAM, ONT.,
BREEDERS OF

Pure SHORTHORN CATTLE

The splendid young roan bull 10th Earl of Darlington, bred at "Belvoir," and possessing the blood of the Darlington, Oxford, Airdrie and other famous strains, at head of herd.

Four bull calves for sale, sired by Crown Prince (12366) and Lord Byron (8821), 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.

IMPORTED STALLIONS

FOR SALE AT VERY LOW FIGURES.

Four imported SHIRE Stallions, three two-year-olds, winners of first and second prizes at Toronto and Hamilton this fall, and one Yearling, first at Toronto. Also one two-year-old filly, first at Toronto and Hamilton. These are all choice Colts, and will be sold at very low figures to make room for another importation. Come and see them. We mean business.



ORMSBY & CHAPMAN,
OAKVILLE, ONT.



PERCY & YOUNG,

Bowmanville, Ont.,

Home of the Provincial Renowned Manfred (1758).

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

REGISTERED CLYDESDALES

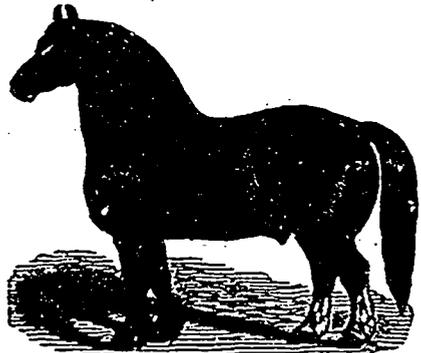
prize winners, of very superior quality, form and finish, consisting of 3 two-year-old stallions, 2 one-year-old stallions, 1 four-year-old mare, 1 filly two years old, 1 one-year-old filly.

Our importation consisted of the get of Lord Erskine, Cairn-brogie Keir, Good Hope (by Darnley), Crown Jewel and other 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.

SHIRE BRED HORSES



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.

MORRIS, STONE & WELLINGTON, Welland, Ont

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 (148), Darnley (22), and Prince of Wales (673). Also a few choice SHETLAND PONIES.

Correspondence solicited, and visitors always welcome.

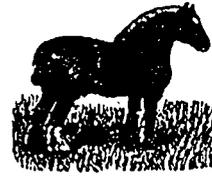
JAMES HUNTER, ALMA, ONT.

Importer and Breeder of
SHORTHORN CATTLE,
CLYDESDALE HORSES,
AND SHROPSHIRE DOWN SHEEP.



Stock of both sexes for sale. many

GEORGE G. STEWART,
IMPORTER,
Howick, Chateauguay Co., Prov. of Que.



OFFERS
FOR SALE
On Reasonable Terms
Choice
STALLIONS
AND
FILLIES

Which are registered in the Clydesdale Horse Society of Great Britain and Ireland. One of my present importation is Duncan Bruce, winner of the first prize at the Stormont Union Show, Scotland, last year as a year old.

Correspondence solicited, and visitors always welcome.

Imported Clydesdales For Sale.

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

The stock is selected by myself with great care. Parties wishing to purchase would do well to inspect personally before deciding.

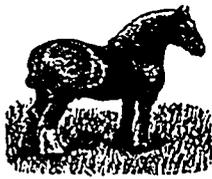
Also a few **Shetland Ponies.**

Correspondence Solicited. HOWICK STATION, C. A. R., on the farm. (G. T. R. one mile from Howick also.)

Address, **ROBERT NESS,** Woodside Farm, Howick P. O., Prov. of Que.

JAMES GARDHOUSE & SONS,

MALTON, ONTARIO, CAN.



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

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

Clydesdales

FOR SALE

Importation of 1887.

Not long arrived, a superior lot of

CLYDESDALE STALLIONS & MARES

Ranging from one to five years old, including gets of the celebrated Lord Erskine, Belted Knight, Sir Wyndham, Warrior, Goodhope, Lord Kirkhill, Old Times, Pride of Galloway and Macgregor. Prices reasonable. Catalogues furnished on application.

ROBERT BEITH & CO., Bowmanville, Ont.

Bowmanville is on the main line of the G. T. R., 40 miles east of Toronto and 29 1/2 west of Montreal.

CLYDESDALES,

SHORTHORNS AND

SHROPSHIRE.

JOHN MILLER,

Brougham, Ont.,



has on hand for sale a large collection of prize-winning animals of the above breeds. The Clydesdales are large and of the best quality. The Shorthorns are of the best Scotch families and of superior individual merit.

Particular attention is called to our Stallions and young Bulls, which will be offered at moderate prices. Terms easy.

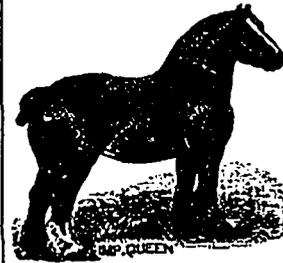
Residence, 3 miles from Claremont Station, C. P. R., or 7 miles from Pickering, G. T. R., where visitors will be met by telegraphing us at Brougham. Correspondence solicited.

D. & O. SORBY,

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Breeders and Importers of

Clydesdales.



25 PURE-BREDS on hand and for sale, including gets of the following sires: Lord Lyon (489), What-Care-I (912), Belted Knight (1395), Goldenberry (2828), Corsewall (1420), Prince Charlie (629), Sir Michael (1530), Scots-Wha-Hae (4066), Macpherson (3825), Good Hope (1679), Lord Erskine (1744), Macneilage (2992), Golden Treasure (4417), Gallant Lad (2781); of which 23 are Stallions and Colts. Several of our mares are supposed to be in foal to our well-known Boydston Boy (112), sire of the celebrated Lord Erskine (1744).

COLDSTREAM 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.

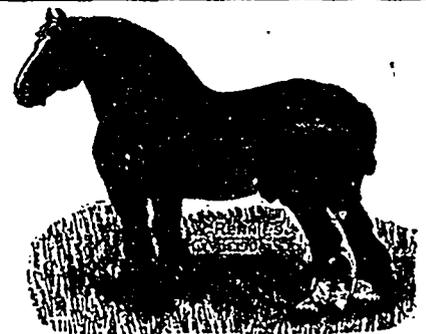


ALSO A FEW CHOICE SHETLANDS.

Prices to suit the times.

Address,

JEFFREY BROS., Whitby, Ont.



IMPORTED CLYDESDALE HORSES

of superior breeding and quality

FOR SALE AT REASONABLE PRICES

both Stallions and Mares, from 2 to 4 years of age, all registered in Scotch and Canadian Stud Books, bred from the following noted sires: Darnley (22), Belted Knight (1395), Breadalbane (1978), What-Care-I (912), MacCammon (3828), Harold (2854), Trademark (2869). Inspection solicited.

WM. RENNIE, Toronto.

Stables, 68 Duchess St.

P. S.—Also SHETLAND PONIES.

Imported Clydesdales FOR SALE.

Prices moderate and terms to suit purchasers.

Not long arrived, a superior lot of registered

CLYDESDALE

Stallions and Fillies



from 2 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-I.

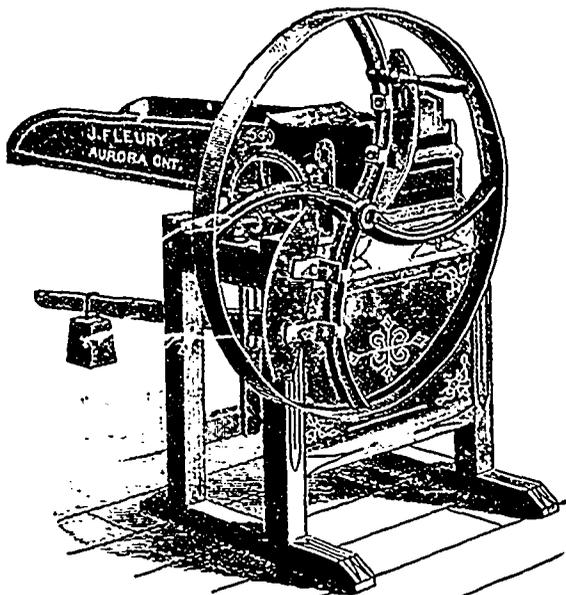
Our horses are all selected with the greatest care from the best studs in Scotland. We pay a little more for our choice than those who buy in job lots. Parties wishing to purchase superbly bred animals should inspect our stock.

DUNDAS & GRANDY,

Yelverton P. O.,

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

FARMERS, CUT THIS OUT.



OUR 10-INCH MOUTH
(No. 2)

STRAW CUTTER

Used chiefly by hand but EQUALLY SATISFACTORY by POWER.

PRICE, \$25.00.

12 inch mouth Cutter (No. 3), \$30, or with four knives, \$34.

Power Cutters, ungeared, \$46, or geared, \$50.

These machines are ALL run by HAND, ROD or BELT; cut FOUR LENGTHS; are simple, STRONG and well fitted and FINISHED in every way, and do MORE WORK with SAME POWER than ANY OTHER style of cutter.

This cut represents our

'ROLLER PROCESS' GRAIN CRUSHER.

Same in principle as rollers now used in the best equipped and most modern grist mills. Will crush from 25 to 60 bushels per hour, according to the sort of grain and power used. Is CHEAPER in first cost and to keep in running order THAN ANY OTHER sort of crusher or grinder. No plates to renew every two weeks NOTHING about it TO WEAR OUT within ten years. PERFECTLY built of BEST MATERIAL. No farmer who has one would be without it, or exchange for any more expensive machine. SAVE COST OF GRINDING AT MILL AND TOLL.

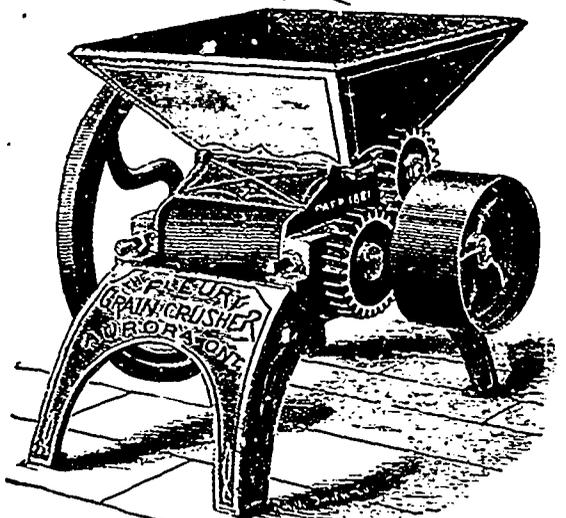
Price, single geared (like cut), \$40, do., jack geared, \$50.

J. FLEURY'S SONS,

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Correspondence solicited. Good Agents (only) wanted.

Patent Reversible Root Cutter.



THE SHEDDEN COMPANY

(CARTAGE AGENTS FOR THE G. T. R.)

Keep at their branch agency in Hamilton 60 horses. They have purchased during the past four months half a ton of

THORLEY IMPROVED CATTLE FOOD

As follows: 6th July, 100 lbs.; 27th July, 100 lbs.; 10th Aug., 100 lbs.; 7th Sep., 100 lbs.; 8th Oct., 100 lbs.; 25th Oct., 500 lbs.; and have sent us the following opinion of our Cattle Food:

HAMILTON, Oct. 24th, 1888.

To THE THORLEY CATTLE FOOD Co., Hamilton: GENTLEMEN,—We have been using your prepared cattle food amongst our horses for some time, and we have much pleasure in recommending it to horse men as being a good article of food, and especially when horses are affected with influenza. With the water we had a great many horses affected this fall, and by using your valuable food we were able to work them every day whilst affected. Yours truly,

THE SHEDDEN CO. (LIMITED),
J. HAMILTON, Agent.

Hundreds of testimonials might be published did space permit.

Be sure you get the Hamilton Food.

\$4.50 PER 100 LBS.

Special rates for large quantities. Address,

Thorley Horse and Cattle Food Co.

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BY ONE MAN. Greatly improved. Also TOOL for slicing saws whereby those least experienced cannot make a mistake. Sent free with machine. To others, for common cross-cut saws, by mail \$2.00. Hundreds have sawed 5 to 9 CORDS daily. We want all who turn wood and are all interested in the timber business to write for our illustrated Free Catalogue. We have exactly what you want, the greatest labor-saver and best-selling tool now on earth. First order from your vicinity secures agency. No duty to pay. We manufacture in Canada. FOLDING SAWED MACHINE CO., 305 to 311 So. Canal Street, Chicago, U. S. A.

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Commemorates its

"QUARTER OF A CENTURY"

By appearing in an entirely new outfit and presenting a magnificent Souvenir Picture to each subscriber for 1889, entitled

"THE FALLS OF NIAGARA."

This beautiful premium, which is a large photo-lithograph, is 18x24 inches, and is being specially executed for us on plate paper. A photograph of this size sells for \$2.50, and cannot be distinguished from the lithograph when placed beside it. It is acknowledged by art critics all over Canada to be the finest specimen of photo-lithography ever produced in the Dominion. Will be mailed in December.

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Agents wanted everywhere. Registered letters come at our risk. For free sample papers, terms to agents, etc., address, ADVERTISER PRINTING CO., London, Ont.

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The Secretary, President or any member of any Farmers' Institute is hereby invited to send for copies of the Journal, which will be mailed free, to distribute among its members with the view of forming clubs for the Journal—a list of ten subscribers, at least, could be got at every institute in Canada. Clubs of five for \$4.00 and clubs of ten for \$7.50. Farmers' Institutes, agricultural societies, or any person wishing any of our live stock premiums can have them delivered now by guaranteeing the required number of subscribers.

PIANOS! PIANOS!!

W. BELL & CO.,

44 JAMES STREET NORTH, HAMILTON, ONT.

Carry the largest stock of Pianos west of Montreal, comprising the following well-known makes:

The Bell Piano, Guelph,
Weber & Co., New York,
J. & C. Fischer, New York,
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Heintzman & Co., Toronto,
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We have now in stock several good second-hand Pianos, suitable for practice instruments for beginners, at prices from \$100 upwards.

ORGANS! ORGANS! ORGANS!

Over twenty varieties of the celebrated Bell Organs (Guelph), always in stock. Prices from \$60 upwards. Every instrument guaranteed for 6 years. Second hand Organs from \$20 upwards. Melodians from \$10 upwards. Pianos and Organs sold on the Instalment Plan. Prices the lowest, terms the most liberal.

W. BELL & CO., 44 JAMES ST. NORTH, HAMILTON.

Full stock of Violins, Guitars, Accordions, Concertinas, Banjos, Mandolins, etc., etc. Band Instruments, Sheet Music and Instruction Books for every instrument. Pianos to rent by evening or month. Pianos and Organs tuned and repaired by skilled workmen.

SATISFACTION GUARANTEED.