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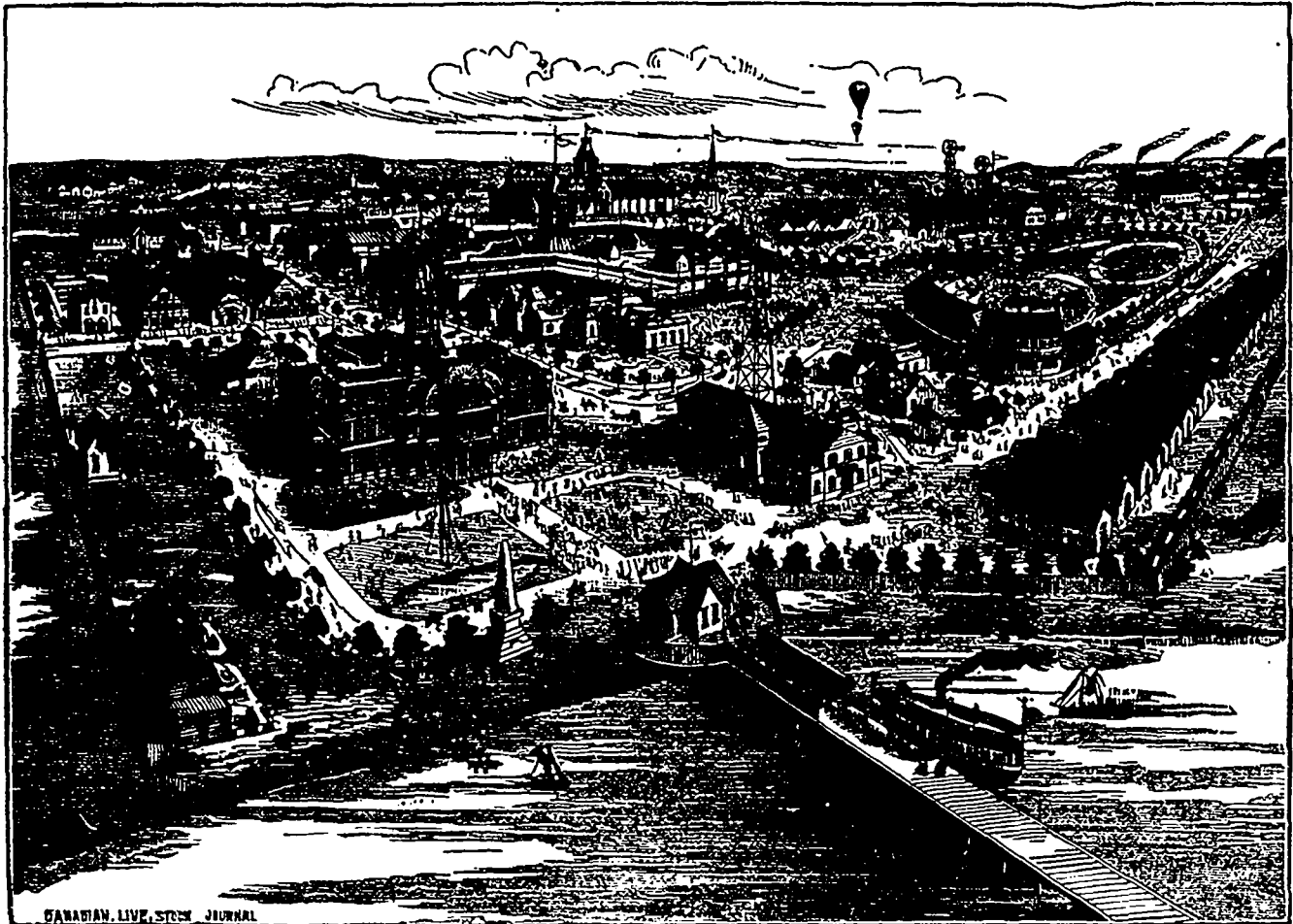
THE CANADIAN LIVE-STOCK AND FARM JOURNAL

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

VOL. V.

HAMILTON, CANADA, JULY, 1888.

No. 57



GROUNDS AND BUILDINGS FOR THE GREAT INDUSTRIAL FAIR AND AGRICULTURAL EXPOSITION, TO BE HELD AT TORONTO, FROM THE 10TH TO 22D SEPT. NEXT.

The Industrial Exposition.

There are a large number of great expositions and fairs held every year on the American continent, but there is perhaps not one that has attained a greater measure of success, or that has been better managed from its inception, than that which is held annually at the city of Toronto, under the auspices of the Industrial Exhibition Association. It is a credit not only to the city of Toronto, but to the Dominion at large, and justly deserves the liberal support which has been awarded to it by the Canadian people. Its directors and officers appear to have studied pretty accurately the requirements of exhibitors, and the kind of attractions that will best please their patron visitors. Each year the Association presents something new and interesting, and their programme is evidently very carefully prepared, with the view to afford a combination of business with pleasure and instruction with amusement.

Hitherto we have given to our readers, on the first page in each issue, a sketch of one or more of the beautiful animals owned by our fellow-countrymen, but we have thought best to change the programme for one or two issues, and give what will be equally helpful to the advancement of the live-stock interest, if not more so. We, therefore, in this issue present to our readers an excellent view of the grounds and

buildings in which the tenth exposition of the Association is to be held, from the 10th to the 22nd of September next. The prize lists have been issued, and the premiums offered in the live stock department have been again largely increased over those of previous years, by the addition of special prizes and new classes. All entries have to be made on or before the 18th of August, and this rule will, we understand, be most strictly adhered to. Exhibitors, and the public as well, attach a very high value to prizes obtained at this exhibition, as the competition is usually very keen, and the judging as near perfection, perhaps, though not satisfactory to all, as it is possible to get it under the system in vogue. This exhibition has become so popular with the farmers of Ontario and their families, that many of them have set it down as the occasion of their annual holiday outing, and they would as soon be without their market reports as miss going to the Toronto fair, for they can view displays of almost everything produced above the earth, and see the latest improvements in all things in which they have a direct interest; in fact, the Toronto fair grounds appear to have become the happy annual meeting-place for friends and acquaintances from all parts of the country. Indeed, any one at all interested in the development of the agricultural and manufacturing industries of our great

Dominion, who has not yet been to the Toronto exhibition, would be considered behind the age. It is expected that the new Governor-General, Lord Stanley, will open the exhibition, and as very low rates have been secured on all railways, our readers will not have so good a chance of visiting the beautiful and prosperous city of Toronto, with such prospects of pleasure and profit, as at the time of the Industrial Fair, which, from reports we have already received, promises this year to again surpass any of its predecessors. An unusually large amount has been set apart by the directors for special features, and we are assured by the manager that they will be the best and most interesting that money can secure. Any of our readers who may be desirous of exhibiting can secure a copy of the prize list by dropping a post card to Mr. H. J. Hill, the manager and secretary, at Toronto.

A SMALL number of our readers will please remember that no name is removed from our subscription list until all arrearages are fully paid, as prescribed by law. The date on the address tag shows the time the subscription expires, and we hope those few in arrears will please renew at once. The JOURNAL will be sent from July 1st to the end of the year for fifty cents.

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THOMAS SHAW, RIVERSIDE FARM, EDITOR.

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To Advertisers.—Advertisements of an appropriate nature will be inserted in the JOURNAL at the following rates: For a single insertion, 18c. per line, nonpareil (12 lines makes one inch); for three months, 15 cents per line each insertion; for six months, 35c. 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, JULY, 1888.

FARMERS' Institutes are coming much into favor in the United States, and on all hands it is claimed for them that they are doing a good work. Next to agricultural newspapers they are beginning to be looked upon as educators of the people. They should therefore receive the hearty support of all lovers of good stock and good farming, for these improve with the education of the people. It would not be possible for scrub stock to retain its hold upon the country if the farmers were all intelligently educated. We do not assume that all farmers who keep scrub stock are uneducated, and that on the other hand those who keep improved stock are educated, but we affirm that as a general principle all kinds of superior farming, including the keeping of improved stock, are closely allied with superior intelligence and superior education.

MR. MASON once said to Mr. Bates, "You can go on breeding Shorthorns because they pay you in milk, butter and beef, but we can not unless we sell at high prices to breeders." Whether the compliment were deserved or not, it involves a principle of much moment. So long as Shorthorns can be made to pay in milk, butter and beef, they shall not cease to multiply and fill the land; but if high prices as breeders are to be depended on, the production will be circumscribed. It seems it was the practice of Mr. Bates to rear his calves by the pail, a practice so intimately connected with the development of milking qualities, that its re-introduction generally in relation to the Shorthorn cows would prove altogether a blessing. Viewed in this light, the importance the dairy interest is assuming in the minds of so many, may lead to a revival of the great milking qualities of the Shorthorn cow, so deeply buried of late beneath heaps of beef. It may not be better for the calves, but it certainly will be better for the owners and for the cows. If Thomas Bates in the early part of the century could rear Shorthorn cows noted as milkers, and also as producers of magnificent beefing steers, why cannot the Shorthorn breeders of to-day?

WITH the increasing prices that are being paid for feed, and the stationary or declining prices that are given for pure-breds, it is more and more apparent that, unless in exceptional cases, it will not pay to allow a cow to raise her own calf for five or six months and then permit her to go dry. The day is coming, we believe, when it will be the exception to suckle calves, even those that are pure-breds, as now it is the rule, and we hail the advent of such a time with warmest welcome. If the beef-producing breeds are to regain lost milking qualities, the calves must be raised by hand and the cows milked for a period of nine or ten months after calving. The battle still rages as to whether there is or is not a general purpose cow. Whatever may be the result, this is clear—that a cow of one of the recognized beef breeds will produce more meat than one from a dairy breed, and that it is a matter of much importance that she give at the same time an abundant supply of milk to feed her calf. Even though calves are reared on skimmed milk, they must have a liberal supply of it from some quarter, and the natural source to look for it is surely its own dam.

IF a farmer were convinced that by paying a good sum for a good sire, or a good service fee for the use of the same, he could get his money back again and more along with it, he would no doubt take this step. Of this he has lingering doubts, notwithstanding the apparent clearness of the demonstration that he may read from time to time. His mistake may arise in part from taking an incomplete view of the whole matter. He figures as to the cost of the sire and his keep for one year or term of years, and deducts from this the probable amount of service fees to be received, plus probable price for which the animal will be sold. He does not allow for the influence that this sire may have on his own herd for several generations. The above method of calculating would be correct providing the purchase were a purely business speculation, as is the case frequently with those who purchase stallions. These men have done much to elevate the standard of the better class of horses, thus putting the non-enterprise of the farmers in many communities to the blush. The reason that others assign for not bringing good sires into the neighborhood is, that they cannot afford it, which sometimes is the correct one, but not always. It is invariably to be received with some reservation where the person is within reach of a good sire and yet does not patronize it.

VERY much is said and written on the wisdom of using only first-class sires if our stock is to be improved, or even kept at a normal standard, and yet thousands upon thousands of our farmers pay no more heed to such statements than if they were the words of some nice sounding fairy tale. Equally common is the indifference manifested by nine-tenths, it may be, of those engaged in growing grain, in the selection of their seed, and yet the proper selection of good seed is quite as important as the right selection of good sires. As stated in a leader in the *North British Agriculturist*, it is not improbable that the deterioration consequent upon continuing to sow seed long upon the same land is controlled by laws akin to the loss of stamina that is the penalty of continued in- and in-breeding in live-stock lines. This, it may be, is the explanation of the good results that follow a change of seed. But whether seed is changed or not, only the best of its kind should be sown. It is in the power of every farmer to do this who has a good winnowing mill and the inclination to put it to a good use. The best time to select and prepare seeds for spring sowing is early winter, when the supply is

abundant, and one is able to select a sufficiency of what is best only from the whole crop. When the pile from which to select becomes diminished, all that one can do is to sow such as he has, and that is seldom or never of the best, unless selected. The room for improvement in agriculture is like the fabled story required by the eastern king—without an end.

IF one were possessed of a piece of land which required an outlay for manure nearly or altogether as much as the returns it gave him, and this from year to year, he would be most unwise to continue to cultivate that land. If he were so situated that he could become possessed of land at a reasonable price in the vicinity which would give him a liberal return for the outlay upon it, and were desirous at the same time of making his livelihood in that way, he would be foolish indeed if he neglected to secure it. This is just what the keeper of scrub or inferior stock is doing. He is putting his feed into a machine that will give him little or no return for it. He might at the same time easily secure a better class of animals that would give him a liberal return for his outlay. If we could but induce those who are content with such stock to try the experiment but once, of feeding a rightly-bred beast alongside of one of the inferior sorts for some months or even a year or two, they would surely be convinced. It would prove to them a cheap experiment in the end. But this is just what they cannot easily be persuaded to do. Usually they leap to the conclusion that a beast of the better class is made so by feed fed to it at an additional cost fully equal to its extra value. Here it is that they make shipwreck. They rush to an assumption of the truth of which they have no demonstration. They look upon feed as the principal if not the sole source of the difference in values. But they are themselves not consistent in the application of this belief, for in selecting a young animal to keep from amongst their common class of stock, they prefer a likely-looking one to one of a lower type. If feed makes all the difference, it should not matter which was kept. The only two conditions required would be, that it should be an animal without deformity and possessed of life. It is not only a misfortune to them individually that they are satisfied with inferior when they might have better, but also to their households. It is of some consequence to the farmer boy and girl as well as to the farmer whether the stock kept on the farm gives returns as it might and should. If in the case supposed of the farmer who persisted in tilling the piece of land that gave him little or no return, his son were to leave him when matured to pursue another calling, he would not be to blame. Why, then, should he be chided for leaving a home where he is doomed to work with scrubs, which neither feed his ambition nor fill his pocket?

Weaning Lambs.

There is no more critical time in the life of the lamb after the first day or two of its existence than the time of weaning. A majority of sheep-owners do not give the matter their attention sufficiently early in the season, to admit of the dams getting well fleshed before winter comes. With a majority the whole process consists in driving the sheep into the pens and separating the ewes from the lambs, then placing them in fields that are separate.

The lamb, being deprived of a large share of its nourishment, unless put on good pasture and given a supplemental portion at the same time, will fall away at first, which is a serious loss, as it retards the best development of the future sheep. Any stoppages in

the growth of an animal before reaching maturity are always attended with loss. If possible the pasture should be fresh, not necessarily long, and so far away from the old ones that they may not call and answer. In troughs suitable for the purpose they may be fed a small portion of oats and bran in about equal proportions, at least once a day. The troughs may be made by nailing two six-inch boards together in the form of a V, and supported by legs of scantling fastened like the legs of a saw-horse. They may be left opened at one end that rain may escape. A board sufficiently long to keep the trough from upsetting on being rubbed, should be nailed across the bottom of each pair of legs, parallel with and resting on the ground.

If the lambs have been fed grain in the spring they will take readily to that placed in the troughs, but if this has not been done, it may take them some time to learn to eat it, as they are at all times naturally timid and shy. By leaving it in the trough in a corner of the field which they most frequent, they will learn at length to eat, and will soon look for it every day. A pint of the ration will be sufficient at first, but may be increased to a much larger quantity in keeping with the object the feeder has in view.

The dams may be kept on slim pasture for a few days to hasten the cessation of the milk flow, and milked out partially two or three times to prevent injury to the udders.

Great care should be taken to keep the lambs away from every species of burr that will adhere to the wool, as they soon become transformed from very pretty creatures, ornaments to the farm, into what is most unsightly.

Don't Spare the Knife.

When the specimens of any one class of pure-breds are but few in a country, it may be excusable, though unwise, to breed from everything that such animals may produce, but when the increase has been considerable, such a course is very damaging to the general interests of the breed. Although the law that "like produces like," is always true in generalities, it has its exceptions, for, however careful the mating may be, there will arise some specimens so far inferior, that their career upon earth should be cut short at the earliest moment when they may be accounted suitable food for man.

The utmost care that may be exercised will not prevent such results occasionally, and though exceedingly disappointing, they belong to that class of things inevitable, the sting of which is only removed when borne in calm submission. We find the same occurrences in the human family. All the members of a large family with, it may be, one exception, are possessed of a fine physique and strong intellectual development, while that one is far deficient comparatively, in body or in mind, or in both. These exceptions to the general law to which we have referred are in the aggregate considerable, where pure-breds are numerous, and by persistence in selling them to breed from, the stamp of inferiority is multiplied indefinitely, to the detriment of the entire breed.

The remedy for this state of things is, in the case of males, an unsparing use of the knife in castration, and in that of females the use of the same implement in the hands of a butcher.

There are some instances in which there may be no hesitancy, in others it is better to wait. Of the former class are those of an unfortunate color, especially in the males. They should be castrated when old enough to safely undergo the operation. It is vain to urge that a pure Shorthorn bull of an unfortunate

color will be used in producing grades, for as a rule they will *not* be so used, although they would answer the purpose admirably where the block is the ultimatum of grade cattle-raising. Breeders of grades are more deeply prejudiced as to color than breeders of pure-breds, and that is saying a good deal, for judging by present indications it will not be very long till red will be the only recognized color in Shorthorns; virtually it is the only recognized color now. It is vain apparently to write against it, or to expose its unwisdom, for fashion in the color of animals is quite as omnipotent with men as fashion in determining the shapes of a ladies' bonnet with women. The great breeders of England have been influenced by it, and likewise those of Scotland. Duthie, Campbell, and the great Amos Cruikshank have for years been worshipping at its shrine, whether willing or unwilling devotees we cannot say, for each is doing his best to produce Shorthorns only red in color. The little color cloud rising out of the prairies of the Western States not many years ago, no larger than a man's hand, has overspread the whole Shorthorn atmosphere, in the four continents of North and South America, Europe and Australia, and now threatens to sweep away every variation in color in Shorthorns except red. The influences that have wafted this color-storm-cloud with a rapidity that is wonderful, are those of the market. And they are influences that are more powerful than those of the show-ring or the pen of the ready writer. The American market called for Shorthorns of that color, and so apparently influenced other markets, that what was at first a whim has become a fashion deep-rooted and strong, stronger than language and stronger, apparently, than good sense.

In the face of facts like these it would not be wise in individual breeders to breed for any other color. The best thing for all of us to do is to get into the red-color ship, and taking our Shorthorns with us, sail away to the happy realms where not one hair of any other color is ever seen. It is but dim consolation to a man to demonstrate that he can beat reds in the show-ring with roans or whites when he cannot sell the whites at all only for butcher's meat, and must sell the roans for a good deal less than the reds. It is therefore the duty of one who is desirous of providing for the wants of his own household to turn white females into butcher's meat at a reasonable age, and to castrate white bulls when young. All that have dark noses should be similarly dealt with, likewise those with very objectionable horns, and all that are notably deficient in a good framework and right adjustment of muscle. But there may be some animals right in color and full of promise during the first weeks, which after a few months make it apparent that they will never be average specimens. These may go to the butcher better than anywhere else.

It seems hard to adopt so unsparing a course, especially on the part of those who own but a few specimens. They have paid good prices to get a start in the business, hence it seems a hard thing to sacrifice any of them in the way we have indicated, but they would find it better in the end. That should not be called sacrifice which brings the best all round results, whatever the immediate deprivation. When all breeders adopt this course we shall attain a standard of general excellence such as has never been witnessed before. It may be a long time before there shall be a consensus of practice in the line of our recommendations, possibly never, but those who decide otherwise, will do so we feel to their own loss. Those who are willing to undergo the apparent present loss for the sake of the ultimate gain, will rapidly improve

the general average of their herds, when they will not only be enabled to look upon the out come of their efforts with a laudable pride, but will be able to make sales at prices that will be satisfactory, providing the general system followed in prosecuting their work is in conformity with the established rules of successful breeding.

Farmer's Institutes.

Very successful picnics are being held in connection with the Farmer's Institutes in various parts of the country. These combine pleasure and profit in a marked degree. The plan of procedure is very simple. The meetings are announced by means of small fly sheets sent through the schools, and of posters properly placed; also through the medium of the press. Suitable speakers are secured. The gathering takes place on the day appointed, and after an hour or two spent in social enjoyment, and partaking of a repast in little groups of families, a portion of the afternoon is spent in listening to addresses on the great subjects pertaining to agriculture. When careful arrangements have been made beforehand and suitable persons appointed to canvass the meeting during the entire day, the result is a large increase in the membership. A badge with the initials of the Institute printed thereon is given to each member, which prevents the same person being canvassed several times. In this way the membership of some of the Institutes is more than doubled in a single day. One who is a member of an Institute is more likely to attend the meetings than one who is not, hence the importance of obtaining a large membership. The Hon. Chas. Drury, the Minister of Agriculture, has given addresses at several of these meetings which have been very highly appreciated by those who have listened to them. It is encouraging to see so much of an awakening manifested by the farmers in reference to their own interests of late, but as yet in this respect there is very much ground that is unoccupied. The membership of the Institutes, which is still under five thousand, should sum up twenty times that number.

The Prices of Pure-bred Stock.

Pure-bred stock, like every other marketable commodity, must ultimately find a market value. But it is a mistake to suppose that this value is to be no more than the ordinary butcher's price, for were all the stock in the country thoroughbred, that of superior excellence for breeding purposes would command considerably higher than ordinary market values. It will do so for the reason amongst others that it costs more to get it, and will cost more through all time.

We need have no fear of combination amongst breeders as to a fixed price. It has not been proved that such a combination ever has existed, nor do we think it ever did, notwithstanding that the breeders have been freely charged with this crime against both nature and man. If, then, there were no combinations amongst breeders as to prices when they were comparatively few in number, there need be no fear of their combining now. The difficulty of doing this increases with every one added to the number of those engaged in breeding in any of the lines.

The enormous prices obtained for good stock in other years originated in part in the wealth possessed by the purchasers, and it is difficult to decide whether it most advanced or retarded stock improvement. While it drew the attention of numbers to the wisdom of improving their stock, it also repelled them from the attempt to get right material with which to do this. But now the prices have come down and must continue reasonable, owing to the numbers that are pro-

duced in many of the breeds. But yet purchasers are not satisfied, although good animals are offered in some instances for sums not more than twice the price of butcher's meat, and in others for less than this sum. The aim of the purchaser seems to be often to get the animal for meat price. Now this can never become general without proving most destructive to stock improvement, for then the breeder would get little or no compensation for the extra pains and outlay always attendant upon the production of breeding stock. Extra pains and increased outlay will not be forthcoming without the prospect of compensation in an increased price.

Take the case of Southdown sheep, for illustration. One who undertakes to breed them for selling must be at increased expense in getting his foundation stock. He must then purchase his males at a price above the average, and this about every second year. If a reputation is to be built and sustained he must sell the inferior specimens to the butcher, for there will be some of this class, however judicious the breeding.

It would be unwise to sell those specimens for breeding at butcher's prices. It would soon result in serious injury to himself and probably to the purchaser, for if deemed unworthy of a place in his own flock, where they are likely to get well cared for, they would produce less satisfactory results in the hands of one less skilled. The new purchaser himself would soon become disgusted with his work, and the neighbors who came to see, would conclude, as they have done in many such instances, that if such was the improvement made by pure-bred stock, they wished to keep aloof from it altogether. The standard of scrub stock is surely low, but it would be much lower if such a course were adopted. If those who breed scrubs were to sell their culls for breeding purposes, the results would be deplorable. With all their indifference to improvement, those engaged in the scrub stock business act more wisely here than many of the breeders of pure-breds.

Now it is plain from what we have said that the breeder of a good class of Southdowns cannot afford to sell good specimens from his flock at meat prices, nor can his price even approximate to average meat prices, for the average meat price has reference to a class of stock fed in every way more carelessly than his. If a comparison is to be made between the prices at which he sells and butcher's meat, it should be between the prices meat will bring where its quality will equal that of his flock if turned into meat.

It is hazardous to mention figures, but we will be excused for calling attention to what we have met in our own observation. Enquirers have complained at \$10 for a pure-bred Berkshire pig at two months, a good specimen and rightly marked, and from imported direct on both sides. Others conclude that \$1 per setting of eggs from certain pure-bred fowls is dear. To such we say, come and let us reason together. Take the case of the Berkshires. A good sow is the first investment, which it is only just should call for a good price, not necessarily exorbitant. Then a good boar must be secured on similar conditions. We have no certain security that that sow will prove a safe or a good mother, or that the boar will give stock that is all our desire, though the shapes and marking of both are right. The longer the pedigree the greater our security, having respect also to its character. Berkshires are a breed not sufficiently long established to prevent reversion to the quaint old spotted creature from which the breed has been evolved. In a litter of eight it will be strange if some white spots do not crop out on the ear or shoulder or

somewhere contrary to rule. In every such instance these must or should go to the meat market, as being less reliable to breed true to color. Then there will be the inevitable "runt," and one or two the shapes of which are not the best. These, too, must make meat. Add to this the care of keeping the pedigrees, trouble of shipping, liability to accident, trouble emanating from partial or complete barrenness, the cost of a stock male every second year, and tell us how much less than \$10 as a minimum can one sell Berkshire pigs suitable to breed from. It would be different if every specimen would answer for this purpose. The same line of reasoning will apply to the breeding of every class of pure-bred stock.

We appeal to the breeders of the Dominion to hand every specimen not fairly good over to the butcher. This cannot be done in the case of horses, but they need not be sold for breeding purposes. In one or two instances we have been tempted to let specimens go, though not unadvisedly on the part of the purchaser, and the results have not been as satisfactory as might have been expected. Henceforth these shall be the portion of the butcher.

Nor can we conclude otherwise than that those who insist on getting pure-bred stock at meat prices will never make much progress in the business. The breeders of such cannot afford it, and it will turn out eventually that parties who begin with this class of stock cannot afford to do it either.

The attempt should not be made by every one to grow pure-bred stock. Those only should embark in the business who have a natural adaptation for it. That adaptation is usually shown by the production of a superior type of whatever class of grades the individual has been handling in the past. Any one who has left his neighbors in the race in growing good grades is more likely to succeed in producing good pure-breds.

Yet every one in the stock business should be most careful to use pure sires. With most breeds the price should not be an obstacle now. The shipping business of this Province had never been had it not been for the adoption of this course, and now that dairying is spreading rapidly let pure sires be used where the offspring is to be kept.

The Prairie Province of Manitoba.

The Government of Manitoba has recently opened offices in Ontario, for the purpose of disseminating information regarding the prairie province. The office in Toronto is in charge of Mr. A. J. McMillan, and that in London is in charge of Capt. Wastie. These gentlemen attend farmers' markets throughout the province. Several excursions have been arranged to Manitoba, to give farmers and others an opportunity of visiting the country and seeing it for themselves. The Manitoba Government issued last month a little pamphlet, entitled, "Facts about Manitoba," which is full of useful information. From it we learn that last year nearly 25,000,000 bushels of cereals were exported. It is stated that in 1887 there were 432,134 acres under wheat; 155,176 acres under oats, and 56,110 under barley. There were 10,791 acres of potatoes, with an average yield per acre of 238 bushels, and last year, it is claimed, many were exported to Ontario.

The book is full of useful information relating to live stock, poultry, cereals, lands, railways, etc. Last year there was an unprecedentedly large harvest, and Mr. McMillan informs us the indications in Manitoba point to the probability of another very large harvest this year.

Cataraqui, its Ayrshires and Environments.

Cataraqui is an unpretentious village about two miles north-west of Kingston, and situated at the base of a tier of sloping hills at the side of a wide valley farthest from the city. Like many of our villages, its name seems to keep in remembrance the language of a vanished race. A little further on is the home of D. Nicol & Son, whose herd of Ayrshires is one of the most select and uniform to be found in Canada to day, numbering 27 head, of which 15 are cows; they give proof of much care exercised in their management and skill in their breeding. There is a uniformity in their appearance and characteristics which give evidence of the one moulding hand, and of a definiteness of purpose that is soon to be followed by even a greater uniformity. Almost without exception they trace to two foundation cows purchased in 1874 and 1876. These were Effie Deans —233—, and Rhoda [1339]. Effie Deans, a cow broad and large and heavy, with a weight of some 1,200 pounds, was bred by Walcot & Campbell, N. Y. Mills, in 1871, although she was owned successively by the Hon. M. H. Cochrane, Mr. John McAulay and Mr. George Kirkpatrick. Sired by Norval 762, she has for dam Effie 360, by Rob Roy 325; g. d. Tibbie 791 (imp.), by Black Thorn, and g. g. dam Bute by Sir Samuel. Rhoda [1339], bred by Mr. A. Allan, Montreal, was calved in 1873. She is by Conqueror [90] 1574 (imp.), and has for dam Strathaven Queen [228] 4554, imported by Mr. Allan.

But three sires have been used in the herd, with some slight exceptions. The first of these, Victor, came from D. Drummond, and the second, Stonewall, from J. Drummond, Petite Cote, P. Q. The present stock bull, Norseman, two years old, is by Comet [1521], and from the dam Jessie [1460], by Romeo [863], and has for g. d. Rhoda [1339], by Conqueror. Like the cows, this bull is in fine condition, and will doubtless tend to hasten that equalizing process which adds so much to the beauty and utility of a herd when the standard sought is a correct one. The calves, like the cows, give evidence of care and judicious feeding. With proper shapes and nice healthy coats, they are developing in a way that is full of hope for their future.

The true Ayrshire type is kept constantly before the breeders of this herd. They seek to produce cattle of the triple wedge-shape cast with straight top line, much roundness of barrel and squareness of quarter, small, neat heads and slim necks, with but scant dewlap, horns turning forward and upward, but not of the heavy spike cast, and udders nicely formed, with teats well apart. The cream is sold to a party in Kingston, and the returns for the milk and products amply sustain the high opinion which the firm have as to the pre-eminent value possessed by Ayrshires, for dairy purposes, not to speak of the sales that are made for stock purposes.

There is also a large and even flock of Southdown sheep bred from sires principally raised by Mr. Jackson, of Woodside, Abingdon. The flock numbers about 75 head. It is thought by many that the lighter breeds of cattle and sheep are better adapted to the eastern part of Ontario than to the west, where on the whole more uniform and heavier crops are grown. They have to travel more in foraging, and their lack of weight facilitates the ease with which this is done.

It is greatly important that adaptability should be well weighed in stocking any farm. It would be supreme folly for the Highlander to stock his mountain sheep range with any of the heavy breeds, and of doubtful propriety to fill the fertile meadows of York-

shire with the kyloes of the north. Because any breed of stock is taking to the eye is no sure reason why the attempt should be made to grow it apart from suitability to locality. Trying the Ayrshires by this standard they will be found very well adapted for large sections of the Dominion.

It has always appeared to us a good indication, the readiness which the Ayrshire breeders of Ontario have evinced to have a trial made at the Ontario Experimental Farm, with a view of ascertaining the all round returns obtained from a certain number of animals of the milking breeds, taking into consideration the quality of the food used.

Mr. D. Nicol, the senior member of the firm, as our readers will have noticed, is one of our valued occasional correspondents, whose varied and accurate knowledge of agriculture is well attested by the nine first prizes awarded him in as many successive years for essays on agricultural topics, by the Agriculture and Arts Association of Ontario, in a competition open to the whole Province. Much of his life has been devoted to growing nursery stock adapted to that section of country, and his work of superintending the Kingston cemetery along with prior experience in gardening in Britain, have rendered him a reliable authority over a wide range of agricultural subjects. When such an one tells us, as the result of his experience, that Baldwin and Greening apples will not succeed in that locality, that amongst the best varieties are the McIntosh Red, and the Famuese, that apple trees in that region should be headed low, and that the attempt to grow pears profitably is a waste of time, it is well that he gets a respectful hearing. He has demonstrated that the Red River maple will flourish in certain sections of this country, and that the European larch is quite at home in the highlands of Frontenac.

Alive to the value of swamp muck as a fertilizer of the hills, he gives much attention to top dressing with it, rightly desirous of making the most of everything. The excavations whence the muck is secured are turned into ponds, which are being well stocked with carp. It is amusing indeed to see the eagerness with which the big fat fellows come with open mouth to catch at bread cast upon the waters in feeding them, which is all found again with a handsome interest in the form of fresh carp for the table after many days. Mr. A. Nicol, the oldest of the three intelligent sons of this home, who took a course at the Ontario Agricultural College, Guelph, was employed for some years by a company of Chinese mandarins, alive to the advantages of the superior experiences of a western civilization, in superintending a large farm of 100,000 acres, in part reclaimed from the domain of high tides, and so far as we can learn, discharged the onerous duties of this position in a way at once satisfactory to his employers and creditable to Canada.

The most extensive system of green-houses perhaps in the Province is in this neighborhood. It is owned by a brother of the lover of Ayrshires, whose herd we have just been describing, and who also took an active interest in the establishment of the business. The green-houses alone require 100 tons of coal a year to keep them at a proper temperature, and in them the flowers of many lands sustain an unflinching bloom both winter and summer.

Cataraqui is an old village, and like most old villages, a little quaint. On the hill overlooking it stands a Methodist church, on the site of the first church built by that denomination in Ontario. It is needless to add that the burying ground around is crowded with inhabitants, both of the aborigines and the race before whom they succumbed. As the trees

of the forest grow, they lie side by side like brothers of one family,

" Their hatred and their love is lost,
Their envy buried in the dust ;
They have no share in all that's done
Beneath the circuit of the sun."

The habitation of the dead of Kingston is a beautiful place. It numbers about 5,000, and its population continually growing. It covers 75 acres, and the artistic taste, the variety of the trees and flowers, the beautiful hedging of many of the enclosures, the clear-cut water-courses, the trickling streamlets coming down anon between the sharply defined hills, with their clumps of forest and sentinel trees, and numerous marble slabs and monumental pillars, each containing its compressed story of a life, all combine to make the drive around and within it (nearly two miles in length) one of the most beautiful to be found in any city of the dead within our borders.

The wide valley between the village of Cataraqui and the old limestone city has its quota of water-courses and ponds and diminutive lakelets, which cover so large a portion of the area of this county. These waters produce now a large quantity of fish, but some day, not so far distant either, we are much mistaken if they will not yield as good a revenue, or nearly so, as equal areas of the land. The time is drawing on when economizing our resources in all things will be a necessity as well as a virtue, when the lakelets of all Canada shall be farmed for their own peculiar products as carefully as the land between.

The Penitentiary, with its imposing pile of stone and 800 inhabitants, is an object of melancholy interest. Gangs of men in their peculiar felon's dress of one pant leg one color and the other different, were working on the 300 acre farm attached, with keepers with loaded rifles standing over them. O dark picture of the degradation of the race ! In what a terrible sense man has become his brother's keeper. The " fine gold has become dim."

A very different interest attaches to Queen's University, with its beautiful park, its energetic staff of learned professors, and the magnificent record of the men it has turned out and the work they have done and are doing. Long may this bright luminary be permitted to shine with ever-growing brightness in the easterly and midland counties of Ontario.

The Arab Stallion Cyprus.

PURCHASED FOR THE STUD AT MOOREWOOD.

All civilized nations are indebted to the Arabs for having possessed and preserved from the earliest historic period, a race of horses which in many respects has no equal.

The Arabs are said to have recorded pedigrees of horses which go back five hundred years. The Arabian horses have long been celebrated for their docility, intelligence and powers of endurance.

The Kochlami breed of Arabian horses is perhaps the most celebrated of all varieties. They have a long body, an arched neck and delicate and slender limbs.

A few stallions have been imported into the United States, having been occasionally presented by eastern potentates to distinguished Americans, and they have left some notable offspring, such as the Arab Star, a stallion which was owned in Indiana some few years ago, a horse of gentle temper and of great endurance, and showing the speed of a trotter. Canadians have never had the opportunity to have a thoroughbred Arab stallion to breed from, and will no doubt appre-

ciate the enterprise of Mr. Wm. McKay, of Morewood, Ont., for securing one of the best stallions probably of this breed that was ever imported. He purchased from the Hon. H. J. Anson, A. D. C. to His Excellency the late Governor-General, the thoroughbred Arab stallion Cyprus, on the eve of the departure of His Excellency. This horse is a bright bay fourteen years old, fifteen hands high, and of gentle disposition. He was taken to India when a colt, was an officer's charger in the India cavalry, and was brought to Africa in 1878 during the Zulu war. When the cavalry returned to India he was bought by Col. Lambton, 71st H. L. I., who kept him as a charger till he returned in 1885, when the stallion became the property of Hon. H. J. Anson, A. D. C., who imported him to Canada in May, 1885.

He was shown at Toronto Exhibition in the fall of 1886, and carried off first prize as best thoroughbred.

Stock raisers of Eastern Ontario are to be congratulated on having a stallion of this breed in their midst, and it will not be surprising if a few Eclipses may be found in this part of the country in a few years. Mr. McKay will keep him for service at his stock farm at Morewood, Ont., the home of the imported Clydesdale Pride of Avon ; imported Percheron Lorinda, and of Mambrino Spangle.

Asafoetida as a Remedy in Abortion.

We notice that some agricultural papers speak of asafoetida as a remedy for abortion, and of its use as a preventive to that dread scourge. A Northwood subscriber, Mr. M. Campbell, has called our attention to the narrative of a New Jersey dairyman who had used it freely in his herd, thus arresting the disease, which had fairly set in, by giving it in bulk in the feed twice a week, about as much as would equal a load of powder for a shotgun. He gave it to cows that were four months gone with calf.

Dr. Grenside says in regard to it : " If one accepts the sympathetic theory as accounting for the transmission of this trouble from one cow to another he could imagine the persistent, powerful, and disagreeable odor of asafoetida tending to drown the odor which is supposed to be the agent of transmission from one cow to another. It is an agent that will do no harm ; is cheap and can be given with little trouble, so that if others tried it they might be able to either confirm the correctness of the theory of those who advocate its use, or else disprove the same."

We would be pleased to hear from any of our readers who have any experience with the use of asafoetida either as a remedy or preventive for abortion.

The Diseases of Sheep.

BY A. W. JACKSON, V. S., WOODSIDE, ABINGDON, ONT.

(Continued from June.)

Gloss anthrax or blain—a variety of anthrax fever from which sheep suffer, is one in which the local manifestations are, rapid swelling with development of pustules and malignant carbuncle, in which the mouth suffers.

This disease may arise from a great variety of causes. Among them may be mentioned unwholesome and damaged food, sudden changes of diet, atmospheric influences, inundations, stagnant water, and exposure to cold and wet. Like all other forms of anthrax fever, this disease is remarkable for appearing without first exhibiting peculiar and noticeable signs of disturbance.

When the disease is noticed there are usually extreme signs of constitutional disturbance, which are quickly followed by great disturbance, coma and death. From the mouth at first issues a copious, limpid saliva, which speedily becomes purulent and bloody by the

bursting of pustules. A succession of these vesicles arise on the tongue and buccal membrane, grow rapidly, burst and become gangrenous, forming deep ulcers, with slow and feeble healing powers.

The nose, face and neck and contiguous parts are involved in a rapid congestion and swelling, inducing pressure on the trachea and jugular vein and causing difficult respiration. The general conditions observable after death are little different from those already noticed.

The *post mortem* appearances are extravasation of blood among the tissues in all parts of the body; smaller spots of ecchymosis on the visible mucus membranes, with effusion of serum in the various cavities and rapid decomposition.

When the fever progresses slowly, these spots unite by confluence, some become crepitous and emphysematous and others take the form of tumors, passing rapidly to the state of gangrene. In addition to these eruptions there is often soreness and swelling of the throat, infiltration at the upper end of the trachea, and a discharge of a lymph-like material from the nostril.

The remarks given under braxy as far as prevention and general treatment is concerned, apply well to this affection. The diseased should be placed in a comfortable place away from the rest of the flock, and if it is discovered that the flock has been exposed to any of the deleterious influences mentioned, they should be removed, and particular attention paid to diet.

The local treatment consists in opening the vesicles and dressing with astringent and disinfectant lotions. Aperients must be administered with great caution, and not at all unless considerable constipation exists. The strength of the animal must be supported by any farinaceous food that it can be induced to take, and alcoholic stimulants are beneficial in the early stages. Solutions of chlorine gas may prove valuable remedies, but from the rapidly fatal character of the disease treatment is rather disheartening.

The other charbonous fever affecting sheep is termed splenic apoplexy. Though the spleen may be said to be congested in all the forms of the malady, instances have undoubtedly been witnessed in which no local lesion could be detected *post mortem*, the victim evidently dying from the poisoned condition of its blood, before local manifestation has time to become developed.

The darkened and fluid condition of the blood and the proneness to rapid decomposition are always present. There is an undoubted blood poison induced within the blood—depending upon either the presence of micro-organisms, or an unnatural state of plethora, developed from excess of nutritious food consumed, when the animals are kept under close confinement. The local manifestations are extensive congestions and extravasations of blood within the structure of the spleen, frequently attended with rupture of its investing capsule, and general ecchymosis, of visceral membranes. Premonitory symptoms are few and frequently unobserved. Animals that are supposed to be in perfect health at night are often found dead in the morning. The disease is often ushered in rigors and tremblings; the gait becomes staggering and the animal rapidly exhausted. A recumbent position is almost constantly maintained. The animal may occasionally attempt to rise, but will rarely succeed in doing so. When standing the back is arched, the legs stiff and rigid, but the standing posture is not long maintained. In the first stage the animal presents an excited appearance, visible mucus membranes reddened, urine and feces deficient and mixed with blood. This is followed by uneasiness, colicky pains, pulse frequent and hard, respiration accelerated and short, and the animal seeks support by leaning against the nearest object.

Respiration is panting and plaintive, the pulse continues to become less distinct, and finally becomes imperceptible; the animal is seized with convulsions; red froth and mucus are expelled from the nostrils, the areolar tissue of the back and sides becomes crepitous, general coldness comes on, and death ensues in periods varying from two to twenty-four hours.

Death from splenic fever is usually very sudden; in many instances an animal seen a few hours before apparently in good health, is found dead, death having apparently occurred without a struggle.

The local lesions are usually confined to great congestion of the spleen, and to a lesser extent of the liver and mucus membrane of the intestinal canal. In other, but rarer instances, the engorgement may be in

the lungs, and should the animal survive for some days, decomposition of the extravasated blood is established, as expressed by factor of the breath; the decomposed extravasated blood being absorbed into the circulation, causing death by septicæmia. The *post mortem* appearances are—early and rapid decomposition, cadaveric rigidity transient, areolar tissue distended by gaseous emanations; subcutaneous infiltrations of blood; much serum; sometimes blood also is found within the abdominal cavity; extravasation of blood more or less throughout the intestines and the abomasum is highly colored; blood stains are frequent, and ecchymosis on the whole serous membranes, and even the substance of the organs they invest. The pericardium membranes of the brain (particularly the arachnoid) with the ventricles contain an excess of fluid.

Successful treatment of this affection is entirely a system of prevention. If the animal is seen in the first stage, while excitement exists, treatment may be effective, but animals affected beyond this point are usually irrecoverable.

The terms epizootic-aphtha, vesicular-aphtha, vesicular epizootica, foot and mouth disease, etc., are applied to a highly contagious and infectious febrile disease dependent upon the introduction of a morbid poison in the animal economy, association with a vesicular eruption in the mouth, between the pedal digits and around the coronets; and females also suffer in addition from an implication of the teats and udder—these are manifestations of the elimination or excretion of that poison, which evidently has some affinity to the mucus and cutaneous structures, which it invades.

The frequent unaccountable appearance of this disease has led to the belief that it is of spontaneous origin; but while it is very true that increased susceptibility to the disease is induced by any debilitating influence, no cause seems to exert any modifying power. No extremity of privation, nor the continued action of ordinary causes, is capable of producing it, and one reason for the indifference which has been shown in respect to its ravages, is to be found in the belief of its spontaneous origin.

Some observers have thought that the contagion existed in the form of vegetable parasites, and others that it is due to the development of organic germs. Some importance has also been attached to the presence of vibriones, bacteria and monads, which are found in the discharge of the eyes, saliva and the contents of the vesicles. Though in sheep the feet are the principal parts affected, the symptoms are somewhat variable; doubtless modified by the habits and temperament of the animal, as well as mode by which the poison has been introduced. The animal presents signs of uneasiness if affected in the mouth, by constant movement of the lips, flow of saliva from the mouth and difficulty in mastication, and if examined, vesicles will be observed on the tongue and membranes generally—the affection of the feet being indicated by lameness.

When vesicles form on the coronets and between the digits, great pain and swelling accompanies the disorder, the animal lies persistently and suffers from acute fever. The vesicles soon burst and discharge their contents, causing increased sensitiveness and adding to the lameness. In some instances there is entire separation of the hoofs from the feet—the sufferer moving about on the knees or a stump. In common with the ordinary febrile signs: pain and agony consequent upon the denuded surface—the lungs are apt to become affected.

In many instances, particularly if the weather be cold, and the animal exposed, a hoarse tracheal cough is present, with much discharge from the trachea and bronchial tubes, whilst in aggravated cases the mucus membrane of the intestinal canal is very seriously involved, and when vesicles appear at the anus, it is fair to presume that vesication exists all along the alimentary tract, and *post mortem* examinations of such reveal the presence of much inflammation of the intestinal mucus membrane, and patches of denudation, especially in the fourth stomach. It is when the feet are much affected that the stock-owner suffers the greatest loss, for not only does the animal lose condition from the disease, but also from inability to obtain food.

(To be Continued.)

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

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.

The Shire Horse.

(Sixth Paper.)

Lambley [106] (5158), bright bay, white face, white hind legs; foaled 1884; bred by I. Thompson, Lambley, Nott.; imported by Ormsby & Chapman, Oakville, Ont.; sire Nottingham (2636); dam Mettle, by Lord Byron (351).

Le Bon [33] [R], bay with black points; foaled 1876; bred by C. Sharpley, Kelstern; imported by John Kemp, Toronto; sire Old Le Bon (1305), a prize winner at the Royal and other shows; dam Maggie, owned by C. Sharpley; got by King of the Valley (probably) (1251); g. dam by Honest Tom; g. g. dam by England's Glory.

Lincoln [135] (2454); brown; foaled 1878; bred by R. Markham, Boston, Lincolnshire; imported by John Bell, L'Amaroux; sire Drayman (657); dam Markham's Beauty,

Lincoln Tom [120] (4528); bay; foaled 1884; bred by W. Rossall, Poulton Le Fylde; imported by A. Fanson & Son; sire Lincoln (1350); dam Sally, by British Ensign (272).

Lincolnshire Lawyer, alias Lawyer (2821); bay, white heels; foaled 1881; bred by W. Newton, Newark, Nott.; imported by McLachlin & Longfield, Crampton, Ont.; sire Wellbrow Sweep (2315); dam Grey mare, by President Lincoln (1766).

Lion [86] [M]; dapple brown; foaled 1850; bred by — Freeman, Warwickshire; imported by Wm. Cren, Toronto, in 1853; sire Young Lion; got by Lion; bred by Mr. Preedy, Mixbury Hall; dam by Champion; bred by Mr. Dayli-h, Warden Mills; g. dam by Freeman's Captain. N. B.—Lion (1374), foaled in 1835, is stated to be owned by Mr. Preedy, but bred by R. Merry, Croydon. It is possible that this was the sire of Young Lion.

Llewellyn [128]; bay; foaled 1884; bred by John Hall, Berrien, Welshpool; imported in 1886 by Morris, Stone & Wellington, Welland; sire Coming Wonder (3039); dam Gracie, by Pride of Buildwas (2874).

Lockwood [19] (4536); bay; foaled 1882; bred by Miss Burgess, Rugeley, Staff.; imported in 1884 by A. Fanson & Son; sire Staffordshire Lad (4705); dam Belle, by Sweet William (2094).

Lofty [16] (3818); iron grey; foaled 1877; bred by John Knight, Longsdon, Staff.; imported by A. Fanson & Son; sire Matchless (1536); dam Polly, by Hercules (1019).

Lord Harry [5]; black, stripe in face and white off foot; foaled 1876; bred by Wm. Jones, Ramsey, Hants; imported in 1883 by A. Fanson & Son; sire Heart of Oak (1005); dam Gipsy, by Heart of Oak (1003). Lord Harry weighed 2150 lbs., and won the sweepstakes for the best draught horse of any age at the Industrial in 1883.

Lord Napier [54] (4550); iron grey; foaled 1883; bred by S. Hudson, Leck, Staff.; imported by A. Fanson & Son; sire Lofty (3818); dam Mettle, by Hercules (1022); g. dam by Ben (121).

Lyon, alias John Bull [98] (1435); brown; foaled 1869; bred by L. Ashcroft, Ormskirk, Lancashire; imported by — Long, Upper Canada; sire British Ensign (271); dam Lofty (a prize winner), by John Bull (Caunce's); g. dam by King William (Leather's). G. dam was a winner of prizes when 22 years old, with Lofty, her foal, at foot. Lyon won among other prizes second at the Royal in 1871.

Masterman [95]; black; foaled 1856; bred by — Smith, Benton; imported in 1858 by W. Davis, Weston, Ont.; sire Magnum Bonum; dam by Black Bob.

Matchless [18] (3863); iron grey; foaled 1882; bred by Messrs. Norris, North Road, Chester; imported by A. Fanson & Son; sire Lofty (3818); dam Gipsy by Iron Duke (1152); g. dam by Prince (1776).

Merry Boy [23] (3871); bay, white face; foaled 1882; bred by T. A. Crook, Chesham House, Poulton Le Fylde; imported by A. Fanson & Son; sire Bold Lincoln (2536); dam Gipsy, by Honest John (1054).

Napoleon [88] [E]; dark bay, star on forehead, white hind feet; bred by — Porter, Boston, Lincolnshire; imported in 1872 by Wilson & Richardson, Columbus, Ont.; sire Young Samson; dam Browne mare, by Old Thumper.

Nonpareil (4587); bay; foaled 1884; bred by Geo. Wythes, Epping, Essex; imported by R. Row, Avon, Ont.; sire Samson (2492); dam Victory (vol. iv., p. 217 E. S. B.), by William the Conqueror (2343).

Old England's Wonder [41]; bay; foaled 1871; bred by W. Warburton, Sturton, Nott.; imported in 1871 by C. E. Mason, Brucefield; sire Wonder (2357); dam by Bang Up (101).

Old Lyon [89] [S]; dark bay; foaled May 26th, 1852; bred by — Freeman, Warwickshire; imported in 1853 by Richard Crew, Islington, Ont.; sire Young Lyon, owned and bred by C. Griffin, Warwickshire; got by Lyon; bred by Mr. Preedy, Mixbury Oxon; dam by Mr. Daylishe's Chapron of Warden Mills; g. dam by Captain (Freeman's). Old Lyon's dam was a brown mare, the mother of four first-class stallions. N. B.—I am inclined to think that this is the same horse as Lion [86], or else it is his full brother; the words Lyon and Chapron are evidently errors for Lion and Champion.

Old Sort [109] (3912); bay; foaled 1881; bred by S. Walker, Ripley, Derby.; imported by Hendrie & Douglas, Hamilton; sire William the Conqueror (2343); dam by King of the Vale (1241); g. dam by Champion (419).

Oxford [F]; brown; foaled 1869; imported in 1871 by John Bently, Utica, Ont.; sire Oxford alias Samson (1695); bred by W. Bramley, Amcoates, Yorkshire, and got by Oxford (1692). N. B.—I have no information as to the breeding of this horse on the dam side.

Pride of All [24] (4611); bay; foaled 1882; bred by Geo. Smith, Mackworth, Derby.; imported by A. Fanson & Son; sire Bravo (2540); dam by Lincoln (1350).

Prince Victor [63]; black; foaled 1881; bred by H. Freshney, Grimoldby, Louth; imported by F. Coleman, Hill's Green, in 1881; sire Rival (2885); dam Flower (vol. iii., p. 93 E. S. B.), by Farmer's Friend (798).

Protection [74]; black; foaled 1877; bred by — Samson, York.; imported in 1878 by T. Blanshard, Appleby; sire The Brewer (2100); dam Blossom, by Black Douglas; g. dam by Ajax (74).

Regent (3281); brown; foaled 1881; bred by — Janes, Hockliffe; imported in 1884 by Green Bros., Innerkip, Ont.; sire Smith's Black Prince (3321); dam by Champion of England (477).

Robin Hood [90] [J]; black; imported by Wm. Simpson, Markham, Ont.; sire Old Robin Hood, by Blacklegs, out of a mare by Little John; g. dam by Heart of Oak; dam of Robin Hood, a black mare owned by W. Jordan, Caythorpe, Yorkshire, sired by Black Active, (Roydhouse).

Samson XI (6372); brown; foaled 1885; bred by the executors of G. Wythes, Epping, Essex; imported by Robt. Row, Avon, Ont.; sire Samson (2492); dam Lady Waring (vol. iv., p. 159 E. S. B.), by What's Wanted (2332).

Samson of Flawboro [99] (2395); brown; foaled 1880; bred by J. H. Jackson, Flawboro, Nott.; imported by C. Harrison, York Mills, Ont.; sire Old England (1680); dam Monitor, by Admiral (69).

Sherford [58]; bay, white hind heels; foaled 1882; bred by J. J. Mitchelmore, Sherford, Knightsbridge; imported by A. Fanson & Son; sire Royal Honest Tom (3990); dam Damsel, by Farmer's Glory (J. Tucker's); g. dam by Elliot's Hero.

Shire Lad [111] (3308); bay; foaled 1881; bred by H. Batts, Burton-on-Trent; imported by Geary Bros., London, Ont.; sire Noble (1641); dam Rip-ton Trimmer (vol. v, p. 267 E. S. B.), by William the Conqueror (2343).

Silent James [116] (2668); bay; foaled 1879; bred by R. Porter, Fleetwood, Lancashire; imported in 1882 by J. Stray, Markham; sire What's Wanted (2332); dam Mury (vol. ii., p. 137 E. S. B.), by Honest Tom (1105). Among other prizes, Silent James won first at Doncaster; third at the Royal, and first at great Yorks. sire shows.

Sir Joseph II (6399); brown; foaled 1886; bred by J. B. Hill, Congleton, Cheshire; imported in 1888 by Green Bros., Innerkip, Ont.; sire Helmdon Emperor (2799); dam Queen of the Fylde (vol. iv., E. S. H. B.), by Honest Tom (1105).

Simon Pure [11]; foaled in 1873; bred by John Oxtorby, Nott.; imported by J. J. Fisher, Benmiller, Ont.; sire Simon Pure (2018); dam Brown mare, by Brown Active.

Sir James [8] (4040); bay, three white feet, stripe in face; foaled 1880; bred by W. Harrison, Preston, Lancashire; imported by A. Fanson & Son; sire Hannibal (992).

Sir Roger [62]; bay; foaled 1883; bred by G. Ekins, Warboys, Hunts; imported in 1885 by H. Hammond, Cainsville, Ont.; sire Rufus (3997); dam by Grand Prince (960).

Spreyton [46]; chestnut; foaled 1881; bred by H. Ackland, Spreyton; imported in 1885 by A. Fanson & Son; sire King of the County (45); dam Rose, by England's Glory (43).

Stanley [6] (2674); chestnut, white face and hind legs; foaled 1880; by W. Clegg, Goosnarch Lane; imported by A. Fanson & Son; sire What's Wanted (2332); dam Rose (winner of many prizes), by Columbus (503); g. dam by British Ensign (271).

Stonton (4716); bay; foaled 1884; bred by S. Fyson, Warboys, Hunts; imported in 1887 by W. H. Millman, Woodstock, Ont.; sire Stonton (2065); dam Warboys Trimmer (vol. iv., p. 221 E. S. B.), by Champion (441).

Success [73]; black; foaled 1881; bred by C. Gould, Ramsey, Hunts; imported in 1884 by W. B. Fotheringham, Woodham; sire Heart of Oak (1010); dam Rosy, by Honest Tom (1097).

Suffield [55] (4718); bay; foaled 1883; bred by J. Smith, Thurvaston, Derby.; imported by A. Fanson & Son; sire Bravo (2540); dam Mettle, by Champion (419); g. dam by Bang Up (94).

Tamworth [92]; bay; imported in 1836 by British soldiers and sold by to John Rattenburg, Brucefield, Ont. N. B.—Very little can be ascertained about this horse. Mr. H. Love sr., (now deceased), of Hill's Green, Ont., said: "From good authority I hear that he was a heavy artillery horse, and was brought to London, Ont., with the troops."

Tarleton Jupiter [122] (5369); black; foaled 1885; bred by G. Singleton, St. Mechlis on Wise, Eng.; imported by A. Fanson & Son; sire Jupiter (2602); dam Dapper (vol. viii., p. 203 E. S. B.), by Emperor II (3623).

Temptation [52] (4085); bay, three white feet, stripe in face; foaled 1882; bred by S. Lethbridge, Knightsbridge; imported by A. Fanson & Son; sire Royal Honest Tom (3990); dam Madame, by Brown George (2543).

Tintock alias Conqueror [15] [A]; foaled in 1883; bred by Squire Rowell, Bury, Huntingdon; imported by S. Beattie, Annan, Scotland; sire Heart of Oak (1003); dam Pride of Nottingham, by Farmer's Glory, owned by Mr. Rowell. Tintock won second at the Highland Society's Show in 1867.

The Dandy [113] (4730); brown; foaled 1884; bred by — Weaver, Risley, Derby; imported by Geary Bros., London; sire Farmer's Glory (3083); dam by William the Conqueror (2343).

The Masher (5378); bay; foaled 1885; bred by J. Brandon, Stone, Staff; imported by F. Row, Avon, Ont.; sire Nabob (2850); dam Jewel, by Pride of England (1770); g. dam by Tom Sayers (2162).

True Briton [64]; bay; foaled 1883; bred by T. Brown, Downham Market, Suffolk; imported in 1883 by F. Coleman, Hill's Green, Ont.; sire Farmer's Glory (3082); dam Depper (vol. iv., p. 121 E. S. B.), by The Yeoman (2377).

AGRICOLA.

The Ayrshire Herd Book Controversy — a Third and Neutral's Opinion.

DEAR JOURNAL,—Few men who have as small a monied interest in Ayrshires as I have can feel greater chagrin at the failure to amalgamate than I do, because I am an ardent admirer of the breed and of the name. Is it, Mr. Editor, because of the latter, and its proud associations, that Scotchmen are so often found to be the patrons of this useful breed of neat cattle? For we all believe that it could be of no other than the worthy old dame said:

"Our Crommuck is a useful coo,
And she has come o' a guid kin',
Aft has she wet the bairnies' mou',
And I am loath that she should tane."

This breed was well spread over Canada, and the advantage of having but one register for the whole Dominion was self-evident, and it was hoped and believed that above all others the men most interested in this matter would be able to bring their proverbially calm, reasonable dispositions and executive powers to evolve order out of confusion, and complete a union and organization that would be lasting. But unfortunately, against the tractable and better qualities of Sanúy were pitted what, with great delicacy and tact, you define as "the usual infirmity of the race," and the several steps taken in the process of trying to effect the union provoked the latter propensity of his nature to such a degree as to overcome the other and better qualities of my countrymen, and wrecked the whole scheme. For, disguise it as they may, the rock upon which the union was wrecked was that of the standard

of pedigrees; Mr. Rodden and his Quebec friends holding to a higher standard and a more rigid scrutiny than the other Ontario men inclined to require. It is conceded on all sides that the standard aimed at, "was to be from imported Ayrshire stock on side of both sire and dam." Yet, despite this common and accepted ground, parties have managed to quarrel on the passing and rejection of certain animals. Mr. Rodden and his friends insist that when an animal cannot be traced to imported stock it shall not be admitted to registration. If words represent thoughts and purposes, the fairness of this contention is self-apparent without demonstration. And after contending against this view, the purpose of the Toronto men to make that their new standard—relegating all that do not come up to that mark to an appendix at the end of their volume—completely vindicates Mr. Rodden's contention and serves as a verdict, self-imposed, against the other view of the standard, as adopted in April, 1887. It was in the face of this state of the case, that the two Ross cows, which could not be shown to be from imported Ayrshire stock, were by a snatch vote and a chance majority on the executive committee, accepted for registration, with all that has come from them as a consequence. This violation of the compact, this breach of faith, this high-handed proceeding, by what an opposition leader would call a mechanical or a brutal majority, obviously arose from the fear that rejection of the Ross cows would result in degrading some of their own stock, and take money, or money's worth, out of the pockets of several of the Ontario men. "The standard was all right, so long as it did not degrade any of my stock; but if it did, then the standard must submit to modifications." This, in effect, was the language of the Ontario men. Not a man of them made the least effort to rise above that plane of action. I was a witness to the proceedings at Ottawa in September last, and while I sympathized with the men whose cattle stood on the brink of being degraded, I could not help ejaculating to myself, with Bobbie,

"When self the wavering balance shakes,
It's rarely right adjusted."

It required no great powers of penetration, for even a stranger, to see that from that hour the fate of the scheme to amalgamate was doomed. Mr. Rodden did not conceal his conviction that that vote had debased the character of the breed and of the proposed book; and the feeling against him by the Ontario men was scarcely veiled under the forms of speech practised in polite society. And from that out, the Ontario men seem to have set about maturing their plans to get the books out of his hands. We learn that as early as December their plans were so far perfected that they were negotiating, I will not say intriguing, to get the balance of the Canada herd book from the publishers; and from January no more entries were sent to Mr. Rodden from the west; and in February, when in mockery he and his friends were invited to Kingston, all pretence of going over, on the original basis of union, was openly given up, and a new arrangement proposed.

Now I need not say that the statement of Mr. James McCormack, that he and his friends of the west respected the original agreement, and would have carried it out, is not true, for the history and facts of the case save me further necessity of doing so.

It has often struck me that the saying, that "a blunder is worse than a crime," was better suited to the morality of a Chesterfield than to that of a Johnston. But the wretched tact, or want of tact, shown by the western men provokes me even more than their bad faith towards Mr. Rodden and his friends of the east. They agreed that the standard should "aim at imported Ayrshire stock." They agreed to accept the others' book as the nucleus of the new one. They violated the one, and they wriggled to back out of the other. They fought for the Ross cows, and wrecked the union to save them, and now, after the mischief is done, these cows are to go to the kitchen all the same. They sought to bring a money pressure, from Mr. Loyal, to bear on the Quebec men to force compliance to their terms, and they succeeded in provoking the large personal subscription, of which Mr. Wade tells us, the Quebec men had given. No wonder that the men who saw such tactics resorted to, to coerce them, should have opened their purses liberally, rather than yield to artifices which they could not help but despise. We are all liable to be out-generalled now and then, but the man is a shall-w tyro who attempts it in open day, and generally comes to grief in the attempt; for few men are so far above

the average as to succeed in doing so and concealing their movements. Once detected he is done; for it implies not only that he deems himself able to play such a game, but that he thinks one the fit subject of his wiles. The Ontario men seem to have conceived themselves qualified to play such a role, but it were an effort to conceive that they can congratulate themselves on its success.

I see nothing in either Mr. Wade's or in Mr. McCormack's letters to you, last month, that call for notice from me, or in the least alters the position this matter stood in before, save the unintentional, but valuable, tribute Mr. Wade pays to Mr. Rodden's disinterestedness in striving to degrade the Ross cows, by which his own stock was more or less contaminated. Of course, this was the last inference which Mr. Wade intended to be drawn, but he does it all the same. It is pertinent to ask, why the plan of amalgamation, proposed and accepted at Ottawa, was sought to be departed from before the crisis and confusion, which admittedly existed in the first books, were thoroughly cleared up? And why the man, of all others, possessing the most knowledge of the Ayrshires of Canada, was sought to be put aside before the task he had been given was accomplished? Was it not that he knew too much, and had too keen a scent to detect frauds? Was it not the fear that scores, if not hundreds, of spurious pedigrees would be cut off if the duty of laying the foundation of the Ayrshires of Canada rested with him? Or perhaps it was that the Agricultural and Arts Association which had been forced to give up the Durham and Ayrshire Herd Books to private hands because it commanded the confidence of no one, has so well learned its duty, under correction, that it has now become eminently qualified to resume the management and take it back.

But now that the Western men have again agreed, and re-agreed to enter only those which can be traced to imported stock in their book, the Eastern men, I am sure, would not object that the grades be indulged with a place in an appendix; and if the Ayrshire interest is not so far degenerate as to confess itself unable to manage a Herd Book, a union might yet be effected, if only a little more candor, a little more forbearance, and some less greed could be exercised.

VIQUEPUT.

Our Scotch Letter.

(From our Aberdeenshire Correspondent.)

THE SLAUGHTER ORDER—STATE OF THE CROPS.

Breeders in this part of the country have lately been passing through a time of anxiety. They have been watching with keen interest the battle which our local authorities have been waging against that insidious and disastrous disease, pleuro-pneumonia. In Aberdeenshire alone up to the present time, well on to 1100 animals have been slaughtered under the recent Order of Council. The task of stamping out the disease has, in this county at any rate, proved a much more formidable work than any one could have anticipated, the disease having found lodgment where it was not looked for, and besides it had unfortunately a good start of the authorities before they could move out against it with the sanction of the Privy Council. The determined and unflinching way in which the disease is now being dealt with, is good guarantee that we are now within measurable distance of getting a clean bill of health, a desideratum which breeders and all concerned impatiently look for. An opinion was gaining ground some time ago—it is now passing away—that in some parts of the country, the Order of Council was not being so scrupulously and loyally carried into effect as it ought to have been or as it was being done in Aberdeenshire. In certain quarters an attempt was made to deride the Order, on the ground that the "pole axe" was, to say the least of it, a barbarous method of combatting the disease in this enlightened age of ours, when science might be expected to provide a better method, *i. e.*, inoculation. People interested in dairies and certain "professional" men who had interests of their own to serve in setting on foot expensive inquiries and experiments, were mainly responsible for the opposition to the Order, but the opposition I am glad to say, has come to nought. It is true that a Department Committee on pleuro-pneumonia and tuberculosis has been granted, probably in part, to appease the clamorers, but while it was a mistake as some thought, to have started such an inquiry, at the moment efforts were being begun under the auspices of the Privy Council to get the country *entirely* freed from the disease, it cannot be denied that good may come of inquiry and scientific research into a subject

regarding which there is yet much to be learned. It would have been a terrible blunder, had the authorities under pressure from the oppositionists, shown any signs of faltering or weakness. The policy they have set out on has the all but universal support of the country, and it has given much relief to stock-owning interests to see the committee of inquiry is not in any sense intended to supersede the working of the slaughter order. One of the witnesses before the committee was a countryman of ours, Mr. William Duthie, Collynie, who in examination, submitted most valuable evidence. Mr. Duthie is well known among breeders in Canada and the United States, as he is at home, as an enthusiastic and successful breeder of the "red, white and roans." He told the committee that it was absolutely necessary to have the order thoroughly and uniformly carried out in England, Scotland and Ireland, and for that purpose he held it was imperative that the loss arising from the compensation of owners of slaughtered stock, should be paid from the Imperial funds. He thought it was important too, that the order should be made standing law, to cope with cases of casual outbreaks, and instead of the ten days allowed for clearing out infected herds, he suggested that at least thirty days should be given to give time to realize properly on the condemned herds, and in the case of dairymen, to allow them time to make new arrangements to supply their customers. Inoculation he condemned in strong terms, regarding it as being altogether unreliable for the purpose of ridding the country of pleuro-pneumonia. I have reason to believe that Mr. Duthie's evidence, which embraced several other points of great importance, had considerable weight with the committee, and in our own county his statement gave universal satisfaction. By another month I hope to be able to say that the county has secured a total riddance of the disease.

Breeders have, of course, been watching the progress of the slaughter order with not a little anxiety, and they have also had their hands full at home with the cares of the calving season. I regret to state that in some instances, breeders have not escaped from the epidemic of abortion and "slipping," an experience which has been much too common of late. The calving has not been altogether satisfactory, but fortunately there have been many exceptions. In the fine old herd for instance, of Mr. S. Campbell, Kinellar, I am informed that forty-four calves have been dropped, and that not a single calf has been lost during the season, a tribute to the constitution of the herd and its management. Aberdeenshire breeders, by the dilatoriness of the government in dealing with pleuro-pneumonia, have lost heavily, but they are not the men to lose heart or throw up the sponge in the face of difficulties. They possess a race of cattle that are the envy of their southern neighbours, and they have the determination that the prestige of Aberdeenshire cattle will not suffer through lack of enterprise, or a knowledge of the management of stock that comes only through long experience.

The season has been cold and backward. We have had the remarkable experience of a snow storm in the month of June. Grass is bare, and the hay crop is almost certain to be light. Cereals are all down some weeks ago, and a good deal of the turnip crop. A number of dispersions have taken place, but the stock were not of much account and were sold for a little beyond commercial prices. "Store" cattle have been scarce, and have gone upon the pasture several shillings dearer per cwt. than last year, a bad look out for graziers. Prices for best quality of fat cattle have been very steady all the season, seldom below 60s. per cwt. The Canadian bullocks have paid for their feed well, in many cases leaving as much as 10s. a week, in fact they have almost doubled their price since last autumn. The experiment is to be tried again later on in the year, as it seems your people do not care to dispose of them at this time. Farm servants' wages have risen at this time.

June 4, 1888.

QUIDAM.

Pure Breds Brought in the Back Way.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—In your June issue just to hand I notice an article by H. K., criticising very severely a card I sent you referring to the practice of butchers purchasing pure-bred stock calves from breeders, ostensibly for veal, but in reality to sell to some friend who, like H. K., is desirous of owning good stock, but is too penurious and lacking in enterprise to pay a fair price

for such, preferring rather to secure in this roundabout fashion an animal which through some defect the honest breeder declines to sell to his patrons, but prefers to send to the shambles. H. K. says: "I approve of keeping stock so high that it cannot all be sold for breeding" and "object to any one else finding sale for them," both of which statements are absolutely false, and are gratuitous on his part, as in the article referred to I said nothing about my views as to prices of stock or what should control them. H. K. refers to combines as reprehensible, a sentiment which I heartily endorse, and I am not aware that there is any combination among farmers or breeders to fix the prices of stock or any other commodity of which they have to dispose, consequently the question of combines has no connection with the case.

H. K. waxes exceedingly hot on the subject of castration, which I suggest as a protection from the butcher and his friend who conspire to defraud the honest breeder of his just reward for the thought, industry and enterprise employed in the production of first-class stock. He says: "The suggestion is a cool proposal to torment the animals without any good object," "is not only morally wrong—it is forbidden and punished by our laws," all of which is news to me and will be to nine-tenths of the farmers of Canada who have to practice castration in order to get the best prices possible for their cattle, hogs and sheep, just as the breeder should do with all defective or inferior animals no matter how good their pedigree, and in doing so he is conferring a benefit on the whole community as well as himself, notwithstanding the charges of selfishness and cruelty that may be hurled at his devoted head by those who wish to benefit at his expense without giving any adequate return.

H. K. evidently estimates the value that will attach to his views by intelligent farmers when he warns them that they "cannot be contemptuously set aside as the whim of a crank," a result he evidently fears, otherwise the caution would not be necessary. In parting with H. K. I have a word of advice to give: no matter how much superior you may be *morally* and legally to other people, do not, when sounding your trumpet on these subjects, stand as an apologist for a dirty trick by another, even though you may benefit to the extent of getting a calf for \$15 that but for some slight deformity was worth \$80 to \$100, and probably cost the breeder very nearly or all that to produce.

Trusting that you will find space for this in defence of breeder's interests which the JOURNAL so ably represents,

X. Y. Z.

Ear Labels and Registry for Sheep.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I would like if some one having ear labels for marking sheep, would let us know through the JOURNAL. I would like to get some for my Shropshires, which are increasing rapidly.

Is anything more going to be done toward organizing an association for the purpose of registering thoroughbred sheep, or will breeders wait until there will be as big a rumpus over what should or should not be registered, as there was among the Shorthorn men?

Melbourne, Ont.

A. P. McDOUGALL.

[We feel safe in making the announcement, that during the holding of the exhibition in Toronto in September, a meeting of the sheep breeders will be called, when, if it is thought best, an association will be organized, and registry established for some of the breeds. Further notice will be given in the columns of the JOURNAL.—ED.]

Summer vs. Winter Feeding of Pork.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Will you kindly answer the following question (quoting authority), viz.: How many pounds of peas, or its equivalent in other food, to make one pound of pork, commencing with a spring pig at weaning time, say six weeks old, feeding from 1st May and ending 31st October?

Again, starting with the same aged pig and feeding from 1st November and ending 30th April.

My object in asking this question is partly for my own information, and also to make prominent through the JOURNAL the difference that I think there must be between summer and winter fattening of pork.

My theory is that farmers should fatten in the summer for profit, although many do so in the winter for convenience. Many farmers even now do not commence to force their hogs till some time in November, and thus do nearly all their feeding in cold weather, and often in cold pens. My plan is to feed as well as I can all the time. If short of food I take peas from the field as soon as they are filled, and corn in the milk c. in the roasting ear stage. I cannot see that either peas or corn gather nutrition during the hardening process, which is only a provision of nature for maturing and preserving the seed.

Meaford, Ont.

TIMOTHY HAY.

We have no data to enable us to answer the above questions accurately. The quantity of food required to produce a pound of meat continually increases the further we recede from the birth period, so that the amount of peas required to produce a pound of pork at 3 months is less than that required at six months. A series of actual tests alone could furnish a sufficient answer. There can be no doubt, in view of the above enunciation, that it is cheaper to rush the pigs on to an early maturity and market when from six to twelve months old. Winter fattening always requires more feed than fattening in summer or early autumn, unless the pigs are kept warm. To enable one to do this, they must be kept confined, which with high feeding engenders various ailments that give much trouble, and lead, oftentimes, to serious loss.

West Simcoe at New Lowell.

The West Simcoe Farmers' Institute made an excursion to New Lowell on the 22d June. The visit was of the picnic order, and the great attraction of the day was the extensive buildings of the Messrs. Hay & Paton, of New Lowell, and their magnificent herd of Aberdeen Angus Polls now numbering sixty-five head. The attendance was very large, and save for the extreme heat, it must have proved a very enjoyable visit to those who came.

It was a deserved tribute to the enterprise of the Messrs. Hay & Paton that the people of a whole riding came at one and the same occasion to learn lessons from the work they are doing in relation to the advancement of the great live-stock interest of the Province. There were also large numbers of visitors from outside the county, including several leading stockmen of Ontario.

A visit was first made to the new buildings situated not very far from the village. These are placed in the form of a rectangle, enclosing an open court. Viewed in the distance, with their painted walls and metallic roofs, and the gigantic twenty-two foot windmill towering above all with open arms courting every breeze, they present a very attractive appearance, which becomes the more imposing as they are approached. Their dimensions are accurately given in the January number of the JOURNAL on the first page, along with a general description. To give an idea of their enormous dimensions to those who may not have read that description, we may repeat here that the sides of the square are 215 feet, extensions making the east side 300 feet. The walls are twenty five feet in height, and they afford ample accommodation for twenty horses, 100 head of cattle and 150 pigs, with root houses, implement house, and an admirable system of water supply which brings the water into the feed boxes as required. The windmill furnished by the Ontario Pump Co., Toronto, chaffs the feed, pulps the roots and pumps the water. Mr. Paton informed us that oftentimes a ton of hay could be cut in one hour by the use of a cutting box of Maxwell's make, and that the grinding could readily be done, if desired, by the same, but the ownership of a grist mill in the village obviates the necessity. The cut feed when

mixed is conveyed along a wide passage to the cattle, in a hand dray with a third wheel, which is pivotal and may readily be turned anyway. Some barns in Ontario have been built where the expenditure of money has been most lavish, to little purpose, but in the buildings we are now describing, a sharp eye has been kept to utility in the planning of everything.

In the implement house we noticed the Corbin disc harrow and a double-mould-board plough with marker attached, made in Markham, Ont., both of which Mr. Paton regards as indispensable on a large farm.

But the feature at the farm was the beautiful herd of "doddies" in charge of the very competent manager, Mr. J. G. Davidson, whose name is inseparably associated with the triumphs of his favorite blackskins at Candian shows, and with the triumphant sale of them which he recently conducted for M. Boyd & Co., of Bobcaygeon, at Chicago. This year again they are to go to Toronto and Kingston, and even to Halifax, sixteen animals being under way, in course of preparation for the coming contests. Emma of K. P., the unbeaten female, and Wanton, nearly but not quite her equal, are both included in the lot, and also Flower of Knockiemill, the mother of nine animals, nearly all of which are show cattle. The grand stock bull Chivalry is in the finest of trim. There are also two bull calves, one Bogvie of K. P., 5½ months, with the most perfect Angus characteristics, weighs 800 lbs., a gain of between four and five pounds a day including weight at birth. What a pity Mr. Davidson does not bring out some of his favorites at the National Fat Stock Shows.

Mr. C. Lawrence, the President of the Institute, presided during the speaking, which was done by the Hon. C. Drury, Minister of Agriculture, Prof. Brown, of the O. A. C., Mr. T. Shaw, of Hamilton, and others. The membership of the Institute was largely increased.

Some Hints to Judges of Live-Stock at 1888 Exhibitions.

BY WM. BROWN, PROF. AGRICULTURE AT ONT. AGR. COLLEGE, QUELPH.

It is no presumption on my part to ask the Province to accept of these notes in preparation for what is already known will be an unusually lively competition among live-stock at our principal Exhibitions this year. Credit the position and not the man for any apparent assumption. The subject proper should be called, "Some Things Either Improperly Valued or Entirely Overlooked in Judging Live-Stock."

1. Ask for pedigree oftener than has been the practice. It checks age and shows your wider interest.
2. It is well to walk males round the ring frequently, to test the important points of carriage, temper, and perhaps helps to detect unsoundness.
3. We should not forget "temper" in males, particularly because it is transmissible.
4. Place high value on *quality* for everything; have quality whatever else may be; gentlemen, remember quality.
5. In males allow for masculine character without coarseness, and in females for fineness without delicacy.
6. Do not neglect size and weight according to age.
7. It is well to be cautious of influence by high condition in breeding stock, though more allowable in some classes than in others.
8. We are apt to be carried away by *width* of chest as against proper corresponding *depth*, particularly in cows of some classes.
9. I think too much stress is often placed on "top" and "under line," especially in Dairy breeds, where large paunch and some irregular outline, both in male and female, are points of merit.
10. Judge the bull, when required, as much as the cow for milk.
11. We do not sufficiently allow for the character of skin as evidence of milking properties.
12. Make no scruples in discouraging a purposely overburdened udder; remember you are appointed as teachers.

13. The coat of hair, or of wool, is generally undervalued, especially in males. It is good evidence of character and constitution.

14. Discourage a wedgy muzzle and narrow nostrils anywhere.

15. Keep a sharp eye on indications of disease, and call in the service of the official veterinary even when symptoms may be too far off for him.

16. Neat, well balanced horns are desirable but not essential.

17. When judging milch cows do not be concerned about the new name "nervous development" given to the old "wedge shape," for with a few exceptional points it means the same thing.

18. We do not handle sheep sufficiently for frame, wool quality, and skin color.

19. There are too many ewe-headed rams in the country, therefore encourage the bold head as the most valuable stock-getter.

20. While color of individual animals, where color is not a part of the standard of a breed, is a matter of comparative indifference in judging, I think we should attach some importance to the uniform coloring of any "herd," and of a "bull and so many of his get."

21. The exact marking of those breeds, that profess such, should be cautiously balanced with other things, and not overvalued.

22. There should be public understanding on the question of what constitutes a typical animal of each class, or we find most of the admirers of, say, any beefing breed invariably preferring all the possible fullness of frame which is *not characteristic* of the *average* of the kind. Hence much of our judging is upon a theoretical or fancied model. For example, if the crops of the Durham, if the thighs of the Hereford, and if the rumps of the Aberdeen Poll be prominent defects with the majority of each, why not admit the facts and allow judges to act accordingly?

23. I think we are not yet just ready to judge by points on paper.

24. If you are asked to act on "The best of any class," or on "Sweepstakes," do not do so unless equally well up in them all. Your reputation is worth a great deal.

25. If any breed claims the "General purpose" it is desirable to make very exact valuation of "properties" for public guidance.

26. If asked by the Directors to give your reasons publicly for your decisions, take pleasure in doing so, the honor is greater to you; better make some enemies than retard national progress.

27. You will no doubt observe that all judging is still unfinished as a complete guide to any one desiring to purchase an animal, because "record," and "performance," and "pedigree" are not yet a part of the system. The world moves slowly in some practical directions.

Quebec Quarantine.

(From our own correspondent.)

The arrivals at Quarantine, at Levis, South Quebec, have been small compared with those of former years. The first lot of the season were 46 Galloways sent by the breeders, Messrs. Gillespie & Munn, from their farm in Lincolnshire, England. They are of all ages. Eight or ten breeding cows with calves at foot, some six young heifers with first calves, two bulls, 2 and 3 years old, some 4 yearling bulls and the balance young heifers. They have been thinly kept, and after rather a rough passage arrived looking poor, but since then are improving.

Perhaps the best animal among the cows is Gay Countess, an animal of good breeding and some merit. Some of the three-year-old heifers are not far behind her in point of quality, but the majority of the herd will require some good grazing to put them in condition to please the eye. They are destined for some point in the Western States, probably Colorado, where the Galloways have won themselves a good name for hardiness and splendid rustling qualities, and where they are much esteemed for their marbled beef.

Mr. John Hope has here seven head of selected Shorthorns for Bow Park. They are said to be of very superior merit, but suffered a good deal in the passage over. There are three show heifers, one young bull, one heifer calf, and one bull calf with a suckling dam. No doubt they will be all seen and admired at our fall shows this year.

Messrs. Merrill & Fifield, of Bay City, Michigan, have three young Hereford heifers, one, two, and three years old. They were sent out by Mr. Britten, of Elsdon, Herefordshire, England, in charge of Mr.

Taylor. They are rich in Lord Wilton blood, and the two-year-old, especially, is said to be a plum. The three-year-old heifer was much bruised and injured on the passage and has not yet fully recovered. These fifty-six head are all the cattle in Quarantine.

The S. S. Ontario, of the Dominion Line, arriving 17th June, brought forty-three sheep. Of these, twenty Wethers are for Messrs. Merrill and Fifield, the owners of the Hereford cattle, and twenty-three are Dorset Horned sheep for Mr. Yorke, of Port Credit, Ont. These had an excellent passage out from Bristol, and are now enjoying pastures new amongst a nice crop of Quebec clover.

The time required in Quarantine for sheep is about ten days, and for cattle, ninety days. Some sixty-four sheep and thirty Galloway cattle are expected soon by the Allan steamer, Grecian, which left Glasgow, 8th June.

Farming in Algoma.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Hearing much about Sault Ste. Marie, I visited it with the determination to gain a large fund of information concerning it and the district of Algoma. I shall not attempt to describe the beautiful scenery of the north shore route, the bracing, fresh air, the large number of vessels and barges carrying millions of tons of freight up and down the river each year, the beautiful falls of Ste. Marie, the splendid growing town that must in a few years be a city, nor the vast mineral resources, but I shall endeavor to place before your readers a few facts concerning the farming interest of Algoma.

During the four years I spent in Sault Ste. Marie and the neighborhood I met a large number of farmers from whom I gained full information about everything that was of consequence to the Algoma farmer.

Some ten years ago my father, a successful Simcoe farmer, and my brother, visited the Manitoulin Island and Sault Ste. Marie, like hundreds of others, hoping to find a farmer's Eldorado; but the rough rock-bound shores, stunted trees, and general bleakness discouraged them so much that they returned home without examining any land back of the rough belt lying along the river. Their report was very unfavorable, but was the same as many other farmers gave who had gone up and returned home as they had done. These reports prejudiced my mind, as they have numbers of others, against Algoma as a home for the farmer.

The people of Sault Ste. Marie resented my prejudiced opinions and endeavored to persuade me that Algoma had afforded rare opportunities for making money, and that all industrious settlers had been wonderfully prosperous. Being anxious to learn the truth I questioned almost every farmer I met, and will give the general tone of his answers.

Do you grow fall wheat? Ans. No, nor spring wheat, as neither pays. What does pay? Ans. Hay, oats, potatoes, peas and cattle pay best, and wood can always be turned into money. Can you grow wheat? Ans. Yes, but twenty bushels to the acre at 70c. per bushel does not pay as well as oats, which yield forty and fifty bushels to the acre, and sell as a rule at 70c per bushel; peas, which yield thirty to forty bushels to the acre and sell at the same price, and beef, which until lately sold at ten cents per pound when sold by the quarter. Potatoes always pay well, as the soil is suited to producing them in very large quantities, and we can always get high prices, that is, from fifty cents to one dollar and a quarter per bushel. Hay pays well, as we can cut from one to three tons per acre, and get from twelve to thirty dollars per ton. How is it you can get such high prices for oats, potatoes, hay and beef? Ans. We have a large number of lumbermen and miners as well as the villages to buy our produce, and so far we have not been able to meet the demand. During some seasons of the year prices may be lower, but farmers do not sell until a little later, when navigation closes, and the many consumers are forced to buy from the home producers. Won't the railroads hurt prices? Ans. We thought they would, but the influx of people is so much greater than we expected that we now think prices must remain high, at any rate higher than in any other part of Ontario. The mines of Algoma will employ thousands of men, and villages will spring up, making the general demand for farm produce always greater than the local supply. Won't importers cut prices? Ans. Yes, but the local producer always has the advantage in a district

like Algoma where the farming lands are limited. Do you sell much wood? Ans. Some farmers do, but as a rule we rely on oats, peas, hay and beef for money. What is wood worth? Ans. From \$2.50 to \$4 per cord. What woods have you? Ans. Birch and maple are the principal and grow to a large size. Besides these we have pine spruce, cedar and poplar. Is it a good country for grazing? Ans. Yes, splendid, as grass grows luxuriantly everywhere, and cattle can graze almost as easily here as in southern Ontario, owing to the grass growing as soon as the snow leaves and remaining until the snow falls. Have farmers generally made money? Ans. If they have not it was their own fault. Unfortunately a large number of the farmers are a poor, worthless class, who could not make a living in the older sections, and came here without any money. Many of these are very lazy, and too many drink, but if a farmer is industrious he is certain to grow rich in Algoma. On the whole the farmers have made money rapidly, as most of them were worth almost nothing five or six years ago, and on the average are now worth from three to ten thousand dollars. Have you any fruits? Ans. Yes, all kinds of small fruits, such as berries, currants and especially strawberries, are found all over the district. One or two kinds of apples can be cultivated with success.

In conclusion, I may say the whole section is well watered and easily drained. Churches and school-houses are built in every settlement. Roads are fairly good. In short the whole district is prosperous and rapidly developing, and offers very great inducements to all farmers willing to spend a few years in a new section.

CIVIS.

Veterinary.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Horse Breeding.

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

(Continued from June.)

Experience teaches that a horse with proportionately short cannon bones appears to have more perfect control of his limbs than an animal with long ones. One never hears a good horseman complain that any horse's cannon bones are too short. Although shortness of cannon bone is anxiously looked for, still we find this bone carefully scanned, with another object, viz., that of determining the quality of bone of which it is composed. Flatness of bone, or narrowness from side to side, is indicative that the bone tissue is dense, or a closely-knit structure, and consequently not so subject to inflammatory action, which is the initial stage of the troublesome diseases of bone so common amongst horses, designated respectively according to the situation, "splints," "spavins" and "ringbones." It is not the intention to convey the impression that horses which possess a good quality of bone never suffer from these common bony ailments of the limbs; for we find that there is a predisposition to these troubles handed down from parent to offspring, in some cases where the quality of bone is of the best. It is pretty generally understood now-a-days that it is an unwise course to breed from either a horse or mare that has a spavin or ringbone, as they are certainly hereditary.

If the bone-diseases mentioned are the result of some extraordinary cause, such as direct injury or extremely severe work, it would not follow that they are hereditary; but breeders will do well to look with extreme suspicion on their presence, and be thoroughly satisfied of their non-hereditary character. Splints are not looked upon with so much dread, as their presence does not depreciate a horse's value to nearly the same extent as the other bony troubles, unless they are large and unsightly. They differ considerably in character. A large spread-out splint, or one covering a considerable surface, and not prominent, and perhaps occurring on both fore cannon

bones, it may be both inside and out, is usually indicative of a poor quality of bone, and is consequently hereditary.

As in ringbone and spavin, certain formations of limb have a decided influence in predisposing to the development of splints, either turning in or out of the toes, or where the concussive shocks act unduly upon some particular part of the cannon bones, the result of the limb not being so formed as to distribute the jar as much as possible. Quantity of bone must not be forgotten as exerting an influence, although it is no doubt true that quality is of more importance than quantity. The measurement of the leg below the knee is often misleading as an index of the durability of a limb. A large round cannon bone will often give a high measurement, yet such a limb cannot be said to be a good one, or one likely to remain sound under anything like trying circumstances. Eight inches below the knee is a fair measurement for an eleven hundred weight horse with bone of good quality, and average tendon development. Tied in below the knees is decidedly objectionable, for if there is not faulty tendon development and poor quality of bone, there is sure to be a deficient volume of bone, and such limbs are almost sure to become unsound, if severely tried.

A great deal of attention is being paid now-a-days to the formation of the pasterns, particularly in heavy horses. In coarsely-bred animals there is a great tendency to undue straightness and shortness of pasterns, while in finely-bred ones the extreme opposite is rather too frequently found. The disadvantage of short, straight pasterns is that it lessens too much the necessary elasticity of limb, encourages the tendency to knuckling the fetlock, and renders concussion more apt to bring about tenderness of the feet, particularly in horses used on hard roads. This formation is also a predisposing cause of ringbones.

In long, oblique pasterns there is plenty of elasticity; but too much tension is thrown upon the ligaments, whose special function it is to support the weight thrown upon the fetlocks, and consequently there is a great liability to straining; and if the tearing takes place where the ligaments are attached to the bone, sufficient irritation may be caused to produce a bony growth, or ringbone. Thus the extremes of obliquity and straightness both predispose to ringbone, but in the majority of cases a more serious form of the disease results from the straight formation, as the trouble then begins in the interior of the joint; but the bony growth produced by a torn ligament often confines itself to the exterior of the bone, and is not likely to produce prolonged or serious lameness.

In selecting breeding animals the formation of pastern is well worthy of consideration, and the happy medium between undue shortness and length should be anxiously looked for.

In the points of breeding horses and mares there is none more generally recognized as being of importance than the foot; but unfortunately many have unreasonable ideas of what constitutes perfection in this important organ. The majority of people called horsemen seem to prefer a foot with a decided tendency to largeness. As the foot is a medium of support, proportionate size is an advantage, provided that this organ is well formed in other respects; but it must be acknowledged that, with a large foot there is a greater tendency to other defects. First of all, the horn of which the large hoof is composed is more apt to lack in toughness, or to be brittle and shelly; then there is that important protecting portion of the hoof called the sole, which is often flat, and does not possess that thickness so essential to enable it to efficiently

perform its function, as the sole presenting a moderate concavity on its lower surface does. Then again a not uncommon accompaniment of a large foot is a lowness of heel, which is by no means an element of strength and durability.

In the experience of the writer the tendency towards the defect of smallness is preferable to that of undue size.

(To be continued.)

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.

Tuberculosis.

BY E. RENNIE, STUDENT ONT. AG'L COL., HAMILTON, ONT.

(Continued from June.)

F. C. Grenside, V. S., in his article, "How Should Tubercular Subjects be Dealt With?" says: "After concluding that a subject is really the victim of tubercular consumption, the all important matter is to determine what course to pursue with regard to such a case. It is one of the most unpleasant and unsatisfactory tasks a veterinary surgeon has to perform in advising his client as to the most rational course to pursue, for there are few stock-owners magnanimous enough to carry out a suggestion likely to entail any immediate loss or what appears to be a loss, for, as will be explained further on, there is no way of proceeding that loss can be obviated by; but if an irrational course is pursued it will result in a much heavier burden."

On account of the danger which is likely to follow in consequence of the owners of diseased animals dillying instead of taking prompt and decided steps to destroy such animal on account of the supposed loss, the Dominion Government has passed an Act known as "The Animal Contagious Disease Act," and under this Act the expression "infectious or contagious disease" includes, in addition to other diseases generally so designated, glanders, farcy, mange, pleuro-pneumonia, foot and mouth disease, anthrax, rinderpest, tuberculosis, splenic fever, scab, hog cholera, hydrophobia and variola ovina.

DUTIES OF OWNERS OF CATTLE.

Every cattle or farm stock owner, and every breeder or dealer in cattle or other animals, and every one bringing foreign animals into Canada, shall, on perceiving the appearance of infectious or contagious disease among the cattle or other animals owned by him or under his special care, give immediate notice to the Minister of Agriculture, at Ottawa, of the facts discovered by him as aforesaid.

The secretary of the Provincial Board of Health told me that "Tuberculosis" is now on the list as a contagious disease, and that the death of animals from that disease will have to be registered with the clerk of the township in which the owner lives. When a recent paper came to hand I found no such stipulation on the back along with the notice respecting registration of Births, Marriages and Deaths, so I presume the secretary must have been speaking of intended legislation.

EXCITEMENT IN REGARD TO DISEASE, OR DISEASE PANIC.

When any precautionary measures are taken in connection with any disease, there has usually followed a panic, often times more disastrous to the owners of stock than the ravage of the disease. Some years ago there was a great excitement about the foot and mouth disease in the Southern States. State was quarantining against State, and extreme measures were being taken, when the veterinary surgeon in connection with the Agricultural Department at Washington, proved that the disease was not foot and mouth dis-

ease (aphous fever), but ergotism, a disease which is certainly not contagious, being due to the growth of ergot in the grasses of the particular State:

"A few years ago they had a disease scare in Illinois. They had a disease among their Jersey cattle that a famous doctor pronounced pleuro-pneumonia. They quarantined the State against other States, and the decline in the price of Jersey stock in the country was a thousand times greater than that of all the animals originally quarantined there."

THE PREVALENCE OF TUBERCULAR CONSUMPTION.

"It is claimed that five per cent. of the milch cows of Germany are affected with tuberculosis."

One half of the families of the Shorthorn breed in England are tainted hereditarily with this disease.

Dr. Crissly, of U. S., says: "Tuberculosis prevails very largely among certain breeds, the Alderney and Shorthorn more especially."

Prof. Law (one of the highest veterinary authorities in the neighboring Republic), states that 29 per cent. of the adult males (cattle) dying in New York city are tuberculous, and that in certain of the herds that supply that city with milk, twenty, thirty and even fifty per cent. are affected with the same disease. In some country districts in New York, can be shown large herds with ninety per cent. the subjects of tuberculosis. Were all the known facts published concerning the ratio of tuberculosis in certain communities, and in the herds supplying them meat and milk, there would be testimony far more telling than even the striking example of New York city. One stands appalled at the immensity of this evil, covering as it does the entire country, threatening at every step the health of the community, and crying loudly for redress.

The whole herd of cattle on the Maine State Farm at Orono, were slaughtered some time since on account of the prevalence of tuberculosis. The surrounding States quarantined Maine, but N. Crissey, M. D., V. S., says that Maine is not the only State affected. "If you should kill every animal in the State (Maine), and then go to Massachusetts and buy others to take their places, you would not be any better off."

THE DISEASE IN ONTARIO.

F. C. Grenside, V. S., of the Ont. Ag. Col., Guelph, in the annual report of 1887, makes the following remark: "I may say, since my connection with the College, that we have been unfortunate with Polled Angus cattle in the way of having some half-dozen victims of tuberculosis amongst them, while we have had three amongst the Durhams or Darham grades, one Devon, one Ayrshire and one Hereford."

Comments have been made upon the number of cases reported in former years of tuberculosis at the Experimental Farm.

To a breeder of ordinary grades it may seem somewhat strange, for it must be admitted that this scourge is comparatively rare amongst the unimproved breeds.

Some raisers of pure-bred cattle who are fortunate enough to possess strains that are untainted, or whose range of experience is small amongst pure-breds, would naturally be astonished at the fatality we have experienced.

But one who gets a look behind the scenes occasionally at what transpires amongst some of the valuable herds of this country, will realize that the Experimental Farm does not occupy a peculiar position with regard to this occurrence of tuberculosis."

Tuberculosis is almost entirely a disease in this Province among the pure-breds, and the owners have not reported the cases in their herds to the proper authorities at Ottawa, either through ignorance, misdiagnosis, or of the law or from culpable carelessness.

The future of the Canadian live stock interest depends upon the suppression of contagious diseases when they occur.

To overcome the want of knowledge in regard to diagnosing contagious diseases by farmers and stock raisers we recommend first that the symptoms of the various infectious diseases be written upon by a competent veterinary surgeon, and that it be added to all the reports and papers of an agricultural nature, so that there will be no plea of want of knowledge in detecting the disease.

If added to that valuable work on butter-making which is now being distributed amongst the farmers, so much the better.

2nd. That the Animal Contagious Disease Act be also printed and distributed in the same manner.

3d. That since the disease in Canada is confined to pure-bred animals, a veterinary surgeon be appointed to inspect all herds of pure-bred cattle in the Dominion, so as to ensure the provisions of the Act being carried out, thus protecting the live stock interest of Canada.

4th. That the death of all cattle be registered with the clerk of the townships throughout the Province in the same manner as births, marriages and deaths are registered at the present time, and the law regarding such registration be printed on the assessment slips, so as to bring it before the farmers of the country.

As tuberculosis can be transmitted to the human family from animal products (meat, milk, cheese, butter, etc.), when such product comes from a diseased source, it is positively necessary that the law be brought to bear with more rigor than at present upon persons who, for a fear of private loss, conceal the facts of deaths from this disease among their herds. "The Act" provides for compensation for loss to the farmer or breeder who is unfortunate enough to own animals which have contracted the disease if the conditions of the "Act" be carried out, so there is no excuse.

Lameness in Horses.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I have a fine four-year-old mare that has had a sore foot for some time. This lameness or soreness is located in the frog of the hoof on the left front foot. The frog seems to be split, and out of this crack matter comes sometimes. The frog looks healthy as far as I can see. I have been poulticing it with bran mash, and this seemed to do her good for a day or two, but soon was as bad as ever. Could you advise what to do to cure it through your admirable JOURNAL?

SUBSCRIBER.

Wellesley, Ont.

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

This discharge from the cleft of the frog might be the result of a bruise, or possibly some foreign body may have penetrated the part, and may still be present, or have been withdrawn. What is called "thrush" may be the trouble, which consists of a fetid fluid discharge from the cleft of frog, due to a diseased condition of that part of the quick which secretes the horny frog. Thrush may be present without causing lameness, but if it is the result of disease of the coffin joint—navicular disease—which is sometimes the case, there will be more or less lameness, and no effectual cure until the disease is removed from the joint.

If the trouble is from an injury and there is pent up matter, give it free exit by cutting the sides of the cleft, thus widening it. Search carefully to find out if there is any foreign body present, which of course must be removed. Poulticing will soothe the part. If it is a clear case of thrush, cleanse out the cleft and dust in a couple of drachms of powdered calomel once a day for several days. Keep the animal standing in a scrupulously clean place. Shoe so as to allow the frog to press on the ground, after tenderness disappears.

The Farm.

THE report for 1887 of Prof. James Fletcher, Entomologist and Botanist for the Central Experimental Farm, Ottawa, a work of some 43 pages, has come to hand. It contains much useful information on insects injurious to field crops, fruits and forests, with the remedies to apply in combating them. The chapter on the enemies of the apple tree is peculiarly interesting and valuable. Any person applying to the address given above will receive a copy of the report free, nor is it necessary to use any postage if the application is made by letter. Surely we live in what is in many respects a favored age.

We are frequently asked, is it best to apply manure on the surface or to plough it in. The nature of the answer must depend very largely on the character of the soil. On light soils or gravelly with an open subsoil, it should be lodged as near the surface as possible, but is better harrowed or cultivated in than left on the top, if circumstances admit of it. If buried deeply in such a soil it filters away beyond the subline of vegetative growth. In heavier soils it may be ploughed in with perfect safety. When manure is fine it may be cultivated in when preparing for winter wheat, and lying thus near the surface the roots of the wheat are nourished and the grasses are fed when sown in the spring. Coarse manure may be applied in the winter as a top dressing on pasture lands, either spread in winter or early spring with good results. The grass is not relished in the spring, but it grows abundantly, and in autumn the stock will pasture it bare, if this is desired. We do not approve of top-dressing late in spring or during the summer, as the fertilizing properties are largely extracted by the exposure.

THE system of using heavy weights in covering silos is, it seems, likely to be dispensed with. The balance of the testimony given at the Wisconsin Institute meeting last winter bore in this direction. "J. G.," in an issue of the *Country Gentleman*, describes a convenient mode of covering silos that have been properly filled. By "properly filled" we mean filled slowly, so that the mass has time to sink solidly. He says, "If the last filling is left uncovered for two or three days to get hot, and expel as nearly as possible all the air by the development of heat, the ensilage will need no combined plank, stone and paper cover, but simply tarred paper put over the ensilage, and on this straw or marsh hay." This should have some covering of slabs or the like to keep it lying compactly. The necessity of handling twice over large quantities of stone, earth, or other heavy substance is thus obviated. The same writer also favors the erection of wooden silos, the boards of which are liberally coated with boiling coal-tar containing a free admixture of the resinous ingredient, which are inexpensive as compared with the concrete silos.

The Growth of Timothy.

We are so accustomed to read of the advantages of growing clover in the agricultural press and so little about timothy, that we draw the conclusion in spite of ourselves that timothy is comparatively an insignificant factor in the list of grasses upon which the farmer is to rely for the production of fodder, while the converse of this is true. Take it all in all, we have no grass that will give all round results to be compared with timothy. As a fertilizer of the land it will not compare with clover, but as to hardihood it entirely leaves the latter in the race.

The first winter is sometimes fatal to a field of clover, which has no appreciable adverse effect upon the timothy that is growing along with it. It stands almost any Canadian winter without harm, and on suitable land will give good crops for years in succession without renewal. When the clover in a field has all perished, then it is that timothy is in its prime, growing with increased luxuriance with the added room given to it by the death of the clover plants. It also stands the drouth of summer well, and will make constant advance in a cold spring that may prove fatal to the growth of even winter wheat. As a food factor it stands high when cut at the proper stage, and is good food for all kinds of stock, but pre-eminently so for the horse.

The usefulness of a grass of this nature cannot be ignored, and it should receive that attention which its importance deserves. Like every other species of fodder it has its favorite soils, which is to be borne in mind by those who expect to reap a good crop of it. It does best on moist clay loam with or without an admixture of dark sand, and probably best of all in a black loam soil that is moist.

As a pasture it is not equal to clover, but is by no means to be despised. When the aftermath is left uncut it will start much earlier in the spring and produce a much larger crop of hay. It may be sown with much advantage on fall wheat at the same time the wheat is sown, or in the spring with any crop where grasses and clover are usually sown, but in the latter case should have a stroke of a light harrow. From four to eight pounds are usually sown per acre when clover accompanies it. When grown alone eight pounds should perhaps be the minimum quantity.

Last year, in many parts of Ontario, the grass seed failed to grow, owing to dry weather, hence those localities are far short in the usual area of grass. With the re-cultivating of many of the fields sown to wheat the present season, the grass seed was uprooted also, which will further increase the shortage. Now there is a partial remedy for this with those who will take the trouble. A field where a crop has been reaped may be worked upon the surface until finely pulverised, and sown to timothy about the end of August or first of September, the seed being covered with a smoothing harrow. If the season is favorable, this will give a fair crop of hay next summer, and of a fine quality; but if very dry, it may not be well to cut it, but simply to pasture it, taking care not to turn on it too early in the season. It may be objected that we might as well grow a crop of wheat and get a stand along with the wheat. If sure that the wheat would do well, that would be the better way, but in many parts winter wheat will not grow well, and more especially on a soil that might answer the purpose indicated above. We do not recommend the plan where the area of grass is not diminished by the failure of a catch, but when such an event occurs it may be a wise course to adopt.

The Turnip Fly.

The turnip fly is as most of our readers know very well, a most troublesome little fellow. No sooner do the turnips appear above ground, if sown before the first of June, than the seed leaves are riddled through and through and the plant dies. If we can get the plant through this critical stage till the rough leaf appears it will resist the attacks of the fly, and successfully in most instances.

According to Prof. Fletcher, entomologist for the Central Experimental Farm, there is a time, if we but know it, when we could sow so as to escape the fly. This period is when the first brood having done all the

mischief of which they were capable themselves, have disappeared, and a second brood is in the larval condition beneath the surface of the soil. Then it is that we should hurry on our crop of turnips into the rough leaf before these little devourers are old enough to eat. In the Ottawa region this period is usually about the middle of June, in western Canada a little earlier, and in the Maritime Provinces somewhat later. But it must be remembered that the visitations of the fly keep pace with the advancement of the seasons. When the season is late the visit of the beetles will be late, and *vice versa*. If the farmer could discover the best time for sowing usually in his own neighborhood, the knowledge would be of considerable value, but the fitfulness of the seasons render it impracticable at all times to do this. In a period of drouth the seed might fail to germinate at that particular time. Again, a rain might fall a little before the usual sowing period, in which case it might be wiser to sow and face the risk of an attack of the fly than to defer sowing and run the risk of sowing in a time of drouth. The farmer is oftentimes perplexed as to what is the best course, and not without reason.

The other remedy laid down by Mr. Fletcher will be found of more value. It is the application of Paris Green and land plaster, one part of the former to fifty of the latter, sown along the rows of turnips as soon as they appear. The application is dusted on dry, and it is better if it can be applied early in the day. The effect of the plaster will also prove beneficial to the crop.

Resignation of Prof. Brown.

Professor Brown, who has for thirteen years filled the chair of agriculture at the Ont. Ag. Col., Guelph, has tendered his resignation. During the whole of that term the Professor has been a prominent character in the Canadian agricultural world. Brimful of enthusiasm and generous to a fault, he was always a favorite with the students, whose advancement he labored sedulously to further. His reports, terse and strikingly original, attracted much attention both at home and abroad, and were extensively copied by the leading newspapers of all Anglo-Saxon speaking peoples. His resignation will be received with much regret by a very large circle, and will create a gap that will require a strong man to fill it.

The Cabbage Worm.

During recent years this intruder has sorely perplexed many who have their hearts set upon the production of a large store of cabbages for the winter. It is one of those pests which, like most visitations of insects and weeds in plant life, follow in the wake of civilization, and must be combatted if they are to be kept in check. So serious have been the attacks of the cabbage worm during the past two seasons that the value of the whole crop has been greatly lessened, and in many instances this favorite vegetable of the farmer has been completely destroyed.

Imported some years ago from Europe in cabbages brought to Quebec, it has acclimatized itself without help from man, and seems quite as much at home in the colder latitudes of Canada as in the milder ones of Europe.

But we need not be discouraged. It may be routed "hip and thigh." Prof. James Fletcher, of the Central Experimental Farm, Ottawa gives the following remedy, which has been found efficacious: Take one part of pyrrhtrum insect powder and mix it with five times the quantity by weight of common flour and apply it by one of the numerous instruments sold under the names of insect guns. These instruments should

have the tubes properly bent down so that they will not clog with powder.

This powder, though efficacious in destroying the insects, is not dangerous in its effects upon the cabbage as food, as might be the case to some extent if Paris green and some other poisons were applied.

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.

Weeds.

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

VIII.

CLASSIFICATION OF WEEDS ACCORDING TO NATURE AND HABITS.

VERBENACEAE (VERVIAN FAMILY).

Verbena hastata (Blue Vervian) is the only species we shall notice in this family. It is not a very serious weed; it is frequently seen growing on flats near a stream. The plant is four to five feet high, leaves two to three inches, much longer than broad, and toothed along the edge. The small blue flowers, very irregular in appearance, grow upon spikes, that are very numerous. The stems have a purplish appearance.

LABIATAE (MINT FAMILY).

A very large family, chiefly herbs with square stems and generally aromatic. The flowers are irregular, mostly two-leaved in appearance. It is esteemed for its medicinal value. Here you find the mints, sage, horehound, etc.

Leonurus Cardiata (Motherwort), a comparatively common weed in waste places, and seldom if ever in cultivated fields. The leaves of the flower stem are quite unlike those which appear in the early part of the season. It is a difficult plant to describe so that the ordinary reader can identify it. The most striking character is in the leaves, the lower being large and palmately lobed, somewhat like the maple, and the upper three-cleft; the upper lip of the flower is bearded, and the plant is usually found near dwellings, and is about $\frac{1}{2}$ feet high.

Nepeta Cataria (Catnip). Though called a weed it is not a very obnoxious one, and seldom finds its way to the fields, but seems to linger about stone heaps or fence corners by the wayside. Cats are very fond of it, and will travel quite a distance in search of it. The whitish flowers appear in late summer in clusters or spikes at the end of the branches. The leaves are oblong, heart-shaped, and the plant is of a soft downy-like appearance.

Brunella Vulgaris (Self-heal). Very common in low fields, low and spreading, with oblong leaves and three flowers under each of the broad and round purple bracts of the head; flower bluish-purple. Though all the species described in this family are perennial, yet none of them have become such troublesome weeds as to require a great effort to get rid of them. The self-heal is more common in grass fields than either of the preceding.

BORAGINACEAE (BORAGE FAMILY).

This might to some extent be termed the family of "tramps," as we find in it some weeds of a rough, uncouth, unpleasant appearance, their form, their smell, their feel, in some cases bring very unattractive; yet in this family there are some respectable members, that serve to give it some tone. Here we find the burrs, stickseed, beggars' lice, etc., the heliotrope and the lovely little forget-me-not. The members of this group are mostly rough, hairy plants, having hard seeds, usually four to a flower; flowers usually arranged on one side of the stem; juice commonly bitterish, sometimes mucilaginous, and the roots of some red.

Echium Vulgare (Blueweed). A very common biennial weed in the vicinity of Guelph, also in other parts of Ontario, especially the county of Glengarry. Few plants have more common names than this. In the Southern States it is called the Canadian thistle, thus showing how little dependence can be put in a common name. It has little or no resemblance to our thistle, but, nevertheless, it has received that name. *Viper's bugloss* is another name it is known by.



Echium Vulgare (Blueweed).

The plant is from one to three feet high and bears several stems. In spring the root leaves spread out close to the ground; they are covered with small tubercles. Soon a centre stem arises, and as development advances, others appear, all bearing about June to August a great number of beautiful blue flowers. Both leaves and stems are rough to handle, especially the latter. This plant is fond of lime, and spreads rapidly in soil containing plenty of this constituent. Being a biennial it cannot withstand thorough cultivation, but it takes its stand along the roadsides, fence corners, and neglected spots. Its seed often blows long distances on the snow-crust, collecting in quantities in the fence corners and around stone heaps. The following remedies, if adopted, will overcome it:

1. When it is in bloom take some convenient tool and cut it a few inches below the surface. If cut at the surface (a plan followed by some pathmasters) its growth will be aggravated, and where only one stem was, several will appear.

2. Summer fallowing readily gets rid of it, if the ploughing is done carefully and the large top roots well turned over. It seeds in the second year, and consequently if prevented, the plant must soon be extirpated.

3. Plants in the fence corners can be easily pulled up when the ground is soft. In stony pastures it is sometimes very bad; in such cases pulling and spudding must be resorted to.

Lithospermum arvense (Pigeon weed, Red-root, Gromwell). This weed is considered a great nuisance in some parts of the Province. Where fall wheat is largely grown, if it gets a foothold, it is

likely to spread. It succeeds best where it gets a start in the fall, consequently we find, where spring crops are principally grown, this weed is comparatively scarce. It is about one foot high, roughish stem, small white flowers, and a very red root; the seeds are hard and stone-like, and will last years before they lose their germinating power. Thorough cultivation must be followed where the weed is common, and if no fall wheat is sown the plant will soon disappear. Many resort to pulling it, but this entails much labor, and if not carefully done, many plants are left to supply seed, which will, as soon as a return of fall cultivation suitable to give them a start is made, appear again.

Cynoglossum officinale (common Hound's Tongue). Reddish purple flowers, large, rough, flat seeds. This is the common burr, by the wayside; grows about $1\frac{1}{2}$ to 2 feet high. It is a great nuisance on account of the seeds sticking to sheep and making the fleece more or less damaged. You seldom or never see this plant in cultivated fields, and if proper care was exercised it could soon be banished from the fence corners and wayside. As the taste, care and knowledge of our farmers improve, this plant will lessen in its distribution. Being a biennial, cutting it down, especially below the surface, will effectually kill it. Weed-destruction has been hitherto largely carried on only in the fields, but we must now extend the war to the fence corners, around stumps, stone-heaps and by the roadsides, if we wish to get rid of many weeds.

C. Morisoni (Beggars' Lice). This is another form of burr, in which the seeds are much smaller, and on that account much more troublesome by getting attached to the wool of sheep and sometimes to the clothes of man. The seed is covered with prickles and adheres with great tenacity whenever they become attached to woolly substances. It is often common in open woods and thickets, and in such places becomes a nuisance. It is a worse form than the preceding, and every effort should be made to destroy it. Like the former, it seldom invades the fields, and requires to be cut in the neglected places where it is usually found.

Slip-Shod Farming.

BY D. NICOL, CATARIQUI, ONT.

(Continued from June.)

It is said that "the homes of a nation form a true index to the character of the people." I trust the people of Canada are not to be judged generally by some homes that I have seen: barren and treeless, the wood pile at the front door, pig-pen and cesspool near the back door, filling the air with an unpleasant, disease-fostering odor. The well from which is drawn the water used for drinking and cooking purposes, so near the cesspool that it actually tastes of contaminating substances, doubtless containing the germs of typhoid and other devastating fevers. True, health-boards have been appointed in some districts, but they seem to be very negligent in the performance of their duties. Is it surprising that such homes should create in the rising generation an utter repugnance for the pursuit of farming?

This slip-shod method is not always the result of ignorance. I have known men of more than ordinary intelligence lose more time lifting up and down the bars in one season than would be required to make and hang a good swing gate for every field on the farm.

On many fields I have seen water standing in the furrows in June, so that the land could not be worked until too late in the season, while almost every one knows that a little expenditure of labor in drainage would have rendered it dry and pliable by the middle of April. I have seen large piles of manure that had been wasting in the barnyard for years, although the owner loafed many fine days in the village bar-room or corner-grocery. The want of success with many so-called farmers is, generally speaking, attrib-

utable to the love of luxury, laziness or liquor, and not uncommonly all three.

I heard of a man who once asked his wife to look down his throat and tell what she saw. Looking, she said she saw nothing. "That is strange," said he; "a whole farm has gone down there." I do not object to luxuries; by all means let them have them who can afford to do so. Indeed it is a bad sign when one is content with the bare necessities of life, aspiring to nothing higher. But is not the impecuniosity of many of our farmers caused by indulgence in luxuries that are injurious? To some laziness is inherent—they were born that way; but when it is superinduced by indulgence in strong drink, the blame should not be thrown on ancestry.

There is an old saying, I do not exactly remember the words, but it was to this effect: "When a young man first starts out for himself in the world, he is of opinion that his father is too slow for the times. After some years of experience he begins to think that his father knows more than he was really inclined to give him credit for. Finally, after mature consideration, when he has failed to revolutionize the existing state of things, he decides that the old man was about right after all." There are instances of this kind. Fast young men are very apt to consider their father too slow for the times. I know of hundreds of farmers sons being ruined by the encouragement in the raising and training of fast horses. I do not know of any means by which a young man can more easily squander his property than by indulging in horse-racing and gambling, which seem to be inseparably connected. Having become so evident, it is almost needless to say that success in farming cannot be attained by one who prefers the racecourse to honest agricultural industry. A comfortable home, affording all the true pleasures of rural life, is sacrificed for the fleeting enjoyment of popular sports. Is it not prodigal folly?

There are none so blind as those who will not see. I have heard it said that the more a man leaves to his son when he dies, the less the son will have when he dies. In the county of Grenville a well-to-do farmer left an excellent, well-stocked, unencumbered farm to his only son, a young man of the fast type. On his death-bed the old man said to a friend, "I give my son Norman five years to get rid of all I leave him," but in less than three years Norman was a worthless wandering vagabond.

It vividly brought to my mind a few lines by Robert Burns:

"But pleasures are like poppies spread,
You seize the flower, the bloom is shed;
Or like the snow falls on the river,
A moment white, then melts forever;
Or like the borealis race,
That flits e'er you can point its place,
Or like the rainbow's lovely form
Evanishing amid the storm.

The man who bequeaths all his real estate to a favorite son, cutting off all the other sons and daughters with a comparatively small portion of his goods makes a most unrighteous division of his property. Such partitions almost invariably culminate in the ruin of the favored one.

Agricultural associations and agricultural exhibitions properly conducted, have been and are now, in the most advanced agricultural countries in the world, a great stimulus to agricultural interests, as an educator of the rising generation; they are indeed a necessity, but if they cannot be continued without the introduction of nefarious influences, they will eventually prove a curse to any community in which they may be patronized.

If the people generally must have places of perilous amusements, let them be provided as such aside from agricultural exhibitions, not bringing disgrace on the most ennobling of all callings, as is now being done to some extent in Canada. The people of Great Britain long ago learned that the introduction of illegitimate agents to agricultural fairs tended to mislead young farmers to the neglect of their own business; hence no side shows that are not of an instructive nature are now permitted.

Sometimes parents who readily denounce the extravagant tendency of the fashions, are very much to blame in not training their sons and daughters to earn their own livelihood, or to know the value of money, or of denying themselves some coveted pleasures, or indeed to do much, if anything, except to spend money. Young men not trained to farming or anything else in particular, become parasites on the

home, like the bark-louse on the apple tree, sucking the vitality out of that on which it exists.

How often do we see young women living at home in comparative misery rather than go out to earn an independent livelihood by honest work. Successful farmers can afford to keep their daughters at home, even if their help is not required in the household, but when half a dozen grown-up, strong, healthy girls continue to dwell with their parents in a poor homestead on a poorly managed farm, we may be sure that before long there will be a farm for sale, and a family adrift with indifferent habits.

A striking peculiarity of the swan is, that when a pair is confined to a limited space of water, they drive off their offspring as soon as they are able to fly. They may, perhaps, do this from selfish motives, but it teaches the young ones to be independent.

I knew a farmer who was well off until he mortgaged his farm to pay for a \$600 piano. If he had instead endeavored to find honorable employment for his daughters, he would not now be spending the latter part of his life in comparative poverty. Penitentiaries, poor-houses and asylums would not be half filled if there were not so many careless parents.

The want of education is certainly not always the cause of shittiness—it is very commonly the result of a defective education, or rather from a want of proper instruction. In our common schools and in the higher institutions of learning also, the system pursued is not well calculated to fit young men and women for the active pursuits of farm life. It very often happens that at the end of their school career they are less fitted for it than when they began. There is something radically wrong in a system of instruction which sets so many men and women adrift in the world educated for almost everything except that for which they were naturally intended, viz., farmers and farmers' wives. It is certainly not intended that all shall be employed at farming. All are not physically or mentally adapted for it, but why should not those who are naturally well adapted for it be allotted that kind of education which would be most useful to them? Let us look at this matter fairly and see where lies the truth. Every girl now-a-days, after she has learned algebra and universal geography, whatever her natural talents or capacity may be, must be taught the arts of music and painting, said to be something to fall back upon for a living in case of failure to get an industrious or rich husband. Music and painting are very excellent accomplishments for young ladies who have talents or capacity to achieve success in the higher spheres of life to which their ambitions may tend; but cramming them into those who have neither taste nor desire for them, give them a false estimate of their own talents. They are educated above the doing of humble, honest work, without any training in the use of the talents they really do possess, and which would fit them for the realities of farm life and of being useful in the world.

I believe thoroughly that the farmer should be highly educated. There is no occupation under the sun to which knowledge is more essential. Agriculture does not consist merely in practical manipulations; it is an intellectual pursuit. The natural sciences are the farmer's servants, therefore he requires and should have a knowledge of botany, chemistry, vegetable physiology, entomology and geology. And if the time usually wasted by the intending farmer at school studying dead languages and mathematics, were devoted to the study of the sciences, there would be fewer slipshod farmers.

Endeavoring to bring about a reform in this respect would be legitimate business for the institutes of this kind, and with unanimity of action it could be accomplished.

I would like to see some legislation specially for the benefit of the farmer. Professional and indeed almost every other class of the people now have combinations whereby they obtain advantage over this one class, which seem to be the most forbearing. Being absolutely unprotected they are exposed to every form of aggression. Through want of union they are very much at the mercy of other classes of the community.

It is, however, a good sign of the times to see the farmers of Ontario organizing, and when every electoral division shall have established its institute, we may soon thereafter hopefully look for an organization of the farmers of the whole Dominion. Then they may become by their rights the virtual rulers of the land, instead of being merely the conveniences of those who are its actual rulers.

Report of the Judges on the Prize Farms for 1887.

To the Council of Agriculture and Arts Association for Ontario.

GENTLEMEN,—The judges appointed by you to make the awards in the Prize Farm Competition for 1887 in Division No. 1, commenced the work of inspection on Monday, 27th June. The electoral divisions embraced in the competition are, Niagara, Lincoln, Welland, Monck, Haldimand, North Norfolk, South Norfolk, North Brant, South Brant, North Waterloo, South Waterloo, North Wentworth, South Wentworth, and Halton. Eighteen farms were entered in the competition, of which no less than twelve were in the four divisions of North and South Norfolk, Niagara and Halton, while no less than four out of the fourteen were not represented at all, as will appear from the following list of the entries:

NAME.	P. O. ADDRESS.	ACRES.	DESCRIPTION.	TOWNSHIP.	ELECTORAL DISTRICT.	REMARKS.
David W. Horton	Wellandport	100	Lot 14, concession V	Pelham	Monck	"Maple Avenue."
Henry Woodruff	St. David's	140	Lot 90, concession and Gr. Mc. Road	Niagara	Niagara	"The Woodburn Farm."
C. F. Fisher	Wentworth	100	Lot 9, Niagara River Road	"	"	"Dalverson Farm."
James Osmond	Niagara	121	Lot (in Reserve), Lake Shore Road	"	"	"The Pine Grove Farm."
John Koinertill	Hurlington	210	Lot 17, concession III	Nelson	"	"Balsam Lod. c."
Wm. Elliott	Milton	200	Lot 1, concession III	Esquesing	Halton	"Parishill"
John Spratt	Manswood	400	Lot 5 and 6, concessions V, and VI	"	"	"Farmly Farm"
J. E. Brethour	Hartford	107	Lot 2 and 3, concession VII	Burford	Bram. S.	"Oak Lodge"
C. Barker	Faris Station	200	Lot 34 and 35, concession I	South Dumfries	Hanti. N.	"Hill Crest"
Lo. K. McMichael	Waterford	350	Lot 9 and 10, concession VI	Townsend	Norfolk, N.	"Maple Avenue"
David Erwin	Villa Nova	196	Lot 17, concession IX	"	"	"The Homestead Farm."
Lecler Culver	Hoonshurg	310	Lot 1, 2 and 3, concession XII	Woodhouse	Norfolk, S.	"Roseate"
Richard Tindler	Simcoe	100	Lot 5, Gore	"	"	"Prospect Farm"
Robert Waddle	Fort Haven	190	Lot 8 and 9, concession III	"	"	"Roxborough Farm."
Mrs. Jos. Dunkin	Victoria	107	Lot 21 and 22, concession III	Charlottesville	Waterloo, S.	"Greenwood"
Geo. R. Barre	Woodburn	200	Lot 19 and 20, concession X	North Dumfries	Wentworth, S.	"Mount Pleasant"
John C. Shaw	Woodburn	150	Part of lots 4 and 5, concession II	Brimbrook	"	"Hurstside"
John R. Martin	Woodburn	200	Part of lots 28, 29 and 30, concession I	Cayuga	Haldimand	"Hearville Stock Farm."

It was noticed by your judges that in those divisions where there was a full list of entries, the secretaries of the agricultural societies manifested a deep interest in the work of inspection while it was going on, and in the results, from which we conclude that the extent of the competition in these counties and the results likely to flow therefrom are dependent very largely on the degree of interest felt and manifested by those secretaries.

Very much to our regret, the entry of the farm of Mr. H. Hind, Hagersville, county of Haldimand, did not reach the office of the secretary at all. It was not known by either Mr. Wade or the judges that it had been sent till long after the inspection had been made.

HILL CREST,

The Second Silver Medal Prize Farm.

On the date above mentioned we met at Paris Station and were driven to Hill Crest, one of the competing farms of last year, by its owner, Mr. Christopher Barker. It is situated north-west from Paris station about one mile. It comprises lots 34 and 35 in the first concession of that rich township, South Dumfries, which in Ontario has long been a synonym for good farms and good farmers. It is in the riding of North Brant. The two farms of one hundred acres each are separated by a narrow public road, and both extend across the Great Western branch of the Grand Trunk Railway. The south-east corner of one lot consists of a curious and pretty valley of several acres, encircled by an abrupt high rim of hill in the shape of a horse shoe, from the sides of which trickle down here and there in perpetuity of flow, the waters of little springs, which, like the spirits of the glad resurrection morning, have left all their impurities behind them. Here the cattle graze from spring to autumn, and here, too, in a solid block, grow several acres of forest, where cedar and tamarack have found a most congenial home. Across two pasture fields in the north west corner runs a rivulet which supplies these grazing grounds with water during all the year. The rest of the farm is a surface of the gentlest swells and is devoted to purposes of cultivation.

The system of farming adopted is that of a mixed husbandry, with a constant reference to the growth of more stock, which seems the surest hope of the farmers of Canada to day. Of this there was a considerable increase since last year, particularly in the line of good pure Bates Shorthorns, which now number ten head, the balance of twenty-seven head, being good, thrifty, well-developed Shorthorn grades. The horses numbered nine head of the general purpose type, of which six head do the work of the farm, and one very pretty and well-matched span is kept for the road and for lighter work. There was also a good and growing flock of pure Southdown sheep, and fourteen head of fat cattle were sold last May at four and three-quarter cents per pound.

We found 22 acres of hay, 15 oats, $4\frac{1}{2}$ peas, 27 barley, 23 winter wheat, 9 turnips, $\frac{1}{2}$ carrots, 2 corn, and $\frac{1}{2}$ fodder corn. The average of wheat grown is about 25 acres and of barley about 15 acres.

These crops were on the whole looking well, although the June drouth had told on them considerably. The open nature of the soil, a sandy loam, and the porous nature of the sub-soil, render liberal feeding imperative. This we consider the greatest difficulty with which Mr. Barker has to contend. Here he is placed by nature at a decided disadvantage with several of the competitors. But our business is to deal with systems and results rather than natural advantages or disadvantages, and in making our awards these only are allowed to weigh.

Mr. Barker does not buy any fertilizers, and although he does not sell hay, straw, oats and turnips, peas or corn, he sells wheat and barley, of which about say forty acres usually are grown. Here then we have the sale of the produce of forty acres annually (less what barley may be fed), which, without the purchase of anything to supply the drain, must lead to some deterioration in productiveness, and this we consider the most serious defect in the otherwise most excellent management of this easily tilled and beautiful farm.

The system of rotation was given in the report of last year, as also the management of the manure, and a pretty full description of the chaste, roomy, ample white brick cottage, looking out upon a well kept lawn closely shaven once a week, with just enough of ornamental shade in it to produce a happy harmony. Adaptation to the wants of the farm and a regard to the comfort of the inmates have fashioned it throughout, combining as it does the necessities of the country

and the conveniences of the city in its construction and very complete furnishings.

The out-buildings of Hill Crest, in a transition state last summer, are now completed, and they are entirely models of their kind. The buildings form three sides of a square, enclosing a neat, gently sloping and well kept yard open toward the south. The horse stable, 26 feet wide, is a model of neatness and convenience. Its six stalls are all paved with cedar blocks slightly sloping rearward, held in place by a bevelled timber, which forms the inside border of a shallow plank gutter, wide enough to admit of the use of a shovel. This gutter inclines both ways towards the centre, whence a duct leads into the yard across the floor in the rear of the stalls, which is also paved with cedar block. In the passage in front, which is partitioned from the other portion, the feed being put in through hinged doors, are feed boxes for oats and bran, and in the centre a chute for hay from the loft. The oats also come from above, a box in the hay loft being filled with a supply before the hay is put in. The windows swing at any desired elevation, and the loft of the stable is connected with the barn mowroom. The stalls in the ground floor of barn stable are double, the mangers resting on stone work. A track runs along the centre of the space in the rear to the manure pit at the end of the barn, whence the stable can be cleared by the aid of a truck. The turnip cellar, ample, and lower than the barn stable floor, has a track commencing about the centre of it and extending down the passage between the box and the stalls to its farther end. The roots are sliced in the cellar, the slicer standing in a broad, low, flat box, whence not a shaving can litter the cellar floor. These are then placed in the box of the car, which has a hinged side piece that is thrown back on the slide going into the manger, when the contents are shovelled into the latter, of whatsoever nature these may be. Here, too, there can be no littering. The partitions between the box stalls may be moved by the drawing of certain bolts, for enlarging or lessening the size of these. The approaches to the barn are protected by stone walls, the intervening space being bridged. This is a most excellent plan, as it leaves room for the admittance of abundance of light into the adjoining stabling, and forms a cover for the less perishable farm implements, especially those in use for the time being. The upper portions of the barn are conveniently planned, the characteristic neatness and the perfect order for which the owner of Hill Crest has become proverbial being discernible everywhere, and every bag in the granary hung upon its proper support, and every sieve upon its proper peg. The stable fork stood precisely so in its own enclosed corner. Vehicles adapted to all kinds of weather were each in its place, and protected by suitable covering when necessary. The absolute order reigning supreme in and around the out-buildings was only rivalled by that within the house, betokening a happy unity of purpose, the outcome of which is a harmony equally beautiful in its place with the most charming agreements of nature and of greater utility. Could our slovenly, untidy farmers (they are a tremendous host) be made to march in long array around about the buildings of Hill Crest and then through them, they would immediately move away asking of themselves what manner of men they were. The manure pit is an oblong basin sloped from one to two feet below the surface of the soil into which the manure from the stable, is dumped from the truck. Where the basin will not filter the plan has many things to recommend it.

The garden of Hill Crest is a model of neatness. It is judiciously small, but grows an abundance of a great variety of vegetables and fruits, and is kept faultlessly clean. Instead of being allowed to grow like a wilderness, an eyesore and a disgrace like so many farm gardens are, it was a positive ornament to the surroundings, and a source of profit, satisfaction and wealth to the dwellers upon the farm.

Our second visit was made on December 9th. In the interval a good deal of the snake fence had been repaired by staking the corners and putting on wire, but we observed that but little attention had been paid to putting blocks under the corners. The corn and roots were beautifully clean, but the wheat stubble showed some remnants of intrusive life, and making all due allowances for the excessive drouth, there were traces here and there of a soil not over-fed. So that notwithstanding the many excellences connected with the management of this farm, pitting it against its strong competitors, we did not feel justified in placing it higher in the scale of the awards.

Utter Waste of Manure by Spreading Out in Winter.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—When we consider the prices of grain, beef, mutton and wool, and the cost of production here, as compared with that of the prairie provinces, the necessity for a more rigid economy in every branch of our agricultural industry appears very evident.

There are so many leaks on the farm, and so many ways in which economy has become obviously necessary that a full discussion of them would require much time and a great deal of space in your JOURNAL. So at present I will only refer to leakage, which seems to me very remarkable. The more so, because more than one agricultural journal published in Canada, with the avowed pretention of being chiefly devoted to the interests of the farmer, has for years advocated the practice of it.

I would not be understood as saying that top-dressing with barnyard manure is not beneficial when judiciously applied, or that drawing out manure to the fields in winter, and placing it in piles convenient for use at the proper time, is not economy of labor. That is the common practice of the best farmers in Europe. In piles well tramped and covered with earth, manure can perhaps be kept better than in any other way. But the most effectual mode of abstracting from manure, every element that is of much value, without deriving much benefit, is spreading it out on hard frozen ice or snow-covered ground, so that it may be thoroughly bleached and washed, without a possibility of any part of its most valuable constituents being absorbed by the soil. This glaring stupid practice has become quite common in some parts of Ontario. At a farmers' institute, held lately at Massachusetts, U. S., it was decided that the first requisite to successful farming was "taking care of the manure pile." And I am of opinion that taking care of the barnyard manure is of the utmost importance.

True, the straw, or whatever may have been used as an absorbent, is still left on the ground, after being exposed to the winter rains and spring freshet. But if, in summer, manure is spread out, dried and burned on the ground, the inorganic part still remains, and so that part of the manure which is left, after being exposed during the winter, is only about equal in value to its weight of unrotted straw.

Agricultural journals, wisely edited, may be of incalculable value to the farming community, but when they contain articles which lead to false economy, even the ignorant are better without them.

In Ontario agriculture has not made equal progress with other sciences, and now, under depressed conditions, the time seems to have arrived for the abandonment of the exhaustive system, and for the application of scientific principles, and that must commence with the judicious application of the farm-yard manure.

D. NICOL.

Cataraqui, Ont.

Identification of Grasses.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Enclosed I send you two samples of grasses which I sowed for permanent pasture. Out of eight different varieties sown those two are all that grew. Please give the name of them and oblige

THOS. STAFFORD.

Denark, Ont.

One is orchard grass (*dactylus glomerata*), hardy as our timothy, and a vigorous grower, but should be pastured early, when juicy and tender. The other is apparently alfalfa, or Lucerne. If it bears a purple flower it certainly is. The specimen sent is so dry and withered it is not easy to be sure.—ED.

The Dairy.

TWENTY years ago the British vice-consul reported that Danish butter was "excrebly bad." The export at that time was but £420,000 a year, now it is £2,600,000, a result very largely attributed to the influence of ten dairy schools founded by the Government about the first named period. Dairy schools are intended to teach the art of butter-making by the best

scientific methods, and however science may be frowned upon by the over-practical farmer, the results of its teachings to the Danish butter-makers have been altogether—only good. The Englishman has as good cows and as fertile a soil on which to grow feed for them as the Dane, and yet the latter has invaded his territory with his butter-firkins and captured the English market. The Dane has done with his butter what he could not do with the sword in any of the modern centuries. There is hope in all this for the butter-makers of Canada. The man who will be instrumental in inducing our people generally to make butter as they should, will do more for Canada than all the money that is expended on her militia every year. If improvement can be brought about without the aid of dairy schools, then the expense of these is saved; but if not, let us have them. Our cheese-men have conquered England with their product, which a few years ago, like the Danish butter, was "execrably bad," and all this has been brought about without the dairy schools. Our creamery association is laboring vigorously to improve the general quality of our butter, but as yet the effort is like the attempt to raise a mountain with a hand-spike, so little encouragement do they get. Toil on, brave men, ye are on the right track, and in the end will conquer.

Ensilage.

This method of curing food for live-stock may no longer be regarded as an experiment. While there are doubtless many things that we have yet to learn regarding it, we know now that it is good food for stock, especially that designed for milch cows, and that it can be raised and cured more economically in this way than by any other process.

It is simply marvelous the advances that are being made in these "latter days" where the discovery of to-day only unbosomed from a past eternity of obscurity is superseded by something superior to-morrow, evolved from the same repository, which is still brimful of that which is as yet not known to man. According to Prof. Henry, of the Wisconsin Agricultural Experiment Station, the first silo was erected in America in 1876 by Col. Francis Morris, of Oakland Manor, Howard Co., Maryland. Wisconsin has now, only twelve years later, six hundred of these.

It is supposed the discovery emanated from the practice of the Germans in covering up beet leaves and pulp in the beet sugar districts. In 1870 public attention in France was called to this practice, and many experiments were conducted with a view of ascertaining its value. England, with her damp climate, so unsuited to the curing of dry fodders, naturally became much interested, and there, probably more than in any other country, was the effort made to determine its comparative value.

Mistakes were made at first which most seriously retarded the progress of the movement. The silos constructed were too costly for the average farmer. They were usually built of stone and beneath the level of the earth. But the greatest mistake, and that which most retarded the progress of the movement, was the too rapid filling, which caused fermentation to such an extent that the ensilage became sour. Then the weighting of the silo with earth or stones was cumbersome.

It has now been ascertained that silos built above ground of wood, answer quite as well, and that if properly filled, a few old boards or slabs upon a covering of hay, will afford sufficient pressure, although some dissent from this view in regard to the weighting.

Experiment has demonstrated that green food can

be grown that will yield from two to ten times the amount that is ordinarily reaped of hay, and that ensilage properly cured is an excellent food for milch cows, that it is also good as a part of the ration for all kinds of cattle and of all ages, and that it may be fed with profit to breeding ewes. Why, we ask, will a limited quantity of corn ensilage not be good for pigs in winter?

The practice of ensiling green food has therefore come to remain with us. Its general adoption will very greatly increase the capacity of the country for stock-keeping, which is always followed by a further increase of the same, owing to the enrichment of the land that follows in the wake of stock-keeping.

During previous years we said comparatively little in regard to this introduction in the food line. This was not accidental, but designed. Authorities and experimenters could not see eye to eye in regard to it, and we shrank from the possibility of misleading. Men wise and learned were in arms as to whether it really was an improvement over past methods, but now that victory has declared itself in favor of the champions of the process, of which we cannot have better evidence than the fact that the foremost nations are rapidly becoming filled with silos, we urge upon our readers to give the matter their earnest attention.

With the rank and file it is just as well that action has not been taken sooner. Silos built from this time onward will be built at less expense than those of former years, and will have the advantage of all the improvements, just as it was with binders—the pioneers paid far more for their machine and got an article in many respects inferior to the later productions.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL

The Relation of Oleomargarine to the Dairy Interest.

BY E. RENNIE, STUDENT ONT. AG. COL., HAMILTON.

(Before proceeding with my subject, I wish to correct an error in my article in last month's JOURNAL, relating to the churning of the component parts of oleomargarine. It should have read "10° above the ordinary temperature of churning," instead of "120°.")

There is no person or thing so bad, or so impure, but that if he or it be viewed from some particular standpoint, redeeming qualities will be found containing lessons of truth.

Oleomargarine, from the farmer's side of the question, is bad indeed. "It is such abominable stuff that rats won't eat it," so said a paper a few days ago.

Mr. Charles Adams, who read a paper on "Oleomargarine and Butterine—What Shall Farmers Do About It?" said, "that when butterine is made with 25 or 60 lbs. in every hundred of new sweet butter, in my opinion every pound of the new sweet butter is spoiled." Butterine is often called imitation butter, because the manufacturer tries to make his product resemble the best creamery butter, in appearance and flavor. Creamery butter is used in the manufacture of butterine to give the product tone and flavor.

"Imitation, detest her how we may,
(And no man's hatred ever wronged her yet)
May claim this merit still—that she admits
The worth of what she mimics with such care,
And thus gives virtue indirect applause."

What can exalt creamery butter more than the fact that it is the object of imitation all over the world? I am glad to see that the Ontario Government has by special legislation made provision for the formation of creamery companies by the farmers. A country which holds so high a place as a cheese producer should be ashamed of the position that its butter holds. The

duties of the farmer's wife are too varied for her to properly attend to all that is required to produce the best of butter. No one maintains that the farmer's wife cannot produce good butter, because it is done in many instances; but the disadvantage of not having proper knowledge, proper dairy equipments, time, or on account of the smallness of the make, it is very often not done. The product is not uniform in color, and oftentimes the bottom of a keg is ill-flavored before the top is full.

The future of the butter industry lies in the extension of the creamery system throughout the country. The butter factory is the most likely means at disposal to raise the butter of Canada from the position in which it now is, to the position it should attain; when the product will be uniform as to color, flavor, and keeping properties.

The Ontario Government is encouraging the dairy interest by every means in its power; and the Dominion Government has passed an act against the manufacture and sale of butter substitutes and is distributing the best of dairy literature. If the farmer and dairymah supplement the Government's action by making a good and wholesome butter, all will be well, and the substitutes will not have encouragement.

If the farmer and dairyman do not take advantage of the favorable position in which they are placed, the result will be disastrous. If the matter has to come down to the "dollar and cents" basis, before improvement takes place, let us get it there as quick as possible. *It won't pay to make bad butter.* The old banner read "It won't pay to make good butter, for I get as good a price for the one as the other in trade. Why improve?"

Dr. Lyon Playfair, a sanitary authority in England, says: "Bad butter was a fraud upon the poor, and oleomargarine would sooner or later drive it out of the market," and that "good oleomargarine at a shilling a pound was a great deal better and cheaper than bad butter at one shilling and four pence a pound. As a general rule the former (oleomargarine) did not become so readily rancid as the latter (butter)."

The day that oleomargarine may be manufactured or lawfully sent into this country may not be very remote.

H. Sugden Evans, F. C. S., F. R. M. S., chief analyst for the Dominion, in the report of Adulteration of Food, 1885, makes the following remarks: "No valid objection can be made to the introduction of oleomargarine and butterine, if they are carefully and well made, from sound ingredients, for they are quite as wholesome and as palatable as butter, and more so than carelessly made butter; and from the absence of the readily changeable volatile acids, they are more stable and less liable to become rancid, and being producible of excellent quality at a considerably lower price than butter, they furnish, if distinctly labelled and sold only as artificial butter, a desideratum of great value to those who are compelled to study closely their domestic economies, and who do not possess the necessary convenience for keeping butter in good condition during our hot summers. But while saying this much in favor of the compound, it is essential that strict legislation should, as it does in Massachusetts and elsewhere, enforce that every parcel or package of artificial butter, when delivered to the public, should be distinctly and legibly labeled or branded, so that the purchaser may not be prejudiced, but be made perfectly aware of the nature of the commodity, and have no excuse for supposing it to be otherwise than artificial butter."

The above indicates that the farmer at some time

near or far may have to compete with butterine. Does he compete now? In the home market his butter should not have to compete with butterine, because the manufacture and sale of butter substitutes is not allowed according to our law. In practice, however, it is different, for butterine is constantly sold in Canada. In sixteen samples taken from the markets throughout the Dominion, seven were proved by analysis to be oleomargarine. "These were samples of oleomargarine sent to the analyst as butter."—Report A adulterations of Food, 1885.

The tax of 2c. per lb. on oleomargarine is not levied by the United States when the product is exported, which stimulates sending it abroad. From the demand of oleomargarine by creameries in the United States, there is likely to be a great deal of butterine sold as butter.

The Lansing butterine works was first organized as a creamery, and made 5,000 lbs. to 6,000 lbs. of butter a day, selling at 25c. per lb., until detected, when they appeared in their true colors, "Lansing Butterine Co."

Prof. H. A. Weber made an analysis of Silver Leaf Creamery butter, and the result was as follows: "Butter, 5 per cent. adulteration 95 per cent."—Report Ohio Exp. Station, 1886.

I interviewed a revenue officer in an American city a short time ago, in relation to the detection of sale of butterine or oleomargarine as butter. He said: "If a complaint comes to us that a party is selling butterine as butter, we generally send an officer down, and if he can find an oleomargarine tub, that the party complained of is selling from, we fine him; but if we don't find the tub, we don't trouble ourselves."

Every seller of oleomargarine in the United States, either wholesale or retail, is taxed and licensed, and every tub sent from the factory is stamped on top and side, "oleomargarine," in letters at least two inches long.

Now the evidence from the Canadian public analysts quoted, shows that butterine is sold in Canada. The American reports prove that butterine is sold as butter on the other side; the American Act shows that there is no tax per pound on the exported product, nor any Government stamp needed.

The American cheese is adulterated with oleomargarine; the cream or butter fat is extracted from the milk, and oleo is added in its place. The American experts say it cannot be detected as inferior by cheese buyers, but requires an analysis to detect it. These experts congratulate the United States that it is almost all exported.

The total receipts (including tax on manufacturer, wholesale and retail dealer, and 2c. per lb. on actual output), under the United States oleomargarine law for the twelve months preceding 31st October, 1887, was \$950,048.70.

Lard from the United States, adulterated with vegetable oils, is being sold in Canada. The cheese, lard and butter of the United States is adulterated.

The United States receives nearly a million dollars a year from a tax on imitation butter. What does Canada receive? \$0—nothing. Why? Because the Dominion protects her dairymen. In an "Act to prohibit the manufacture and sale of substitutes for butter," the manufacture and sale of oleomargarine in Canada is prohibited under a fine not exceeding four hundred dollars, and not less than two hundred. "This action was doubtless a wise one, and can be supported by many reasons. While there may be something said against it, such action was at least nothing worse than wisely leaning towards the safe side. A mistake on this side, if it has been made, is not seri-

ous, and in the future may be remedied; a mistake on the other side, if it had been made, would be one very serious, and extremely difficult, if at all possible, to remedy. The interest of the whole farming community was in apparent jeopardy, and being the most legitimate and important, the longest established and most permanent, it had a first right to protection."

O farmers of Canada, who cry out against monopoly! did you ever think that the Dominion Parliament had given you the monopoly of producing a certain article of diet; or rather that it is protecting you from having to compete against a very similar animal product? What does this protection amount to? One of the best dairy writers in the United States says that the sale of oleomargarine has depreciated the value of land in dairy sections five dollars per acre, and dairy stock ten dollars per head. Should this protection be continued? By such a protection the American Republic would lose a million dollars annually, which it receives as a tax.

Creameries in the United States adulterate with oleomargarine; the export trade is stimulated by no tax being collected on the exports. Are we to prohibit American butter on that evidence (which means retaliation), or are we to have a dairy inspector appointed to trace imports, and to investigate the various places where oleomargarine and butterine is made in Canada? The American oleo manufacturer pays a yearly tax of six hundred dollars; wholesale dealers a tax of four hundred and eighty dollars; retail dealers a tax of forty-eight dollars. He who affords to pay \$600 per year to manufacture in the United States, can he not afford to stand the chance of detection and fine of from \$200 to \$400 to manufacture in Canada? The butter exporter is trying to raise the standard of Canadian butter on the British market. If sophistication, due to lard or oleo, is detected in our butter when sent abroad, the result will be disastrous.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL. Fodder Growing and Food Supplies.

BY JAMES CHERSMAN, TORONTO.

Most dairy reformers agree that the weakest element of dairying on the factory plan is the absence of provision on the average farm for a regular supply of succulent food of high nutritive value throughout the entire year. This defect, more than any other, has probably had the greatest influence in retarding the development of winter dairying. Canada is not worse off in the matter of climate than most of the northern States, and is perhaps rather better circumstanced than Iowa, Minnesota and Wisconsin, whose winter temperatures are lower than in Ontario and Quebec, and who occasionally suffer the paralyzing effects of blizzards. It is well known that these north-western States have distinguished themselves in all the year round dairying, and that it is chiefly owing to the provision they have made for food supplementary to pasture and dry fodder in winter.

The associated method of calving the best and largest number of cows in the fall of the year rather than in the spring, gives the largest and best supply of milk in winter, when its products, cream and butter, are of most value. Having learned the necessity of feeding rations in winter of a high nutritive ratio to secure greater economy of food, higher-flavored butter and firmer-bodied goods, they naturally reasoned that the basis of success in winter suggested the cause of much failure in summer. The best feeding during summer is the most economical, and when the natural herbage of the pastures fail to provide a plentiful supply of complete rations, economy steps in with

soiling crops of rye, fall wheat, tares, cow pea, lucerne, saintfoin and fodder corn; and a morning and evening feed of a few pounds of bran. The almost world-wide experiments in bran feeding give the manurial residues a value of from \$10 to \$13 per ton in various parts of Canada and the northern States. Many feeders have obtained within certain limits an increase of one pound of milk for every pound of bran used with cut fodder, and an increased quality of product. In many parts of the country bran can be bought at less than \$15 per ton or ½c. per pound the year round. There are few farmers whose milk is worth less than 75c. a hundred to either cheese factory or creamery, so that the man buying bran can pay for every pound of it from the increased income from the enlarged yield of milk, and realize a profit of ½c. a pound on the bran as fertilizer, which may be used to feed the soiling crops.

A recent tour through seven of the eastern States indicates a large annual increase in the practice of stall feeding of green crops in summer. Much of the milk I examined in New York, Philadelphia, Jersey City, Baltimore, Washington and Richmond, Va., satisfies me that the farms could never be kept up without the extensive use of soiling. As one glides over the easy road-beds of the finely equipped Pennsylvania Railroad, and the Baltimore and Ohio, he is forced to notice the steady disappearance of the beef breeds and their grades, and the large preponderance of dairy animals, and especially the Channel Island cows and their grades. The increasing prominence of Guernsey and Jersey milk on the hotel tables of the towns and cities is very marked. These animals have greatly influenced the public taste for better milk, and I am pleased to notice that the oldest and best Holstein-Friesian breeders are claiming and demonstrating butter quality for their animals. The modifications of fertility induced by this practice is clearly seen in the enormous increase of food grown. A great fact often left out of sight by the man of muscle, who toils early and late, is the increased value of fertility induced by more active nitrification of the soil induced by this method of cropping. The enormous advantage of being able to husband the grasses for hay, to increase the diversity of crops, and to augment the aggregate returns from the whole farm, are features difficult to understand, and impossible to appreciate by those who have had no experience of the system. Those who have practiced these methods for several years have so enriched their lands by accumulations of fertility as to enable them to carry more than one head of stock per acre. To plan and execute the system intelligently implies experience, judgment and skill in tillage and the management of live-stock. The highest test of merit any man can apply to this system is the agricultural value of the land three or four years after the farm has been brought under the new method of cropping. I know of several examples in high dairy districts in New York, Massachusetts and Wisconsin, where land so farmed is valued at from \$90 to \$160 per acre, side by side with farms of half or two-fifths of these figures. It is within the experience of every Ontario man that the western counties cow only average 3,000 lbs. of milk while the eastern counties cow does not exceed 2,700 lbs. He also knows that in the Brockville, Ingersoll, and Belleville districts owners spend more than \$30 a year on feed. The man who keeps \$60, \$70 and \$85 a year animals makes a greater net profit than the gross returns of the 3,000 lbs. of milk cows, and the greatest earners are those fed on soiled crops.

The foundation for this system is the silo, for with-

out a good supply of corn ensilage sufficient to carry cows through two hundred days of stall feeding, or from the last day of October till the first day of June, all hope of work on summer stall feeding had better be abandoned. As so much has been said and written for and against ensilage of late years, it may be well to notice briefly the causes of failures and the conditions which influence the relative values of the corn ensilage. As I tried to point out in the March number, there is a great difference between the silo and the ensilage of four to eight years ago, as compared with that produced by the best experience of to-day. As in all other departments of farm work, the difference consists in the varying degrees of intelligence and prejudice with which men set out at the beginning of their experiments with this crop. Just as there is a wide difference in food value and flavor between straw fed beef and that ripened off on grain, cake and roots or ensilage, or between the razor backed hog of two or three years, and the barley, peas, oats and clover hog made in two hundred days, or between the straw fed butter or anything else, and the butter made from cows fed clover, corn ensilage, bran, oats and peas, with a dust of oil meal or cotton seed meal; so there is a vast difference in the amount and value of food produced from an acre of ensilage corn according to the method of seeding, the kind of seed used, the mode of cultivating it, the time required to grow it, the condition of the plant when cut, and the amount of water it contains when put into the silo. In the early history of the silo, some men used any corn they could reach, sowed it thick as wheat and cut it as they would cut a cereal. The product was, in the majority of cases, a rank, watery, miniature crop of low nutritive value. With such miniature growths it would be impossible to obtain sound, healthy ensilage. Close planting, even with the proper seed, will not give the same weight of dry matter per acre, nor will the dry matter be as valuable for feeding pound for pound, as that obtained from mature stalks fully developed in the wide rows of forty two inches, and planted two grains to the foot. The men who started out ten years ago to cultivate the system have accumulated the greatest number of reliable facts. Among these were college professors and directors of experimental stations who were willing to acknowledge failure when the results were not what they anticipated, but they never abandoned their investigations, continuing to grow the crops year after year. Each season brought new facts and stronger light, and while these scientists were digging out the truth and analyzing their failures, commercial farmers in the various dairy districts held to their faith, grew rich on ensilage, and brought their experience to public meetings for biased and hostile professors to explain. For a year or two, well known college men all over the land opposed, discouraged and condemned ensilage as "saurkraut," and appealed to their chemistry and physiology to support their untenable position. The whole trouble arose from an incomplete study of the facts of their experience, for, had they been less hasty in arriving at conclusions based on a 40 or 50 per cent. interpretation of the facts, they would not have demonstrated so completely their inability to guide and instruct those whose successes first confounded and then converted them. Because we cannot always understand the facts at short notice is surely no reason for treating them as valueless. Happily some of these men are doing good work to-day as advocates of ensilage feeding, and not a few of those who were a year ago coldly neutral and half indifferent, are to-day using the ensilage corn growers.

The true physiology and chemistry of the whole

matter lies in the fact that ensilage or fodder corn, like all plants cultivated for their stalks, should be cut just when maturity is reached and not before, or when the seed is fully ripe. This may perhaps be best illustrated in tabular form. While visiting the Massachusetts State agricultural experiment station at Amherst, the courtesy of Dr. Gaessmann, the director, afforded the opportunity of discussing the whole question of fodders. For several years they have carefully determined the weight of dry matter per acre of the fodder corn crop at different stages of growth and the relative food values, with the following results:

AT FIRST APPEARANCE OF TASSLES.		AT BEGINNING OF GLAZ- ING OF KERNELS.	
Water.....	88	77	72
Solid.....	12	23	28
	100	100	100

Not only did the latter corn give double the dry matter, but cut in this condition it contained more starch, sugar, gum and nitrogenous matter. It will be readily seen that if mature corn be allowed to wilt after it is cut down for about twenty-four hours, in a steady breeze, about 20 per cent. or more of its water will evaporate, and still further concentrate the solids. Twenty-one tons per acre would be 42,000 lbs., or on a basis of 30 per cent. of moisture, 12,500 lbs. dry matter. Thirty and thirty-five tons are not uncommon to old growers. In hay, if we get 4000 lbs., having 3,400 lbs. of dry matter, we do well. Some old breeders tell us that two tons of corn ensilage are equal to one of hay, and others, that 2½ and 3 tons. We must therefore acknowledge that according to the oldest and best experience we have in corn ensilage 3½ to 5 times the food value that we get in hay per acre, or just double the yields of food from fodder corn per acre that we get from roots on a basis of 30 per cent. of dry matter in corn, and 15 per cent. in roots, and equal weights per acre, although roots have a slight advantage of about 3 or 4 per cent. in feeding value, weight for weight, of dry matter. I want to cite the experience of some New Yorkers and western men, who crop ensilage corn and dry it down to 38 per cent. of solids, when it goes into the silo.

Whichever way we look at this vast subject we cannot help seeing an immense economy in it. Nothing resists drought like it. I am not one of those who think corn ensilage will entirely displace roots, but I cannot help thinking it must form the principal ingredient in a fodder ration—it is at least 60 per cent. cheaper than roots—and that it will be used at the rate of 25 to 30 lbs. per day, with a small allowance of clover and roots and enough grain to make a suitable nutritive ratio. I have always urged the use of various rather than few feeding materials, as giving greater variety of flavor and a fuller enjoyment of food and therefore greater activity and efficiency to the digestive organs. The actual food value of ensilage cannot at present be understood from the standpoint of a naked chemical analysis of its dry matter constituents. There is a physiological action on all the other materials forming part of the ration in which ensilage is the largest ingredient which we cannot yet bring into the test tube or place in a balance, but the standard of the bullock, cow, hen or pig can measure it in beef, milk, eggs or pork.

The Herd Book Controversy.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I find in your June number letters from Mr. McCormick, president, and Mr. Wade, secretary, of the Dominion Ayrshire Breeders' Association, containing malicious insinuations and statements as incorrect as they are unjust, evidently intended to mislead your readers to the prejudice of others, regardless of truthful and proper explanations of business they

have been party to. Too often men holding such sentiments lose their tempers and commit themselves to irregularities when they find they are discovered in their erroneous methods of transacting matters of public interest.

In my desire to faithfully discharge the duty assigned to me for the supervision of work for revising errors in Ayrshire herd records, I necessarily required them to make right what was wrong in their work and reports, and thus incurred unfair displeasure. Twice I had to require Mr. Wade to correct errors in his minutes of our meetings. I had to require him to abandon the practice of patching up pedigrees in his own way, instead of making a thorough investigation of facts concerning the breeding. I sent you one of several pedigrees in my possession, where the erroneous alterations and additions were in his handwriting. In some cases I received two or three different versions of the same pedigrees in the endeavor to get me to pass them. I have been told I should pass a cow and her produce, said to be 15 heifer calves, and also 3 bull calves. Her first calf was dropped in December, 1858; her last calf in May, 1873. She had no twins; twice there was a year and a-half between her calves, therefore, she could only have had 11, not 18. I mention this and could show several other errors of entries in Mr. Wright's books, quoted by Mr. Wade, while he should know the errors were made in writing up the books from memorandums long after the dates therein.

Mr. Wade took improper liberties in his language as well as in his acts, when, among other things, he did, without authority, use part of the members' fees to pay his travelling expenses, while we paid our own, and only knew it from accounts he gave at the annual meeting. Twice he expressed regret and asked to be excused for improper, unguarded remarks at meetings. These things, with Mr. McCormick's rudeness of speech in pressing to have improper pedigrees adopted, made it extremely difficult to get anything properly done at committee meetings with them. During the eight months' work they only rejected one bad pedigree—Queen 125, D.H.B., and ordered the acceptance of two mixed breeds, bred by Mr. Ross, owned by Mr. Denison, and falsely stated in their book to have been from Mr. Dod's importation. Mr. McCormick went so far as to get a widow woman to make oath to a certain cow being the dam of certain others, he thinking I would accept that without examination, which, on being taken, resulted in their acknowledging their error. In addition to these difficulties to be on guard against they put on the committee other two, who were interested in animals having bad pedigrees. Therefore, it is not surprising that men of experience and good standing, long on our committee, should be disgusted, lose confidence in the parties, leave the meeting, not go to one in Kingston, refuse office, and finally desire to be relieved from connection with those who would not follow rules of order, were deficient in experience and whose whole aim seemed to be to get in their bad pedigrees by ignoring even their own profession to be aiming at importations.

I regret to be forced in self-defence to mention these things, as I could many others, to show their animus and object in the course taken by these your two correspondents, who so blindly attempt to claim that their pedigrees were purposely kept back, in the face of the fact that we entered over 300 pedigrees, for which we were not paid, to make good 70 of theirs that mostly (but for the trouble I took in searching and correspondence), could not have passed. Mr. McCormick had some of them and the copy I sent you was one his traced to. Mr. Wade had erroneously patched it up. Mr. Wade and Mr. McCormick must admit this, and cannot deny that when they sent good pedigrees they were promptly entered and returned, and that all fees were credited and disbursed as agreed for expense of work done per accounts rendered.

From the foregoing you will have some idea of the troublesome task it was to be thus occupied. I have no intention now of occupying valuable time and space to the extent needed in this number, and I will not condescend to notice in detail the contemptible part of their erroneous language.

Mr. McCormick writes 15 statements, 10 of which are incorrect fabrications of his personal opinions and misconstructions, and the other five are wilful misrepresentations of occurrences, meetings and resolutions, which he either does not understand or did not want to allow to take effect. Let me advise him to have the minutes carefully read and explained to him, then

he will see his errors. They have appeared in previous numbers of the JOURNAL, and proof of what I have written and said is at hand when required.

Mr. Wade writes too many incorrect and improper statements to admit of all being taken up and answered in time for this number. I will consider whether I shall show up further ridiculous details of working to fit when it suits him, or to unfit when it does not. He would do well to settle the principles upon which he intends to act and take someone into his confidence to help him to follow them. He seems to have searched high and low to make capital against me out of the many errors to be found in Mr. Wright's book, made up as his own was, by someone who either did not know what he was about, or purposely cooked pedigrees to suit himself. Mr. Wade knows what Mr. Newton wrote of Mr. Wright's dealing with pedigrees. He knows that I told him long ago Mr. Wright had animals of the same name and different pedigrees passed through his hands, and in some cases the details of one were taken for the other, evidently the result of imperfect keeping of records, and subsequent attempts to record them correctly failed. Mr. Wade goes out of his way, as wrong as he is imprudent, when he calls in question the pedigree of Prince Arthur 325, the breeding of which animal he knows nothing about; yet he assumes he is right in cooking that pedigree to suit his ends, as he has done of others I have in my possession in his handwriting. Where did he get such information? It is not in Mr. Wright's book, as Mr. Fox bred the bull and sold him to me in Sept., 1869. Mr. Fox's pedigree of him was not full. Mr. Wade admits that and does not give it as he got it, but goes on to make it up and gives his own version without the approval of either breeder or owner, and proceeds to put him in the appendix, for a purpose. Mr. Wade, in his zeal to make a point, overlooks his own admission that the pedigree he got from Mr. Fox's son, said to be given by Mr. Wright, "is not in full, but it shows she is from a different cow." This is just the point to determine—who is right. The cows were the same name, the dams were the same name, but differently bred. Mr. Fox and Mr. Wright together could not furnish correct details of breeding because of there being different cows. One was "red with white spots," the other was "dark fawn, white about flanks." The dispute could only be settled by Mr. Hough and others, whose evidence was clear and correct, and thus the proper breeding was determined as to sires and dams Lady of the Lake 1875 was bred from. Mr. Wright had two books; some appeared in both, some in only one book. On looking them over I found several errors in which the wrong dam was taken. There appeared but one Lady of the Lake. As to the other it would seem from the correspondence that he owned her but a short time, and I can only account for some of his mistakes by oversight in keeping prompt records of occurrences and then got mixed in his ideas when making pedigrees.

Why should Mr. Wade and Mr. McCormick attack me thereon and belittle themselves by descending to produce false impressions? If I had not been satisfied with the bull and there was any doubt about the pedigree, he need not have been taken nor used, for I owned an imp. bull at the time. Furthermore, I informed Mr. Wade "Alfred was imported by the late Mr. Gilmour for Mr. Hutchins," therefore his statement is false that there was "no explanation as to whether he was imported or not." I know also, that he (Mr. Wade) has seen the entry in Canada Record No. 1874, where Alfred and Buttercup are both noted as imported from records in my possession. He also attempts to cast doubt on Mr. Ewart's importation of Lady Betty. Let him look to his own book; he will find it page 119. And I have his list of Mr. Ewart's imp. cows with Lady Betty in it. He also questions the use of Dundee 3d, because he was kept elsewhere. Does he not know that persons distant sent their cows to that famous bull when Ayrshires were scarce? Then let him look to his own book; he will find the names; and in Canada Book. What will the Agriculture and Arts Association say to their employee for exposing them to heavy damages for his erroneous work and doings in pedigrees? It would take me a week more to write all I might. I must close this to reach you in time, and resume the demolishing of erroneous statements hereafter.

I feel assured you will kindly admit of my defence in reply to the attacks in your last number. 'Tis a pity officials would not give true copies of minutes and proceedings to the press, and let your readers

judge for themselves. Had our western friends treated us better and published only the truth, it would have been better for Ayrshire interests and for them.

WM. RODDEN, Pres. C. A. H. R.

Roots Against Grain in Milk Production.

BY WM. BROWN, PROFESSOR OF AGRICULTURE.

We have made tests with roots against grain for milk production within the last five years, but never so thoroughly as during the past winter. Our objects were, (1) cheaper production of winter milk; (2) to get milk equal at least to the average Ontario summer records; (3) the use of a large quantity of roots without tating, and (4) to maintain milk flow and condition of cows without grain.

The plan adopted was to feed one week on each ration previous to exact testing during the second week, and thus changing every two weeks through March and April. Ordinary Shorthorn grades were handled, milking twice a day. What are the facts so far?

The root ration daily consisted of 12 lbs. cut hay, timothy and clover, 33 lbs. mangels, 33 lbs. Swede turnips and 15 lbs. white Belgian carrots, all sliced and mixed with the hay. The grain ration was 12 lbs. of similar cut hay, 7 lbs. oats, 7 lbs. pease, and 7 lbs. barley, all ground and mixed dry with the hay. Feeding at 6 a.m., 11.30 a.m. and 5.30 p.m.

The nutritive ratio of the root diet is 1:7.4, and of the grain 1:5.4, thus 27 per cent. higher for the grain ration.

The daily milk per head from roots averaged 20.9 lbs. over the whole period, and 22½ lbs. from grain.

The daily cost of food per head was 19½ cents for the root and 31 cents for the grain ration, thus being 9½ mills for the one and 13.9 mills for the other per pound on the milk produced, or 9½ cents and 14 cents per gallon respectively, charging the average prices of the province during the last twelve years.

On roots the animal weight was reduced 14 lbs., and on the grain 12½ lbs. over the period—practically nothing in the scaling of cows; nor had we to credit any left food after each feeding; neither was milk spoiled by root taste.

Now, what are the practical and scientific deductions from these simple facts?

1. That 81 lbs. of a mixture of roots, an unusually large quantity per head per day, with 12 lbs. hay gave almost as much milk as did the unusually large quantity of 21 lbs. of a mixture of grain and 12 lbs. hay.

2. That this result was accomplished—(1) without spoiling the milk; (2) without reducing animal weight; (3) at thirty per cent. less cost, and (4) even though the root ration was scientifically 37 per cent. lower in nutritive value.

3. Thus, food of a succulent character, four times more bulky and much less value proportionately than dry grain, demands a very high place in winter dairying.

4. The root ration was pitted against an unusually large quantity of ground grain, enough to fatten two store cattle, which also represents with hay the acknowledged scientific and practical standard (1:5.4) of a ration for the best results in animal growth and their productions. But, even though the roots were four times more in bulk, the cow had nearly twice as much digestible materials per day from grain.

5. The large relative percentage of water in roots seems to possess an influence in the production of milk, which, if not exactly understood, yet seems to depend for its effect upon the fact that the natural food of milk cows contains a larger proportion of water than is found in the more highly nutritious grains.

6. Thirty-three pounds of Swede turnips per day if fed whole and separately will taste milk, but when sliced and mixed with an equal quantity of mangels, or when pulped and mixed with hay, will not give a bad flavor.

7. The manure values scientifically resulting from the consumption of these rations are about four cents for roots and nine cents for grain per cow daily; thus, in balancing all the points in this experiment, that of manure must not be lost sight of.

8. Take two such cows as we have had in this test over a winter of 180 days, one upon each of these rations, and all other conditions being alike, we obtain the following comparison:

	Milk, lb.	Value of milk.	Cost of food	Manure value.	Net gain.
Roots	3762	\$47	\$35	\$7	\$19
Grain.....	4020	50	56	16	10

9. Accordingly the dairy world has yet to be taught that the extensive use of grain is or is not correct economically; that a large quantity of a mixture of roots with hay fodder is both economical and safe for milk cows, and that possibly there is better health with roots, though a slightly inferior quality of milk—remembering at the same time that we have to wait further tests as this is only our first systematically conducted one.—*Bulletin XXX, Ont. Ag. Col., Guelph.*

[We think it would have increased the value of this very interesting experiment had a moderate ration of grain and roots combined been fed to another lot of milk cows and the results noted. Perhaps our professor of agriculture may see fit to make this addition in future experiments to which the bulletin makes reference.—ED.]

Care of Milk for Cheese-Making.

BY JAMES W. ROBERTSON, PROFESSOR OF DAIRYING AT THE ONT. AGRICULTURAL COLLEGE, GUELPH.

(Continued from June.)

The milk should be strained immediately after milking. Some foulness may have fallen into it and the sooner it is removed the less likelihood is there of its being made soluble in the milk.

After the straining is attended to, the milk should be aerated. Too often it is poured into one large can and left there just as the cows have given it. That neglect implies three things that are very injurious to its quality for cheese-making. (1) The peculiar odor which the cow imparts to the milk will be left in it until it becomes fixed in the flavor. (2) The germs of fermentation that come in the milk and from the air have the best conditions for growth and action when the milk is left undisturbed. (3) Then the milk will become almost unfit for coagulation by rennet. Hence it is useful and advantageous to aerate milk for three reasons:

1. By either pouring, stirring or dipping, or by trickling it over an exposed surface of tin we try by evaporation to eliminate from the milk any objectionable volatile element that may be in it.

2. It has already been stated that milk contains germs of fermentation. Some of these we call vibrios. A strange peculiarity about these vibrios is that they become active only in the absence of free oxygen. When warm milk is left undisturbed, carbonic gas is generated, and that furnishes the best condition for the commencement of action by these microbes. After they get started they can keep up their decomposing work even in the presence of oxygen. It is impossible to coagulate such milk so as to yield a fine quality of keeping cheese. Coagulation by rennet can never be perfect unless the milk has been thoroughly aerated immediately after it is taken from the cow. *Neglect of aeration will increase the average number of pounds of milk required for a pound of cheese.*

3. The airing seems to give vigor to the germs of fermentation that bring about an acid condition of the milk without producing the acid. So much is this so that it has been found impracticable to make strictly first-class cheese from milk that has not been aerated, or from milk that has not sufficient age before the operation of making is commenced.

The subsequent cooling of milk retards the process by which it is turned sour. A certain kind of germ or fermentation exists in milk, which in the act of multiplying itself, splits one molecule of sugar-of-milk into four molecules of lactic acid. Thus by delaying that operation the milk is kept sweet longer. The cooling of the milk should never precede the aeration; it should always follow it. A temperature of from 65° to 70° Fahr. will be found cold enough for the keeping of milk over night.

Moreover the milk requires special protection against any foulness in the air. Everyone has observed that if a pitcher of cold water stand in a warm room, drops of water from the air will immediately begin to condense upon the outside surface. The colder the pitcher and the warmer the air, the greater will be the condensation. In the same way the colder the milk becomes as compared with the temperature of the air

the greater is the condensation from the air on its surface. The cream is very often foul from that cause.

When the whey from a factory is drawn to the farm, a common practice is to empty the can right at the milk stand. Having done that, the owner little thinks of the impurities thereby imparted to the milk, impurities that are certain to get into the cheese.

I have heard of ladies who were so nice in the handling of milk that they objected to send to the factory "the nasty yellow scum" which rises after the milk stands over night; but I never knew a cheese-maker in Ontario to complain of receiving an excess of it!

I confidently trust that the good sense and sturdy honesty so characteristic of the farmers and their wives, as a class, will uphold and aid the efforts of the cheese-makers and milk inspectors in trying to stamp out the practice that has been creeping in of late, in the way of taking off cream or keeping back strippings from the milk supplied to factories.

At the risk of repeating, and for the sake of emphasizing what has been already written, the gist of the foregoing suggestions is gathered into 17 short paragraphs.

1. Milk from healthy cows only should be used, and not until at least four days after calving.

2. Any harsh treatment that excites the cow lessens the quantity, and injures the quality of her yield.

3. Cows should be allowed an abundant supply of wholesome, suitable food and as much pure water as they will drink.

4. A supply of salt should be placed where cows have access to it every day.

5. Cows should not be permitted to drink stagnant, impure water, nor to eat cleanings from horse stables, leeks, turnip tops, nor anything that would give the milk an offensive taint.

6. All milk vessels should be thoroughly cleansed; first being well washed, then scalded with boiling water, and afterwards sufficiently aired to keep them perfectly sweet.

7. Cows should be milked with dry hands, and only after the udders have been washed or well brushed.

8. Milking should be done and milk should be kept only where the surrounding air is pure and free from all objectionable and tainting odors. Milking in a foul-smelling stable or yard imparts to milk an injurious taint. Sour whey should never be fed, nor should hogs be kept in a milking yard, nor near a milk stand.

9. Tin pails only should be used.

10. All milk should be properly strained immediately after milking, and for that purpose a detached strainer is preferable to a strainer-pail.

11. In preparing milk for delivery to a cheese factory, it should immediately after straining be thoroughly aired by pouring, dipping or stirring. This treatment is as beneficial for the morning's milk as for the evening's, and is even more necessary when the weather is cool than when it is warm.

12. In warm weather all milk should be cooled after it has been aired, but not before.

13. Milk kept over night in small quantities—say in tin pails—will be in better condition than if kept in larger quantity in one vessel.

14. When both messes of milk are conveyed to the factory in one can, the mixing of the morning with the evening's milk should be delayed till the milk-wagon reaches the stand.

15. While the milk is warmer than the surrounding air it should be left uncovered, but when colder it may with advantage be covered.

16. Milk pails and cans should be protected from the rain, and milk stands should be constructed to shade the cans from the sun.

17. Only honest milk with its full cream and full share of strippings should be offered; violation of this requirement leaves the patron liable to a heavy penalty.

So far as the Dairy Department here can further help dairymen in the direction of making their business more profitable it will freely and cheerfully give information to all who apply by letter or otherwise.—*Bulletin XXVIII, Ont. Ag. College, Guelph.*

A writer in the *National Stockman* pertinently remarks: "A man's character can be judged pretty well by seeing him among his cows. If I wanted to buy a cow, and was shown one that the owner raised, and she kept out of reach when he tried to put his hand on her, I would reject her for no other reason. I should be afraid either he had bled all the good disposition out of her, or that she had lost any she was born with by associating with him."

Poultry.

Transportation Coops.

BY W. B. COCKBURN, ABERFOYLE, ONT.

Coops for transporting birds to and from exhibitions must be roomy and light, because in shipping fowls, to be in good shape for strong competition immediately after their journey, the coops must be large enough to ensure that they will not become soiled in any way. The best in my opinion are made in this way: Take four corner pieces $1\frac{1}{2}$ inches square, and any length you wish, say 18 to 20 inches long, and get eight strips 4 or 6 inches wide, and nail these to the uprights. Now nail on the bottom, which, like the strips, should be half inch cedar. Don't fit it inside, but let it cover the ends of the uprights. Then take cheap cotton and wind it around the middle, and tack it to the strips. As your coops are to be opened when they arrive, for the top you had better nail one half of it tight, and put the other half on hinges fastened to the board nailed on the first half. For handy fastenings take four small eyes used for hanging up pictures, and put two of them into the lid, one about two inches from each end, and the other two down on the uprights. Fasten cord tightly to those on the lid, and tie down to the ones on the uprights.

In this way I am getting up coops large enough to hold five or six birds with a weight of only ten pounds. The best litter for the bottom is sawdust; about an inch will do, or even a less amount will keep the birds perfectly clean, and if they get to the end of their journey in twelve hours, they need no feed or water.

Standard Color of Pekins.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—In the June issue an "Old Pekin Fancier" asks who the judges are that prefer white to creamy white. Now I am personally acquainted with many of the best judges in Ontario. Among them are Butterfield, Sandwich; L. S. Jarvis, Port Stanley; Buck, Brantford; John McLelland, Peterborough; Wm. H. Doel, Eglington; Allan Begue and Wm. McNiel, London. The first three named usually judge at such shows as Toronto and London, and the show of the Ontario Poultry Association, and I have yet to see any of them give a prize to a creamy-white bird, if there was as good a bird competing that was pure white in color. So much for "Old Fancier's" question.

Mr. Cockburn reiterates his previous statement that any other color than creamy-white is a disqualification. Mr. C. also says he has carried off the highest honors, as have also his customers. Now the standard revised in 1883 is before me as I write, and has as a disqualifying clause, and the only one of them that refers to color: "Plumage, any other color than white or creamy white," which is according to my statement in May issue. (Mr. Editor, please rectify this clause or correct me if I am astray.)

Now, has Mr. C. ever exhibited at the large shows where fanciers exhibit, or only at township and county fairs? I have judged at county fairs when the best bird on exhibition would not receive 90 points, so that honors thus do not amount to much. I do not say this is the case with Mr. C., but I have never had the pleasure of meeting him at any of the larger shows, and I am usually there either as a spectator or exhibitor. I think there must be something wrong in this matter as to the edition of the standard referred to by Mr. C. I think he must have the edition of 1878 or earlier. As to the making wrong impressions on the minds of the readers of the JOURNAL, I am ready to retract when I make any misstatements, but not before.

J. W. BARTLETT.

Lambeth, June 16, 1888.

Will Mr. Cockburn please give the date when the copy of the standard from which he quotes was issued. It is important that there be agreement as to the issue

raised in this question. The standard is the umpire that should decide in this matter, not the practice of judges. The moment the standard is ignored by judges, their judgment is valueless, or what is worse, pernicious.—Ed.

Mistake in Poultry Keeping.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I send you the following, thinking it might be helpful to others who might unwittingly fall into the same blunder: I had a fine flock of young chicks, and fearing they might be attacked with lice I adopted Mr. Bartlett's plan and rubbed the mother with coal oil. It killed the lice, but alas for the poor chicks! one-fourth of them were dead in the morning, and the others seemed blind or stupefied by the coal oil getting into their eyes. I suppose I put on too much, but think the article on that point did not give sufficient warning.

Hamilton, Ont.

B.

The Apiary.

Planting Basswood for Bees.

We are pleased to see that attention is being given to this matter by some at least who are engaged in bee-keeping. In a recent issue of the *Canadian Bee Journal* we read that one wise man has planted out from 500 to 1,000 basswood trees. The amount of honey that one of these will supply when well grown is very considerable, and of a quality the best. We don't quite agree with the writer to whom we refer when he says that basswood trees will flourish on any soil. The truth is they require a damp soil, and love best the valleys of the water-courses. They do flourish upon mountain sides, but it is because they are fed by the abundant percolations that are creeping through the rocks. They will thrive on a variety of soils, but always best where the ground is moist—not wet, as is the case with the black-ash. They would form beautiful shades for our highways and would grow much more rapidly than the maple, and as a fringe for watercourses they might be made to occupy in Canada the place of the palm in tropical climates.

One reason why more are not planted arises from the fact, doubtless, that they are difficult to get. Our forests are mostly browsed with cattle, and the leaves of the young basswood, being very tender and palatable, are usually eaten off with a portion of the wood, which is so easily broken. Nurserymen might grow them profitably, and in some localities start up a flourishing trade.

The wood of this tree makes fine lumber, especially for use where it will not be exposed to the weather, and for purposes of shade it is not excelled by any tree in Canada, as it has a habit of growing bushy in the open, and the leaves are both numerous and broad.

FOR CANADIAN LIVE-STOCK AND FARM JOURNAL

July in the Apiary, and Other Matters.

BY ALLAN PRINGLE, SELBY, ONT.

This is the most profitable month in the year for the Canadian apiarist. It is the month for swarming, for extracting, and especially for comb honey. In eastern Ontario the clover bloom usually commences sometime between the 10th and 20th of June, and lasts three weeks or more. The sweet clover comes into bloom later, yields abundantly, and lasts till fall. But of all the clovers for honey production the alsike is far ahead, and stands in the very front rank amongst all the honey producing plants. The alsike is also a profitable farm product apart altogether from the apiary. It makes better hay for stock than the

red, and gives a better yield of seed which always commands a higher price. It ought, however, to be mixed with timothy or red clover in seeding, unless the land is in first-class condition, or but one crop is desired. The agricultural apiarist is therefore doubly rewarded in the alsike, and by pasturing a portion of it off till say the first week in June, thus causing it to bloom late, he can thereby secure a continuous bloom for weeks, filling in the gap following the ordinary bloom.

BUCKWHEAT.

July is the month for sowing the last two lots of buckwheat for late fall honey. It pays to sow at least four lots of buckwheat during the season for honey alone, and the probability is that two or three of the sowings will yield a crop of seed. The first lot should be sown about the 1st of June, the second the 15th, the third the 1st July, and the fourth the 15th. During a favorable season I have had a crop of grain from all four sowings. While the buckwheat honey is not as marketable as the lighter grades, I never have any trouble in disposing of it at a moderate price, and from long experience I am satisfied it is all right for winter stores for the bees, when properly cured and capped. That which remains in the frames uncapped after the season is over can be extracted.

COMB HONEY.

July (with probably the last ten days in June) is the month for comb honey. The tendency now amongst bee-keepers is to the increased production of comb honey, especially in section boxes, as these are undoubtedly the most popular and saleable of any form of the product of the apiary. Not that the comb honey is any more wholesome than extracted. Indeed, as an article of diet, it is much less wholesome, for the obvious reason that the comb is merely wax, and wax is not exactly in its place in the human stomach. However, physiology and the popular tastes do not always run in the same lines, and we must continue to produce the comb honey to meet the demand, while at the same time, reminding the consumer, that the extracted honey is the more wholesome of the two, and is the very best and purest food in the line of sweets.

How, then, shall we produce comb honey? A few fundamental conditions are necessary. First, we want the working force of bees—a strong colony; secondly, we want a liberal flow of nectar; and, thirdly, we want the indispensable manipulation; that is to say, proper management on the part of the apiarist. Although it is in order to put on the section cases as soon as or before the honey flow begins, usually there will not be much done in them till after the first swarm comes off, which is not long delayed after the clover bloom opens out.

HOW TO DO IT.

When the swarm comes off put it in a hive with brood chamber of diminished size, confining the queen thereto by means of a perforated zinc honey-board. The size of brood chamber for the successful take of section honey should be not more than six Langstroth frames. The balance of space can be filled up with "dummies" or division-boards. No matter what style of hive you use, contract the brood-chamber to that capacity, with zinc over it, and then put on your section cases from the old hive whence the swarm came. Put full sheets of foundation in your brood-chamber for the new swarm, or empty comb may be given, provided the sections are well under way. If the sections are well drawn out or you have empty comb in sections saved from the previous year, and your queen is young and prolific,

starters will do in) the brood-chamber—that is, foundation, say an inch or so deep, fastened at the top of each frame. With these conditions you will probably get what you want, viz., all worker comb constructed below in the brood-nest, and an abundance of honey stored above in the sections. At any rate if you fail to get comb honey after following the above suggestions, the fault will not be yours.

HOW NOT TO DO IT.

When your swarm comes off put it in a big box hive, and in about three weeks' time put a "cap" on top; or hive them on ten or twelve empty frames of a movable comb hive, and put on section cases at your leisure, and you will find yourself wondering in both cases why you have not got comb honey.

INCREASE.

As a rule, one swarm from a colony is enough. After-swarms are unprofitable. Of course, if increase of colonies is a leading object, and the season favorable, two swarms per colony may be taken, and sometimes one from the first swarm. To replenish the losses of the past spring and winter many bee-keepers will no doubt be anxious for increase at this time, and but few will be studying how to prevent it. Different plans for the prevention of increase are practiced and recommended—all of them more or less successful. But when the "swarming fever" once takes hold of a colony the best laid plans "gang alee," and when they are actually stopped by some drastic process they usually go off into the sulks in idleness, and will not work. The best way, if you do not want the increase, is to keep the "fever" back. This can usually be done by giving them abundance of room and ventilation, always in advance of their requirements, and using the extractor freely upon them.

To prevent after-swarms I usually lift the frames from the hive just swarmed before carrying it to a new stand, and shake all or nearly all the bees from them in front of the new swarm, where they will enter, at the same time cutting out all the queen cells but the best one. I sometimes practice the Heddon method, which, however, is not always successful. The plan is as follows: When the swarm is out and hived, place it on the old stand, and place the old hive close beside it, but facing away from it at about right angles to the old entrance. In a couple of days turn it round half way towards the old entrance, and in a couple more turn it completely round so that it will be exactly alongside the new swarm, close to it, and facing the same direction. In three or four days more carry it away to a new stand during the day, when the largest number of workers are out foraging. Of course nearly all the outside workers it contains will return to the new swarm on the old stand, and the object is to so weaken them that they cannot swarm. But while this plan works very well in perhaps a majority of cases, it is uncertain and not to be depended upon. It not infrequently happens that there is a young queen all ready to go out with the second swarm in three or four days after the first, and sometimes sooner.

DRONES.

This is the month for the drones, their heyday and their harvest, when they appear to enjoy life to the fullest, with plenty to eat, excellent digestion, and absolutely no care—nothing to do. They eat and excurt and excurt and eat, for to-morrow (next month) they may die or be killed.

But the drones are rather unprofitable to the bee-keeper. They get away with much of his surplus when they are numerous. Of course they have one important function to perform, namely, the fertiliza-

tion of the young queens, but the workers, in a state of nature, are greatly inclined to "over production" of these gentry for that purpose; and we must bring in some of the Malthusian or Besant "checks" to over-production. A common practice is to behead the drones in the cells before they hatch, and let the workers lug their defunct carcasses out. But this is attended by a great loss of work by the bees in rearing them and then ejecting them. The proper way is to get rid of the drone comb, by cutting it out of the frames wherever it is present, and replacing it with worker comb or foundation. Of course a few frames or partial frames of drone comb are requisite for the rearing of necessary drones, and these may be placed in the choice colonies from which we desire to breed. Sometimes when the brood-chambers contain much drone comb, the drones steal a march upon the apiarist and hatch in large numbers, when a drone trap will come in play, or they may be shaken from the frames along with the workers in front of the hive and a Jones "bee-guard" placed at the entrance, when the workers will re-enter, but the drones be excluded, when they can be destroyed. The "bee-guard" may also be used to great advantage in keeping inferior drones in the hive when young queens are being mated.

Burying Bees.—Clipping Queens.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—In the columns of the JOURNAL last fall was published an account of burying bees, copied from the practice in Sweden, and we were promised through the same medium, the results of the experiment as to how the bees came out this spring, and what it took to keep them through the winter. It was a somewhat important experiment, and if successful, might bring about a revolution in wintering bees. Please make the result public if possible. Mr. Pringle, in your last issue, gave his method of hiveing swarms, but I did not understand the method of clipping queens, didn't so much as know that it was practiced. There may be quite a number who, like myself, keep a few colonies for their own use, and to whom such knowledge might be useful. Will Mr. Pringle please explain? It may be too late for use this season, but the information will keep.

GEO. BINNIE.

South Grey, June 14th, 1888.

ANSWER BY A. PRINGLE, SELBY, ONT.

As to burying bees and other modes of wintering, I shall go into these subjects in the fall in the JOURNAL, in time for service before putting bees into winter quarters.

The "queen clipping" and its objects may be briefly explained as follows:

In a few days after the young queen hatches from her cell (from five to ten days on an average) she leaves the hive or nucleus on her "bridal tour," generally in the afternoon of a fine day, when she meets the drone in copulation on the wing, and becomes fertilized for life as a worker laying queen.

The virgin queen lays fertile drone eggs, but not until after mating with the drone can she lay worker eggs. Some other insects besides the queen bee have this virgin fertility (*parthenogenesis*).

The young queen may fail in becoming mated on her first excursion, when she repeats the trial till the nuptials are consummated. After the meeting, which takes place on the wing and which terminates the life of the drone, the fecundated queen returns to her hive or nucleus whence she came, and usually in two or three days thereafter begins to lay, that is, to deposit worker eggs in the cells of the worker comb. As soon as she thus begins to lay worker eggs, we may safely clip her wings, as it is unnecessary that she should again take wing. This can be done by almost any one who can handle bees. Smoke the colony a little at the entrance first, then lift the cover and quilt or honey-board off, give them a little more smoke at the top, lift out the frames one after another till you find her, pick her gently off the frame with the left hand by the wing, let her rest or give her foothold on your knee or some other place to steady her, then with right hand with a pair of sharp scissors

clip off about one-half of the wing which is free from your hand, and gently place her back on the frame or in the hive. It is better, however, to let her run on the frame where you can observe her for a few moments, for occasionally, if she is much agitated, and also on account of the foreign scent received from your person, the workers attack her (called technically "balling") and hold her prisoner, sometimes stinging her to death, but if the clipping is done near the middle of the day when the bees are busy at work, the "balling" is a very rare occurrence. If, however, you observe the workers angrily gather around her in a knot when she is released, secure her again, and place her in a little wire cage over the frames, daubing the cage well outside with honey, leave her here till about the same time next day, when gently lift the quilt, pour honey over the cage, partially remove the stopper so that she can crawl out, and close up the hive.

I am not speaking here to professionals, but to the amateurs. There is no use in telling a beginner in queen clipping to take a longitudinal slice off one wing, embracing about one-third off of it, etc., etc. If he gets a clean clip of about one-half off one wing without taking something else off with it, all will be well, and practice will make him perfect.

The advantages of having the fertile queens clipped are so obvious as to require no special elucidation. How it diminishes the work and worry of the swarming season in the apiary, I have already explained.

A Heavy Penalty.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Good intentions will not avail unless they are founded on knowledge. We cannot be too diligent in getting useful information on any business in which we are engaged. I have in mind a friend engaged in keeping bees. He had spent about \$200 on them, and fetched them through the winter all right. In the spring he commenced cleaning the hives, keeping one clean hive ahead of him. He cleaned them thoroughly, washing every particle of dirt from them. It took him a week or two to do it, and when he got through and examined the ones he started with, found that the dampness had killed every bee.

Hamilton, Ont.

R.

Horticultural.

Pruning Apple Trees.

Once again we feel constrained to enter our protest against the severe pruning to which apple trees are so often subjected. If the trees are pruned every year they will not require this; but even some who prune every season keep the top of their trees so much cut away that the vitality of the tree is seriously impaired. The lungs, through which a tree breathes, are its foliage. It follows, then, that the greater the amount of the foliage, the larger the inhaling power of the tree. So far as rapid growth and strong development are concerned the tree would fare better without pruning at all, but there are good reasons, nevertheless, as to why pruning should be practiced. Where cultivation is undertaken amidst trees, the lower limbs must come off. Then there must be room within and through the top to let in a fair amount of sunlight, and to mature and ripen the fruit a good color, and dead limbs must be removed to avoid unsightliness of appearance.

The second argument is the one that is most abused by pruners. With the ostensible object of letting in light, leading boughs are cut off until those that remain remind one of ostrich stilts with a little down upon them. This is usually done, we believe, because it is the easier method. It takes longer to do the work when more of the leading limbs are left and the smaller branches on these have to be thinned. When so many of the strong limbs are cut off the area for fruit bearing is seriously curtailed, and the crop correspondingly lessened. Of course thinning must be done to let in the sunlight, but let it be the thinning of moderation rather than the thinning of butchery.

When so much of the top is removed the economy of circulation and growth are seriously interfered with, and observation has taught us to conclude that the general effect is to induce more or less of stagnation and premature decay.

Take two young trees; let one throw out branches at will, lop off the extremities only of those that are not wanted to remain. And in the case of the other, keep it trimmed up something of the whip and stalk order, and the first will distance the second in its advances beyond all comparison. The reason is that in the second case lung power has been curtailed, so that but little encouragement was given to the development of the circulation. The same principle obtains throughout the growth of the tree. These magnificent maples whose umbrageous tops cover each many square rods of ground in the clearing, would never have so developed had they been severely chiselled by the pruner every year.

It is often argued that without severe pruning a large quantity of the fruit will be inferior. We answer that with moderate pruning the quantity of good fruit will be much greater, and we will have the inferior in addition. In any case there will be a proportion of the fruit inferior. Moderate pruning all along is certainly the best, leaving with the tree plenty of boughs to enable it to do its work.

The Outlook for Fruit.

With the general wail that is ascending over the failure of the hay and fall wheat crops, there is some comfort to be derived from the prospect for a good crop of fruit, particularly the great standard fruit, the apple. The reports from most places indicate an unusual amount of bloom, a large proportion of which has well set, owing to the dry weather at the blooming stage. This, though unfavorable and indeed fatal to the growth of some kinds of crops, was favorable to fruit-setting, as the trees with roots far underground did not feel the effects of the drought like crops dependent on supplies found near the surface. The pleasant local showers that have since fallen in many places, will be very helpful to the growth of the fruit. Peaches will be a fair crop, it is supposed, in the Niagara district, not so good in the Grimsby region, and poorer still further west. Plums will yield but moderately, after the heavy yield of last year, and so of pears in the main, but the crop of apples promises to be very good, and the outlook is fair for grapes.

The crop of small fruits will be but moderate. Strawberries have yielded shyly owing to cold and dry weather, but raspberries will do better. Amid the many discouragements of the season to the farmers, it is ground for thankfulness that we are likely to have a fairly good crop of fruit.

Small Fruits.

Mr. E. Morris, one of the proprietors of the Font-hill nurseries, read a very useful paper at the Woodstock meeting of the Fruit-growers' Association, 1887. We subjoin some of its most valuable suggestions in reference to the growth of strawberries and raspberries.

"For strawberries the ground should be thoroughly prepared by deep ploughing, followed by harrowing and cultivating until it is fine and mellow, after which it should be well rolled. This preparation will pack the soil so that a good ploughman can cut a straight furrow, leaving it clean and smooth on the landside for planting against. These furrows should be three and a half feet apart, and plants set 15 to 18 inches. The planter holds the plant in position with the left hand and draws a little soil against it with the right; the furrow is then filled about two thirds with a hoe, and packed by tramping with the feet,

filling up, afterwards, even with the top of the crown with loose soil. This planting should be done as early in the spring as the soil is dry enough to work properly. For small plantings a hoe and spade may be used instead of the plough. In case of drought or late planting, the roots should be thoroughly puddled before setting. The first season all blossoms should be cut off, and no fruit allowed to set. The care consists principally in keeping the soil loose and moist by frequent cultivating between the rows, which at the same time throws the runners in, thus forming a matted row. The rows should be kept clean by weeding with the aid of a hoe, where it can be used. As soon in the fall as the ground is frozen sufficiently to bear a waggon, the plantation should receive a light covering of straw, scattered over the plants very evenly, and only heavy enough to not entirely hide them; the following spring, as soon as growth commences, the straw should be raked between the rows and, allowed to remain as a mulch until after bearing."

In small plots if good strong plants are selected, and planted during September month, with some care they are pretty sure to do well. It may be an advantage to do this in plots for home use, in some instances, as it puts the work of planting past. The Wilson's Albany is perhaps the hardiest berry that has yet been produced, and the most prolific if not the most palatable.

In reference to red raspberries, Mr. Morris says: "A deep loam or sandy soil should be selected. The Cuthbert, where hardy enough, is acknowledged by all to stand at the head of the list for medium to late. Where the Cuthbert winter-kills, the Brandywine and Turner should be substituted. For early, the Hansell is promising. Instead of planting in the common hedge row system, I would recommend setting in hills three by four feet, ground previously marked that distance as for corn planting. During cultivation, work both ways for the first two seasons, using a cultivator with knife to cut off all suckers, which is absolutely necessary to secure a good crop of fruit.

"The second season after planting, about one-third of a crop may be expected. The third year, after the ground is thoroughly cultivated both ways, the plants will be large enough so that the tops of each hill should be divided. Half the canes should be bent over in the row, overlapping those of half the next, which should be bent to meet; the tops are then tied in the centre. The hills should be tied in the direction of the wide rows, thus leaving nearly four feet clear for cultivation during the season. The advantages of this mode are: the plants are kept from being broken down by wind-storms; the fruit is kept up from the soil, and more convenient for picking; also leaving the centre of the hill open so that the new growth will not be shaded, thus securing a more stocky and better growth for bearing the following season, and reducing the expense of cultivation, as hardly any hoeing will be required. The old bearing canes should be cut short soon after bearing, which will allow the ground to be cultivated both ways again."

Red raspberries grow easily, and bear enormously. Every locality has some soil adapted to their growth. No farmer in the whole Dominion, where the climate is not absolutely too keen, should be without a full supply.

The Home.

How to Live.

He liveth long who liveth well!
All other life is short and vain;
He liveth longest who can tell
Of living most for heavenly gain.

He liveth long who liveth well!
All else is being flung away;
He liveth longest who can tell
Of true things truly done each day.

Waste not thy being; back to Him
Who freely gave it freely give;
Else is that being but a dream;
'Tis but to be, and not to live.

Be what thou seemest I live thy creed!
Hold up to earth the torch divine;
Be what thou prayest to be made,
Let the great Master's steps be thine.

Fill up each hour with what will last,
Buy up the moment as they go:
The life above, when this is past,
Is the ripe food of life below.

Sow truth, if thou the truth wouldst reap;
Who sows the false shall reap the vain;
Erect and sound thy conscience keep;
From hollow words and deeds refrain.

Sow love, and taste its fruitage pure;
Sow peace, and reap its harvest bright;
Sow sunbeams on the rock and moor,
And reap a harvest-home of light.

—Horatius Bonar.

Past, Present and Future.

Those who have but little to do or to care about, who have no great end to accomplish nor hopes to fulfil beyond the search of pleasure for its own sake, find that, while present time seems to move slowly and the future looks drear, time which is past seems, on the other hand, short and unsatisfactory. Looking forward, they are appalled by the length of time they know not how to use; looking backward they can call up but few vivid memories of good work accomplished or strong purposes fulfilled, and but little therefore to mark the years that are gone. On the contrary, those whose life is a worthy and useful one, who labor energetically and heartily, with good success, look backward upon a long defined past, while the future seems all too short for the aims they have in view. A year full of activity, resolution, and enterprise will offer a long and pleasant page for memory to dwell upon, while a year of bodily inaction, mental vacuity, and general supineness will melt from the remembrance like a tale that is told.

The Old Farm.

Out in the meadows the farm-house lies,
Old and gray, and fronting the west,
Many a swallow thither flies,
Twittering under the evening skies,
And in the chimney builds her nest.

Ah! how the sounds make our old hearts swell,
Send them again on an eager quest,
Bid the sweet winds of heaven tell,
Those we have loved so long and well,
Come again home to the dear old nest.

When the gray evening, cool and still,
Hushes the brain and heart to rest,
Memory comes with a joyous thrill,
Brings the young children back at will,
Calls them all home to the gray old nest.

Patient we wait till the golden morn
Rises on our weariness half-confessed:
Till, with the chill and darkness gone,
Hope shall arise with another dawn,
And a new day to the sad old nest.

Soon shall we see all the eager East,
Bright with the Day-Star, at Heaven's behest,
Sworn, from the bondage of clay released,
Rise to the Palace, the King's own feast,
Birds of flight from the last year's nest.

—Christian Union.

Faithfulness.

The faithfulness of a man should never be gauged by the mere extent of his work. A large amount may be overtaken where the quality has been inferior, or where other obligations have been neglected while performing it. Faithfulness has always a high degree of regard for quality, and is heedless in nothing that relates to furtherance of the task in hand, whether for self or for another.

Jottings.

Read the Advertisement of the Creamery Supply Co. on another page.

Buffaloes.—Mr. Warden Benson, Stony Mountain Penitentiary, Selkirk, Man., has a herd of buffaloes. It is probably the only herd domesticated in the North-West.

Ensilage for Sheep.—Ensilage fed to sheep has been found to agree with them well. They should, however, get some uncut feed along with it, and a modicum of grain.

We Have Pleasure in Calling the Attention of our readers to the advt. of Ingleton & Co., Brantford, Ont., manufacturers of threshing machines, portable traction and saw-mill engines.

Holsteins.—At the dispersion sale of the Holsteins owned by Mr. Thos. B. Wales, jr., of Iowa, 51 females sold for an average of \$456, 15 bulls for \$454, and the 66 head sold averaged \$455.45.

Notice.—A few subscribers still in arrears will please renew their subscriptions at once. Please bear in mind that no names are removed from the subscription list until all arrears are paid, as prescribed by law.

Crop Prospects in Manitoba.—Mr. Jas. M. Jamieson, Gladstone, Man., writes on June 9th: "The farmers in this part of the country are jubilant this spring again over the crop prospects. We had two heavy days' rain this week.

Live Stock in the United States.—The total number of horses in the United States is 13,073,936, cattle, 49,234,777, swine, 43,505,025, and sheep, 43,544,755. These figures were given in the report of the Statistician of the Department of Agriculture for April.

Composition of Soils.—Prof. Fream, in a recent article in the *Mark Lane Express*, gives the following as the best composition of soils for producing: Sand, 50 to 70 per cent.; clay, 20 to 30 per cent.; pulverized limestone, 5 to 10 per cent., and humus, from 5 to 10 per cent.

Industrial Exhibition Prize List.—Intending exhibitors should send for this prize list without delay. It may be had by sending a postal card to Mr. H. J. Hill, manager and secretary, Toronto. It is a splendid prize list. The entries for live stock close positively on the 18th August.

Kyloe Cattle.—It is thought by many that this hardy breed will very largely supply the place occupied by the buffalo in the North-West in furnishing hides. Their hardiness is such that they can stand even an ordinary blizzard. The experiment is also being tried in Manitoba of crossing them with the buffalo of the plains.

Jerseys.—8,328 animals were registered by the A. J. C. C. during the past year, as against 8,300 the previous year. Of these, 2,280 are bulls and 6,328 cows. Four animals only during the year have been imported. The financial condition of the club is satisfactory, \$24,000 being on deposit. The membership is 398.

Canvassers Wanted.—If any of our readers, not having time themselves, know of any person in their neighborhood likely to devote a little time in getting us a few subscribers or even in forming a club for next year, we shall esteem it a favor if they will kindly send us his name and address, when we will send them sample copies, etc., for the purpose.

Business Cards.—Even if a breeder has nothing to sell, the publication of his "card" is of use to him. It keeps the name of his herd and his own name before the public. It is virtually an invitation to any one interested to call and examine the breeding stock, and when he has stock to dispose of he will find that they are not strangers to the buying public. *The Gurnsey Breeder*

Pure vs. Crossbred.—Mr. J. Y. Ormsby, in the stock notes col. of this issue, uses the following language: "We would urge upon the farmers the necessity of being more particular about keeping their Shire and Clyde blood separate, as the American buyers are declaring more and more every year in favor of the pure-bred horse in preference to the cross bred." The advice given here will also apply to other lines of live stock.

Valued, Because Undoubtedly Candid.—MR. EDITOR,—I have read your publication for the last twelve months carefully, and must say that though there are many things in it that are neither useful nor instructive, yet upon the whole I do think it is the best of its class published in Canada, and if some of the useful hints thrown out were carefully carried out by the farmers of this country, they would be found to add many a dollar at the end of the year to their pocket-books.—Thos. Baird, Bright.

Moosomin Exhibition.—The prize list for exhibition which will be held at Moosomin, Oct. 4th, is to hand. The prize list for live stock and agricultural products is respectable. A commendable feature is the encouragement it gives to the work of school children. It is well sustained by liberal contributors, of which the Shorthorn breeder, Mr. R. J. Phin, stands at the head. The secretary is Mr. R. D. McNaughton, Moosomin, Assiniboia.

St. Catharines Business College.—Our next issue will contain an advertisement of a new work on Book-keeping, published by the St. Catharines Business College. It

claims to be fully up to the times and ahead of anything yet produced in Canada. Those who intend to take a commercial course would do well to secure this latest work on the subject. Introductory price is only one dollar. See advt., "Two Months at Grimsby Park."

Breeder's Directory. There are scores of stockmen in various districts who we believe would find it would pay them well to have a card of two or three lines in the "Breeder's Directory." Oftentimes their stock is superior, but being known only to their immediate neighbors, they have little chance of getting its full value when placed in the market; whereas a card would bring it to the notice of thousands of readers throughout Canada and the United States. The cost is only \$1.50 per line per annum.

Agricultural Societies.—While we earnestly thank those who took so much interest in the JOURNAL last season, will not our friends in those Agricultural Societies where the plan has not been adopted see their influence to have it included among their premiums? We believe it would be the means of very materially increasing the demand for a better class of stock in the neighborhood. Any society wishing to offer the JOURNAL in this way will please communicate with the publishers, the Stock Journal Co., Hamilton, Ont.

Dishorning Cattle.—The battle is still raging between the friends and foes of this system, more especially in the Western States. Wm. Home, V. S., of Janesville, Wisconsin, is faithful in his denunciation of the cruel system which is finding favor with many. In the *Country Gentleman* of May 10, he cites the case of a herd of cows that were dishorned, and in seven weeks the milk fell from 13 to 9 pounds. In another instance 27 animals were dishorned, two died, five came near dying, and the others degenerated. He claims that the vital forces are injured by the process.

To Stockmen.—This month we publish breeders' cards from Mr. Isaac M. Cross, Bond Head, Ont., a successful breeder of Berkshire pigs and Southdown sheep; from Messrs. R. & J. Gumett, Ancaster, who are breeding extensively, we understand, the Ohio improved Chester whites, and from Mr. Jas. Brown, of Thorold, Ont., who owns a choice herd of Shorthorn cattle; also a nicely displayed advertisement from Mr. D. Alexander, Bridgen, Ont., with cut of head, an exact picture of his beautiful cow Lady Violet Lure. Though not generally known, Mr. Alexander has an exceedingly choice herd of Shorthorn cattle.

Shropshire Sheep and Hereford Cattle.—Breeders and importers of the above will derive considerable advantage by communicating with Mr. E. G. Preece, live-stock agent, of Shrewsbury, Eng., who is able and well pleased to give them much valuable and reliable information, and render them every assistance in the selection, purchase and shipment of stock. His knowledge of the various pure-bred stocks and herds is most extensive, and he can advise foreign buyers as to the best and cheapest stocks to select from. Mr. Preece has on sale by private treaty, selections from many noted flocks and herds, with full pedigrees, description and lowest prices of each, and will be glad to place buyers in direct communication with the home breeders, for which service he makes the reasonable charge of 2½% on amount of purchases. He also buys on commission very extensively.

The Ayrshire Herd Book Controversy.—As this controversy is heavily freighted with the elements of personal acrimony, unless this in future is kept well in the background, we must take the stand that it must close with the August issue. If anything important bearing upon the subject is to be brought to light, both parties will be heard in that issue. Our counsel is, bury by-gones, come together at Kingston, and weld together the amalgamation knot, so rudely snapped when almost tied. The standards are now virtually the same. What then is there in the way? The only thing, so far as we can see, is the perversity of human nature, which, like weeds, can best be pulled up by the owner of the land. For the sake of the dairy interest of Canada, for the advancement of the reputation of Ayrshires as a breed, for the honor of the associations, we urge another attempt at union. A house divided against itself, what eventually becomes of it? The advocates of rival breeds are capable of saying enough adversely without their best friends doing it. Which of the organizations will make the proposal first?

The Provincial Exhibition.—The prize list of the forty-third Provincial Exhibition, which is to be held in Kingston, Sept. 10th to 15th, 1888, is to hand. The usual classes are found in the list for horses. A special sweepstakes (\$40) is offered by the Clydesdale Association of Canada, for the best Clydesdale stallion of any age, recorded in the Clydesdale Stud Book of Canada. The American Clydesdale Association offer

the following silver medals on condition that each animal successful in the competition, be recorded in the American and Clydesdale Stud Books: Best stallion, 4 years old or over; 3 years and under 4, 2 years and under 3, 1 year and under 2, and the same for mares of different ages. Gold medals are also offered by this Association, for best Clydesdale stallion and mare of all those awarded silver medals at the Provincial Fair, and will be awarded at the 5th annual show of the American Clydesdale Association, to be held in Chicago, in November, 1888. In the cattle classes, three herd prizes are offered for herds in Durhams and Herefords, and two in the other classes except Devons and grades, where but one is given. There is no distinction this year between home bred and Canadian, always very desirable where the funds can be obtained. Throughout the sheep classes, silver medals are offered for pens, home bred and imported, in all the classes, save Dorset-Horned and Merinos, and the same in the Berkshire and Suffolk pig classes. In the classes for dairy products, the prizes are very ample, fine money prizes being given for best four firkins creamery and also dairy butter, not less than forty pounds in firkins and for similar amount creamery, made in crocks or in rolls. Splendid prizes are also offered for factory made cheese, in some instances fine cash prizes. The prize lists are full as usual in all the other classes. All entries of live stock must be made on or before the 18th day of August. Prize lists may be had on application to the secretary, Henry Wade, Toronto. The exhibition promises to be one of much interest. Kingston itself is beautifully situated on the lake, and has many places of historic interest to engage the attention of visitors. New buildings have just been erected on the new grounds accessible to the city, and everything at present indicates that it will be an exhibition of more than ordinary interest.

Errata.—In the article, "Fodder Growing and Food Supplies," this issue, by Mr. James Chesman, several errors unfortunately appear, the writer's revise reaching us too late for correction. They are as follows: On page 200, first column, lines 14 and 35, "miniature" should read "immature." In line 40, read "immature stalks." Third line from bottom, "among" should take the place of "using." In second column, line 27, read "70 per cent," instead of 30; and last line but one of article, "stomach" instead of "standard."

Stock Notes.

Horses.

Mr J. Y. Ormsby, V. S., of Messrs. Ormsby & Chapman, Oakville, Ont., reports the demand for draught stallions a little brisker this last spring. He has shipped two car loads of stallions, imported and Canadian bred, to the Western States. He would urge upon the farmers the necessity of being more particular about keeping their Shire and Clyde blood separate, as the American buyers are declining more and more every year in favor of the pure bred horse in preference to the cross-bred.

Mr. H. W. Green, of the firm of Green Bros., Innerkip, has arrived home safely after a very rough passage, and has brought with him the two-year-old Shire stallion Sir Joseph II (6399), a rich brown in color, with two white feet. He is one of the best pedigreed colts imported to this country, being sired by the celebrated Helmdon Emperor (2799) (who has been very successful both in the show ring and also in the stud), and his dam is Queen of the Fyde (winner of the first prize two years in succession at the Cheshire Agricultural Show), by the renowned Honest Tom (1105), winner of six first prizes at the Royal in successive years, his grand dam Brock being 2d at the Royal in 1877. Mr. Green has also brought the 4-year-old Shire mare Georgia, a dark chestnut sired by Royal George II (2485); dam Glad Tidings, by William the Conqueror (2343); g. dam Genet, by Champion (419). Georgia won 3d prize in a very strong class at the last London Shire Show, and will doubtless prove a valuable acquisition to the stud of Shire horses at the Glen Stock Farm. The young Shire stallion sold by this firm to the U. S. last winter has given much satisfaction.

Messrs. Ormsby & Chapman report their stock doing well. They have sold the imported Shire stallion Lambly to Messrs. Witte, Wood & Co., of Strawberry Point, Iowa. Lambly took 1st in his class and the silver medal at the Provincial at Ottawa last fall. They also report the following sales of Shropshire sheep and improved Yorkshire pigs: "To Amos Clark, Dundalk, 4 ewe lambs, 2 Horace Wilson, Dickinson P. O., 1 ram lamb; to John Bell, Nashville, Mich., U. S., 1 ram and 2 ewe lambs; to John Stephens, Trafalgar P. O., 1 ram lamb; to Geo. Stokes, Mariposa, Ont., 1 boar; to Kolt Moffat, Morewood Ont., 1 boar; to John Leyes, Hessin P. O., 1 boar; to E. I. York, Pt. Credit, 1 boar; to J. M. Hurley, Belleville, 1 boar and 1 sow; to A. G. more, Huntington, P. Q., 1 boar and 1 sow; to J. I. Campbell, Gosford, Armstrong Co., Penn., U. S., 1 boar and 2 sows. They have also sold to Mr. Wm. Davies, of Toronto, the imported sow Holywell Diamond, in pig to the imported boar Holywell Wonder II. Mr. Davies is commencing a herd of improved Yorkshires on his farm in Markham, as he is satisfied that they are the most profitable pig that can be fed.

Shorthorns.

Mr. W. J. Elmer, Sharon, Ont., writes as follows: "My stock bull Favorite, bought from the Russell Bros., Richmond Hill, Ont., out of Sabella (6), by Prince Royal (720), although taken care of by inexperienced hands, and not making the show himself he otherwise should, is making a fine show in young stock, and has proved himself a very sure getter."

We are indebted to Mr. I. A. McDonald of McDonald Bros., Marshall, Mich., for the details of a public sale of Short horns and Herefords owned by Mr. David Henning, of Wheatfield, Mich. The 25 head of Shorthorns sold averaged \$101, and the 15 head of Herefords \$125. The two-year Cruikshank heifer Mysie of Turlington, bought at the Conley sale for \$123, sold for \$175, by far the highest price paid for any one animal sold at the sale.

In the herd of Mr. S. Campbell, Kinellar, Aberdeenshire, Scotland, 18 bull calves and 25 heifers were dropped between Jan. 1st of the present year and 24th May, all sired by the bulls Gravescend (40401), and General Booth (54353). They

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.

JAMES BROWN, Thorold (Welland Co.) Ont., breeder of pure-bred Shorthorn cattle. The bull Bridman 12th heads the herd. Stock for sale.

FOR SALE—YOUNG SHORTHORN BULLS, COWS and HEIFERS. Prices to suit the times.
THOS. SHAW, Woodburn P. O., Co. Wentworth, Ont.

BERKSHIRES FOR SALE

Spring litters. Excellent pedigrees. Can furnish sows and boars of strains in no way related. Markings good and shapes right. Prices reasonable.

THOS. SHAW, Woodburn P. O., Co. of Wentworth, Ont.

FOR SALE CHEAP OR EXCHANGE for Southdown Ewes—two Shorthorn calves, bull and heifer, three months old.
W. H. & C. H. McNISH,
Lyn, Ontario.

BULL FOR SALE.

Durham or Shorthorn bull, Prince Rex, registered in Dominion Herd Book. Calved in 1883, sire, Baron Baringtonia (28202); dam, Juno and 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 1580 lbs., 16½ hands high, and registered in 10th vol. C. S. B. of G. B., also C. S. B. of Canada, winner of a first prize; also 12 varieties of pure-bred Poultry, at low prices. Bronze Turkeys a speciality. Correspondence answered by sending 3 cent stamp.

MAJOR THOS. HODGSON, Port Perry, Ont.

A. J. C. C. H. R. JERSEYS

All ages, at reasonable prices, f. o. b., with feed, without extra charge. For sale by ALBERT P. BALL, Lee Farm, Rock Island, Stanstead Co., Que.

WANTED

Some Shire, Clyde and Percheron horses with five straight crosses, from two to five years old. Address, giving full particulars and prices,

C. C. WALKER, Cantril, Iowa, U. S.

SHROPSHIRE FOR SALE CHEAP.

from imported ewes, 5 two-shear rams and a shearing ewes. All choice animals. Address

ISAAC N. COHEN, Hespeler, Ont.

SHROPSHIRE AND HEREFORDS—TO IMPORTERS.

E. G. PREECE, Live-Stock Agent Shrewsbury, Eng., has the best English stocks and herds, at lowest prices. He assists importers in purchase and shipment of stock, also buys on commission. Highest references. Reasonable fees. JY-3

FOR SALE

One Ayshire bull, two years old in last April; one Ayshire bull, two years old July 20th; one Ayshire bull, one year old, June 2nd; one Jersey bull, one month old, by the celebrated Canada's John Bull; twenty five Ayshire heifers two years and one year old.

E. W. WARE, 22 Jackson St. W., Hamilton, Ont.

VALUABLE

STOCK FARM FOR SALE

FOR SALE, the farm known as "Cranberry Farm, five mile from Fergus, eleven from Guelph, belonging to the late John S. Armstrong, parts of lots 28 and 29, 1st and 2d con., Eramosa township, containing about 230 acres, 200 cleared and in high state of cultivation; 40 acres hard wood bush, balance in well timbered swamp. This is one of the finest stock farms in the stock raising county of Wellington, being watered by three living springs and a running creek, and having accommodation in stone buildings, for sixty head of cattle, twelve horses and forty pigs; also frame buildings for forty sheep. A good bank barn 72 x 61, a good stone house, and a first-class orchard and garden are also on the premises. Will sell part or whole to suit purchaser. Parties wishing to view the farm will be met at Guelph or Fergus on giving notice of arrival.

For terms, etc., apply to ADAM A. ARMSTRONG, on the farm, or Speedside P. O. JY-2

belong to Nonpareil, Ury, Mina, Goldendrop, Wimple, Cecilia, Miss Ramsden, Jessamine and other tribes, the dams of which appear in vol. xxxi of the E. S. H. B. The owner assures us that not a calf was lost during that period. The admirers of these cattle in Canada will therefore have a fine opportunity of selecting this year again.

We learn with satisfaction that the enterprising breeder, Mr. Thos. Good, of Shamrock Avenue Stock Farm, Richmond, Ont., has decided to go into the breeding of Shorthorn cattle, and to commence with, has purchased from Mr. G. N. Kidd, Carp, Ont., the prize winning trio, viz.: bull Kossuth and cows Lady Burnside and Bright Eyes. The cow Burnside Lady has at root a magnificent roan heifer calf, and Bright Eyes a splendid roan bull calf named Royal Shamrock. Mr. Good has shown his usual good judgment in his selections, as Ontario can boast of but few better bred cattle. We wish and anticipate a bright future for Mr. Good as one of the leading stockmen of our Dominion.

The private catalogue of A. Cruikshank, Sittytion, Aberdeenshire, Scotland, is to hand. It bears the date May, 1888. It contains pedigrees of 120 Shorthorn females and 5 bulls. Of the females, 9 are Violets, 9 are of the Venus tribe, 11 are Secrets, 12 are Braithwuds, 7 are Victorias, 4 Duchesses of Gloster, 24 are of the Crocus tribe, 12 are Favorites, 14 Lavenders, 4 Snowdrops, 2 Lovelies, 2 Orange Blossoms, and the remainder tribes not so well known or so numerously represented. As to color, about one half the females are red, and four of the five sires are the same color. The bulls are Cumberland (46144), a roan; Federal Chief (51251); Gondolier (52956); Commodore (51118); and Gondomar, a one-year. These and their dams have all been bred at Sittytion. The only other particulars that we get apart from the pedigrees and index, are that Sittytion is 13 miles north of Aberdeen by road, and 3 miles from New Machar, a railway station on the Buchan branch of the great North of Scotland railway.

We call attention to Mr. Ballachey's card, which appears in new form in this issue. He has doubled his farming area, which now amounts to 300 acres, and has a nice little herd of Shorthorns headed by the grand Bow Park bull Waterloo Duke 25th, a son of Ingram's Chief (51423), bred by W. Handly, Millinthorpe, England. The London *Agricultural Gazette* in reference to Mr. Handly's stock says: "A striking feature in their young bulls is their immense growth and great docility, and of their females there is not one that would not pass creditably at a show of dairy cows. There is no pampering of this stock. The yearling heifers devoured their evening feed of oatstraw as if it was a great treat. It was a proud thing to say that the last 13 bulls that Mr. H. had sold had made an average of 13 guineas each." Mr. Ballachey goes in for milk and beef. He has 3 Scotch females, the rest are Bates of good milking and breeding strains. He has sold out very close, but has a few nice bull calves on hand. Mr. B. has started with a nice flock of Shropshires, chiefly comprising a selection of imported ewes from Mr. Dryden, of Brooklyn, and other breeders of note. His imported ewes all produced twins. He has a number of choice young sows and boars from stock of the Messrs. Snell, of Edmonton, and also from the Riverside farm. His four imported Shetlands are great pets and the great delight of all juveniles.

Holsteins.

The Hollett Bros., of Cassel, Ont., report that the summer trade in Holsteins is opening out very bright. They made the following sales during the last two weeks: 1 cow and 1 yearling heifer to Mr. W. Muisner, Port Robinson. This is the second purchase by Mr. Muisner since January; 1 bull calf and pair of yearling heifers went to Mr. Elias Mott, Norwich, Ont.; 1 yearling bull to Mr. D. N. Eckstein, Neustadt, Ont.; and yearling bull to Mr. E. Pearson, Cassel. They have now all their stock at home. The last two consignments came through quarantine in very good order. Their spring calves are gems of the breed, all sired by noted sires.

M. Cook & Sons, Aultsville, Ont., report the sale of their bull Gugartha Prince 514, to W. J. Mulloy, West Winchester, the centre of a fine dairying country; also the bull Gugartha Prince 11th, 9079, and heifers Jennie Hamilton 3d, 11535, and Jansy Cook, to T. J. Bennett, Spencerville, Ont. Mr. Bennett has been handling Holsteins for some years, and as a practical dairyman is more than pleased with them. They also write, "We never saw a better demand for our stock than exists at present. We could have sold twenty bulls this spring had we had them. So far as our experience goes, hard times and slow prices are unknown to the Holstein men."

The Smith Bros., of the Credit Valley Stock Farm, Churchville P. O., Peel Co., Ont., write: "A few days ago we returned from a trip through the States, having bought while away eight head of Holstein cattle. We bought five at the dispersion sale of Mr. Thos. B. Wales, of Iowa City, Iowa, and three in Michigan. Thos. B. Wales sold his whole herd of 66 head at an average of \$455.53 a head. This speaks well for the black and whites, and puts them in the front as animals valuable in the estimation of dairymen and breeders. We consider ourselves fortunate in securing such animals as the following: Mink's Mercedes Baron, one of the finest young bulls in Mr. Wales' herd and a most promising young animal. His sire is the great Mercedes Prince, whose dam has a milk record of 88 lbs. in one day, and a butter record of 3 lbs. 10 oz. in one day; 24 lbs. 6 oz. in 7 days; 99 lbs. 6½ oz. in 30 days. Mercedes Prince has six daughters that averaged 16 lbs. 5 oz. of butter in seven days as 2-year-olds, averaging one pound of butter from 16.32 lbs. of milk. Three of these made a pound of butter from 14.2½ lbs. of milk as two-year-olds. He is claimed to be the best milk and butter bull in the world. The dam of the young Baron is Mink, who has a milk record of 96 lbs. in one day; 249½ lbs. in one month; 16,628½ lbs. in one year. She has a butter record of 20 lbs. 9 oz. in seven days. She made on grass alone, 3 lbs. 9 oz. of butter in one day. We also bought Harmonia, who has a butter record of 16 lbs. 1½ oz. in 7 days. Harmonia's Mercedes Prince, a most promising young bull, Kramer 2d, a fine 2-year-old, and Bonnie Ethel's Mercedes, in Michigan we bought two two-year-old heifers and one yearling. These are now in quarantine. We have also sold eight head during the past few weeks. They were Mountain Princess, a most promising two-year-old, who has had a fine heifer calf since being sold. She goes to A. Wenger, Ayton, who will do well by her; Dina

T. one of the finest cows in our herd, an excellent milker and a half sister to our heifer Cornelia Tensen, will in all probability make a great record next year; Rothmere Twisk, a most promising young bull who will yet be heard of as a great stock getter because he is a very well bred young bull; Pride of the Pines, a fine young heifer from Dina's. These three go to John Gemmill, Wroxeter, who has now an excellent foundation herd, and will be a good man to introduce this noble breed into that part of Ontario; Euthalia and Corelia Ykens, two most excellent 2-year-old heifers are from the great prize taking bull Ykens. This bull took the sweepstakes several times, and always came out first wherever shown. These will not be shipped till after the fall show. Maid of Clinton, a fine heifer, rising two this fall, goes to J. Gibbs, Parkhill. Her dam had the finest and largest udder of any cow we have ever seen. She will make an excellent cow. The promising young bull Jensen King, last but by no means the least in any respect, is from our 1-year-old heifer Cornelia Tensen, who has a milk record of 70 lbs. in one day; 47½ lbs. in seven days; 194 lbs. in one month. She averaged more than 16 lbs. of milk for the first three months, and is now doing well on her fourth. The sire of this young bull is the bull at the head of herd, Duke of Edgely. It is not necessary to quote from his pedigree as it is already so well known. He goes to J. J. McCrae, of Cornwall.

Galloways.

SALE OF GALLOWAYS.—General Arthur C. Ducat, of Downes Grove, Chicago, Ill., has purchased from Thos. McCrae, of Guelph, a small lot of very select, highly bred Galloways. At their head is the imported bull John Frost (4255), 2 years old, bred at Troquhain, New Galloway, Scotland. John Frost is a young bull of great substance, weighs 1526 lbs., is a very level, lengthy animal of good pedigree. His sire was Dauntless (2878), 11 years at Lamlough; g. sire Macleod II of Drumlanrig (1676) 553, for many years at the head of Mr. Thos. McCrae's herd, and winner of 15 first prizes. John Frost has in his pedigree such celebrated animals as Black Prince (546), Pretender (617), Sir John the Graham (522), Stanley (1348), Bob Burns (235) and others. He gets two 3-year-old heifers, Mary 8th, of Tarbrooch (6229), and Lucy of Balig 19th (10503), both very fine animals. Mary 8th was the best 3-year-old that Mr. McCrae had, and was the top pick last year out of a field of 60. She is sired by the famed bull Scottish Borderer 669, and was bred by James Cunningham, of Tarbrooch. Her grand dam Bridesmaid of Tarbrooch (1674), was a leader in the prize lists of the Highland Society for many years, and one of the best that Mr. Cunningham ever bred. The other heifer, Lucy of Balig 19th, was bred by R. & J. Shennan, of Balig, sired by The Mackintosh 3d (2546), and descended from Stately (691). This family, the Stately, represented by the Lucys and Idys of Balig, is second only to the Hannah (214) family among Galloways, and of late years has produced many very choice animals. There are only two or three of this tribe in America. Lucy 19th has a fine bull calf at foot sired by Freedom (2548). Genl. Ducat also gets from Mr. McCrae, Rancee 7th, of Guelph, the pick of his two-year-old heifers. She was one of the prize herd of yearling Galloways at Ottawa last fall, sired by Corporal (1838), one of the animals lost in the wreck of the Brooklyn on Anacostis in 1885. Her dam Rancee IV (5544), was a prize winner at the Highland Society Show at Inverness in 1883. The lot is a choice selection of the best from Mr. McCrae's herd.

Sheep and Pigs.

Mr. H. H. Spencer, of Brooklin, Ont., writes: "Stock all doing well and in fine healthy condition. Have not lost a single animal this season. Sold recently to Mathewson Bros., Bradley, Clark Co., Dakota, U. S., 1 two shear ram, I Am What's Wanted No. 4854; 1 imported shearing ram Victor No. 6099; 1 shearing ram Rosebud, 17 choice breeding ewes over two years old; 8 shearing ewes all recorded, and 30 extra choice spring lambs of both sexes, 58 in all. The demand for choice Berkshires is good. Sales made of late; 2 choice young sows to H. Green, Greenwood; 1 large sow to Mr. Colwell, Audley, and six others to parties in this neighborhood. Berkshires are about the only class of pigs bred in this part of the country."

Mr. George Green, Fairview, Ont., reports the following late sales of Berkshires. To Richard Delbridge, Winchelsea, Ont., 1 boar and 1 sow; to John Hooper Jr., Metropolitan, Ont., 1 boar; to Jas. Teva, Beech Grove, P. Q., 1 boar; to A. Wenger, Ayrton, Ont., boar and sow; to Neil McDougald, Allenford, Ont., boar and 4 sows; Thos. Dewar, Wellesley, Ont., 1 sow; to Jas. Martin, St. Marys, Ont., 1 boar; to W. C. Ramsey, Belleville, Ont., boar and sow; to John Fishleigh, Ingersoll, Ont., boar and sow; to Alexander Cameron, Ashburn, Ont., 2 boars and sow; to Alexander Stewart, Hintonburg, Ont., 1 boar; to G. G. Oliver, Shakespeare, Ont., 1 boar; to John Bray, Wroxeter, Ont., 1 boar; to Wm. Kough, Owen Sound, Ont., 1 sow; to John Ferguson, Camlachie, Ont., 1 boar; to Wm. Haragan, Kinkora, Ont., 1 boar; to Mr. Bald, Nissour, Ont., 1 sow; to W. H. & C. H. McNish, Lyn, Ont., 1 sow; to S. Sherwood, Springford, Ont., 1 boar; to Albert Willson, Norwich, Ont., 2 sows; to Geo. Wood, Stratford, Ont., 1 boar; to Mr. Liversege, Fullarton, Ont., 1 boar; to Tobias Nash, Seaforth, Ont., 1 boar; to Robt. Sproule, Belton, Ont., boar and sow; to Jas. Pickel, Wellburn, Ont., 2 boars and 1 sow; to John A. Scott, Stratford, Ont., 1 sow; to J. T. Macnamara, Leadbury, Ont., 1 boar.

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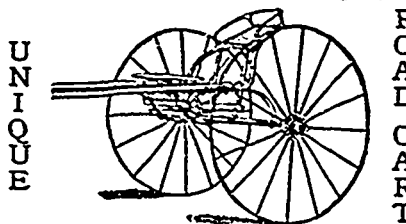
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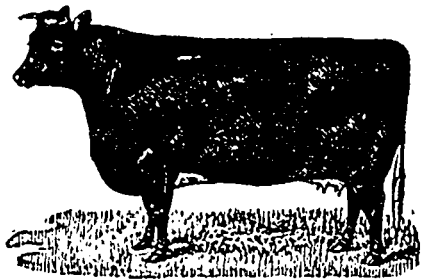
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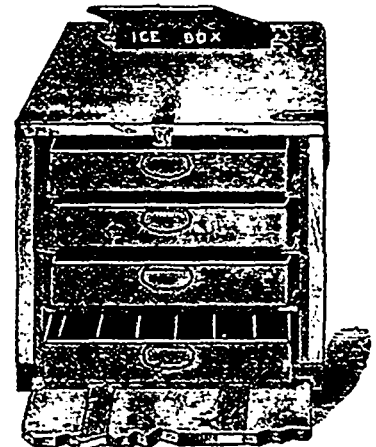


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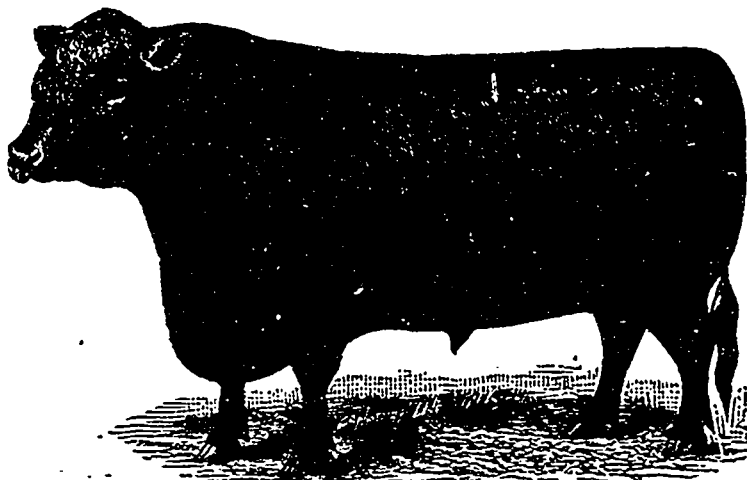
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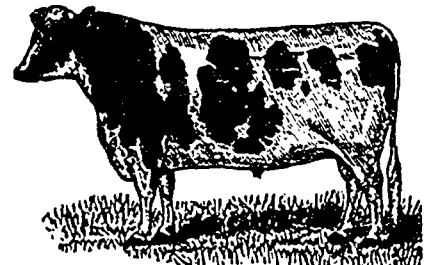
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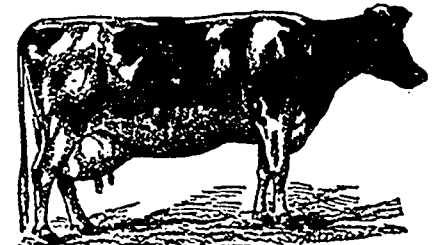
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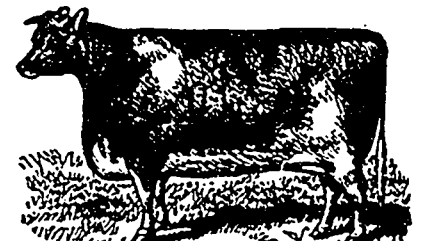
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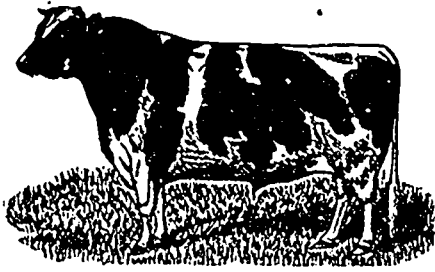
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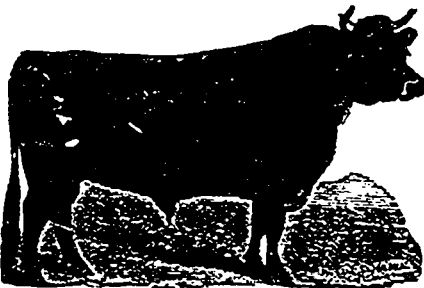


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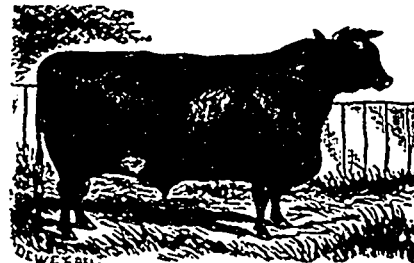
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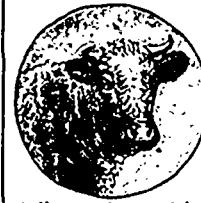
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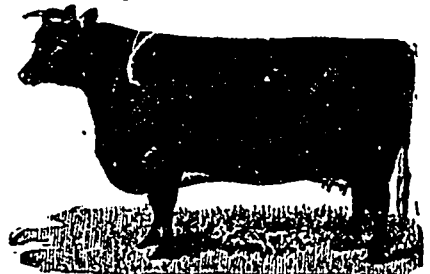
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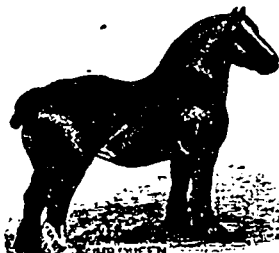
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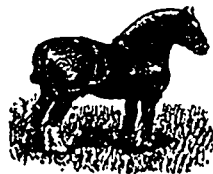
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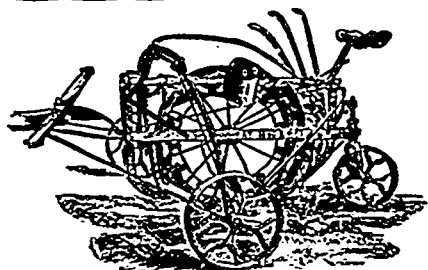
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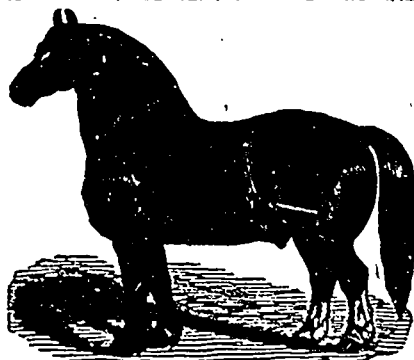
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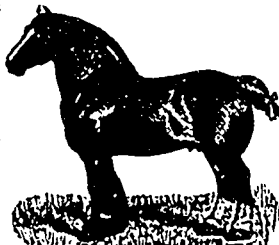
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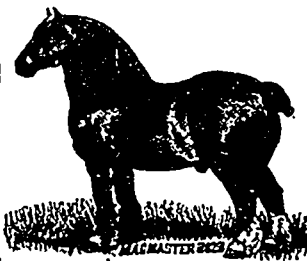
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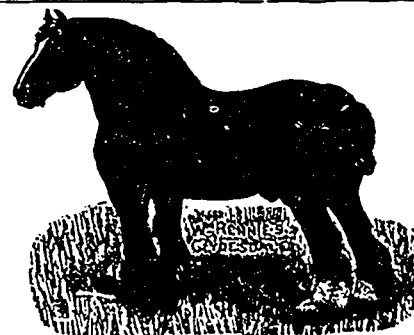
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