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(Memo—Mr. Wilson uses a 7 ft. Corbin with Seeder. He also bought another 7 ft. No. 30, last spring, having use for two harrows. The work above referred to was that of the first harrow only.)

T. TIERNEY, Esq., Ex-Rector of Twp. Two: "Rosedale, Simcoe Co., Nov. 19th, 1888.

"Have used it for three seasons, and given entire satisfaction. Boxes and disks not worn to any appreciable extent. The draft is considerably less than the Spring Tooth harrow, in fact this harrow has been laid aside since we tried the Corbin. Can cultivate about 10 acres per day with ease."

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THE CANADIAN LIVE-STOCK AND FARM JOURNAL

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

VOL. VI.

HAMILTON, CANADA, FEBRUARY, 1889.

No. 64



GROUP OF ABERDEEN-ANGUS POLLS.

Bred by and the property of Hon. M. H. Cochrane, Hillhurst, Quebec.

A "Doddie" Family.

Heavily laden with laurels yet unfaded, and the din of their victories in the world's arenas yet resounding, surely every stock lover worthy of the name, and not stiffened with the starch of favoritism, is willing to do tribute to the "Doddies." Since their inception as a breed their's has been a glorious record, always to the fore, if not foremost, and never lagging behind. It is surely a fitting time to present such a handsome group as that above, being the first prize herd at the Provincial at Kingston last September, and all of Hillhurst breeding, the produce of Paris 31 1163 (2276), and his son Lord Hillhurst 3990 (3961), from the imported 315 guinea cow Lady Ida 2d 1920.

Lord Hillhurst 3990 (3961), now four years old, stands at the head of the herd, and well does he embody the true Doddie characteristics. He is smooth and snugly put together, with fine bone, and black glossy covering, as soft as a kid glove. His head is clean, with prominent eyes and nicely arched crest. No throatiness, but nicely gathered with full neck vein and well-fleshed crop. His deep chest, his bright eye, and other healthful indications, are reliable criterions of a vigorous constitution, the forerunner of strong impressive power, always a marked feature of

his polled compeers. His body is smooth and abundantly covered, with plump quarters and heavily muscled thigh. Standing broadside, does he not verify McCombie's words when he says, from the poll and crops to the tail a representative of this breed should be "straight as a rash?"

The four-year-old cow Lady Hillhurst Forbes 3911 (6627), by Paris 3d, from Young Lady Forbes 2d (2555), of the Sylph branch of the Tillyfour Queen Mother family, is beauty personified. Her head is devoid of anything unfeminine, with neck short and body well ribbed and deep. No sign of patchiness is there, but from lug to tail as even and smooth as the paper on which she is sketched. Her loin is strong, and she has every qualification that goes to form a superior breeding cow.

Lady Ida Forbes 6919, a beautiful two-year-old daughter of Lady Hillhurst 3911 (6627), by Lord Hillhurst 3990 (3961), shows in her manifold qualities the blended excellences of such a dam and such a sire. She is sweet dispositioned with proportions happily adjusted, and no quality developed at the expense of another. She is very neat and of good growth for her age.

Bonny Maid 6937, is a two-year-old by the same sire as Lady Ida Forbes. She is a handsome beast,

level and neatly put together, close to the ground. Her underline and topline are parallel; her hocks well placed, with lengthy quarter, and quality not to be surpassed. She has the maternal look and qualities that go to make a breeder of the first rank.

A pleasing yearling is Jeanette 6932 by Paris 3d, from Jean 10th, of the favorite Easter Tulloch Jean family. She is a true representative of the "Prime Scots" in every sense of the word, markedly showing, as she does, their many excellent qualities. Her head is prettily set on a short, thick neck, joining easily her full prominent chest, nicely keeled with a beautiful brisket. She stands well on her short, fine-boned legs, which support a body of such dimensions as to give free play to her digestive apparatus, besides being a model of compactness and symmetry.

Valentia 8064 is a yearling daughter of Lord Hillhurst and the well known show cow Vine 2d of Skene (3320). She is a tidy youngster of great promise. She has a motherly look beyond her age that gives every indication of making her of great worth for breeding purposes. Couple her rare individual merit with her ancestral connections, and the foregoing assertion is strongly upborne. Though young, yet her form is perfect and her quality is her sheet anchor.

Canadian Live-Stock & Farm Journal

PUBLISHED MONTHLY BY

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48 John Street South, Hamilton, Ont.

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

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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, 13c. 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, FEBRUARY, 1889.

By having the mares foal in late fall or early winter, one of the most risky seasons of colt life is done away with. We refer to that when the colt runs at the heels of its mother while she is doing the customary work during the spring and summer months. It warmly housed and nourishingly fed a colt will make a rapid and strong growth during the winter. For the rearing of a vigorous and robust colt the dam should be well fed and given every condition that will tend to increase her milk yield and better its quality. The mare is also idle at a slack time, which also permits of care and attention being given to her colt. It is the custom of some to divide their mares into two batches, one coming in in the fall and the other in the spring, thus leaving the fall ploughing, etc., to the one, and the spring work to the other.

In moments of hurry we are very apt to thoughtlessly commit acts that may give the dumb animals under our care severe pain. One of the most common of such practices is to put cold, frosted bits in the horse's mouth without endeavoring in the least to warm them by rubbing or any other method. Would that those fostering such practices could feel the sharp, biting sting that accompanies the touching of the tongue to a frosted piece of iron every time they commit such an offence on their uncomplaining charges. In cases where leather bits cannot be safely used we would heartily recommend the covering of the bits with leather, which can be easily done by even a novice. By soaking the leather, sewing it tight while so, and afterward rubbing down the seam, a smooth, neat job can be made.

PERMIT us to remind our readers of the unprecedentedly large list of live-stock, farm implements and book premiums we are offering (a list of which appeared with the December issue of the JOURNAL) to those securing subscribers to the JOURNAL. We want every reader, when renewing his subscription, whose leisure time is limited, and who is unable to get a large list of names and thus secure

one of the above premiums—to send us one new subscriber for 1889—and every reader can do so if he will. We do not want it for nothing, but will give free one of the following books to every subscriber sending \$1 and one new name for 1889—along with his renewal, viz: Tanner's First Principles of Agriculture, 35 cts.; Fuller's Illustrated Strawberry Culturist, 25 cents; Our Farm of Four Acres, 30 cts.; Elements Necessary to Success in Business Character, by Hon. John Macdonald, Toronto, 35 cts.; Life of Queen Victoria (a Jubilee Memoir), by G. H. Pike, 35 cts.

It is a common saying that the bull is one half the herd, and no doubt true; but because true, this should no. make us too indifferent to the weeding out of the cows. By breeding the best to the best only, can the best results be obtained. Those who desire to have herds of the first order must give these most careful attention. Some bulls are so pre-potent that they stamp their characters on all the progeny, never theless a better calf will be obtained from a cow that is right in shape than from one that is not. This holds equally true in breeding for beef as in breeding for milk, and also in breeding for both butter and milk. There is no saying where the improvement would cease if as much attention relatively was paid to the selection of the female in any line as to that of the male. The temptation to sell best females and to content oneself with inferior in the hope of the improvement of those left, should be resisted. In that case the standard of the herd can never get beyond a certain level, and that point is the standard of the beasts which are thus sold. A point may be reached where so many are good that drafts from amongst the best may be made without harm, but this has not been a very common experience in the past.

THAT the pure-bred has not been better patronised by the ordinary farmer is due, in the majority of cases, to such an instance as this by no means frequent occurrence: A farmer, becoming thoroughly imbued with the idea that pure-bred animals are the sole requisite for a life of prosperity and its attendant happiness, invests largely in a herd of pure-bred animals. Thus launched without a helm, carved by the skilled hand of experience, his craft is soon grounded on the rugged rocks that now stud the former smooth stream of life. He expected from those animals that which was not in them to give—a valuable product from poor material and unwonted conditions. It cannot be argued with any force that under the worst conditions the pure-bred will surpass the native, but under the best, surely those animals that have been bred almost since the dawn of day for one special purpose will prove the winners, while those that have not been so bred and selected will bring up the rear. Had such a one as we have mentioned began with a pure-bred sire and contented himself with the grading of his herd, a wrong impression would not have been diffused nor a pocket materially lightened.

THERE has been a great advance made in the improvement of all classes of stock that are to be found in this country during the last half century, and in this fact all right-thinking men must rejoice, whatever their calling or the interest they have in the prosperity of the State. So far-reaching has this improvement been that it has permanently elevated the highway sheep even, and has made heavy inroads upon the domain of the scrub in all the lines of stock-keeping. The men who have been foremost in working the improvement have been called "speculators," "manipulators," and various other epithets, anything but complimentary. This reminds us of the

conduct of the ragged little arabs of the street who struggle to get away from their captors whose principal design is to feed and clothe them, and thus to give them a chance of fighting the battle of life with some measure of success. It is only by the most persistent course of perseverance that any important reforms are brought about, and we are very glad indeed to see that those engaged in improving their own stock and along with it the entire stock of the country, are inclined to persevere. The dairy breeds are receiving a large share of attention at the present time. And the beefing breeds, though they have passed through a season of depression, are emerging in increased numbers and improved in quality. One of the blessings attendant upon a period of depression in live-stock is, that it impresses upon breeders the necessity as well as the wisdom of sending the culls of both sexes to the butcher. Sheep are improving in prices with the increased demand, and the breeding of heavy horses grows apace. With much reason for encouragement with past results as a whole, those engaged in the work of stock improvement may ply their energies with fresh courage, knowing that they are on the right road.

Our Premiums.

When we made the first announcement of our Live Stock Premiums as awards to those securing new subscriptions to the JOURNAL, we were determined to push the object in view, viz., to increase our circulation, and indirectly be the means of distributing good stock in various parts of the country. The extent to which we have succeeded will be made known in a future issue of the JOURNAL. We have awarded prizes of pigs, sheep and poultry to many who succeeded in getting the requisite number of subscribers, and while we have, we believe, given satisfaction in every case, our patrons soliciting from such wellknown breeders as Wm. Whitelaw, of Guelph, and J. C. Snell, of Edmonton, we yet are able to duplicate any of the prizes mentioned, and we hope those who are still working for any of our premiums will continue to do so with energy. We assure everyone that the premiums will satisfy them. We have arranged to forward the prizes in advance to responsible parties, and to extend the period for getting the required number of names a reasonable length of time. And so in regard to our farm implements and books—we can recommend them all.

Up to date of writing the farm bells seem to take best. We only yesterday shipped a very fine one to a young man sending us twenty new subscribers. Those sending us subscribers for our books are too numerous to mention this brief article.

It should be remembered that all readers whose subscriptions are paid to December 1889, get free our beautiful lithograph of the Ontario Agricultural College and Experimental Farm, Guelph, Ont. Judging from the expressions received from all parts of the country, it is greatly appreciated by our readers.

In December issue of the JOURNAL we referred to the satisfactory manner in which the subscription list of the JOURNAL was this season increasing. While we speak with reluctance of our own business, it is certainly gratifying to find subscriptions coming in at a rate unprecedented in other years since the JOURNAL began. We take it that our large constituency feel we are doing all we promised when we began, and we again wish to thank our friends for the support given us. Our motto is work, work, work. To our friends we say, send us new names; our old readers stay with us, and we will give you the JOURNAL for 1889, better if possible than in any preceding year.

Evils of Overstocking.

It is important that farms should be stocked to their full capacity, otherwise a portion of the food must be sold, while it is exceedingly probable that in such a case an equivalent will not be returned to the soil; hence there must be a lessening of the productive capacity of the same. But full capacity is a somewhat indefinite factor, owing to the fitfulness of the seasons. A certain number of eaters might be full capacity one season, and the next too large a number by one-half, owing to the unfavorable nature of the season for crop production. It is variations of this nature arising from fitful seasons that render it so difficult for the stockman to adjust the numbers of his live-stock to the exact capabilities of the farm.

It is plain that if one season average in crop production sustain a certain number of eaters, and is followed by another of serious shortage, either an equivalent in foods equal to the amount of shortage must be bought, or the number of eaters must be reduced, or what is exceedingly injudicious where it may be avoided, the stock may be put upon short rations, which usually means no returns to the owner, if not a very large amount of loss.

It is plain that the third method should be avoided at all hazards. The second one might answer when food is cheap, but in such a time it is both scarce and dear. Now, the purchase of food when it is dear can seldom be made to pay the ordinary farmer. If the margin is not very large at any time in the return got for food turned into meat, or milk, or horseflesh, it is plain there can be no return when the food has materially advanced in price, which it is almost sure to do in a season of serious shortage.

It is usually better, then, to adopt the first method. This, however, may not so easily be done. A season deficient in production usually smites the pastures equally with the crops of grain, which greatly enhances the difficulty of the fattening process. Unless stock is in a fair condition it can never be sold at satisfactory prices either to the butcher or for breeding purposes.

Nor will it avail at such a time to seek relief at an auction sale, unless prices below value are to be accepted, and when the stock are purely bred they will fare worse at a sale than when they are simply grades. The idea of excellence is prominently associated in the minds of the multitude with pedigree, and very properly so, hence when pedigreed stock out of form through leanness, are brought to the hammer, they are sure to sell at prices that are ruinously low.

It is safer to keep the farm rather under than overstocked. If there is a surplus of food it is usually not nearly so difficult to purchase stock as to purchase food when the latter is both scarce and dear. There can be no serious objection to carrying over a limited supply of food when the latter is plentiful, which is sure to come good in an emergency such as we have referred to.

If, however the stockman finds himself on the verge of winter, with a large stock on hand and an under supply of food, it will even then usually be found more profitable to accept low prices for them than to buy provender at high rates.

The chances of liability to be overtaken with shortage are much reduced when a variety of crop is grown, and especially when due attention is given to the growth of supplemental crops of fodder. Corn, especially, will grow fairly well in a dry season, if sown early enough to secure germination, providing that it gets sufficient attention in the after cultivation.

It is plain, therefore, that a farm may be appar-

ently over-stocked when it is not, and because sufficient attention is not given to the growth of fodders in the proper season. The attempt is often made grow these out of season, which cannot give results that are satisfactory.

There is more liability to over-stocking with pure-breds than with grades, as sales are made upon a different basis. The owner of pure-breds naturally shrinks from selling to the butcher meat and pedigree for the same price that is usually paid only for meat, yet sometimes this should be done. It will be found to pay in the end. It would be wiser to do this than to buy feed at dear prices. Especially is this true in the case of pedigreed males. They should, in nearly every instance be sold under 18 months, for after that age they often sell for a less price than when about one year old.

The adaptation of the amount of stock to be kept to the amount of food produced, and *vice versa*, requires the most judicious forethought and the greatest promptness in putting forth effort at certain times, as in the giving of food or reducing the herd or flock. Yet so greatly is it that the stockman who is wise will at all times give it his most serious attention.

A Sheep Breeders' Association for Canada.

Some argue that such an association is not required, others that it is. Some hold that there is really no good work that it can accomplish, others that there is abundant work to justify its establishment. With the latter we concur. If there is no good work that a sheep breeders' association can accomplish in the wide domain of Canada, then there is no good work that the American Sheep Breeders' Association can accomplish in the United States or indeed, in any other country. Ask the American Sheep Breeders' Association to disband, on the ground that there is no work for them to do, and they will smile benignly at the foolish simplicity of the request. If the formation of associations for the furtherance of the interests of the different breeds of live-stock is a mistake, then the history of improved breeding of live-stock is a mistake also. The Shropshire and Southdown breeders in England have both committed a grave blunder, and so has each one of the half dozen sheep breeders' associations in the United States.

There is much useful work that a sheep breeders' association can do in Canada with its present population of five millions, and no doubt the province of that work will increase when the population is ten millions. Good work can be done in regulating the exhibiting of our sheep and by none so well as by a sheep-breeders' association. We know not how soon its good offices may be required in regulating the importation and exportation of sheep. Our American friends may, before very long, say they don't want any of our sheep without the payment of an enormous registration fee, as they said to England not very long ago in regard to Hereford cattle. The American Southdown breeders have recently said that they will not register imported sheep without the payment of a fee of \$5, and when they fancy the opportune time has come they may say the same of Canadian breeds. In such an event the remonstrance of a powerful association might be of some avail, when it is certain that that of individual breeders unorganized would not.

Again, it is always legitimate for any association to bend its energies in securing an open or a better market for its products. This item alone would be a sufficient justification for the organization of a sheep-breeders' association for all Canada. Every farmer knows how much wool he has to sell. Let him mul-

tiply the number of pounds by the cents and he will know pretty certainly what he loses by not having a free market for his wool. We can imagine the influence which a powerful sheep-breeders' association might exercise in this direction, while at present the isolated clamors of every sheep-breeder in the land will be of little or no avail.

In regard to separate registration for this country this is clear, if it be a wise thing to have registration in any line, why should the principle be objected to when applied to sheep. If the principle of separate registration of live-stock is a mistake, then the Clydesdale, Ayrshire and Shorthorn breeders have all blundered. Suppose the individuals engaged in breeding in those lines were brought together, can we for a moment suppose that any considerable number of them would vote in favor of continental registration in one American book. We do not think so, not even the Shorthorn breeders who have come through a little tribulation in rectifying the blunders of former registration.

The *Kansas City Live-Stock Indicator*, a journal that is usually distinguished by the good sense which characterizes its editorials, came out some time ago with some not very sensible effusions on this subject in its relation to Canada. It said, in speaking of the success of the American Shorthorn Association:

"The only possible drawback is in Canada, where a few misinformed men seem to want to start an association of their own, which no doubt they have a perfect right to do if they choose, but the wisdom of such an act is quite another thing. While it is no part of our duty to dictate to them the course they should pursue, yet with a full knowledge of the premises we would say that wisdom and future prosperity alike commend cheerful conformity with the essentials of membership of the American association as the surest and safest basis of future success. If we are correctly interpreting the possibility of an isolated Canadian association that cannot carry with it the most reliable breeders within the Dominion of Canada, then the click that flashed the news of its birth might easily be construed to mean something of a very undesirable nature to its members."

This great luminary of Kansas City, with a "full knowledge of the premises," seems to have taken accurate measure of the knowledge or lack of knowledge possessed by those "few misinformed men" in Canada who desire a sheep-breeder's association for their own country. Have not these Canadians the same materials from which to draw information as this great light in Kansas City? and mere assertion on his part will never establish the fact that they have neglected to make a good use of their opportunities. Wherein are these benighted Canadians "misinformed?" They are clear on the point that, through the efforts of association on the part of the Shropshire breeders of England the breed has been popularized in a remarkable degree in a very short time, that through the effort of association in the United States the same result has been obtained, and now, because they desire to have the same thing done in Canada they are "misinformed." They know full well that when the American breeders get sufficient blood over there to satisfy the leaders of the association, they may lay any registration fee they please upon both English and Canadian Shropshires, and because they are looking this probability in the face they are "misinformed." Those Canadians know full well that the opponents to the Shropshire registration in Canada are less than half a dozen who have reasons of a personal nature for preferring American registration, and be-

cause they know this, they are "misinformed." The "few" are on the side of American registration and the many in favor of a Canadian association, and yet this Kansas writer with a "knowledge of the premises" speaks of an "isolated Canadian association" that cannot carry with it the most reliable breeders. Our Canadian sheep-breeders will do well to bear in mind that in future, when they want to get information that they can safely follow, they must enquire at the oracle in Kansas City, the personification of all the wisdom of the great prairies of the south and west, who has a "full knowledge of all the premises."

Let our sheep-breeders give these matters their most earnest consideration. While nothing should be done hastily, measures should not be delayed too long through sheer indifference, which is sure to corrode.

Reflections of the Feeding Value of Foods.

In consulting the various bulletins issued by experimental stations, one cannot but be struck with the great variety of results obtained from feeding of similar foods under as like conditions as possible. So it is in practice, in some instances one variety of fodder gives the best results, but when tried again it falls behind, and in the majority of cases is at once condemned.

Not to mention the variety of conditions that may vary in the conducting of feeding experiments, we shall briefly refer to those that directly lessen or increase the feeding value of some of our common foods, leaving out of consideration their value as determined by chemical analysis.

Taking our great staple fodder, hay, we find that there is a great range in variation in quality. One of the prime factors in determining the quality of hay is the time it is cut. It is the general rule among a number of our farmers to wait for the "second bloom," as it is called. The advantage claimed for cutting it at such a time is that the hay is freer from dust, after being harvested, than if cut in full bloom. This is quite true, but it is an objection that cannot be urged against cutting it before it blooms. As a plant approaches maturity the amount of water in it decreases and there is a passage of nutriment contained in the stem and leaves to the seeds, as they ripen. This results in a tougher stalk and leaf of a lessened digestibility, as well as an actual decrease in nutritive material as regards the stems and leaves, but an increase as far as the seeds are concerned. The latter fall out on the harvest field, and are wasted, or pass through the animal seldom masticated or digested. Hay that is cut late in the season is no better, in fact, not as good in some cases, as straw that has been harvested on the early side. Hay that has been allowed to ripen thoroughly is more brittle and coarse in quality and there is a loss of the most valuable parts, viz., the leaves and other fragile portions. In the curing, also, there are considerations that more or less affect the quality. In the curing of hay the less it is handled consistent with thoroughly curing it, the better. It is the custom of some, besides adopting the sweating process, to not draw clover in until it snaps, when squeezed in the hand. The result of this is that the most digestible and most nutritive parts are lost. Dry hay ready to be taken in, if exposed to the rain, is not only damaged as far as color and flavor go, but also in digestibility. In the drying of hay Armsby states that all nutrients of dry, coarse fodder, are digested and resorbed to the same extent as when it is fed green. This is only true, he says when the fod-

der and the hay are otherwise of exactly the same quality, when both are cut at the same time and from the same field, and when some of the leaves or other tender and especially nutritive parts are lost during the preparation of hay. These are considerations never completely reached in practice. The storing of fodder for a long time has the effect of decreasing its digestibility besides rendering the food stored less palatable to animals.

In regard to the feeding value of grains the foregoing remarks may be more or less applied. When the straw is to be fed, it is best to cut it on the early side. From extended analyses Dr. Kedzie, of Michigan, came to the conclusion that the best time to cut wheat was when the grain was just past the milky stage, and had become doughy, so that it could easily be squeezed between the thumbnails. Cut at such a stage the grain would be richer, as the increase after that would be of starch, a constituent of little value for feeding purposes. This is as applicable to oats and other grains as to wheat.

So much for the conditions of harvesting that affect the feeding value; now let us consider a few that are more closely connected with the feeders' art. The prime element in this respect is the proper combination of foods. Just what influence one food has on the digestibility of another is not yet sufficiently settled to be given with any degree of certainty. It is, however, certainly known that a mixture of foods is absolutely necessary for economical results if it is only to tickle the palates of the animals by giving variety.

It has been found that as the animal's requirements vary, as for instance, in the beef and dairy animal, so do they not only require different foods but the relation of these constituents one to the other must vary. That is, to get the most economical results the flesh-formers (albumenoids) and the fat formers (fats), and the heat-producing constituents (starch), must be fed in certain proportions. For dairy animals it is given as 1:5.4, while for fattening animals it begins with 1:5 and ends with a much wider ratio, such as 1:6. Too great stress can be laid on a nutritive ratio, which has to be more or less modified to meet the requirements individual animals.

Further, besides the combination of the foods, the animal to which they are fed has a marked effect on their feeding value. To briefly illustrate, a cow with her many and complicated stomachs, would get far more nutritive substance out of such coarse fodders as hay or straw than a horse would, consequently such fodders have a higher feeding value when fed to ruminants.

Stock Breeding in Manitoba.

(From our own correspondent.)

The feeding of stock other than for family use, is comparatively a new thing in Manitoba. In the glorious days of old the settlers along the rivers went out to the big plains in the proper season and returned with a wagon load of buffalo beef and a good few robes to last over the coming winter. When the early settler did acquire a cow, her offspring was carefully husbanded, till in one case known to me, there were 40 descendants in ten years; and there is a tradition of a choice brindled bull, brought in by Hudson's Bay, that has left favorable imprint traceable to this day. Some 16 years ago an Irishman named Shannon left the neighborhood of Winnipeg and settled on Rat Creek, 15 miles north-west of Portage la Prairie, then the boundary between the white and red men, and himself, two Stuarts and David Morrison, his cotemporaries, are there to-day, fit-

ting representatives of the cattle interests of that early time. Walter Lynch, their near neighbor, is the oldest representative of blooded stock, the Shorthorns and sheep he then introduced, standing high still in merit. Within another three miles are Puxley, an English breeder, but a short time here, and Senator Sanford, the latest and largest cattle rancher in Manitoba. But the Northwest beyond them and east to Lake Winnipeg, is all a choice cattle country, while the Boyne, Nelson, and the Pembina Mountains are all well filled with good grade stock, because much fitter for that than anything else.

But this old Westbourne group, from Shannon down to Sanford, may safely be taken as representative of the whole country. The White Mud is a typical stock river. It winds through swampy flat land, with a lot of fine oak scrub in the loops, and sometimes a little way out, making choice winter shelter, with plenty of water and lots of natural hay within easy reach. The flies are never so bad in oak as they are elsewhere, and in such a season as the last, mosquitoes make life miserable for cattle everywhere. Intense heat in the breeding season, and damp, swampy grass, breed myriads of these pests, and it is not uncommon for a traveler to have to stop his pony and kindle a "smudge" of damp grass to give it temporary relief. Last year beasts could hardly have lived but for the smudges of half-rotted manure kindled on the windward side of their corrals, and kept going for several hours each night. At milking time the cows go right into the thick of the smoke, and so long as there are large stretches of swamp half dry, there will be misery for man and beast—less or more.

Shannon started with half a dozen little scrub ewes; he has usually 150 now, in which the high tails of the ancient females contrast with their shapely descendants.

The buildings of these early pioneers, partly logs, poles and straw, sometimes slabs from saw-mills, with ample light and ventilation everywhere, are open to a good deal of hostile criticism, as well as hard weather, and the general economy is of the easiest sort. A wide stretch of hay meadow, sometimes now as much as ten miles off and often five, is mowed as often as it will bear mowing, and stacked in the driest spot, at a cost of \$1 to \$2 per ton. About three tons to each beast is allowed for feed and chance prairie fires, a terrific scourge in old times, when the grass was long, and sometimes a great terror yet. Two tons will average up for winter keep, and with a straw stack in the yard to nibble at, less will do. Long, narrow slits in the ice are kept open all winter with an axe, and the beast spends five months of every year lazily and luxuriously munching hay or straw, moistened with an occasional sip from the creek, in whose windings they find shelter from every wind that blows, and often live with no other shelter whatever. It is warmer there than shut up in a shed full of windholes. In hard seasons when feed is scarce, cows will come out in spring scarcely able to stand; but if they do live through they fill up wonderfully in two months. The old timers settled in the bush along the streams, and did all their cattle-raising in this way, and a load of hay forenoon and afternoon was scattered on the snow, what was left from the evening feed being lain on and eaten up next morning. If there was a blizzard outside and no hay laid up for emergencies, they had to pick up loose straws till the weather calmed down, enduring both cold and hunger for days together. Those were the good old times, and we have still a good few representative old timers in the stock business. Lynch's

Ontario Shorthorns made a huge difference in the style of the cattle along this White Mud Creek, and at the Portage show the Totogan grades are never beaten. His neighbors, all Highland Scotch, own from 60 to 80 head each, and though they have hardly raised any grain, they have done quite as well with less anxiety than the grain farmers. Shannon, a typical Irishman, says they have less whiskey to give away now than in the old times, but they have still all the money they want. Another of his sayings is worth repeating: "It's best for a man to come in here motherately poor." Shannon has both fun and wisdom in him, and is well worth going to see and hear, as well as his cattle.

Senator Sanford, who has one place close to Westbourne station, and another five miles further up the White Mud, may be taken as a representative of more modern cattle farming. A year ago last spring he brought in a crowd of cows, from scrub up to half grade, but all in calf or with one at foot. The calf crop, 300 in all, about half of each sex, are a very mixed lot as becomes their ancestry. But this year's lot from imported sires, are of superior type. A young polled Angus bull has left very thrifty calves, but the Hereford sires are said to throw stock more easily fattened on the summer's grass than any other grade. One or two of these sires are from Stone of Guelph, and a credit to any breeder. One or two Shorthorn bulls are coarse and their calves the same. The Poll, if of good constitution, may prove as good as any, for he will give more of the best butcher's cuts. Long, low sheds, with walls, floor and roof of boards, shelter the 750 head of stock on the two places, though a capital barn is used for the horseflesh, which includes over 50 mares in foal. All these cattle are allowed daily the run of roomy yards in the bush, with high board fences; and like the old-timers, their hay hauled from meadows five miles off, is scattered on the ground and eaten up clean twice a day. Besides the outlying stacks there is a big reserve at home. They get nothing but hay and water, and are all thrifty. A few colts get a ration of boiled barley, and the mares in foal get easy work hauling hay. A little straw from oats or wheat would give agreeable variety. The manure from the yards is dumped over a bank to await the use of the improved Manitoba farmer of the future.

To winter the large crowd of stock 2,400 tons of hay has this year been put up, a few hundreds by contract at \$2, the rest by the farm hands and horses. The horses mow, rake into windrows, and load 80 loads a day with two mechanical loaders. On these boundless pastures cattle flourish and kill well, but the trouble is to tide them over from September, when the prairie grass gets dry, till frost makes it safe to kill for winter use. Chopped grain and a few roots sowed broadcast, are needed for a finer finish; but even grass-fed beef is wonderfully good, and worth now on foot 2½ to 3 cents a pound, according to quality. A run over the city markets any Christmas is all that is wanted to prove the quality of this easily raised beef.

Mr. Davey, an experienced and capable working farmer, has the charge of the whole Sanford farm, and is assisted by some well-doing sons. He has, in addition to his wages, an interest in the increase of the stock, of which he is thoroughly careful. Here, as over the whole province, there have been occasional losses by abortion, but so far this season no losses have taken place, most of the aborted cows having been sent to the butchers. One calf of this season, in spite of the torturing flies, laid on in fifteen weeks 269 lbs. of dressed veal, and sold on its legs at \$20.

Each cow suckles one calf, and as the better grade of female's comes in, better stock may be looked for, and more easy feeding qualities.

Farmers with only a limited stock of steers, feed in good warm stables, and there they can, from hay and water alone, turn out capital beef steers. A few roots and chop adds wonderfully to the flavor, and such carcasses bring up to 7 cents, dressed. Shorthorn grades are the rule, a stray Hereford, Angus or Holstein bull showing up here and there. One steer, killed by Benallock, scaled 2,650 lbs. at four years old, at the last Provincial show, and was fed along for Christmas beef. Two choice carloads of our grass-fed beef went to Toronto at Christmas, 1887, and as the demand increases there will be a gradual expansion of this industry, for there are wide areas to the north and east admirably fitted both for feeding and dairying.

Notes on Current Events.

At the annual meeting of the Clydesdale Association the other day it was resolved to make separate classes of imported and Canadian-bred Clydes at the forthcoming shows, and at the conclusion of the discussion which arose as to what constituted a Canadian-bred Clyde, it was, I think rather arbitrarily, decided that a Canadian-bred Clyde was a horse eligible for the stud book but not tracing its descent on the dam's side to an imported mare, i. e., that it must trace back on the dam's side to a mare that is not a pure Clydesdale mare. The argument adduced in favor of exhibiting imported and Canadian-bred animals in separate classes was, I understand, that it was hardly fair to compel Canadian-bred horses to compete against imported animals, thus admitting that the former are inferior to the latter. As to forming separate classes for imported and Canadian-bred horses, the decision of the Association was, no doubt, a wise one; but the definition of Canadian-bred arrived at from the pleas advanced at the meeting, is scarcely to be maintained by a society whose object is to keep pure and improved the breed of Clydesdale horses. In the first place the definition is a misnomer, as Canadian-bred certainly means bred in Canada as, if we apply the same rule to the human race, there would be no such person as a Canadian; and under the circumstances one cannot help thinking that the Clydesdale association would have done better if it had adopted the usual interpretation of the term. Another of the arguments used by the supporters of the decision was, that breeders ought to be able to breed as good horses here as in England provided they had imported mares, or mares from imported stock on the dam's side to breed from, here again admitting that horses tracing to imported ancestry on both sides are superior to those descended from a native mare; and the consensus of the majority of the meeting seems by its action to have coincided in this opinion. Now, if this opinion is correct, the Clydesdale Association has, by the action of its members, placed itself in a very awkward predicament. Here we have the curious anomaly of an association, whose avowed object it is "to maintain unimpaired the purity of the breed known as Clydesdales" (I quote from the Canadian Clydesdale report), not only registering but also offering prizes for stallions which are confessedly inferior on account of their ancestry on the dam's side. I may say that I have no animus whatever against the Clydesdale Association, but merely present the action of the meeting as it appears to an unbiased outsider. The Clydesdale Association are to be congratulated on their decision of awarding highly commended and commend-

ed cards at their ensuing shows. It has always been a matter of surprise to me why other shows have not long ago adopted the practice; the expense is trifling, and in a strong class it is often a greater honor to win a H. C. than a first prize in a class where the competition is weak; but why did not the association go a step further and instruct the judges to select a reserve number, in case of a protest?

For some time we have with each year been threatened with the demise of the Provincial, which some people contend has outlived its usefulness. Others, on the plea that there are too many exhibitions, are inclined to reduce the number by commencing with the Provincial. It is true enough that the supply is so far in excess of the demand that it is almost impossible to find a day which will not clash with some neighboring show. Still, why not prune the branches instead of the root, by doing away with the township shows in place of the Provincial. No doubt years ago, when roads were bad and railroad facilities few and far between, township shows were an important factor in educating and encouraging the surrounding neighborhood in the better methods of agriculture, but now there are few districts which are not brought by means of the iron horse, within easy distance of one of the large exhibitions. It has been said that township shows act as feeders to the large ones, and that exhibitors, by winning prizes at township shows, are encouraged to try their luck in stronger competition. However that may have been formerly, at the present time the results hardly justify the expense, and from a frequent attendance at many of the township and county meetings one cannot help feeling that one exhibition in each county would be quite sufficient. In a number of cases it will be found (1) that a considerable proportion of these shows are in debt, and if bad weather should occur on their fixture, there is a difficulty in paying their prize list; (2) it is almost impossible to fix a date which does not interfere with some other fixture; (3) it is difficult to procure attendance of competent judges, and in most cases the funds will not admit of securing experts from a distance: consequently improper decisions are frequently made, thus doing an injustice to the exhibitor and hardly tending to educate the masses; (4) considerable waste of time is incurred by attending all these shows, the exhibitors at one township show usually going the rounds of all others in the county, and with but few exceptions attempting a higher flight. Personally I should be extremely sorry to see the Provincial done away with, a show at which many of us have spent very pleasant as well as instructive hours. But if it should be decided that the Provincial should die a natural death, the question arises, what shall be done with the money, which every one seems to take for granted will still be voted by the Government for any useful purpose of a similar nature. Many suggestions have been offered on this subject, and to these I propose to add one more. Some little time ago a movement was made towards obtaining an Agricultural Hall, in which meetings and exhibitions could be held, and it is, I believe, still possible that such a building will yet be provided which shall be available for such purposes. Now, could the money be better expended than in holding, during the winter months, a series of show of the different breeds of horses, cattle, etc., as well as a fat stock shows in this building? At first, perhaps, limiting the exhibition of the pure-breds to the male sex. In time, if the results justified, female classes might be added. For instance, in addition to the fat stock

and the stallion shows, a bull show similar to the Birmingham (Eng.) show might be held, where, after the judging is concluded, an auction sale of all the bulls exhibited is made; then a show of carriage horses, hunters, etc., might be held, also concluding with an auction sale. If these shows were well supported, properly managed and well advertised, there is no doubt they would become large and valuable markets, and that purchasers would attend from all parts of Canada as well as the states, Toronto being admirably situated as regards railroad facilities. In this way the Provincial would again spring forth, only in a new dress, like the fabled phoenix from its ashes.

AGRICOLIA.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL

Stock-raising in Nova Scotia.

The fact that Nova Scotia is a very long way behind the rest of Canada in the matter of improving her live-stock, will scarcely be admitted, at least by Nova Scotians. But in Nova Scotia the live-stock interest is almost entirely represented by the scrub, and we in Nova Scotia would fain think that it is the same everywhere else; not in the Dominion only, but in all those countries in which the improvement of live stock is a business of importance. For we are unwilling to admit that our people are less quick to perceive the advantage of a good thing than are other people elsewhere; and if the advantage of pure-bred stock is as great as its advocates claim, how is it possible that farmers who wish to make money, and who certainly are not so wealthy as to feel any carelessness in considering and making trial of a plan which offers a prospect of success, do not secure improved stock at once.

Now the fact is, that farmers do not at all believe what is said in favor of any of the improved breeds, and they will not invest any money for that reason. In Nova Scotia, and doubtless in all the other provinces, the average farmer will have none of the improved blood, unless he can get it at the prices of ordinary cattle, and even if he could so obtain it, it seems doubtful if he would not prefer to retain his accustomed stock. The market for pure-bred animals is very irregular and unprofitable. Sales are seldom made, and when made, at very low prices, and usually not to practical farmers, but to theoretical farmers—men who do not depend on the farm for a living.

Under these discouraging circumstances, the interest in pure bred cattle is not gaining much strength, and many men who were disposed to put some money in it, are deterred from doing so, and some who had invested are going out of it altogether. These are, in many cases, persons who did not so much wish to make money as to make themselves useful in bringing about a needed reform, and in adding to the welfare of the farming population. They are naturally disposed to be sore and feel hurt. They blame the farmer for not taking advantage of their disinterested kindness, and conclude that it is useless to try to help him. But it is not fair to blame the farmer. Why should he take any stock in the philanthropy of stock-breeders? He is farming to make money, and not from a desire to feed the hungry multitudes. Profit is the *sine qua non* with him, and he buys in the cheapest and sells in the dearest markets, so far as he can. The farmer makes the most of his wares, and he expects the stock-breeder is about the same kind of business, and he largely discounts the praise which he sees and hears on all hands, of the improved breeds. He reads some remarkable statement about the product of beef or milk, and he smiles at the idea that it is expected that he should swallow—not this particular

statement, but the inference that all the animals of this breed should be equally productive. The farmer does not believe that improved stock is anything more than the stock in trade of a class of men whose business it is to get large prices out of gullible farmers, for an article which has not intrinsic worth to balance its great cost.

To my mind the farmer is right, and he cannot afford to pay the increased prices, with any hope of getting a proportionate profit, and it would be certain ruin for a farmer to buy pure-bred cattle at prices such as have lately prevailed. But the farmer, as a rule, is losing money on the cattle which he is raising. This statement is capable of proof. Cattle at three years old can be bought in Nova Scotia for a sum which would not provide them with food for one year. In consequence we see that the farmer gets for his produce only one-third of its market value. This is a very unprofitable state of affairs, yet it is the state of a great majority of the farmers in eastern Nova Scotia, and what is the remedy? The remedy is in improved stock, and in improved care of that stock. Of that there is no reasonable doubt, and no room for doubt. But the farmer in the meantime will not believe it, and if he did, his one answer to all advice to procure improved cattle is, I can't afford it. And indeed he cannot afford it. How could a farmer pay \$100 per head for cows of Jersey, Ayrshire or Short-horn breed, and at prevailing prices for beef, milk, butter or cheese, hold his own? He could not do it. Hence it seems quite clear that the farmer has no business with pure-breds. The farmer, to my mind, should devote all his attention to grade cattle. Bulls, or if they be too dear, bull calves of any or all of these breeds, can be bought for prices which are very moderate. Let a farmer buy a pure-bred bull calf, and raise him, giving him better feed and care than he has been accustomed to do with his own stock. Let us suppose that he pays \$50 for the calf. As he takes the place of one of the old stock he should be charged for keep as much as the farmer would realize from the animal so displaced, and for that item we allow \$30 at the age of 3 years. The whole cost has been \$80, and the bull at 3 years old will sell to the butcher for \$30. The cost to the farmer for the two years' service of a pure-bred bull is then \$50. Let us suppose that the farmer keeps 8 cows. At the end of three years he will have 4 two-year-olds, 4 yearling and 4 weaning females of the half blood, which have cost him for the twelve, \$50, the cost of the bull calf, or \$4 per head. Let him buy another bull calf to replace the first, and at the end of another three years he will have no scrub cow left in his herd. In their place he will have two $\frac{3}{4}$ blood, two years; four $\frac{3}{4}$ blood, one year; six $\frac{3}{4}$ blood, calves; four $\frac{1}{2}$ blood, five years; four $\frac{1}{2}$ blood, four years; four $\frac{1}{2}$ blood, three years; two $\frac{1}{2}$ blood, two years. Of these he can sell the half blood at five and four years, and retain for breeding the half-bloods at two and three years, and the $\frac{3}{4}$ blood at two years. In consequence he has a herd of grade cows, 8 in number, and to younger animals at a cost of \$100, or less than \$6 per head. In this way, and at a small cost, a man with reasonable perseverance, can, in the course of 15 years, have a herd of cattle in any chosen line of blood, which will be practically pure-bred, having four crosses. If these animals be Jerseys—a very precocious breed—the same result can be gained in half the time mentioned, as the heifers will produce calves at 18 months or even less, and two crosses could be made in three years, and the four crosses in seven years without any difficulty. This course is so open to any man that it is very surprising indeed, after the

lapse of many years, during which pure-bred bulls have been supplied to the farmers at a nominal cost, to find so few well-bred grade herds. The reason, we think, lies in the peculiarity of men—not of farmers only, but of men in general, farmers not excepted—that they do not often form a carefully considered plan and carry it out in face of discouragement and disappointment. More frequently a well-written article extolling some breed, catching the eye, a trial is made of that breed. The result is, almost invariably, disappointment. Another puff and another breed is tried, and in some cases this is continued until the whole gamut has been gone through, and the result is—no progress.

We owe a great deal to the breeders of pure-bred stock, but we would owe even more to the man who would show us a conspicuous example of a good herd of grades produced from native stock. The high-priced pure-bred stock can only find a market among the ordinary farmers who require pure-bred sires. The highest priced pure-bred stock is suitable only for those who have pure-bred cattle upon which to use it. The steady market for good pure-bred cattle ultimately depends upon the breeders of grade stock.

Now we have reached the conclusion. If breeders wish for business they must get it by showing that they have value to give for the high price which they ask. In the meantime it is positively undoubted that the farmer does not believe in the alleged superiority of the pure-bred. Let the breeders prove it to him. The pure-breds have all, without exception, been natives of no special value, but selling at the regular market prices, which represented their value for the production of beef or milk as milk, butter or cheese. In their low estate the possession of good qualities attracted attention. Skilful men, by selection and inter-breeding of the best individuals, produced a family and established a strain of blood superior to the ordinary animals of the breed. For these improved Shorthorns, Ayrshires, and Jerseys, they procured higher prices than was commanded by the ordinary specimens of the breed. This higher price was given for superior merit, and for the supposed power of transmitting that merit. Later, it becomes the fashion to breed in certain lines, and fancy prices begin to be paid. But for these true value is not received, as in many cases where a purchaser secures a pedigree for a big price, he does not at the same time secure a good individual. Disappointment is the result, ending in a fall of prices, which can be met only by a renewal of effort on the part of the breeder to make his animals once more individually superior to the ordinary stock. M. R. L.

Our Scotch Letter.

THE ENGLISH CHRISTMAS EXHIBITION—CONTRADICTORY DECISIONS—THE A. A. CLUB—A DISASTROUS LONDON MARKET.

The great tournaments at Birmingham and London, where Britain's best beefing breeds meet annually to have their merits weighed through the arbitration of gentlemen who are not probably infallible, have this year been most interesting. The entries of stock have never before been so large nor the competition so keen, nor, it may be added, the judging so contradictory.

At the risk of offending some of my countrymen I would describe 1888 as a year of first-rate second-raters, a description which in no way exaggerates the weakness of these exhibitions, so far as the "tops" were concerned. Still it has been a very successful year, the general average of exhibits being exceptionally good. This was the best feature of the shows in my opinion. While there was no abatement in the least of that enthusiasm which in those recent years of black, dreary depression, has helped so much to carry our stockmen over difficulties that seemed well nigh unsurmountable. Every year the show-ring has its crop of incongruities, but I should say 1888

stands pre-eminent in this respect, and I would fain hope it will remain with its supremacy unchallenged. But without anticipating the order of events, it may first of all be mentioned that Scotchmen have maintained their prestige as the best feeders of stock that the world can produce.

The polled Aberdeen-Angus were singularly fortunate at Birmingham, Mr. George Wilken, Waterside of Forbes, Aberdeenshire, carrying off the champion plate of 100 guineas for the best animal any breed in the hall, with a remarkable good two-year-old polled heifer Waterside Elena (11954), and several other prizes also fell to the same exhibitor; while the polled crosses reigned supreme in their section of the show. There was much jubilation among polled breeders, which was not to be wondered at, seeing that since 1883, when Mr. Stephenson, Newcastle, showed the first of his grand succession of polled females, the Aberdeen-Angus men have every year furnished the champion winner here—a feat which has never been equalled, and which will probably never be equalled again. At 2 years 11 months and 3 weeks Mr. Wilken's champion scaled 15 cwt. and 1 quarter; bred by exhibitor, she was a very gay heifer to look at, with very pretty polled head and ears, stood near the ground in front, and had the finest quality of bone, beating almost anything I have ever seen, below the knee; through her carcass and quarter she was very wide and deep; but to my mind she was always broad enough in her hocks, and I have seen a more satisfactory champion in the bosom; still, as you looked at her she grew upon you, and in the end she was generally admitted to have been entitled to her honors. Mr. Wilken, one of our most enthusiastic breeders, received many congratulations upon having placed this hardy breed once more at the head of all the competing breeds in the kingdom. He also won the cup for the best cross-bred animal in the hall with a magnificent steer, which, in the opinion of many good judges, was one of the best show animals out this season. He was a first cross between a polled bull and a Hereford dam, was perfectly black except in the face, which was white; his coat betrayed signs of the Hereford, and in his quarters he also exhibited the formation of the English breed from whom he was sprung, but the polled sire had fined down the bumpiness of the Hereford and produced an animal which for quality and symmetry was not excelled by anything in the exhibition. I have never seen more perfectly formed shoulders upon an ox, and his barrel was without fault; unfortunately he was a little light behind, like many of the Herefords, and having, through an accident, lost his caudal appendage, this blemish appeared all the more aggravated. He gave a very good account of his feeding, weighing 17 cwt. and 11 lbs. at 2 years 7 months 3 weeks and 3 days old. In many respects he was the most notable animal at the show. Some backed him for the championship, but as everybody knows, it takes a very grand cross indeed to do that, the "breed" interests are always so strongly represented in the ring. The most formidable opponent to Mr. Wilken's heifer for the champion place was a 3 year and 8 months old Hereford heifer, the property of Mr. Caddick, Caradoc, and got by the famous sire Lord Wilton (4740), but she only scaled 14 cwt., 3 quarters and 19 lbs., and this told against her heavily in the ring; otherwise she would have been a "clipper," her great symmetry, quality, and character being undeniable, and even as it was, it was a pretty near thing between the two. There was a 2 years and 11 months old Devon steer here weighing 15 cwt. and 19 lbs., which I had previously noticed at Norwich, which won the cup as the best animal of any breed for his owner, Mr. John Wortley, Frettenham; but he was hardly in the running for the championship. He had better luck in store the following week at London, whither we may now wander.

London, like Birmingham, was prolific of first-rate second-raters, but in no other respect did the show fall from the high standard of former years. Scotchmen were surprised and disappointed at the defeat of Mr. George Wilken's champion Birmingham heifer in her own class by another Scotch-bred exhibit, owned by Mr. J. Lee Barber, Norfolk. This last animal was bred by the Dowager Countess of Seafield, was named Pride of Cullen (11704), and at 2 years 11 months, 1 week and 4 days weighed 16 cwt. 2 quarters and 16 lbs. The decision was keenly criticized; the judges were even hissed, and the feeling was that Mr. Wilken should have won. Pride of Cullen, it will be seen, had the advantage, so far as

weight goes, but even in a fat stock show, weight is not everything, and a great deal is allowed, very properly, I think, for the type, style and quality of an animal judged by those canons, fashioned by fashion, and the experience of breeders who handle their own particular variety of stock. Looked at in this way, Waterside Elena should have been first with a very pretty heifer with sweeter top line than any of them, named Clementine, the property of Mr. O. C. Wallis, Bradley Hall, but bred by Mr. G. C. Stephenson, second; and Pride of Cullen third. The Scotch Shorthorns following up the victories of the Collynie-bred Aberdeenshire bull Mario at the Royal English show last summer, carried off the "breed" cup, the winner being a two years and ten months old steer bred and exhibited by Mr. James Bruce, Inverquhomery, Aberdeenshire, and weighing 16 cwt. 3 qrs. and 20 lbs. This was a big, typical, useful-looking steer, just inclined to be a little heavy in his bone, but unquestionably a grand 'un, at whose success Aberdeenshire breeders were particularly pleased. The judging in the cross-bred sections gave universal dissatisfaction, and this is not to be wondered at, as in the young and middle class of steers the first prize winners did not on their merits deserve to be higher than second, and curiously enough, the second prize oxen in both cases were shown by Scotchmen, the yearling being a great, thick, blue steer, belonging to Mr. Longmore, Kettle, Banff, while the two-year-old was no other than Mr. Wilken's cross-bred cup steer at Birmingham. In the class for cross-bred steers between three and four years old there appeared a great curiosity in the shape of a steer shown by the Earl of Tankerville, descended from the famous wild cattle at Chillingham, on his dam's side, and got by a Shorthorn bull. An interesting notice of this steer appeared in the *London Live-Stock Journal*, and in a report of the Smithfield show in the same paper, he is described as resembling in formation, outline and general characteristics, a west Highland cross. A Scotchman, Mr. Macgregor, Yearn, Rossshire, exhibited in the red class a "crack" young cross-bred heifer, descended on her sire's side, from the fashionably bred herd of polled Aberdeen-Angus cattle owned by Lord Tweedmouth, and out of a cross-bred Shorthorn cow. She was only 1 year and 8 months old, but scaled 13 cwt., 2 qrs. and 4 lbs., and was a very gay "catching" heifer, with perfect symmetry, beautiful head and neck, grandly turned in her ribs, and evenly covered, while she was splendidly set upon her legs. Before she came to London she had several reverses of fortune, but at London was in great luck, winning first in her class, first as the best female in the hall, and reserve for the champion prize. I have said she was in "luck," as it is a rare thing to see a yearling standing so well in for the final prize, and though she is pretty, very pretty, she is not so well furnished below as she could be, and is a little weak in her bosom. She was bought at a long price for another year's keep, by Mr. Colman, M. P. There is just a chance that she has already seen her best days. Neither the Birmingham champion nor Mr. Caddick's Hereford heifer was destined to win the champion plate of 100 guineas, which was handed to Mr. Wortley's Devon steer, already alluded to, a grand specimen as far as he went, dead ripe and yielding very little offal to the amount of valuable meat which he carried. Beaten at Norfolk and Birmingham, Mr. Wortley, a well-known English feeder, was fully compensated for what he would probably call his hard luck, by achieving the highest distinctions of the year at the greatest of all the shows—London.

There is a feeling growing, I may just mention it here—that some change will have to be made in the appointment of judges. Under the present system one set of judges gives the awards to the Devons, Herefords and Sussex, and the other to the Shorthorns and cross-bred, and a third to the red polled, Welsh, West Highland, Aberdeen-Angus and Galloways. It is argued very forcibly that this system, which is only a compromise at the best, has been condemned this year by the way it has worked. In the classes in which Scotch feeders, for instance, were most interested—polled Aberdeen-Angus—there was only one man who had any practical knowledge of them, and he was out-voted by two English judges, so that Scotland, and for that matter, the polled breed, might as well not have had a representative in the ring at all. In the cross-bred classes in which Scotchmen were also deeply interested, there was not a single Scotch judge, and the awards gave the great-

est amount of dissatisfaction. The style of animal selected in the first two classes for premier honors being exactly of the type which influential societies like Smithfield should of set purpose discourage and condemn.

During the show week the polled Aberdeen-Angus men dined in the Tavistock hotel, London, under the presidency of Mr. Campbell Macpherson Grant, who opened a very interesting discussion upon the "obscure" and "delicate" but interesting subject of "white markings in polled cattle." The subject was discussed from the various points of "atavism," "sports," and the influence of external surroundings, several of the leading breeders present, including Sir George Macpherson Grant, Bt., Mr. Wilken, Mr. Stephenson, and Mr. Wallis, taking part, and throwing a good deal of light on predisposing influences that tend to bring white markings on polled stock. No very definite finding was arrived at, but the discussion brought out the fact that it is in the interests of the breed that animals with prominent markings should be discarded, although there could be no objection to breeding with an animal that had merely a white udder—the mark, as we have heard, of splendid milking qualities. Mr. Wilken, Waterside, was appointed president and Mr. Egglestone, South Ella, Hull, vice-president for the following year. The dinner, it may be remarked, being held under the auspices of the "A. A. Club," and which, being interpreted, meant Aberdeen-Angus Club.

Something approaching panic has been caused among Scotch feeders by the great collapse of the London Christmas market this year, prices falling to a lower level than they have done for many years. From Aberdeenshire nearly 1,800 cattle, mostly polled crosses, weighing about 8 cwt. each, dead weight, were despatched. The value of the cattle was estimated about £50,900 at Aberdeen, but expenses would add £2 per head before they were sold. Trade was perfectly ruinous, the market was glutted, and Christmas being too near at hand, and the butchers, who had not time to get rid of their boiling beef, had the cattle at their own price, the losses on the Scotch cattle ranging from £3 to £7 per head. A great many were left unsold, and some of them have been actually brought back to Aberdeen, a thing that has only happened once, I believe, in the history of the market. The feeders are greatly discouraged, and not a few of them have been ruined, in some instances the losses of particular individuals being as heavy as £1,000. The disastrous results of the market, it is thought, will have the effect of reducing the number of home-fed cattle, which are annually prepared for this special market, which with the large quantities of foreign meat now arriving in London, cannot, as it used to, work off the same number of home-bred cattle.

QUIDAM.

Aberdeen, Dec. 24, 1888.

"West Highlanders" at Home.

Of the many different breeds of cattle in the British Islands the West Highlander is at once, far and away, the hardiest and handsomest. Of perfect symmetry from leg to hoof, from crest to flank, from tip of horn to tail, he is, while still in the unmolested enjoyment of the freedom of his native glen, next to the stag, the handsomest creature of the wilds; and, hardier than even the "antlered monarch of the waste," a genuine West Highlander will survive a long, protracted winter, under the Arctic severity of which the stag will droop and die.

Most of our readers are probably acquainted with the West Highlander only as they have seen him at the fairs and "trystes" of the South, and even there, a drove of the right sort, pure bred two and three-year olds, will always attract a crowd of admirers, with the invariable result that even when markets are at their worst, and other kinds of cattle are driven off the stance unsold, a lot of genuine West Highlanders will always find ready purchasers. By the time he has reached the South, however, the Highlander has necessarily lost much of the fire of eye and stateliness of step and tread so characteristic of him in his own upland glen, while yet his hoof is on his native heath and his name is Macgregor!

But to be seen aright, the Highlander must be seen at home; and if the reader will accompany us on a pleasant moorland walk of a few miles, we shall introduce him to something like close acquaintanceship with one of the largest herds of genuine West Highlanders in the kingdom. It is a bright, breezy day in

early August; and leaving the farm-house after a big substantial luncheon, such as you can eat only in the Highlands, and of quantity and quality sufficient to make you feel a sense of strength and comfort unspeakable, and fit, like Wellington's veterans, "to go anywhere and do anything," we pass over an intervening ridge, and are in the glen beyond. We three (four, if the reader is a good fellow, as we dare say he is, and he does us the honor to join us), for we are accompanied by a son of the farmer or "tacksman," Donald by name, Dugald Livingstone, the herdsman, and the dogs.

Cuil-na-Mointich, where the cattle are grazing, is hidden from us by a long green mound of considerable height, and it is only when we have crossed a broad stretch of meadow and ascended to the top of this mound beyond that we are privileged to look, for the first time in our life, on a famous herd of West Highlanders at home. There they are, slowly feeding over the mossy flat—two score cows with their calves and sixty two and three-year-old heifers (counting young and old, some seven score head in all). The prevailing color, we notice, is black; but some of them are dun, others reddish-brown, a few of a pretty dappled grey, and two or three of the six-months-old calves as creamy-white as the cattle of Chillingham and Cadzow. And now they have seen us every head is for a moment lifted high to gaze, and then they quickly form a semi-circle, facing in our direction, the cows and heifers in front, the calves in the rear. As we descend into the flat, in order to have a closer look at them, their excitement increases: the younger heifers toss their heads threateningly, whilst some of the cows depress their heads, their muzzles to their knees and, bull-like, paw the ground with such vigor that big lumps of turf and moss are sent flying to the rear. All this, you must understand, because Dugald is accompanied by strangers—our friend Donald, to wit, and ourselves. When Dugald is alone, they know him and his dogs too well to be in the least alarmed. Unaccompanied by Dugald we are assured, and can very well believe, that anyone venturing into the corrie would be in a position of no little danger. It was only a month or six weeks before our visit that a shepherd from a neighboring farm thought he might venture to pass through the corrie, by way of making a short cut of it on his way to the strath below. He was accompanied by his dog, as a shepherd always is, and the moment the cattle got sight of him they charged down upon him in the wildest rage. Fortunately for the shepherd, the stream was close at hand, and he plunged in, the water up to his shoulders, and scrambled through to the opposite bank, whilst his dog, that did not so quickly take in the danger, had to put forth his utmost speed to escape the bellying herd that pursued him for a mile. Even now, though under the protection of Dugald and his dogs, it is with a feeling of no little trepidation and alarm that we approach within some fifty yards of the excited herd. If the truth were known, we would rather have been a mile away. Donald, however, assures us that there is no danger; and what next happens is this: whilst the cows retain their formation, the heifers gallop away excitedly to the left, and then, suddenly wheeling round, they advance full gallop in our direction, coming to halt in a regular line like a troop of cavalry only when within ten or a dozen yards of us. As they stand there before us, tossing their magnificently-horned heads, they form a cattle picture such as it would have delighted Rosa Bonheur to transfer to canvas, and, without going so far abroad, such, too, as our own Gourlay Steel and Denovan Adam and John McWhirter could paint, and paint thoroughly well and to the life, if only theirs was the opportunity that is ours to-day. But we have at present to think of something else. A splendid dun, a three-year-old with a wonderful span of horns, bolder than the rest, takes a step in advance, and fiercely pawing the ground, looks as if she was about to charge. And however it may be with our friend Donald, who is probably familiar with such scenes, the writer of these lines is in truth becoming uncomfortable—entire nous, dear reader, very seriously afraid of the threatening attitude of the enraged beauty before us when—not a moment too soon, as it seems to us—a single word from Dugald to his dogs so caused the aspect of affairs to change that in less than a minute we are reassured and completely at our ease again.

To understand what happened it is necessary to notice that Dugald's dogs are big, powerful animals—a cross between the rough-haired collie and stag-

hound, and they make the finest cattle dogs in the world, manifesting in happiest combination the nous and sagacity of the collie, with much of the strength, speed and hardihood of the deer-hound. Well, a single word from Dugald to his dogs, and they dash at the rampaging queys with a demonstration of fang and fury that makes them instantly turn tail, and scatter galloping over the meadow to the tune of "Deil tak' the iun' most." The clatter of hoofs is as of castanets and the swaying of horns as of trees in a gale. Although the dogs have almost instantly ceased pursuit, away and away go the queys in wild stampede, never once stopping until they join the cows and calves that, we notice, have by this time resumed their grazing, as if a little study of the case had satisfied them that from our presence in the corrie no harm at all is to be apprehended. The queys, it is evident, cannot come so readily to the same conclusion, for they form again into close order of battle, and with heads erect, continue to gaze in our direction, still suspicious of our intentions, and watching our every movement.

But the fast-declining sun, and the black shadow of the northwest precipices, already creeping into the corrie, and in long streaks and curiously outlined patches, eating up the emerald of the meadows, warn us that it is time to turn our faces homewards; and homewards we go accordingly, with a brief halt at Dugald's hut where a drop from his grey-beard fortifies us for a quarter of an hour's ascent of the southeastern rampart of the corrie; and after that we are again in the glen, and fast following the windings of the river to the strath below. We do the distance to the farm-house in something like half the time we took in making the ascent, and by 9 o'clock we are seated round the supper table, eating of the plenty before us with the appetite of men who, having had a most pleasant day among the hills, are now healthily and honestly an hungered.—From *Nether Lochaber, in Good Words*.

Stable Floors—Drainage Laws.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—In the prize essay on "Construction of Out-buildings for Farm," you give the style of floor used for stable for cattle. Contemplating building, I would like to ask through the JOURNAL, if there is not danger of frost spoiling such a floor, should it perchance get entrance about the doors?

From your experience and observation what is the best stable floor for horses? Do you approve of cedar-block floors for horses and cattle? While it is the duty of our legislators to make laws so plain that farmers as neighbors may avoid litigation, yet on the question of underdraining, which is one of importance, there appears to be a defect in the law, or else I am not able to fathom it, so I send the matter to the editor to solve. When an underdrain has to be taken from one farm to another to get an outlet, the law is quite distinct. Also if a farmer makes the outlet of his underdrain at the line fence without leave, and to the injury of his neighbor, we know how to proceed; yet if a farmer makes his underdrain outlet on the public highway, the water from which immediately crosses the highway through a culvert upon his neighbor's farm to its injury, we are not sure what to do. If the matter is quite plain to you, please give your readers the benefit; if not, I would suggest that you, having much influence with our legislators, that you show some of them the necessity of encouraging underdraining with as little ill feeling among neighbors as possible.

County York.

N. R. G.

In our stable, now three winters in use, we have seen no ill effects from frost on the concrete floor in any part of it. Probably the best kind of stable floor for horses is cedar block with an application resembling coal tar, put on at the time of construction. Concrete or cement is better for cattle. It is made by putting on 3 inches broken stones or gravel, 3 inches of waterlime above this, and $\frac{1}{4}$ inch Portland cement over all. When the outlet is the natural one in the case of drainage, supposed above, the farmer into whose field the water flows can get no damages, but otherwise he can.—Ed.

"I look for the JOURNAL very anxiously, as it conveys to me clear ideas on stock and farming in all respects."—W. J. Sprague, Shelburne, Ont.

Preparation of Cattle for Shows.

MR. WILLIAM WATSON AT LAST REVEALS THE RESULT OF A LIFE TIME STUDY OF THE PERFECT FEEDING RATION FOR FATTENING CATTLE FOR THE RING

Since the extraordinary success of the Turlington stock at the Fat-Stock Shows during the seasons of 1886 and 1887 a desire has been expressed to me by several intelligent agriculturalists and stock-raisers to learn particulars as to the training of these cattle previous to exhibition. Knowing that their motive is not a captious one, but a desire for comparative facts and knowledge on this important point, I cheerfully accede to their request, and as the system is original with me I presume I am at liberty to reveal it without infringing on others. I hope this article may be the precursor of many such. Let feeders cast aside all petty jealousies and give their experience with a liberal hand so that we may benefit one another. I have worked upon this method now for nearly half a century—as long as I have dehorned cattle—and through its use I may say I have gained laurels in England, Ireland, Scotland, and France, as well as in New Zealand and Australia, and in America the



MR. WILLIAM WATSON.

same fortune has attended me from the Atlantic to the Pacific, and from the Northern lakes to the Gulf of Mexico. Mr. T. W. Harvey's marvelous steer Black Prince of Turlington 2d—which is fresh in the minds of all who saw him—was a grand specimen of early maturity and ripeness—one of the many good ones produced by the regimen I am about to describe; still success was not confined to him, as the Turlington herd and flock carried off sixty-one awards out of sixty-three exhibits at Kansas City and Chicago last fall, a record that I believe to be unparalleled by the stock of any one man.

Introduction.—As an introduction I may say the first step is to breed the animal right; it matters little what you feed, if you have not the right sort to consume it. Before commencing training, the first point to inquire into is whether the animal be worthy or not to entitle the owner to lavish the expense and trouble on him so necessary to bring him out a prize-winner in first-class company. If you have a doubt about it, throw him aside at once; if it is in the animal, go at him, and lose not a day nor an hour in sending him to the front.

Formation.—Before the calf is a week old a practiced eye can tell whether he is likely to turn out a good one or not. Get its bone formation right at birth, then you have a foundation to build on; if faulty at start, then your pillar is worthless; no feed

will upset the bone structure. Suppose the calf please your eye, say about two weeks after birth, by his general character, style and proportions. First see that he has that sweet countenance, and honest, broad face so marked in early-maturing animals; then see that he is fully built behind the shoulder, just under the heart; if he is hollow there, reject him. Then from hip bone center to bone of tail (center) he should measure the same number of inches as across the loin, and from hip bone to hip bone. The bones on either side the tail should be set a good width apart; from the hip bones forward to the shoulders should be as broad as possible, with as little prying out or narrowing as may be. At once reject a calf narrow over the loin; as Mr. McCombie used to express it, get them "well-ribbed home"—compact; pay marked attention to the straightness and soundness of the hind legs, for as they give way, so will the back in proportion.

As to the formation of shoulders there is much diversity of opinion. Some contend for the oblique shoulder like that of the horse, others again are in favor of the more upright or roomy shoulders. I myself think the truth lies mid-way between the two extremes of opinion. Shoulders closely laid back like a race horse's do not seem to me to be the right sort to admit of the free and thick growth of the best beef, while one that is moderately oblique, and not tied at the top of the blades, but rather loose and open, can fill up to perfect form, and give room for the development of the choicest meat. I always observe that it is the animals with rather free shoulders that have the heaviest fore quarters. Let the vertebrae, or back-bone, be a little higher than the scapula, or shoulder blade, then you are certain of beautiful crops, and as a general rule a smooth, full chine.

Feeding.—Feeding at the present date is more an art than a science. There are hosts of undiscovered facts in regard to it which if known and rightly used would redound to the advantage of stockmen. I am not a scientific man, merely a practical one; but as feeding is a branch of agriculture I feel convinced that before arriving at success we farmers and stock-raisers must know something of agricultural chemistry, and before we can study it successfully we must know at least the rudiments of chemistry itself. By a little research we can learn to class the protein, or muscle-forming, foods from the carbo-hydrate, or fat-forming, elements. After mastering this most essential point then you can form your proper nutritive ratio, which means the bulk of the digestible protein in comparison to the digestible carbo-hydrates and fat. Much can be learned by taking the monthly live weight of your cattle. If you have had occasion to make a change of feed the scales will prove truthful, and you can learn at once whether that change has been to your advantage or not. Remember the true feeding value of an article of cattle food can be determined only by actual trial, for in the long run there is no chemist like digestion.

In feeding we must all be aware that as a general rule farmers make the feeding day too short, consequently the night too long. I mean by that the animals are only fed three times daily—say at 6 or 7 in the morning, at 12 noon, and between 5 and 6 in the evening. Now cattle to be made the most of—I speak of show cattle especially—ought to be fed four times a day, viz.: at 5 a. m., at 11 a. m., at 4 p. m., and a good hot supper at 8 o'clock at night. The ingredients for supper should be the same in substance as these which I am about to detail. The several items should be measured into a pail, adding flax-seed and molasses gravy, and over all let there be a handful of finely-cut hay chaff, so as to absorb all steam. Now pour on boiling water and cover well with a sack, so as to prevent evaporation and waste. Before feeding mix the chaff with the mess. Do this about 4 o'clock in the afternoon, and the mush will be in a nice milk-warm state for feeding by 8 at night. The cattle will eat it greedily, and rest till 5 the following morning. Always put a little sweet hay beside the animal, so that he may eat if he feels so inclined. If you have a number of cattle in training it will be found most convenient to have a large water-tight feed-box for scalding the meals.

Feed in Small Compass.—The minute sub-division of food enables the stomach to contain at least 25 per cent. more in quantity than with loose hay or large roots, so always present your food in the smallest possible compass requiring the least mastication. Every half hour saved in feeding is so much added to rest—a most important item in fattening. Dry, finely-cut chaff mixed with the meals will prevent laxity and

flatulence, producing also a sufficient and healthy excitation to the stomach, while it will afford to the gastric juices a ready access to every part of the mass of food. Cattle lay on a much larger quantity of flesh in comfortable quarters than they do in cold. This is consistent with the well-known fact that the rapid abstraction of caloric by a cold atmosphere renders necessary a large quantity of food to keep up the supply of carbon; but while there is warmth there must be ventilation.

It may be interesting to my readers to know how closely my system of feeding agrees with the German standards. I present a table giving the average amount of digestible matter in the food used.

PERCENTAGE OF DIGESTIBLE MATTER IN FOODS USED IN 100 LBS.

FEEDING STUFFS.	Protein	Carbo-hydrates	Fat.
Oats	9.5	44.4	3.9
Wheat	9.2	64.9	1.4
Corn	8.4	64.9	4.1
Bran	12.6	44.1	2.9
Barley	9.7	63.2	1.3
Peas and beans	19.7	55.0	1.5
Flaxseed	18.9	19.9	37.4
Molasses		60.0	
Beets	1.2	4.8	
Chaff—clover	6.9	35.5	1.2

From this table we construct the second, which presents the amount of protein, carbo-hydrates, and fat in the several food articles:

AMOUNT OF FOOD GIVEN A 1,200-LB. STEER DAILY.

FEEDING STUFF.	No. lbs	Protein	Carbo-hydrates	Fat.
Oats	4	.380	1.75	.156
Wheat	4	.363	2.60	.056
Corn	4	.335	2.60	.123
Bran	4	.504	1.75	.115
Barley	4	.385	2.53	.092
Peas and beans	4	.783	2.20	.060
Flaxseed	1	.159	.20	
Molasses	1		.60	
Beets	4	.048	.19	
Chaff	4	.276	1.54	.048
Total	34	3.277	16.00	1.000

It will be seen that our 1,200-lb. steer consumes daily 3.277 lbs. of protein, 16 lbs of carbo-hydrates, and 1 lb. of fat. From this we calculate that for each 1,000 lbs. weight of animal fed we supply 2.73 of protein, 13.33 lbs. of carbo-hydrates, and 0.83 lbs. of fat. This agrees so closely with the German standard that it might appear that I had got my ideas of the proper portions from them. That is not so, as it is only a few months ago that I learned the German standard, whereas I have worked on my principle for many years, and as yet I see no good reason for change in favor of the German.

Frequency in Feeding.—Frequency in feeding with as much variety as possible in the bill of fare, and no greater quantity given at each time than will be directly consumed, are in my belief the first principles to successful feeding. To supply more than will be eaten at once is not only wasteful but it encourages the animal to become dainty of its food, which bad habit in the end prevents the eating of a proper quantity. As soon as the animal has finished feeding let the man in charge clean most scrupulously the feed boxes, as daintily fed animals loathe the food that has been blown upon. It is seldom two animals feed alike, so the herdsman or feeder must study exactly the quantity each animal will consume. If they do not get sufficient they will remain restless and not lay on flesh as they ought to; if they are overfed they become disgusted and refuse to eat. Many animals, if judiciously handled, will eat a heaped pailful of my mixture four times a day; that is, from eighteen to twenty pounds at each feed.

It is very necessary to question your stockman daily as to the condition and health of the animals, as they are apt to forget to tell you if an animal shows any deviation from his healthy habits. Should sickness appear, avoid as much as possible the use of medicines. Overfeeding is generally the cause of sickness in pampered animals, and in such cases a good dose of flaxseed oil will give relief, but there is nothing to compare with diet. Keep the animals short of feed for a day or two and they will soon return to their normal state.

Feed Ration.—Now, for the main point—the feeding ingredients; in order to make the calculation simple of the measurement and mixing of the several meals we will consider their relative weights by the pound, as follows:

- 1st. One pound oats, crushed.
- 2d. One pound barley, crushed.
- 3d. One pound maize, or Indian corn, crushed into meal.
- 4th. One pound wheat, crushed.
- 5th and 6th. One-half pound peas, one-half pound beans, crushed into meal. (One pound peas can take the place of both).
- 7th. One pound bran.
- 8th and 9th. One pound best flaxseed, ground into flour and one pint molasses; mix both together for soup, and divide into four portions, one-quarter for each feed.
- 10th. One double-handful of sweet hay chaff given in every feed, so as to promote digestion and rumination.
- 11th. One double-handful of pulped roots—about four pounds—in every feed, mixed with the grains.

Mix all thoroughly together, and feed the animals four times a day, according to appetite and constitution. Water four times daily, and always before feeding; never fail to take the chill off the water during winter; let the temperature be about 50 deg. Fahrenheit. Make soup of the flaxseed and molasses; put as much water in the pail as you think will be necessary to saturate the entire mess of meal, etc., with the soap, taking care not to make the meals sloppy. After thoroughly mixing the soup with the meals your ration is fit for use.

Preparation of Gruel.—In preparing the flaxseed gruel the proper way is to drop the flour with one hand into a pail with sufficient water for admixture, all the time stirring with the other hand to prevent lumping; allow the flaxseed plenty of time to soak and become jelly-like. Once a day will be sufficient for the preparation of the jelly or gruel in cold weather, but in warm weather twice a day will be found necessary on account of souring. Keep the soup pails sweet and clean. Before adding the flaxseed gruel to the grains, add the molasses allowance at the rate of one-quarter pound for each animal at a feed, stirring the two well together; now pour the contents over the feed and mix most thoroughly; cover up with sacking and knead well down before feeding. Again rub the compound well through your hands; by this time it ought to have soaked for several hours, and should feel gritty and dry to the touch. As soon as you have fed the animals at once get ready the forthcoming feed, mixing in the usual manner, thereby giving the grains sufficient time to absorb the soup and cause slight fermentation. If an animal will consume more than one pound of flaxseed and one pint of molasses daily, then by all means let him have it, taking care not to overfeed, in case of their becoming too laxative. I never use oil-cake for show-yard preparation; as a general rule it is much adulterated, and the percentage of oil is very low. Flax seed contains all its original good properties. From observation I have found one pound of flax seed equal to about four pounds of average cake.

It is almost needless to add that all feed-stuffs must be of the best quality. Never think of expense; if you do you will never make a successful exhibitor. It is unnecessary to measure out the daily proportion of meal, etc., for each animal; the better plan is to weigh a week's supply at a time and sack it up. Be most particular as to mixing, so that each animal may get equal proportions of the several ingredients. I never use condiments. One of the foremost secrets in feeding is to make the food both palatable and digestible; it is not the total amount of food eaten, but the amount of digestible matter which it contains, that determines the food value of a ration. Mixing as I do I am confident it renders the mass more easy of digestion, enabling the animal to extract the maximum of nutritive material the ration contained. Owing to the high percentage of protein or muscle-forming elements in bran and shorts, some may suppose I have been rather sparse with them in the feed mixture, but you must consider that the cattle have the full benefit of bran or husk from the ground wheat, in addition to the prescribed allowance. As for shorts, I consider that contained in the bran and wheat quite sufficient. Shorts, like oatmeal, are very free from crude material, such as the skin or husk of the grain, consequently they are much more indigestible, and, therefore, cannot give results equal to the wheat with its shell, or the peas and oats with their rougher skins.

Summer Treatment.—In summer allow the animals a moderate allowance of cut clover or green corn-fodder.

Roots.—These give a great stimulus to feeding and

digestion, yet I would not use them to excess. A few judiciously fed as a relish or appetizer to the meals is, I think, sufficient. There is little solid matter in turnips. Analysis teaches us that turnips contain 90 to 92 per cent. of water, and manure 88 per cent.; so a bullock, as they used to be fed in my younger days in Scotland, consuming 150 lbs. turnips daily, was compelled to take thirteen and a half gallons of water with fifteen pounds of dry food. With cold weather and roots at a very low temperature, imagine what a absorption of caloric must be taken from the stomach and system of the ox, which has to raise to the digestive temperature thirteen and a-half gallons of water at 40 or 50 deg. Before long, ensilage will take the place of roots.

Water.—As I have stated, you should offer the stock water four times daily. Always water before feeding, never after; and let me here advise that wherever at all practicable, every one handling stock should take off the chill from the drinking water during the winter months. Heating apparatus is now contained in small space, and is moderate in price.

Exercise.—It is a general practice among exhibitors of stock to run their show cattle at pasture during the night, instead of keeping them in roomy, well-littered boxes, and soiling them in moderation with clover and other green feed. This turning-out system I thoroughly condemn; it is the cause of great bodily waste, and loss of fat, yet at times there may be some special reason for it, such as an animal's going off his feed, or becoming rickety on his legs. My system is to keep the animals in boxes all day, and turn them into an open court for two hours in the cool of the evening; then they will give themselves abundant exercise, and be glad to return to their boxes, with a keen appetite for their hot supper. When out, take care they do not get access to anything they can eat. A show animal should never be allowed to consume any food except what is laid before him. By exercising in a yard they have no opportunity of resting on the cold ground, of exposure to cold dews, or wet nights, or filling themselves with washy grass, depriving them of their appetite, and keeping them from consuming a full amount of grain food. I consider that keeping cattle housed by day and night is one of the great secrets of getting them in first-class form. Have their beds well littered and comfortable for them on their return to the boxes, so that they may enjoy their rest and groan that sweet music of contentment so charming to the breeder's ear.

Calf-feeding.—In forcing a calf there is no way so satisfactory as abundance of milk, pure and simple, from the udder. If the calf's dam has not sufficient to raise him or her to perfection, then have a nurse in addition; if one is not sufficient give two, and if necessary add a third. Always teach your show calves to steal, that is, to suckle every cow they are offered. The advantage of this is evident. When required they will take to any cow, whereas, if you confine them to one nurse, and wish to add to their milk, they will, after four or six months of age, invariably refuse the fresh udder. Teach them to steal, and all udders are alike to them. Be particular as to the formation and quality of the calf's dam. Always test the dam's or nurse's milk to see if it is sufficiently rich, if not, change at once. Some feed by hand. This system has one great advantage. You can carry on the feeding as long as you please, and can enrich the milk by adding scalded oil cake, flax seed tea, eggs, or molasses, yet I put most faith in suckling the youngster till he is eight or ten months old. Wean your calves by degrees; that is, if they have the use of two nurses, deprive them of only one at a time. Feed the calf judiciously and frequently, giving small quantities at a time; rather under than overfed. Give them the same mixture as I have prescribed for the show animals. Let them have flax seed gruel and molasses gruel in their ration, taking care not to overfeed and induce scouring.

Feet.—Be most particular about the feet of your show animals. Overgrown hoofs are a great eye-sore, and excessive growth invariably throws the animals off their hocks and hind legs. Feet should be frequently dressed and kept in good shape. The tools necessary are a heavy wooden mallet, an inch and a-half chisel, a blacksmith's paring knife, and a strong rasp or file.

Salt, Chalk and Turf.—Never allow the animals to be without a lump of rock salt within reach; also a lump of chalk. We all know the benefit of salt. It replaces the saline matter washed from the system through various channels. It also greatly increases

the flow of saliva, therefore hastens fattening. Chalk counteracts acidity of the stomach, which animals are subject to when housed and kept on rich feed; and as the animals are deprived of access to earth or dirt, you will find that the best substitute is to provide them with a piece of fresh turf twice a week, which they will greedily eat.

Temperature.—Cattle thrive amazingly well at a temperature ranging from 45 to 50 deg. in winter. At 10 deg. higher they generally sweat profusely. A thermometer ought to be in every stable.

Clipping.—When you have a few choice animals feeding during the winter months for any particular purpose, such as exhibition, it is a great advantage to have them clipped closely down their backs in a line with the lower part of their hip bones, and continuing along the upper part of the neck. Where warmly housed you will find this add greatly to the comfort of the cattle; it will prevent profuse sweating and make easy the destruction of lice or other vermin.

Flies.—Where you have plenty of food, warmth and stock, you will have abundance of flies. During fly season cattle do little good unless you at once check the nuisance. There is nothing so perfect in its results as darkness.

Showing in the Arena.—Some time previous to exhibition be careful to train your stock to lead well, and show themselves off to the greatest advantage. The nearer an ox is made to stand in his natural state the better—few can improve on Nature. Generally cattle in the show-ring are twisted into every conceivable shape. With their heads high in the air, their backs are consequently down, and their hind legs stretched far from under them. This false and airy position no doubt proves attractive to outsiders, but to an experienced judge it constitutes a great eye-sore. It may be you occasionally hide a fault, but as a rule for every one you hide you add two.

Grooming.—Grooming is as necessary with show cattle as with horses. No matter how you feed, if you neglect elbow grease you will never join the front ranks, that is, if the cattle are to be shown to perfection. In the case of cattle, grooming need not be commenced until within three months of the date of show. The cattle, it is presumed, have for several months previous been well fed and kept clean. In this condition to begin with, three months' thorough grooming should put them in form. Half the game in showing cattle is to have them good in their coats, and stock-owners who fail to handle their animals so as to make them look their very best, need not expect to win against those who do. Provide a warm rug, the same as is used for horse clothing; if one is not sufficient take two. Unless the weather is very cold the blankets do not require to be on all the time, they can be taken off during the night or when at exercise. If the blankets are kept on fourteen hours daily they will soon do their work in taking the old hair off. If the weather is not frosty a good washing with carbolic soap and tepid water should be given at the commencement of the sheeting period; this will help to lessen the dandruff in the hide. If the bedding be well looked after, once a month will be often enough to wash.

A dandy brush, a thorough good soft brush, a chamois skin, or piece of thick flannel, are the tools for putting on the polish, and the skin becomes soft under their treatment. A currycomb should never be used except for the purpose of combing down the hind parts when necessary, as the comb, except when very lightly applied, is certain to scratch and irritate the skin. In rubbing with the cloth it must be done quickly. It takes an enormous amount of work to make the skins of cattle shine, but nothing else will do it. For putting on the final touch no brush or cloth can equal the bare hand; hand rubbing will also remove the old coat quicker than either comb or brush. Some fancy they can, with one washing and a few times grooming, do all that can be done, but it is a mistake. There is the greatest difference imaginable between the one that has been prepared by months of labor and the other hastily got up. The one article is genuine, and will last, the other will fade between the stall and the ring.

Advice.—I advise every exhibitor to be not only the feeder but the breeder of the animals he exhibits; then he has no divided honors, but harvests the full fruits of his enterprise. Masters, encourage a deserving feeder or herdsman; you are in a great measure in their power; show them you appreciate the struggle they are making for you. A few kind words, instead of grumbling, will often prove more acceptable

to a faithful, conscientious man, than pecuniary reward. Master and man must work hand in hand. If the herdsman's labors are duly recognized, depend upon it he will do his duty by you. Many of them are men of marked intelligence, anxious to attain eminence in their sphere of life. Lastly, commence training your show animals in early youth, and in feeding, let your motto be, *Give the stomach a chance.*

WM. WATSON (in *Breeder's Gazette*, Chicago).

[Recognising that the question of feeding in these times of food scarcity is one of great moment, we are pleased indeed to give space to an article of such worth as that we publish in our present issue, over the signature of Mr. Wm. Watson, of Turlington, Nebraska, the prince of feeders, who has given way to urgent requests, and has yielded up involuntarily the well grounded experience of many years in the byres. Mr. Watson, whose portrait, prepared by the *Breeder's Gazette*, also appears, is the eldest son of Hugh Watson, of Keillor, Scotland, whose name is inseparably linked with that of the Aberdeen-Angus cattle, he being the first to launch them on their career that has won for them so many friends, and heavily loaded them with honors. He was born in May, 1827, and after having received a liberal education from the English schools, and a two years' course at Edinburgh University, he at the age of seventeen entered on his life work, passing under the skilled supervision of such world famous breeders as Bates, the Booths, Earl Spenser, and others of equal note. To them his skill in Shorthorn management is largely due while his father and Webb gave him a deep insight into sheep life. When only nineteen years of age, he had the distinguished honor of being chosen one of the judges at the Royal Irish Society's Show, his fellow judges being John Booth, of Killerby, and Wm. Low, of Aylesby. A difference of opinion existing, Mr. Watson's contention was afterwards sustained, to the discomfiture of the older savants. His father's herd of "doddies" were under his guidance for 18 years. In the year 1865 he left his native land for New Zealand, where he soon was appointed manager of the Clydevale ranch, where stock raising was carried on extensively. After a twelve months' ramble through Australia, making himself acquainted with the live-stock interests, he next landed at San Francisco. Here he was given the management of the Santa Cruz range, with a flock of sheep numbering 50,000 under his care. Desiring a life of more activity, he for a time was acting manager for Messrs. Reid & Co., but after also filling several equally important positions of trust and eminence, he finally settled down as manager for Mr. T. V. Harvey, of Chicago, whose herds and flocks are now under his charge. Last year at Kansas City and Chicago Fat Stock Shows, he gained 61 awards, out of a possible 63.

With such a history, and an experience world-wide in its nature, we feel sure our readers will relish his article, and unite with us in wishing him a long and happy life, that our yet meagre harvest of stock lore may be doubly enriched by writings from his learned pen.—Ed.]

"I have taken the JOURNAL for two years, and the more I read it the better I like it. It is engaged in a good work; may it go on and succeed."—W. J. Laing, Motherwell, Ont.

"I think the JOURNAL a paper which should be read by every farmer and well worth double the money."—J. G. Nair, North Georgetown.

Received the picture of the Guelph farm and buildings some time ago. I think it is a very fine picture, and I intend to get it framed."—Matchett, Holland, Manitoba.

"I like the JOURNAL very much; it imparts the information farmers need, in giving the results of experiments of pains-taking agriculturalists. I hope to be able to send some more names yet."—Samuel MacColl, Cowal, Ont.

Dispersion Sale of Shorthorns.

The "Riverside" herd of Shorthorns, of which some nine or ten head are bulls, the balance of some fifty head being females, will be sold by auction at the farm, near Woodburn, Binbrook township, Wentworth Co., on Wednesday, 20th February, 1889. This herd is owned by Mr. T. Shaw, now of Guelph, and is sold because of his giving up farming in that section for the present. The herd is laid upon foundation stock purchased from such breeders as the late Geo. W. Miller, Grantham; C. G. Charteris & Son, Chatham; Hon. M. H. Cochrane, Hillhurst; and J. & R. Hunter, Alma. Out of a possible 200 first prizes, animals from this herd have won 150 during recent years, at exhibitions, many of them important.

The pedigrees are all good, though in no way extraordinary. They are all registered in the new Dominion Shorthorn herd book, and a certificate to that effect will be given in every instance, at the time of purchase. The strong point of the herd is, that it has not been in any way pampered, all the females being regular breeders, so that purchasers may reasonably expect that the stock bought will do well, and even improve with rational care. The sires used in the herd were the Experimental Farm Cruikshank-Booth bull Prince Hopewell, bred at Sunnyside; the Lord Polworth Booth bull Waterloo Warder, and the present stock bull British Sovereign, also bred at Sunnyside, is a pure Mantilini Booth. The young stock are mostly by British Sovereign. The females are mostly Bates in breeding. The young bulls are mostly red in color, and will make useful sires. A number of Provincial first prize-winning Shorthorn grade females will also be sold, and a number of implements new from the manufactories, as binder, tanning-mill, sulky-plough, etc. See advertisement. Catalogues furnished on application.

Visitors will be met at Rymal station on the N. & N. W. R., the train for which leaves Hamilton at 6.50 p. m., on the morning of the 19th, and at the LIVE-STOCK JOURNAL office, Hamilton, on the morning of the 20th, until 10 a. m.

The Herds of Hillhurst.

To be close on a quarter of a century before the live-stock public, in such a capacity as that of proprietor of Canada's largest breeding establishment, and have each cycle strengthen its good name, and add honour to honour without number, is decidedly an achievement of the greatest magnitude, and highest worth. Such honour has been the issue of the labours of Hon. M. H. Cochrane, of Hillhurst, Compton Co., Que., in this direction, and we feel that for a description of such, doing ample justice to the subject, a volume would be required of no mean pretensions. A brief review article can but meagrely do honor to an establishment of such dimensions and age.

On our first page we give an excellent group of "prime Scot" delegates from the Aberdeen-Angus herd, where a description is also given. The present herd of these general favorites numbers seventy-five females, and twenty-five bulls and bull calves, besides which is the herd of Aberdeen-Angus reds, comprising fifteen females and eight bulls. In the year 1881 the herd was established, and the foundation laid on a rock bottom by importations from the best of Scotland's herds, subsequent importations being made in 1882 and 1883. Amongst the females there are eight Lady Idas, two Prides of Aberdeen, one Charmer, four Sylphs tracing to Queen, mother of Erica, two Ruths, two Favorites, one Heather Bloom, one Rose of Advie, three Castle Fraser Ninas, three Westertown Violets, two Lucys, six Princesses of Drumlin,

five Daisys of Skene, three Beatrices of Kinstair, three Prides of Greystone, two Fannys of Kinnaid, three Rubys of Powrie, six Jeans, and a number of other prominent families well represented. In addition to Lord Hillhurst, the stylish two-year-old Lady Ida bull Lord Advocate 6954, and the yearling Enea, Earl Eric 8070, are also in use. Another Lady Ida bull, Garter Ring, Vol. XIII., a yearling by Evander (3717), dam Gravity (4864), was lately purchased from the well-known breeder, Mr. Clement Stephenson, Newcastle-on-Tyne, who is using two bulls of the same family, with marked success.

To enumerate the prizes won by this herd cannot be done in the limited space at our disposal. A few must be mentioned, however, to give prestige to previous statements. At Sherbrooke, in 1886, a series of firsts from the youngest bull calves and heifers was accorded them, ending with first and diploma for best female of any age, and the awarding of a similar honor for the herd. At the same show in 1887, a similar reception was given them, as they again captured the herd prize, and also diplomas for best bull and best female of any age; the former abiding with Prince Hillhurst, and the latter with Mabel of Hillhurst. On the same year even a more glowing record was made at the Toronto Industrial. Lord Hillhurst again distinguished himself by securing the first prize and silver medal, as best bull of any age, while the herd were still to the fore, being given first, besides winning the silver medal donated as special herd prize. Showing at the Provincial of Ottawa the same year, Lord Advocate was given first place as the best bull calf, Lord Hillhurst in his class second, while the heifers were to the fore. Coming down to 1888, a more glorious series of victories could hardly have resulted. At Sherbrooke six head were shown, all securing a first in their class, Lord Hillhurst being to the front as best bull of any age, and Lady Ida Forbes as the best female of any age. The herd culminates their list of achievements by securing first prize at the Provincial at Kingston. Lord Hillhurst was again victorious, being awarded first and silver medal, while the herd was once more given first place. At the Toronto Industrial, the heifer Jeanette secured first in her class, Lord Hillhurst second, and the herd second. At London, like honors were won, making the showing honors of this herd the equal, if not the superior to any in the land. [Waterside Jock, the two-year-old steer that gained first at Chicago, at the block trial in 1883, was a representative from this herd, as was also Mineralist, that in 1886 achieved like honors at the same show.]

The Hereford herd was established in 1880, by an importation of 49 head from the herds of Messrs. G. Pitt, Chadnor Court; J. Morris, Lulham; John Hill, Felhampton; J. H. Arkwright, Hampton Court, and J. H. Voemans, of Stretton Court, with the Royal prize bull, President 6111, from Messrs. Edwards, of Wintercott. In 1881, another large importation was made, including five heifers from the Chadnor herd, and a choice selection from the Rarity, Delight, and Lovely families, draughts made at the celebrated Longuer Hall sale. In 1883, ten heifers by Lord Wilton were selected from the herd of I. J. Carwardine, Stocktonbury, with others from the herd of Messrs. John Price, Court House; T. Myddleton, Bechgary; A. Rogers, the Rodd; A. P. Turner, Shangworth, and S. Robinson, Lynhales. With this importation came the now famous bull, Cassio (6849), 11353, who is credited with winning more prizes at our leading exhibitions of later years, than any other bull of any breed, and has also been the sire of more prize winners.

The prize bull Ottoman 29783 (10364), by Franklin, the sire of Maidstone, and stated to be the best gettier of all Lord Wilton's sons, was bought by Mr. H. W. Taylor, of Showle Court, and imported in 1886, while many others were imported the same year, and also that previous. The herd at present numbers eighty-two females, and twenty bulls and bulls calves, divisible into four groups: the Grove 3d, and the Lord Wilton strains, the Chadnor Court families, and the Longuer Hall Rarities and Lovelys.

Marshall Grove 16944, in company with Cassio and Ottoman, are the stock bulls at present, and the former gives every indication of at least equalling his sire, Cassio, as a stock-getter.

The prize list of the Herelords is fully more extensive than that of the Doddies, beginning at Sherbrooke, Quebec Provincial in 1885, for were we to go back further, our pages would not hold their victories. We find that Cassio won first in class of aged bulls, diploma for best bull of any age, gold medal for best bull of any age or breed, and headed the herd which won the Lieutenant-Governor's gold medal for best herd of any breed. At the same show in 1886, he was equally loaded with honors, winning first for aged bull, and diploma for best bull of any age, and again headed the herd that won the diploma as the best. At Toronto Industrial in 1887, this herd was first, and also won the silver medal, Cassio, of course, being at its head, and also winning the silver medal as best bull of any age. At Ottawa Provincial, the same year, eight firsts were secured, Cassio yet again to the fore. At the Sherbrooke Eastern Townships Show, Rarity 15th was awarded first as aged cow, and the judges decision as to best female was in favor of Reality 4th. In 1888 this herd could not have made for themselves a more brilliant or honorable record. At Sherbrooke, Kingston Provincial, Toronto Industrial, and the Western at London, honors were literally heaped on them. At the former, eight firsts were secured, Cassio first as best bull any age, and the herd he represented was again to the fore; at Kingston Provincial a like reception met them, and yet again, similar rewards were meted out to them at Toronto Industrial, while at London, with Cassio first as usual, the herd won the silver medal.

The Jersey herd consists of twenty-eight cows and heifers, bred direct from importations from Messrs. F. L. Brocq, St. Peters; P. Labey, Granville, and J. P. Marett, Island of Jersey. The bulls in use are Welcome Pogis 16588, by the famous Canada's John Bull 8388, and Gambetta of Elmhurst 13661, by Sheldon of St. Lamberts 5250. At Sherbrooke in 1887, this herd were the winners of many prizes, viz., six firsts and three diplomas, the herd diploma included among the latter, Sir Orange Hillhurst securing the diploma as best bull of any age, while Granville Beauty received a similar award as best female of any age. At the same fair in 1888, the herd once more won a diploma, as did also Wolsey's Queen, as best female of any age.

Horses are by no means slighted at Hillhurst, as a number of Clydesdales and also Hackneys are bred, the latter comprising the longest established and largest stock in America, including twenty-two head of brood mares, colts and fillies, with the stallion Fordham 287, by Bourdois Denmark 177, which was imported in 1881. From two of the registered mares, Countess, 70 H. S. B., by Old Times (Cook's 2nd) 536, and Gypsy 129, H. S. B., by Prince (Snipkin's) 636, four very promising fillies have been bred. Several have been sold for high prices, amongst them a chestnut mare by Fordham, grand-dam an imported Welsh pony, which has distinguished herself in the Montreal Hunt during the season just past.

A Plea for the Polls.

FOR CANADIAN LIVE-STOCK AND FARM JOURNAL

SIR,—Some time ago a gentleman asked me how I could keep quiet and hear the "Doddies" I made such a fuss over, being run down so low, in fact, *proved* to be *only* Galloways after all? And if I remember rightly I remarked, by way of a joke, that perhaps I was afraid of bringing Mr. McCrae down upon me. Since then, however, one who has every claim on me to respect his slightest wish, has desired me to give my views—such as they are—with your kind permission, in the forthcoming numbers of your admirable JOURNAL.

But ere allow me to say, first of all, that I do not for a moment intend the following remarks to be taken as an answer to, or criticism of, any statement made by either side during the controversy. I am simply speaking my own words, in my own way. I do not wish it to be considered that I represent the views of those in authority on this interesting subject. I have neither the time nor the ability to put out of my hands a finished statement of the case. I shall be only too glad to leave this part of the business to my friends, Mr. William Watson, of Turlington, and Mr. R. C. Auld, of Michigan, of whom I may truthfully say, that in the world over there are not two men to match them in their *special* knowledge and experience of the Aberdeen-Angus breed and all their belongings. It will be enough, more than enough for me if I am able to give any information which might interest some of your numerous readers in the "Doddies" and their many excellent qualities, and I suppose I may as well begin by saying how I feel about this Galloway element in the business.

Well, some years ago I wrote concerning the Aberdeen Polls that I was neither ashamed nor afraid of any of their characteristics, ancient or modern, but proud of them all, and I need not say I am still of the same opinion. Now although it could be proved to me, beyond a doubt, that the Galloways had a hand in the improvement of this great breed of cattle, I should not feel the least bit sore over it. Why should I? The Galloways are an excellent breed of cattle, and "We're a' John Tamson's bairns." Besides, what do I know about the origin of any of our domestic breeds of live-stock? I suppose about as much as the greatest naturalists, and that is just nothing at all. I shall give a short illustration of my meaning, as I fear I have not been able to express myself as clearly as I could have wished. I happen to be myself a Scotchman, and, as the Buckie fish-wife once remarked, *worse* than a Scotchman, a Hielan' man. The highlands of Scotland were, according to some writers, first inhabited by the Irish. Now if one of my friends from St. Patrick's own green isle should tackle me with the assertion that I was simply an Irishman, I could afford to take the thing very quietly, for two reasons; first because the *onus probandi* lay with him, and, secondly, because, even if he made good his case against me, I should consider it no hardship. I should rather be inclined to congratulate myself on my pedigree being so good, or, rather, that it was no worse; and I hope it may not be thought out of place for me to state here what I have often wished to say concerning Ireland and its people. I had the happiness of spending the five best years of my life in Ireland, in the heart of gallant Tipperary, where I learned, among many other things, the denseness of my own ignorance, as well as that of the most of my countrymen, regarding a rich and beautiful country, with its grand, noble and generous people, lying within two or three hours sail of our own mainland. But this is, however, by the way and to return to our subject, I hope I may be allowed to say something here concerning the Galloways and the Shorthorns, apart altogether from their supposed relation to the Angus.

Well, then, to begin with the Galloways. I may say that as a Scotchman I am as proud of them as a breed as I am of the two enterprising and excellent gentlemen who breed and handle them in this province. There is no hardier breed. They almost equal the West Highlander in this particular quality, and they give, as a rule, a good account of themselves when liberally fed and stalled. I suppose it is not claimed for them that they can as a rule be finished off in the stalls to the same degree of ripeness attained by the Aberdeen Polls, but when this can be accomplished there is no beef in the world superior to theirs. They are also remarkably free from "scurs," that small, loose, horny substance often found on polled heads. I fear, however, that the flat poll, getting to be so

fashionable of late, will not improve the breed in this respect. In the "Doddies" the Poll is our sheet-anchor. When we lose our hold on the Poll we may look out for the square form of body, "scurs and patchiness." And now as to the noble Shorthorn. I feel at a loss for a word to describe them. If I say that everyone is proud of them, I think I shall come pretty near the mark. The world has yet to see a better all round breed, and I have no difficulty whatever in placing them at the head of every breed of cattle in existence.

It will be seen, I think, by the foregoing, that I have some reasons for keeping my temper over the improvement of the "Doddies" by two such breeds as I have been trying to describe. It matters nothing to me how or by whom this *great improvement* was effected, so long as I get people to acknowledge the great and valuable qualities of the Aberdeen-Angus Polls, and to congratulate themselves in having more or less a share in bringing them to their present standard of excellence.

I am sure I need not tell your readers how sorry I am that since I commenced writing this, my esteemed employers have decided on dispersing their entire herd of doddies in Chicago next April. It has cost much money and seven years of patient labor to bring them into their present magnificent shape, and I hope I may say without any blarney, that, taking their size and quality into consideration, along with their marvellous show-yard career, they stand to-day without a rival among the established herds of the breed. Much, however, as I feel parting with such a grand lot of Doddies, I must say in justice to our owners, that I can hardly blame them for the step they have taken.

The country around here is specially adapted for the dairy business, and their stables being second to none on the American continent, they have every facility for making a grand success of the undertaking. They have not yet finally decided whether their venture shall be butter or cheese, or both; but these are partly details, and can be arranged later on. There is also another reason which has partly to do with their decision, namely, the apathy of our farmers in encouraging by their custom the breeding of choice varieties of stock.

I may safely say with the Spaniard, "Acca nada," and it is hardly reasonable to expect our friends over the line to go on for ever buying the pure stock we continue breeding, without the merest apology for a home market or demand. I must in fairness say this much for the Americans, that as yet they have been very good. They have bought from us without making much of a distinction between our stock and their own, but it is only reasonable to expect that with their own importers and breeders they shall in future be inclined to deal more or less to the exclusion of strangers and aliens.

I was honored last summer by the Messrs. Boyd & Co., of Bobcaygeon, giving me a small share in the management of their great Angus dispersion sale at Dexter Park, Chicago, and I was simply charmed with the way in which the American breeders and farmers treated us and our Doddies during the sale and after. There was a delightful business ring about all their doings, and they did not expect you to take anything for granted. They came prepared in a business-like way, to pay cash or to take the credit given. There were no useless delays, no hanging back, or no fooling with the work in hand. We had plenty of help and of the best quality, but it took me all my time to arrange things so that our great and genial auctioneer, Col. Jady, should always have a fresh beast before him when done with the last one. In less than four and a half hours we had not a hoof remaining of 62 head, although we had claimed the day following, thinking we should require it to complete the dispersion. The average all round was over \$325, including old cows and young calves. Now this sort of thing is encouraging. It gives breeders some heart in expending their means in the improvement of the country's live-stock; but with us here it is foolishness to expect support from the very men you are trying to benefit, and you have no claim on any one else. I do not know myself anything at all about the politics of the country, but I should think our leading men should be able to devise some scheme to put life into our agricultural community, else I fear we are fast drifting to the wall. The American farmers are of the same flesh and blood as ourselves, and there is nothing specially desirable about their land, more than we ourselves possess. They have their full share

of the difficulties of this life as well as its good things, but over and above all this, they can teach us many things if we are only willing to learn, and their interest in the improvement of all kinds of farm live stock is not the least of their many good qualities.

I consider Canada, as a farming country, to be superior to the States. We can grow as good turnips at New Lowell as I ever saw in Aberdeen or Banff, and I have been led to look on turnips and roots as indispensable to good farming. It is, besides, the healthiest country for stock under the sun. But what avails all this when we want the enterprise and spirit to *keep on improving* our live-stock, which, after all, will be found to be the mainstay of the country.

Now, Mr. Editor, before I have done, allow me to say a word in favor of my first love, the Doddies. I shall put it in the form of an appeal to our farmers to give us a *small share* of their patronage. We only ask a small share. We do not wish to leave the country altogether, so that it could be said of us that Canada alone among the nations could see nothing good in the comely Doddies. The Shorthorns, Herefords, etc., are, so to speak, in possession, and rightfully enough, we are willing to admit, but then, on the other hand, we contend that we are not out of the way in asking a share of their good fortune, seeing that we have beaten them all, not once or twice, but over and over again, and that too, before the best and most experienced judges of fat stock in the world, and the great retail butchers of London and Birmingham.

The G. T. R. and the C. P. R. run our railways in this country, and there is room enough for both and to spare, but we need not all travel by the G. T. R. The C. P. R. is younger, but it is nice and has great pluck, and well deserves a share of our custom. If we are good to it now when it is young and pushing, it will be able to do more for us when it is old and established. Now this is pretty much how I feel concerning the position of the Aberdeen-Angus breed in Canada, and with my best thanks for your kindness in allowing me so much of your valuable space,

I am yours,

J. G. DAVIDSON.

New Lowell, 22d Dec., 1888.

Dominion Shorthorn Herd Book.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I presume all members of the Dominion Shorthorn Breeders' Association are—like myself—in receipt of a card from the secretary, notifying them that their annual subscription for 1889 will be due on January 1st, and that this will entitle them to a volume of the Herd Book. The card also states, "3d volume now ready, 4th being compiled." May I ask when, at the present rate of publication, shall we look for a volume of the Herd Book containing the pedigrees recorded in the year immediately preceding that of its publication?

The report of the Executive Committee read at the second annual meeting, held on the 22d of February last (an account of which appeared in the April number of the JOURNAL) gave the number of pedigrees on record to July, 1887, as 22,000, and the number of those published in the first two volumes as 7728. Assuming that the 3d volume contains the average number of the first two, viz., 3,864, there still remains unpublished 10,408 (or nearly one-half of all the pedigrees recorded up to July, 1887), besides all those recorded since that date.

Could some scheme not be devised by the committee and adopted at the next annual meeting, whereby the publication of the Herd Book *to date*, might be completed within, say the year 1889?

If a calculation could be made to show the amount of money necessary to accomplish this, and a circular setting forth such a proposal, were addressed to the members, I believe a large proportion of them would respond by advancing their membership fees for several years.

For instance: If 325 members would each pay \$20 now (instead of \$4 per annum for five years) the result would be \$6,500, or about the amount required to publish four volumes, each costing the same as the 1st, as stated in the report already referred to, viz., \$1,639. If the amount thus raised, together with the fees received annually from other members, and receipts for registration, certificates, and copies of the Herd Book sold, should be insufficient to carry out this idea, and pay the ordinary working expenses of the association for five years, only a portion of the

Herd Book might be given to members, and the remaining volumes could be sold to them at such a price as would produce the amount necessary to meet the requirements of the association. In this case of course the only advantage of such an arrangement, either to the association or to the individual members of it, would be the publication to date of the Herd Book. But I think this would be a great advantage to all breeders of Shorthorns in the Dominion, and one that cannot be obtained—so far as I can see—till some such arrangement is made, or at least till the members of the association make up their minds to pay for it in some way; for if we simply pay our fees annually and receive annually one volume of the Herd Book, there will for ever remain unpublished thousands of recorded pedigrees.

As a further inducement to members to advance the funds, a certificate of membership for six years (instead of five) might be granted for \$20, which would give to those who took advantage of the scheme 10 per cent. on their money.

I am not blind to the fact that to attain the end in question, it would be necessary to provide the secretary of the association (whom I believe to be already over-worked, and not over-paid), with extra assistance.

I admit that I am writing to a great extent in the dark, and that such a scheme as the one I have crudely outlined, may be (for reasons of which I am ignorant) wholly or in part impracticable, but it may be the means of suggesting a more feasible plan to some of the more experienced and practical members of our association.

G. L. SMELLIE.

Binscarth Stock Farm, Man.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

Southdown Sheep Record.

SIR—Knowing the deep interest you take in the prosperity of the live-stock interest of this country, I would respectfully solicit your influence through your widely circulated paper, to assist in bringing about a more satisfactory means of keeping a proper and reliable record of breeding of pure-bred Southdown sheep. As regards the necessity of such means to enable the breeder to breed intelligibly, there is no room for argument, and while I do not favor a multiplicity of records—to submit to the hand of oppression I am equally opposed.

And now, call the attention of every breeder interested in the advancement and improvement of this old reliable and well defined breed of sheep, to give the subject careful consideration. By way of illustration we will notice the contrast between the broad and liberal manner in which the American Shropshire Association has dealt with its members and patrons, compared with the narrow and circumscribed line that the American Southdown Association has laid down to run on. The Shropshire Ass'n charge a fee of from 50c. to \$1 for recording, and have again extended the time (giving due notice) for registering flocks of pure bred sheep, not previously recorded, to April 1st, 1889, thus showing a desire to deal out justice with a liberal hand to importers and breeders in both countries, the result of which is general satisfaction. A prosperous and growing association, with a cash surplus of over \$1,700 in the treasury—a large amount of which they have decided to offer in premiums at Chicago and Toronto, to encourage the improvement and popularity of the breed, instead of aiming to secure large dividends on the capital stock of the Association for the special benefit of a few stock-holders. Now on the other hand, how different the course pursued by the American Southdown Ass'n. From the time of its organization in 1882 up to 1888, the fee for recording to members and non-members, was \$1 each sheep. This was fairly satisfactory, but in 1888, and without due notice to many of the importers, breeders and patrons, the fee was raised to \$5 for each imported animal, and \$2 for American bred animals, except to members of the Ass'n. American bred animals are recorded at \$1 (the fee for membership is \$10). Now the \$2 fee discourages beginners and small breeders, the very ones that need encouragement most; the \$5 fee on imported animals simply means a duty or tariff of \$4 per head paid by the importers into the coffers of the Ass'n, for the direct benefit of the few members thereof. I have been strongly urged and pressed by a large number of importers and breeders in this country, in Ohio, Pennsylvania, New York, Massachusetts, etc., who have unanimously condemned the

action taken by the American Ass'n, in regard to the fees now imposed. They have urged, with no uncertain sound, the expediency of forming an association on more liberal principles, one that will commend itself to public favor—one that may be taken as authority on this favorite breed of sheep, that has stood the test of time and more than held its own. An American friend suggests the name "International Southdown Association." I feel inclined to favor this as at once appropriate; meetings could be arranged to discuss matters of interest to the Ass'n during the holding of the International Fair at Buffalo, the Industrial at Toronto, or such other place as the Ass'n might appoint from time to time for convenience of members. As there are a large number of imported Southdowns in this country and in the United States, of the very best blood and individual merit that the world can produce, a number of them first prize winners at the Royal and other important shows, not yet recorded, nor are they likely to be at the unreasonable fee of \$5, therefore the time has fully come for all the breeders of Southdowns to unite in what will be for the good of all interested in the welfare of this noble breed of sheep. Let the owners of the hundreds of imported animals not yet recorded be heard from through the press or by private correspondence, which I shall be pleased to reply to any time. I hope to see a meeting arranged for in the near future, to give the matter deliberate and serious consideration.

JOHN JACKSON.

Abingdon, Ont.

Notice of Motion re Shorthorn Registration, etc.

Mr. J. R. Martin, Clareville Stock Farm, Cayuga, Ont., under date of January 10th, writes us as follows:

"I hereby give notice pursuant to section 16 of By-laws,

"That at the next annual meeting in Toronto, in February next, of the Dominion Shorthorn Breeders Association I will move to change the name of 'Secretary' to 'Secretary-Treasurer,' under the 5th article of the constitution (see duties defined in section 32 article 6. I will also at same time and place move to amend By-law section 14, so as to make the same conform to the American standard, and so as to admit animal possessing 10 or more pure crosses, if in themselves animals of merit; also as to the admission of imported animals, and generally to alter and amend the standard of admission."

Veterinary.

Horse Breeding.

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

(Continued from January.)

Although it is indubitably a fact that the most useful, good-looking roadsters are produced by breeding our small mares to the thoroughbred, still it is not in producing these light animals that there is the most remuneration; for the prices paid for them is not high enough; and in addition, it is only an exceptional farmer, that has enough driving, to make such horses earn their living on the road, and they are too light to perform almost any kind of farm work satisfactorily, especially on heavy land.

Very frequently, however, a good-looking half-bred standing from fifteen two to sixteen, and without much substance, will sell for a good figure, say, from one hundred and fifty to two hundred dollars, to be used as a lady's saddle horse. This is unbroken, but if the breeder has the knowledge and time to bestow in breaking them, giving them good mouths, manners, and cultivating pleasant paces, they can readily obtain from two hundred and fifty to three hundred dollars, and sometimes more.

Ladies of wealth and leisure in the large cities of this continent are taking to riding a great deal, and there is consequently a considerable demand for horses suitable for their use.

This is a comparatively small outlet, however, for

light half breeds, when compared with the demand for those of greater substance. Produce them varying in weight from eleven hundred to twelve hundred and fifty, and the demand is practically limitless. Although enough ladies' saddle horses can be sold to make it worthy of consideration, the demand for men's riding horses is much greater. It is by no means necessary for the farmer to take the time and trouble to educate a saddle horse. It will, in the majority of instances, pay him better to sell to the middlemen, and let the latter take the risk and trouble incidental to breaking, conditioning, and placing.

Men that make a business of handling saddle horses can be found by making inquiries in any of our large towns and cities.

In England many experienced men are in favor of breeding the lighter class of draught horses to thoroughbreds, in order to produce weight-carrying saddle horses. Many other horsemen, however, prefer the progeny of a second cross of thoroughbred blood to ride; and you would undoubtedly get a better-looking and more springy moving horse, with the second infusion.

The substance and cold blood introduced in this way will form two important elements, in giving weight, carrying ability and exhibiting a tendency towards two much life. But by a judicious selection of thoroughbred sires, as to substance and temper, it is quite possible to continue to use the thoroughbred sire for generation after generation in this way without much lessening the ability to carry weight; and with the advantage of increased activity, speed and staying power. Some such course as this was no doubt adopted in England and France; with this difference, that stallions with not more than two or three crosses of thoroughbred blood, were bred to mares of similar breeding, and such progeny again mated until the desired characteristics were somewhat reliably exhibited. It is not necessary that, in order to produce halfbreeds of sufficient substance, that we should have to resort to the somewhat extreme method of using draught mares.

We have numbers of good sized mares in this country which evidence the possession of a dash of blood, but their lineage is so mixed up that it is difficult to tell where they got it from; but nevertheless they have a certain amount of quality, although they may be rough, plain and unsymmetrical, yet withal have fair pace and action. If a suitable thoroughbred was used on such mares as these, we should soon see a wonderful improvement in the quality and appearance in our light stock. We would not only have a large number of suitable horses to sell, but we would be able to do something towards supplying the large demand for good-looking carriage horses that exists.

Before altogether leaving the subject of saddle horses, reference should be made to the little success that attended the efforts of the officers of the British army in securing cavalry horses in this Province.

In many quarters we have heard the remark, that they were not willing to give a paying price for what they wanted. It is certainly unfortunate that they advertised a definite limit to the amount they would give for a horse. Doubtless the intention was to avoid being asked extravagant prices, as many are apt to do, that are not business men; but it had the effect of making people think that there was no give and take about them. One hundred and fifty dollars they advertised to give for riding horses. The writer having spent several days with these gentlemen when they were buying, knows what they were giving, and has seen them pay two hundred dollars for an un-

broken four-year-old—a half-breed—and in a number of other cases well up toward that amount.

The question might be pertinently asked, what classes of horses are bringing any better prices than this in the market, even at a mature age, and after being broken, and which have also to be true and free from vice.

Some people pooh-poohed the sale of re-mounts as being of any importance to the country as an outlet for our surplus stock. Such men did not understand the facts of the case. If we were only sending out a thousand every year from this Province as army re-mounts, instead of a hundred, it would be a little help these hard times, even at the prices they pay. But we will never be able to do this if the thoroughbred is not patronized to a much greater extent than it is at the present time. However, we notice indications of progress. If our memory serves us correctly, there were fourteen stallions shown at the Toronto Industrial in the aged class at the last show, whereas a few years ago there never used to be more than three or four at the outside. This shows that there are a few amongst the farmers of this country that are becoming educated to the real merits of the thoroughbred as a progenitor of general utility light class horses.

We would not recommend the farmers to aim at breeding horses fit for army purposes, if they were good for nothing else, but in producing them they have a number of strings to their bow. They will buy horses for cavalry purposes weighing less than eleven hundred, but they have a decided preference for those that go more, and are inclined to give more for them. Now a half-breed that weighs from eleven to twelve hundred—and it is quite easy to breed them heavier than this—is a useful horse for most kinds of work. He is very strong for his size, and is active and intelligent; and it is the general verdict of those who have worked them that they are hard to beat as general purpose horses.

In addition to the chance of selling a half-breed for army purposes, there is the general demand at good figures for saddle-horses, and the still larger ones for carriage-horses, any of which places the high-bred will fill. If he happens to be unsound he is always worth what it cost to raise him for farm work, or can be sold at a reduced price in a town for light work. In addition he is large enough to earn his feed on a farm from the time he is broken in until the time he arrives at a marketable age.

Among thoroughbred stallions there are many unsuitable ones for crossing with our common mares, but it is quite possible to obtain fairly perfect ones for this purpose without paying unreasonable figures.

Some attach a great deal of importance to a long array of turf performances. Certainly it is no disadvantage that a horse or his progenitors have been good performers, for it is evidence that he possesses some form of vitality, which he will be likely to transmit to his get; and to their benefit. But this ability is not to be compared in importance to other points, such as substance, quality, symmetry, style, soundness and action. It would be better to have a horse ten seconds slow than to have him lacking in some of these other more important attributes.

(To be continued.)

Breeding A General Purpose Team.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR—Having had the privilege of reading your excellent stock and farm monthly the last nine months, I take the liberty of asking a question or two about horses. My object is to breed a pair of colts yearly, which will mature into a superb general pur-

pose team, weighing 1300 lbs. each, 16 hands high, handsome, active, not over leggy, with quality in limb and makeup. My mares are of good substance, clean limbed, good constitutions and feeders, stand 15½ hands, bay, and weigh 1,400 lbs. each. I am within reach of the thoroughbred, Rock and Rye; a Kentucky bred carriage horse, of good substance and fine action, of mixed breeding, Morgan blood and thoroughbred blood, Morgan predominating; both the above weigh upwards of 1,200 lbs., and also an imported bay, alleged to be pure Cleveland, weighing 1,400 lbs. Now which of the three would you recommend to cross on such mares as I described, to produce my general purpose team? Or if none of the three will do, kindly tell me through your columns what would be the sire most likely to fill the bill.

A. J. DOLSEN.

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

I would refer you to my articles on horse breeding, for January and February.

Sloughing of Ears and Tail.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

Kindly answer the following through the columns of the JOURNAL:

I have two milch cows which have lost part of all their ears, about 1½ inches off each of them, and one of them will lose about three parts of her tail. They appeared to just dry up and fall off, just the same as if they had been frozen or burnt. They have been stabled since early in October, never out more than three hours any day. They seem to be perfectly healthy every way, having never lost a meal any time.

(Sgd.) ROBERT BLAIR.

Almonte, Ont.

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

This is a very uncommon case. The circulation has been evidently cut off from some cause or another. Cases of sloughing sometimes occur, the result of contraction of the blood vessels, due to diseases of grains or grasses of a fungoid character, such as smut. The feet, however, are the parts usually affected in such cases, but one can conceive of the tail or ears being equally liable. A careful examination of the food might throw some light upon the matter.

Worms in Colt.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Would you kindly inform me through the veterinary department of your valuable JOURNAL what to do in the following case: I have a spring colt that for the last two months has not thriven as he should. He seems weak in his joints, especially his hind legs, and staggers when he walks or runs; and, although he has always been well fed, he is getting very poor, and his hair very long and dry. He eats greedily of almost anything, but it does not seem to do him any good. He is getting quite out of shape.

Nixon.

INQUIRER.

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

There is very little doubt but what this colt has worms, which should be got rid of by the following treatment: Give him fifteen ounces of raw linseed oil on an empty stomach. After it has opened the bowels, give a teaspoonful of oil of turpentine in a pint of cream every morning before feeding, for four successive mornings; after which, give twenty grains of sulphate of iron and half a drachm of powdered cinchona bark, in ground oats three times a day for a couple of weeks.

Cracked Hoof.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR—I have a colt two years old, with a crack in one of her hind feet, about a quarter of the way round the hoof, and is split from bottom to top. I have got a shoe put on it: what else should I do for it?

A. F.

Chatham, Ont.

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

Cut a groove in the horn at the top of the crack, about two inches long, so as to separate the horn from the skin. The groove should be cut sufficiently deep to break the contiguity between the skin and hoof. A fly blister properly applied to the coronet will encourage the growth of the horn.

A Case of Braxy.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I would feel greatly indebted to you if you would kindly tell me what the trouble is with my sheep. They lose the use of their hind legs and their hams mortify. They live from one to three days after the first appearance of the trouble. Quite a few have died in this section this summer and fall.

W. V. H.

Aldborough P. O., Elgin.

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

The description given of the trouble in these sheep appears to correspond pretty closely with that given by old country authors of "Braxy" in sheep; which is considered to be due to germs that gain access to the system with the grass, especially that gathered on low-lying pastures. In an outbreak of this kind it is always wise to move the sheep to another field that differs as much as possible in the nature of the soil and lay of the land.

The Farm.

Educational Scheme of the Agricultural and Arts Association.

The great problem now awaiting solution for the advancement of present and future generations, is that of education. Not only in the agricultural aspect but in that of all the many diversified interests of this era, the handmaids of an enlightened and progressive age. The chances for another Bacon appearing, mastering as he did nearly all the divisions of industrial and scientific work, become fewer and fewer as we advance along the close-drawn lines of progression. Specialties are now the order of the day, necessitated by our multiplicity of wants and overflowing granary of garnered knowledge. Agriculture henceforward must form the main tributary flowing out from the educational fountain head, bearing on its waters those who are centralising their forces one and all to reach the worthy goal and lift the veil that now in many respects dims the view of the agriculturist.

As in the past so in the future, we shall always have words of good cheer and encouragement for those with this laudable object in view, and shall bend our energies to its achievement among the ranks of the "veil-lifters." In so doing we but follow the old, well-beaten trail that has been so long journeyed over. Others may block the way with snarls and bickerings, begotten of self-centred motives, but such shall ever be foreign to us, recognizing that the true and just way of benefiting needed institutions, is to give them every encouragement by helpful suggestions and cheering words.

With these few reflections we desire to direct attention to the pamphlet annually issued by the Ontario Agricultural and Arts Association, which gives the scheme on which this society strives to advance the agricultural interests educationally, and hence financially. At the present time it cannot be gainsaid but that the society is doing a laudable work, however much it may be narrowed in time to come by that of the forthcoming rural schools. The wants of a certain class of honest-endavoring young men on the farm, who have to breast the current of difficulties entailed by their surrounding circumstances, are fully met. We refer to those that have not the time, nor can they bear the slight expense connected with a course at that excellent institution, the College of Agriculture, at Guelph. They, however, possess the will-power and determination of the successful student, besides having the long winter evenings to themselves. The want they feel is a well planned outlined course of reading, that they may follow. The society supplies this, and offers prizes which are an inducement,

though the glowing flame may be fanned by emulation's strong pinioned wing. In looking over the course, one not versed in student's methods or habits may have his ardor dampened somewhat, but the reading for the third class is not difficult, and we would most earnestly and sincerely advise those with the coming winter before them, to write Mr. Henry Wade, of Toronto, the secretary, who will gladly send the pamphlets which we have mentioned. These examinations are to be held in July next, the same time as the High School intermediate examinations, at the same places and subject to the same rules, regulations and supervisions. This is a national question, embodying as it does our national industry. Would that more would recognize the saying of America's great statesman, Daniel Webster, which has now become a maxim, "All national wealth depends upon an enlightened agriculture."

Another educational feature connected with this association is the granting of prizes for the best essays on subjects which are of paramount importance to farmers. For the ensuing year the essays are as follows:

1st. The cultivation of green crops for soiling and ensilage, their value in farm operations. First prize, \$30; second prize, \$20.

2nd. The advantages of rotation of crops as compared with the evil of over cropping. First prize, \$30; second prize, \$20.

No prizes will be awarded to essays not up to the standard adopted by the awarding committee. The manuscript in company with one dollar, member's fee, must be sent to the secretary of the Ag. and Arts Association not later than 1st of August, 1889.

The farm competition is confined to group three, comprising the following electoral district societies, viz.: Huron's, three; Bruce's, two; Grey's, three; Dufferin, one; Wellington's, three, and Perth's, two. Full particulars may be had by application to the secretary.

Turnip Culture.

Mr. John Clarke, of St. Vincent, read a valuable paper on the cultivation of turnips, at the West Grey farmers' institute, held at Owen Sound on the 14th of January, in clay sections. His plan was to manure, if possible, in the fall, applying it on ploughed land, spread, and where the supply of manure is scant, it is applied in the winter. The ground is ploughed again early in the spring, and is kept harrowed frequently on the top. At this season the drills are made low and in the evening only are made when the turnips are sown; and if the weather promises to be dry they are sown deeply, and if rolled, all the better. Good crops have been grown in this way on clay soils, when without some such careful mode of cultivation it would be impossible to grow them. This mode applies to clay lands, but some of its features may be applied to other soils with advantage.

Binding Twine.

The over-tightening of the reins in any line of business is sure to bring about reaction in some way, and so it is in the restrictions that have been put upon the importation of binding twine. These restrictions are not relished by a majority of those whom they most affect, and the result is now manifest in an effort that is now being made to establish The Farmers' Cordage Company, limited, to manufacture twine which will be supplied to the farmers at cheaper rates than are now being paid.

From the prospectus sent us we glean the following: The proposed capital is \$250,000, in shares of

\$20 each. The proposed place of manufacture is Brantford, Ont. When stock shall have been subscribed to the extent of \$70,000 operations will commence. Each farmer taking a paid up share is to get 150 lbs. of twine each year at cost, less allowance for wear and tear, management, etc. Sales are to be made to outsiders at reasonable prices, and the profits to be divided amongst the shareholders. None but farmers are allowed to subscribe, and no person is allowed to hold more than ten shares. Ten per cent. of the stock subscribed is due on demand, balance within one year. It is expected that the mills will be in running order by 1st November, 1889.

Our readers will please remember we are in no way giving advice in this matter, but simply giving publicity to what we believe will be of interest to the farming community.

The Way to Kill the Institute.

Farmers' Institutes, as most are aware, are now being held in the major portion of the electoral districts of the Province. Usually they are conducted in a way that cannot but conduce to the well-being of the farmers. Valuable papers are read on the various departments of agriculture, and a large number of questions are propounded and answers given on questions of vital importance that cannot fail to have an elevating influence on all who interest themselves in the meetings.

Farmers are naturally timid in expressing themselves in public, and usually require to be encouraged rather than repressed in doing so. It is therefore apparent that the presiding officer has a most delicate and difficult task assigned him—one which requires tact and discernment and a shrewd knowledge of human nature to assure its successful performance. The chairman is usually half the meeting in any case, but more than this in the conducting of an Institute.

More than any half-dozen men connected with the Institute is he a power for good or evil, and therefore no consideration should induce any community to place an unfit man in such a position, as in less than two sessions he has it in his power to kill the Institute very effectively.

The Institute killer is some such manner of man as this: His demeanor throughout is cold and chilling, and his tones sepulchral. His opening address is long and very commonplace. He does not evince much interest in any of the papers while being read, and after the reading of each one he is sure to impress the remark that "short papers are wanted," although after a while he himself comes on with a paper a whole hour and a quarter. The evening meeting draws on, and brief addresses are required between the songs and solos. He inquires of certain strangers that may be present: "Do you want to speak this evening," and, introducing them, he assures the audience that they promised to be brief.

Such a man is one of the most effective Institute killers that we know of, and if the commodity presides over any of our Institutes in Ontario, we earnestly advise to have him removed, and that very speedily. Select a cheerful, clear-headed man, brim full of tact and overflowing with good will—a man who will not overlook his duty to his nearest neighbor who may come out to the meeting, and who at the same time gives a stranger a shake of the hand, the first touch of which rouses all the responsive good feeling that he possesses. Such a man will be a power in the meeting, and at its close everyone will be in the humor of holding another in due time.

It should make no difference whether the man is

Grit or Tory, M. P. or Honorable. Do not regard his claims to the position unless both nature and his own good trust have qualified him for discharging his duty well.

Preventative of Rust.

The following mixture applied to the surface of any implement, such as ploughs, etc., is stated to be a sure preventative of rust: Melt one ounce of resin in a gill of linseed oil, and when hot mix with two quarts of kerosene oil. Applied with a rag or brush. *It is credited with being a protector from this evil,* thus lessening the usual trouble in this connection, while materially preserving the parts treated.

How Young Farmers Should Spend the Winter Months.

Read before the North Grey Farmers' Institute at Owen Sound, by the President, Mr. James Cochran, of Kilsyth:

This paper appeals to young farmers or farmers' sons who have decided to remain members of what is now one of the noblest and highest professions in the world. There was a time when farming was drudgery; when muscle was the motive power; when the road to success was, work hard, eat the cheapest and most economical food, and wear the cheapest and coarsest clothing. The round of the farmer's life was work, eat, sleep. No wonder that the young men that had more brain than muscle left the farm. This has all been changed in the last forty years. A strong body is no more necessary to a farmer now than it is to any of the learned professions. A vigorous, active brain can find as much, yea, even more room for action on the farm than in any of the trades or professions in which men engage.

The stigma that was attached to the farmer and farming is very rapidly being removed. The clodhopper, when brought in contact with the counter-jumper has proved himself more than a match for him, both mentally, physically, and intellectually, and the veriest hayseed has more true manhood than the most fashionable dude.

My object in coming before you this evening is to ask the young men of North Grey to help to raise the standard of our noble profession to a yet higher level, and to offer a few suggestions as to the best means to use for the accomplishment of that very desirable end.

Young farmers of North Grey, it is the way you and your brothers throughout Ontario spend your winter evenings that determines whether this standard shall be raised or lowered. If you pass away the evenings in idle gossip or in a continual round of pleasure, or with a pipe or cigar in your mouth, with no object in life but to exist, your life will be a failure and you will be a hindrance rather than a help. Listen to Longfellow's beautiful psalm:

"Life is real! Life is earnest?
And the grave is not its goal;
Dust thou art, to dust returnest,
Was not spoken of the soul."

Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time."

You pass through this world but once. Let the world be and let your profession be the better, because you having lived. I take it for granted that you have obtained a common school education, and that you intend to remain a farmer. Let me impress upon you this fact, that youth is the time to acquire knowledge. That knowledge is power and wealth. If combined with honesty and truth it will bring you honor, and the respect and esteem of all with whom you come in contact. To get it you must study, and the life of a farmer gives you, especially in the winter, many opportunities for storing in your mind a wealth of knowledge which will make you feel at home when you mingle with other classes of men. Study one thing at a time; get a good general knowledge of domestic animals, of the different breeds of each species, and those points in their formation that are most conducive to the object for which they are intended. Read books on the subject and such papers as the *Live-Stock Journal*; you are in the best of company while perusing a good book or instructive papers. You can

find an excellent list of books on agriculture in the *Stock Journal*, but the young farmer should not stop here. You should want to know something about the world in which we live. Physiology, geology, etc., and history, as you advance. Political economy may be taken up with very great profit; it will give your ideas a wider range, and help your reasoning powers. This requires application and perseverance for a few years; but the satisfaction you will feel in after life will amply repay you for the effort. There should be a debating club or literary society in every school section, which should meet once a week during the winter, and if conducted on business principles will be of lasting good; for as iron sharpeneth iron, so does one mind rubbing against another quicken the perceptive faculties. There should also be a public library in every municipality, either under the Act respecting Mechanics Institutes, chap. 173 Revised Statutes, or under the Free Libraries Act, chap. 189. Under the Mechanics Institute Act the Government offers most liberal inducements, giving dollar for dollar with the people. Why should not this farmers' institute, or your Agricultural Society take advantage of this Act? If they have not already done so, do not let this winter pass without availing yourselves of the precious privileges it affords. I think it would be a great step in advance if our Agricultural Societies would give good books on agriculture and art as prizes, instead of diplomas and medals, or even money prizes.

But to return to my young friends. The greatest difference that exists between farmers and those that live in cities and towns, is this: The citizen does business on business principles, and have confidence in each other, and if anything occurs to disturb this confidence it is looked upon as a very great calamity. Without it business would languish and die. The want of confidence among farmers is at the present time the greatest hindrance to their prosperity, and the young farmers should strive by every means in their power to encourage business principles, truthfulness and integrity, for these three are the father of confidence. In conclusion, anything that is worth doing is worth doing well.

"Strive to be men in word and tread,
The foot prints of earth's noble few;
Despise the oath, the lie, the deed,
Which mark the base men from the true."

Essay on Field Roots—their Comparative Value as Cattle Food, Cultivation, etc., etc.

BY D. NICHOL, CATARAQUI, ONT.

To which was awarded First Prize by the Ontario Agricultural and Arts Association, 1888.

(Continued.)

Although 1,000 bushels may be considered a good paying crop, it is quite possible to raise double that quantity on an acre. Let us see what the possibilities are.

A few years ago Mr. Rennie, the leading seed merchant in Toronto, offered five prizes of \$5 each for the six heaviest roots of the different kinds then cultivated. Mr. Wm. Burgess, of Etobicoke, obtained first prize for the six heaviest globe mangolds, which weighed 211 lbs., making an average of 35 lbs. each. No one need expect to raise an acre of roots weighing 35 lbs. each unless the plants were allowed abundance of room and very high cultivation; but let us make a moderate calculation. A square acre is 200 feet each way; at thirty inches apart there would be eighty-three drills, and at fifteen inches between the plants there are 167 in the drill, which gives 13,861 roots per acre.

Since it is a fact that mangolds weighing 35 lbs. each can be grown, almost any one will admit that it is possible to grow them at the distance above mentioned to the weight of 20 lbs. each, and that would give 4,620 bushels; but supposing we calculate the roots at only 10 lbs. each, we get 2,310 bushels from an acre, and if at the rate of 1,500 bushels per acre they cost only four cents per bushel they would certainly cost less than three cents per bushel when a crop of 2,310 bushels is produced, the difference in the amount of labor being chiefly in hauling and storing. A very ordinary crop is 1,000 bushels per acre, and we hesitate not to say that it pays well, even if there were no advantages derived by the preparation of the land for after-crops. But I have seen crops on farms managed on the scrub system that did not aver-

age more than 500 bushels per acre. Valued at ten cents per bushel, even this crop pays better than a crop of wheat at only ten bushels per acre, worth about \$8.50. Because the labor and manure expended for a poor crop of roots is much less than that required for a heavy crop, whereas a poor crop of wheat or other grain costs as much labor as a good crop, with the exception of hauling and storing. A poor crop of roots pays just about as well as a poor crop of anything else. It is only poor farmers who pronounce field roots an unprofitable crop.

PREPARATION OF THE SOIL.

Summer fallowing is an excellent mode of destroying annual and biennial weed seeds. It is the season is showery every stirring of the soil destroys: crop of such weeds, and if the season is particularly dry, quack grass and thistles can be pretty well subdued. Bare summer fallowing, however, adds but very little to the richness of the land. Where nothing of a manurial nature is applied it is the most thorough mode of exhausting the land. It is the best method of getting all out of the land without returning anything to it. The most completely exhausted land that I know of has been frequently summer fallowed, and summer fallowing is not the most effectual method of destroying any kind of weeds.

I have never failed to materially improve the condition of land by fallowing with the ploughing under of green crops; and buckwheat I have found to be by far the best adapted for this purpose, because two crops can be ploughed down in one season. If sown thickly, say at the rate of two bushels per acre, and ploughed down as soon as it comes in flower, and sown immediately again at the same rate and ploughed under in the fall, it is certain destruction to all kinds of weeds, except those whose seeds are of an oily nature, such as wild mustard, which retain their vitality for many years, and germinate only when they are brought near the surface. This mode of improving the condition of the land involves less labor and expense than the bare fallow, and where manure is scarce or expensive it is the most economical method of enriching the soil and rendering it friable and in clean condition, but this involves the loss of the use of the land for a season, whereas when the manure is available this loss need not occur.

Every spring there is an accumulation of winter-made manure, but the spring season prevents the general application of it. The growing of forage plants which thrive well on fresh manure affords a favorable opportunity for applying it to the very best advantage, and on dairy farms green sorage for summer has now become a necessity. If, after all, the other crops have been got in this manure is spread on the land that needs fallowing and ploughed in, a good crop of corn fodder for soiling can be obtained, or if not required for soiling purposes it can be profitably used for ensilage. The great benefits which some of the most enthusiastic advocates claim for ensilage have not been, and probably never will be, fully realized; yet taking all things into consideration, it is perhaps the best substitute for a crop of field roots. Corn is the very best crop for ensilage, no other plant thrives so well on fresh manure. More than twenty tons of it can be raised on an acre. But then in this matter the chief advantage is that after the heavy crop of corn produced by the liberal application of manure the land is in admirable condition for producing a fine crop of any kind of field roots the following season, as well as for grain and hay crops for succeeding years. This is the most economical method of applying coarse manure, and it is a most effectual way of cleansing the land. The necessary labor in keeping down the weeds in the cultivation of roots is always amply repaid by increased produce; on land prepared in this way it is hardly possible that the proper amount of labor judiciously directed would fail to produce profitable results.

The turnip is doubtless indigenous to Europe, but the time it was first introduced for cultivation in Great Britain is not very distinctly known; it was cultivated to a greater or less extent in the gardens of the religious houses from the time of the Romans, to whom it is most probable we are indebted for a knowledge of its value, as well as for that of several other useful plants.

(To be continued.)

"I always look for the JOURNAL, there is so much valuable information in it."—George Craig, Binscarth Farm, Binscarth, Man.

The Dairy.

Winter Butter-Making.

BY PROF. JAS. W. ROBERTSON, ONTARIO AGRICULTURAL COLLEGE, GUELPH.

Three factors of value enter into the production and preparation of all farm products for the market. When a farmer sells grain, animals or their products, he disposes of some of the elements of fertility out of the soil, besides his skill and labor. These three then, (1) the substances which give land its quality and fertility, (2) his skill, and (3) his labor—he disposes of in every varying combination in some materialized form. It is most desirable that as large a proportion especially of every dollar which he received in return for products, be realized as an equivalent for labor and skill. The less of the valuable substance of the farm that is disposed of piecemeal through sales of crops, the richer the fields are left for the growth of more feeding plants.

Taking nitrogen, phosphoric acid, and potash as the three constituents of plant food most valuable to the farmer, we find them rated at the following prices in concentrated fertilizers: Nitrogen, 17c. per lb.; Phosphoric acid, 6½c. per lb.; Potash, 4c. per lb. Millions of dollars worth are used annually on the continent on that basis of value, which may be too high or too low. The argument to follow does not depend upon the exactness of the scale of valuation. Measured by that rule, when a farmer disposes of \$200 worth of wheat at \$1 per bushel he sells \$48 worth of nitrogen, phosphoric acid and potash; when he sells a \$200 horse he disposes of not more than \$7 worth of these; and when he sells \$200 worth of good butter at 25c. per lb., he sends off his place less than 25c. worth of them.

Thus a farmer may sell all the butter he can make and be satisfied that he is not robbing his farm, even though he may never buy feed or manure, providing he returns to the soil without waste the manure of plant food from the stables.

Butter-making during the winter offers opportunity for the farmer to sell his labor and skill to advantage without encouraging the evil of exclusive grain-growing, whereby many farmers are led on to sell "the stock in trade" which they possess—the elements of fertility in their fields—under the fiction that all the receipts from sales are profit. In Ontario the milk of 260,000 cows is sent to cheese factories, while the milk of about 250,000 cows is used in butter-making. A serious trouble with our live-stock affairs is that over 200,000 of these 250,000 cows are, as Prof. Roberts puts it, "out on strike," and the longer the strike lasts the poorer their owners become. A discouragement to winter dairying in the past has arisen from the difficulties of making fine butter easily. Farmers have not understood how to produce butter with less labor and trouble in winter than in summer, and consequently they have not engaged in it.

This paper may now explain how to do that, and in a subsequent issue I will try to tell how to feed the cows, the kind of cows to feed, and how to take care of her. Trouble has been experienced with stable flavors in the butter. That may be avoided by effective ventilation. The best and simplest means are conductors leading from the ceiling through the roof. Fresh air will find entrance through the walls, doors and windows without any of them being left open during cold weather. The use of gypsum in the gutters will prevent the escape of ammonia into the air. A few handfulls per day will increase the manure value by at least five times the cost of the gypsum. The pure atmosphere will make it possible for the cow to assimilate her feed and to make a larger yield of butter from it. Milking with wet hands is very objectionable. The men should always do the milking with dry hands.

Frequently the milk is left to cool off before it is set in the pails or pans for the separation of the cream. The fat of milk is in the form of small globules which are held in suspension. Because they are slightly

lighter than the serum of milk in which they float, they rise to the surface when left undisturbed. But if the milk be of a temperature below 90° Fah., or if it remain at a stationary temperature below 90° Fah., after being set, they rise very slowly. When the milk is put into the pails at a temperature above 90° and then gradually cooled down without disturbance by means of immersing them in cold water, a circulation of the milk is started where by the globules are quickly carried to the top. A falling temperature is advantageous also, because it increases the difference between the specific gravity of the fat globules or cream and the serum or skim-milk. Proper attention to the setting of milk would avert serious losses to those making butter. The best method of warming the milk to the desired heat is by adding warm water, which may, without injury, be 145°. Another benefit arises from the use of warm water. Very often during the fall and winter, milk acquires a quality of viscosity whereby the globules are hindered from moving to the top. The use of water corrects that condition. Sometimes a coating of curdymatter adheres to the outside of the globules and weighs them down. The warm water helps to remove that and also makes churning much easier. Cream should invariably be removed from the milk before it is sour, and the cream for each churning should be gathered into one vessel and kept there for at least 20 hours. It should also be kept cool and sweet until within one day of churning. A good practice is to mix 25 per cent. of pure water with it. The whole of it should be well stirred every time fresh cream is added, and half dozen times a day besides. It should be soured until it is loppered. The churning of cream while in a sweet condition involves loss of butter-fat. Nearly 23 per cent. of the total butter-fat in cream will be left in the butter-milk unless it is soured, while not more than 3 per cent. of the total fat in the cream need be left when churned, after it is sour.

The churning temperature for fall and winter ranges from 62° to 66°. The agitation in the churn should be kept up until the butter comes into particles rather larger than clover seed. The most convenient way to wash butter is by the removal of the butter-milk while the butter is still in the granular state. Pure water at 55° Fah. should then be added, and churning should be continued for a few minutes. The milky water may then be drawn off and replaced by a weak brine. The practice of mixing the salt with the granular butter while still in the churn is gaining favor. Pure fine salt only should be used. From three quarters of an ounce to one ounce to the pound will please most customers. The high priced customer should have his taste gratified if he wishes only one quarter of an ounce to the pound. It should always be put up for market in a neat, attractive form.

I add a few thoughts on the benefits that would result from co-operative winter dairying. I need not write much about the quality of the average dairy butter. I believe the quality is improving. Still the fact remains, that dairy butter brings on the average from 4 to 6 cents per lb. less than creamery butter in Ontario, when marketed at the same time. The foreign markets will pay high prices only for uniformly fine dairy products. The cheese of Ontario has won its deservedly high reputation in the English market mainly because of the *uniformity* of its excellence. That could only have been attained through factories, and would never have been possible by farm cheese-making. Over 99 per cent. of our total make of cheese is the product of factories, while less than 3 per cent. of the total make of butter in Ontario is manufactured in creameries. Six times as much labor per pound is involved in making butter in small dairies as is required in creameries. Six times as much capital is required for the utensils to make a given quantity in small dairies as would equip a creamery of sufficient capacity. Yet I do not advocate the establishment of creameries for summer butter-making. Where they have got into competition with cheese-factories in the summer time, they have often gone to the wall. We should not attempt to contend against the natural adaptation of our circumstances. Our home market is the only one we should seek to supply with butter during the summer. During that season we cannot successfully compete with British, French or Swedish farmers. The difficulty of finding safe transit for fancy butter during the summer months to the distant cities of England is well nigh insuperable in business. During the winter no such hindrance is experienced. From November until April is our natural butter-making season. The same

buildings that are used in cheese-making in summer could be used for butter-making upon the co-operative plan. During the winter the expense of adapting the machinery and procuring the extra utensils need not exceed \$200 for 500 cows. The general use of silage from fodder corn will provide a cheap succulent winter feed and make the possible profits from butter quite twice as much as they have been from exclusive dairying. The chief advantages may be summed up—

1. A longer season of income from cows is obtained when they calve between September and November.
2. Better calves for the dairy or the feeding stalls can be raised at less cost.
3. Remunerative employment is given to farm hands the whole year.
4. Butter sells at the average for 50 per cent. higher price from April till November.
5. Transportation for export will not endanger the quality.
6. The quickened interest thus directed to dairying would result in cows being more suitably and economically fed; more milk would be produced at less cost; the coarse grains would be profitably consumed on the farms, and increased fertility would follow.

The Creameries Association.

The reason of the rapid progress of the dairy interest in Ontario within a few short years was brought to the surface at the Picton meeting of the Creameries Association, on the 10th and 11th January, where a mutual desire was apparent on the part of all to raise the level of Ontario's already leading industry. If other associations would carry like enterprise, industry and good fellowship into all their workings, internal as well as external, the lethargy now so apparent in many of them, would give way to a life of quickened impulse. The dairy interest of Ontario claims the surveillance of three associations, ever active and ever ready to advance their interests, while our beef, mutton, and swine industries, lie dormant largely for the want of such an incentive to stimulate them into active life.

After dispensing with the customary business preliminaries, Mr. J. Gould, of Ohio, gave a very interesting address on the dairy interest, emphasizing the fact that through time the local market of twenty-five years ago had given way to the market of the world, calling for a product without individuality, but of uniform quality, such as can be obtained through the agency of creameries. In taking up the question of how best to further the dairy interest, three mediums were given for its advancement: (1) by associations, (2) by dairy conferences, (3) by dairy schools. The associations had, however, failed to reach the masses. Too often they had become a government spoke in a government wheel. A dairy conference does better in this respect, for when the various operations connected with butter making are conducted before the dairy public, and a product of enhanced value results from the application of these principles and methods advocated, then a strong impression is made. The other lever that would help to raise the quality of butter was given to be the establishment of dairy schools, the graduates of which should be the only butter-makers or cheesemakers in the land. The market never asks for a low grade butter, but that of superior quality, for which an increased price may be obtained.

Mr. T. Macfarlane, chief analyst of the Department of the Interior, of Ottawa, followed, speaking of his recent visit to Germany. After visiting Berlin, Munich and several other stations of equal note, he came to the conclusion that as regards analytical methods, our systems of analysis were not inferior to theirs. The speaker stated that there was in Germany an immense gulf between the station professors and farmers, a feature not near so plainly marked in Denmark. He closed by hoping that our farmers and chemists would more heartily co-operate, and by stating that the authorities

at Ottawa were ready to do anything in their power to advance the cause of the dairyman.

BEST VARIETY OF CORN FOR ENSILAGE.

A discussion on this subject was led by Mr. Allan, of Picton, one of the local committee, an extensive seed dealer; he mentioned a corn grown at Richmond, Virginia, called the Southern Sweet Corn, or locally known Sheep Tooth, that sent up a number of stalk shoots from the main stem. Mr. Gould stated that this corn was also known as the B. & W., and that it has stood the trial of seven years, giving good satisfaction. They had to import it each year from Richmond, as their own seed only gave poor results. Mr. R. J. Graham, of Belleville, joined in the discussion, saying that after experimenting with eight or ten varieties, he found that the Southern Sweet Corn can give more tons per acre, and that of better quality than any of the others tried.

BUTTER PACKAGES FOR MARKET.

Mr. James Davis, of Toronto, was next called upon. His remarks were confined to the above subject, and secured the closest attention of those present. He said that there was a good demand for small rolls, from two to ten lbs. weight, and that he had found ready sale for 5 lb. boxes obtained from the creamery at the Guelph College, the only difficulty being in getting a constant supply. In reply to inquiries made of an English dealer, in regard to the manner the different countries put their butter on the British market, he had received the following:

Irish.—Sent in ½ cwt. white wood kegs, and kits of same weight. This latter is similar in shape to the packages you ship your butter in, but the butter is wrapped in muslin. They are now trying to introduce boxes, 12 lb. rolls, which we think will become popular. Prices at the moment, 110s. to 120s. per cwt.

Danish.—Comes in white wooden casks, of about 1 cwt. each net. Present value 132s. to 136s.

Dutch.—In white wooden casks and wooden hoops, from ½ cwt. to 1 cwt. each. Present value, 120s.

Normandy.—Is generally sent in white baskets from 28 lbs. up to 56 lbs., never over. The more useful sizes being 36 to 40 lbs. A certain proportion is sent in crocks, encased in baskets, weights from 35 to 56 lbs., and some ½ cwt. firkins. Price 106s. for good up to 120s. per cwt.

Brittany.—Fresh comes in 2 lb. rolls, 12 rolls to the box, 24 lbs. in all; nice white wood, carefully planed and got up, and sender's name branded on the boxes. A muslin cover is over the butter, and laced paper is on top of the butter when the lid is open. Price 13s. to 15s. per 12 lbs.

Italy.—Also sends a quantity got up in exactly similar style, from 14s. 6d. to 14s. per 12 lbs.

English.—Fresh is more generally in flats, or square baskets, containing 60 lbs., in three layers of 20 lbs. each, the bottom layer resting in a straw bed, with a cloth resting between that and the butter, and a cloth between each layer. 12s. to 15s. per 12 lbs.

Mr. Cheeseman, Secretary of the Association, referred to the Aylesbury flat basket, and thought it unsuitable for our climate, preferring a 5 or 10 lb. wooden box, on which a brand in large letters could be put.

The afternoon's session was opened by the President, Mr. D. Derbyshire, of Brockville, exhorting the dairymen present to endeavor to put the butter industry on a like footing with that of the cheese, which was now exported to the extent of \$9,000,000. The building up of a home market was dwelt on, instancing a case under his own management in Brockville, where he had, by the handling of a superior brand, created a demand that he soon could not meet. In regard to the common practice followed in winter, he tersely asked what would be thought of the merchant who closed up his place of business for even two months of the year.

CREAMERIES OF ONTARIO AS AN ECONOMICAL FACTOR.

With this for his subject, Prof. Robertson, of the Ontario Agricultural College, Guelph, gave a very instructive address, emphasizing the fact that a dairy cow was an artificial product far different from a cow in nature, as the only endeavor of the latter was to produce enough milk to nurture her offspring. Not only must the latent powers be developed, but preserved and directed. In his contribution to this issue the Professor concisely sets forth the main features of his address, to which we would draw the attention of our readers as being of special worth.

ENSILAGE AND THE SILO.

Mr. Gould spoke on this subject at some length. After referring to the mistakes made in the past, both in constructing the silo walls of stone and also in the sowing of the corn at the rate of 2½ bushels to the acre; he stated that the practice followed now was to construct the silo of wood, and sow the corn, 8 quarts to the acre, kernels 6 inches apart in the row, and the latter 3½ feet distance from each other. Their seeding by giving the plant more air and sunlight, was more favorable to the production of saccharine matter. The corn should be kept cultivated as long as possible. The food value of stalks thinly sown as against those sown thicker is as 42 to 11½, leaving out of consideration the increased production of ears. In regard to silos, they had reached the low limit of 50c. per ton for storage capacity. \$1 to \$1.25 per ton would cover all costs, at the outside. Wood was recommended in preference to stone, as the latter was a good conductor of heat and cold. By using studding 2x4 or 6 edgewise, and then two layers of boards enclosing tar-paper, a dead air space would be secured which would be sufficient guard against freezing. By painting the boards on the inside with coal-tar they would be rendered moisture proof. No plaes are necessary; the A rafter, with cross ties, attached to end of studding, being all that is necessary to keep the sides of the silo from spreading.

Taking all the items into consideration, his corn ready to go into the silo, cost him \$8 per acre, off which 27 tons were raised. The custom of weighting had been done away with, as it was found out to be totally unnecessary. To attend to the work it took five men and two teams.

By means of this fodder and warm stables his cows knew no winter. Their milk sold for \$1 40 per 100 lbs., and the following ration was given them:

55 lbs. ensilage per day cost 1¼c.
3 lbs. clover hay, fed at noon, 1c.
6 lbs. bran..... 5c.

On this ration the cows gave from 18 to 38 lbs. milk per day, or an average of 24 lbs. for the entire dairy, which sold for 33c., being a profit of 25½c per cow per day. Particular stress was laid on the fact that these cows were never out of the stable to warm the barnyard, as the speaker humorously put it. In the filling of the silo no treading was thought necessary, one man spending about 15 minutes in the silo every couple hours spreading. The corn was cut in ¾ to ⅝ inch lengths. The custom in some districts of mixing straw in layers with the silo was condemned by the speaker. The work was finished by covering the top with straw and loose boards after being exposed for about four days.

THE HOG FOR DAIRYMEN.

Prof. Robertson brought forward many points of value in speaking under this heading. In respect to the feeding of whey, he stated that 100 lbs. of whey would yield 2 lbs. of pork, and that skim-milk fed sweet was a splendid food for hogs, fed in conjunction with barley and beans. Coming to the subject proper, the three primary features of merit in a hog were, in their order, length, depth and breadth. The practice of feeding sour swill was strongly condemned. In relation to the treatment, the necessity of good warm quarters and pure atmosphere was touched upon as was also the importance of being abundantly supplied with salt. Meal should be mixed with the whey, or, if possible, skim milk or buttermilk. Green clover, oats and peas, or southern corn was of inestimable value. There was economy in marketing at an early age, for after 75 lbs. weight had been reached the cost per lb. of adding to this became greater as the weight increased, i. e., from 75 to 150 lbs. it took 17 per cent. more food to add a pound weight to the pig than

it did to add one of the 75; from 150 to 250 lbs. 24 per cent. more feed, and above this, 34 per cent. The endeavor should be to have every farmer keep two hogs in summer for every cow.

Leaving this subject, the professor then passed on to that of butter-making, which he thoroughly exhausted, to the great satisfaction of all present.

METHOD OF TESTING MILK.

Mr. McFarlane next explained the methods followed for testing milk in the administration of the Adulteration Act. The collector of the samples made preliminary tests with the lacto densimeter, and Feser's lactoscope. The doubtful samples were forwarded to Ottawa, where they were subjected to gravimetric chemical analysis. The course followed was that used in most laboratories. The necessary apparatus was exhibited by the lecturer, comprising milk tubes partly filled with asbestos, which were first dried and weighed, and then a known weight of milk added. The percentage of water was obtained by the loss from evaporation, and the residue left was tested with naphtha or ether, which dissolved out all the fat, the latter being found by evaporating the ether. The principal requirement on the part of the operator being an acquaintance with a fine accurate balance. A modification of the regular apparatus was shown, which enabled the operator to determine the fat in a half dozen samples or so at once. It consisted of a long cylindrical tube, into which the smaller tubes were placed containing the dry solids and asbestos on top of each. These tubes connected one with the other by means of a small outlet. The ether, poured in at the top, carried the fat out, the amount of the latter being determined by the loss of each of the tubes after being dried.

SHORT PROCESS OF TESTING MILK.

This system, of but late invention, was placed before the meeting by Mr. Gould, he having the use of the necessary apparatus, which was kindly brought from Boston by Mr. Cheesman. The outfit consists of a water bath, a small oil stove, which, however, may be dispensed with in favor of an ordinary stove, and a number of tubes in which the milk is put, they being held in a rack to enable one to easily lift them out of the water-bath; also two graduated glasses and a pipette. The following is the theory of the process: When a mixture of milk and a sufficiently strong alkali is heated to the temperature of boiling water, the alkali unites with the fat of the milk, forming a soap; a process exactly similar to that of ordinary soap making. This soap formed is dissolved in the hot liquid, while the casein and albumen are disintegrated, and are rendered very soluble. The mixture of milk and alkali after heating becomes all of one color—a dark brown. By the adding of an acid the soap is decomposed, the fatty acids rise to the top, while the albumen and casein, etc., are thrown down. The carrying out of this method is purely mechanical, a rule being applied to the neck of the small flasks, indicates the number of lbs. of butter to every 100 lbs. of milk. To be convinced that this system of testing was not beyond ordinary ken, it was tried at Wisconsin station by the authorities there, the farm superintendent, whose knowledge of chemistry was but limited, using Short's method, and the station's chemist using the usual method of chemical analysis. With 12 samples, an average difference of .002 resulted. The only objection to this method that we see is, that the churnable butter fat is not arrived at. The fact that there is a great difference in butter fats cannot be gainsaid. This would be one obstacle in the way of its use in creameries, where the results from the big churn should coincide with the results derived from the method used, for judging the value of the patron's milk, which is the case, as a rule, with the oil test churn.

The morning session was begun with the election of officers, Mr. D. Derbyshire, of Brockville, being again elected president; John Hannah, Seaforth, 1st Vice, and John Sprague, Ameliasburg, 2nd. Then came the reports of the inspectors, Mr. John McHardy, for the west, and Mr. M. Sprague for the east. Several valuable points were touched upon, the former stating clearly the difficulties under which the creamery butter-makers had to work, especially as regards the various conditions of the cream on its arrival from the different patrons. The absolute necessity of good ice houses was dwelt upon, also the desirability of having the butter presented to the consumers in such a form as to be attractive to the eye as well as to the palate.

FIVE POINTS IN BUTTER-MAKING.

Mr. Gould again addressed the association, giving prominence to the fact that it is the skill of the butter-maker that puts the market value on the creamery output, not so much the material out of which it is made. The five principal rules of this art were given, as follows:

- (1) Set the milk as quickly as possible after milking so as to get as great a range of temperature as possible. To hasten the rising of the cream, warm water should be added to the milk, this, lessening the viscosity of the milk, permitted the globules to rise easier and quicker.
- (2) Skim the milk before it becomes sour. To prevent the cream souring before a churning has been gathered, keep it cooled below 40° Fahr.
- (3) Churn the cream when slightly acid, thereby getting an increased return in butter, and also in better flavored product.
- (4) Wash out the butter milk with weak brine. By brine-salting the butter never becomes streaky.
- (5) Pack and send to market directly out of the churn, in small neat packages, branded and tastefully finished. The importance of having the packages branded in large letters was emphasized by the speaker, and his statements were corroborated by the worthy President.

Poultry.

Preparing Poultry for Market.

A New York commission firm writing to the *Farm and Vineyard*, offers some good advice in regard to preparing poultry for the market. It is stated that a law is in force in New York city prohibiting the sale of turkeys or chickens unless their crops are free from food or other substance and shrunken close to the body. This makes it necessary to keep food from the fowl intended for the market twenty-four hours previous to killing. They advocate the killing of all kinds of poultry by cutting through the roof of the mouth to the brain with a sharp pointed knife. We cannot do better than give their own words: "Leave the head and legs on, and never 'draw' the entrails. Pinfeathery young turkeys, ducks or geese should not be killed, but kept until full fledged. Poultry should be fat before killing. The usual quality sells best scalded. The legs and necks of turkeys and chickens should be dry picked immediately after killing; this will keep them from discoloring when exposed to the air. The water for scalding should be boiling hot. Immerse the bird, holding it by the legs, and lift up and down in the water three or four times. Immediately after scalding chickens and turkeys, remove the feathers, pin-feathers and all, very cleanly and without breaking the skin.

After scalding ducks and geese, wrap them in a cloth about ten minutes, then the down will roll off with the feathers. All poultry should be plumped after picking by dipping for about two seconds in boiling hot water, then thrown into cold water and left for ten or twelve minutes.

Very fat and handsome chickens and turkeys generally sell a little higher when dry picked, and from far distant ports they carry better. Poultry looks much leaner when dry-picked than when scalded and "plumped," therefore only very fat stock should be dry picked. Ducks and geese are preferred scalded. Carefully avoid cutting or bruising the flesh or breaking the bones.

A Duck Farm.

Mr. Rankin, who runs a rather large duck farm on the other side of the line, having sent over 2,000 ducklings to market already, over 1,000 of the best reserved for breeding purposes, claims that as egg-producers, the ducks far surpass his best hens. He says: "Our young ducks, hatched March 15th, commenced laying August 1st, and have been laying ever since." During the past season he wintered 150 ducks with the proper complement of drakes, and these commenced laying the 1st of January, and up to the present time have furnished him with 18,460 eggs, or a little more than 123 eggs each. The cause of so

many losing their young ducks through weakness in their legs and inability to stand, he claims as due to the feeding of too highly concentrated food, stating that the natural food of the duck in its wild state is grass and fish of all kinds. This should be supplemented by a grain diet composed of equal parts of good wheat, bran, and corn-meal, with plenty of vegetables of all kinds, potatoes, turnips, beets, cabbage, etc. He feeds one bushel of cooked turnips per day throughout the entire winter, mixed with 2 1/2 shorts and beef scraps. His method of management will bear repetition: ducks will not thrive on an exclusive grain diet. They are grass-feeders, requiring a larger quantity of feed than hens, but are not particular as to quality. The young ducks are kept in yards of about 10 x 100 feet in extent, putting 100 to each yard. It is absolutely necessary to confine them thus, as they will not only run their flesh off, but will greedily eat all manner of insects, which they do not stop to kill, and often pay the penalty with their lives. We give water regularly the same as food, and only sufficient for them to drink. Shade is essential. It is astonishing to see how ducks and apple, pear and plum trees harmonize. The ducks thrive upon the insects, shade and falling leaves, and so enrich the ground that the trees are loaded with large, fair fruit. Our ducklings dress upon an average five pounds at nine weeks' old, so that we usually grow two and sometimes three crops of them on the same land each season. These yards are ploughed up and re-seeded with grass and rye in the fall, the crop, of course, disinfecting the ground, besides furnishing green food for the young ducklings during the early spring. We feed largely during the summer on green corn fodder, which is cut up fine. The young birds not only fatten on it readily but seem to enjoy it hugely, especially the stock. We are careful not to feed more than the birds will eat up clean, and if too much is fed, gather up the residuum. Our losses with ducklings have not averaged more than one per cent. for the last two years, and that mostly by accident.

The Apiary.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.
Conventions.

BY R. T. HOLTERMANN, BRANTFORD, ONT.

There is probably nothing which tells so much upon the attendance at conventions of the members of an organization as failure in raising a fair pecuniary remuneration for their labors. Bee-keepers have, during the past year, suffered very much. Not only has the crop secured been on an average nothing, but when we take individual cases, and even counties, there are cases where bees, in order to have enough to do them over winter, have had to be supplied with 20 lbs. and even 30 lbs. of stores. The season of 1887 was hardly encouraging, and in consequence those who are mostly interested in bee conventions are often compelled to remain at home. Then, again, bee-papers generally give condensed reports of conventions, and they are so remarkably cheap that many think they can get the greater part of the benefit by taking them, and feeling that no luxuries can be indulged in.

Unless the reasons are urgent, every bee-keeper should make it a point to attend the annual meeting, where the responsibility has to be taken to elect officers, and a very few should not be compelled to take all the responsibility of electing these. Then, too, other business has to be transacted, and, last of all, if every one decided to remain at home, and the more that decide to do so, the less interesting must be the reports, and in case there are none present the discussions cannot be very animated. The late meeting of the Ontario Bee-keepers' Association at Owen Sound had the smallest attendance for many years, certainly the smallest since its incorporation; at the same time

the membership for 1888 was the largest the association ever had by about eighty. The reason for this is evidently not lack of interest in the association.

There were only three papers given, the first being by S. T. Pettit, Belmont, Ont., his subject being "Priority of Location." Mr. Pettit's aim is to prevent one bee-keeper from locating in the vicinity of another, thereby injuring, not only the one who already has possession, but the one who is locating must also suffer. It was claimed that the time would come when popular opinion would censure a man who would so locate.

Mr. Pringle gave a paper upon "Bee-keeping for Pleasure and Profit." It was claimed that but few kept bees for pleasure aside from profit, and that bee-keeping should be combined with some other pursuit, as it was too uncertain.

S. Corneil gave a paper upon "Ventilation for Hives in Winter." Mr. Corneil claimed that if a hive had only one entrance or ventilation for winter, it should be an upright one, that each brood-chamber would be better for having a rim too or three inches wide under it, raising the chamber from the bottom board. The rim should have a ventilator at front and rear, the one below, the other above the rim. Wool was better for placing above the frames than cotton.

A special general meeting of the Ontario Bee-keepers' Association will be held at Brantford in union with the International, which will meet there this year.

HIVES.

Much is said about hives, and many are the opinions expressed upon this not unimportant subject; and the beginner is very liable to take the advice of some one who may be taken as a good authority. Generally I prefer to deal with general principles rather than specify any hive. In dealing with general principles I do not want a hive that is without an upper story, or where the lower story is so large as to contain more than sufficient honey for winter consumption. It will also be obvious that a hive not generally used will not find as ready a sale as one used by the majority of bee-keepers; for this reason, if no other, I prefer the Langstroth hive, upon which let me here say there is no patent. The Jones hive is discarded by a great many, and although I have had over one hundred at a time, my apiary contains not one at the present time.

The Heddon hive, or any other reversible or un-reversible hive is not meeting with anything like general favor. They are patented, it is true, but I should advise every one to be very cautious in undertaking to use them, and should any one want to try them I know of more than one bee-keeper who would be pleased to dispose of them at less than half price.

We are very liable to run to extremes. The old box hive at one time satisfied us. From that we have gone to movable frames, the honey extractor, comb-foundation; then we inverted frames, and not satisfied with this revolution, we turned upside down the whole hive; and again, as in the Heddon hive, cut it in two horizontally and contrived to turn the halves upside down also. Just think of an inexperienced man handling such, what mischief may he not perpetrate? And surely some have reached the extreme from the old box-hive and will gradually get back to the happy medium. This very question leads us to the question, have we not killed our bees with kindness? handling, examining and fussing with them at times when to leave them alone would be a kindness and an advantage to the bees. I have learned by sad experience that at all times of the year unnecessary manipulation is injurious, tends to the destruction of the queen, robbing, hindrance in the labor of honey gathering, and a useless expenditure in that important capital, labor, and that at a time when there is no surplus to invest.

If you have a hive which has given you good results, do not throw it away. If you require to purchase any more, study carefully which one you should get; find out the merits claimed for each and weigh the matter yourself.

STARVING COLONIES.

From February until fruit bloom there will be very many colonies perish through lack of stores. If kept in cellars, and you doubt that they will have sufficient stores, make a flat cake of sugar and quietly

lay it over the frames some time when you see the bees are already aroused. Or you can get a sugar candy made by supply dealers for the purpose. The sugar-cake is made from the best granulated sugar with a slight addition of water, and all brought to a boil. The sugar-syrup is poured into a mold previously lined with paper to keep it from sticking. Never feed liquid to bees when from cold or other causes they are unable to fly freely. If done it may cause dysentery and death, or at least debility, which brings on spring dwindling, so great a source of loss to the apiarist.

Horticultural.

THERE are but few of our apples that will equal the Duchess of Oldenburg in its many good qualities. It is a general favorite, and specially so in northern regions. Besides being very hardy, it is excellent in flavor, mellow and sub-acid. It is a prolific and early bearer, but the trees are short-lived and have to be frequently renewed. As a dessert apple for early use it cannot be excelled, and it is of good size and nicely colored in streaks. It has always been considered to be one of the Russian ironclads, but a writer recently in the *Orange Judd Farmer* thinks it to have originated near Oldenburg, in Germany, and hence the name. Prof. Budd and Mr. Gibb could not find it in Russia while there, though they were on the lookout for it. No proof can be deduced to credit it to Russia, while there is a slight foundation for the assertion that it came from Germany. However, let its origin be what it may, it has proved itself to be one of our best early autumn apples for growing in either northern or southern districts.

A Fernery.

Some of the most beautiful plants for winter culture are to be found among our ferns, varying in fineness and delicacy of foliage from the graceful Maidenhair (*Adiantum*) to the strong growing Bracken (*Pteris*). They give a room a freshness and brightness not otherwise attainable, and for this reason we offer a few suggestions as to the best methods of planting and caring for them.

Some may be propagated from the roots, as they have creeping rhizomes, or runners; others, such as the Spleenwort (*Asplenium*), produces little bulblets on the bottom of the frond, which root easily; but the usual way is to obtain the spores in early fall and sow these. The spores are produced in great number on the under side of the frond (which correspond to leaves in higher plants), arranged in lines or bunched in small groups. When these are quite dark in color they may be considered to be ripe. By placing them away for a while in paper the spores soon drop off the fronds and may be easily separated. Sow as soon as possible on a soil of fine earthy loam. Mr. Charles Bull, in an essay covering this subject, before the Society of American Florists, recommended the use of shallow pans six inches square and two inches deep, with a thin layer of pieces of broken pots in the bottom, and a soil like the above-mentioned on top. He also goes on to state that after the soil is thoroughly moistened the spores should be lightly dusted over the surface. This suffices until a green scum appears, denoting the first stages of growth. They should be kept warm, preferably under glass, until the pan is covered with a mossy-looking growth. They should always be kept moist, though not wet. As soon as they appear to be strong enough to bear transplanting, do so to a soil of a somewhat similar nature to that of the seed bed, but need not necessarily be so fine. Carefulness should be observed to not water them too much, and to give them as much sunlight as possible.

Fungi Injurious to Farm Plants.

(Continued from January.)

BLACK KNOT (*Sphaeria morbose*).

In our last paper we had described the fungus up to the stage when it was about going into winter quarters. The knot now becomes a mere shell, the inner substance being eaten out by insects. During the early winter months new spores, differing greatly from the summer spores (*conidia*), mentioned in our last article, in that they possess great vitality, being able to withstand the winter's cold, and so be ready to reproduce the disease again in the spring of the next season. Nearly all fungi have spores that perform the same function, viz., tiding the disease over the winter season. It is not until January that those winter spores (*ascospores*), begin to form, and during the month of February they ripen and become ready for distribution.

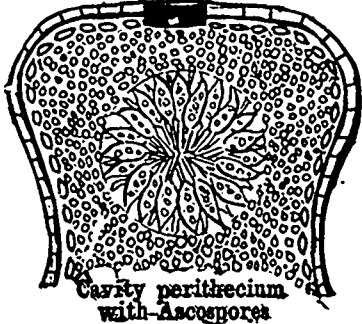


Fig. 5.

Figure 5 is a cross section of a knot at this era of existence, showing the cavity containing the winter spores (*ascospores*). The sacs containing the spores .12 m. m. (.0047 ins.). These sacs are grouped together in a cavity called the penthecum.

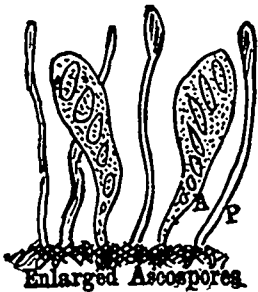


Fig. 6.

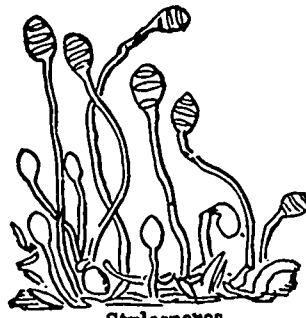
Figure 6 shows these sacs enlarged, and also the spores magnified. There are usually eight of the latter in each sac. These spores are not produced in such great numbers as the summer spores, nor does the time of their production continue as long, as their season closes soon after the month of February. These spores measure about .018 millimeters in length. It has been reckoned that an ordinary sized knot would produce 12,800,000 of such spores in a season, each one of which is capable of reproducing the disease if given the desired conditions.

Between these cavities bearing winter spores, other cavities, the walls of which are lined with spores, have also been found as in in figure 7.



Fig. 7.

number of the spores are shown enlarged in fig. 8,



Stylisporae

2.

Fig. 8.

They are involved in the reproduction of this disease, but they are not so much so as either the summer (*conidia*) or winter spores (*ascospores*.)

Remedies.—It is obvious that the best means for the riddance of this pest is to cut off the affected branch a short distance below the knot and immediately burn it. This is the proper season of the year to do it, before the winter spores have ripened, and so prevent it from carrying on its nefarious work next spring. So tenacious of life are the spores that unless burnt they will ripen upon a branch even if only half formed when the latter is cut. The limb should be cut far enough below the knot that the whole of the fungus may be removed, for if a vestige of the mycelium remains this would soon begin anew its life-work of the production of spores.

The choke-cherry tree is more susceptible to attacks from this fungus, and forms a hot-bed for its growth, and hence, if near an orchard they had better be removed. At the present time the knots can be easily seen, and we would impress on those interested the importance of at once attending to them so that the winter spores may not mature. Timely and thorough work are the sole requisites for a complete riddance of this parasite from our orchards.

Note.—The cuts used to illustrate these articles were made from drawings sketched by Prof. Panton, Ontario Agricultural College, Guelph.

Jottings.

Notice.—When changing your address, give the name in full, also the old as well as the new P. O.

Renewals.—If your remittance reaches our office before the 25th of the month, and your address tag on the next JOURNAL is unchanged or incorrect, please advise us at once with full particulars. Attention to this point will save further trouble.

Subscribers.—We hope all our subscribers make a special point to read all the advertisements. New advts. are monthly appearing and changes in old ones which too frequently escape attention. No reader has perused the JOURNAL carefully until the advertisement pages are read.

Sale of a Prize-Winner.—Geary Bros. Co., of Bothwell, have recently sold their imported heifer Allegra 6762, American Polled Aberdeen Angus H. B., to Messrs. McKinnon & Burt, Hillsburg, Ont. This heifer is a Canadian prize-winner, and from a family, the Victorias, of Balyello, who have long been noted in British show grounds.

Institutes in Glengarry Co.—Farmers' Institute meetings of Glengarry Co., will be held in Lancaster, Maxwell, and Alexandria as follows: Lancaster, Feb. 19th, 1889; Maxwell, March 5th, 1889; Alexandria, March 19th, 1889. Some of the leading agriculturists of Ontario will address the meetings on the principal topics of the day.

Vick's American Banner Oat.—On another page will be found an advertisement of this oat, which is supplied to the trade by Mr. John Miller, of Markham, one whose reliability cannot be questioned. Those that have tried them report excellent results. In one case 1000 sheaves yielded 130 bushels by measure, which after being cleaned gave 38 lbs. per bushel.

Be on Time.—Advertisers will please notice the paragraph under heading of advertising rates which reads as follows: "Copy of advertisements 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." Changes in advertisements should also be made before the 25th of the month to ensure proper attention.

Mowatt Manufacturing Co.—This firm is perhaps better known to the public as the manufacturers of Clokey's centre cut mowing machines; Raymond's Feed Grinding Mills; Whitby gang, sulky and walking plows. They have secured a market by the manufacture of superior implements of best design and manufacture. Though their centre cut mower has not been long on the market, yet it does not want for friends. There large works are at Whitby, Ont., and we would advise all interested to write for particulars.

Benefits of Advertising.—Mr. Rodden, of Plantagen, Ont., writes: "The advantages of advertising is evidenced by the fact that in ten days after I had sent my advertisement to your JOURNAL for publication, I received twelve, and in fifteen days twenty enquiries for Ayrshires, chiefly from western farmers. I have so far sold fifteen head as follows: to Messrs. Bowman & Woodward the prize bull Royal Laddie 4647, for use at their dairy farms, West Montrose, Waterloo Co., Ont.; to Mr. C. D. Bowman, three heifers and four young cows; to Mr. A. F. Woodward, three heifers and four young cows, all choice animals tracing direct to importations, and recorded in the Canada Ayrshire Herd Records.

Catalogue of Graham Bros., Claremont.—A neatly bound, tastefully gotten up catalogue of about fifty pages is to hand, containing a number of full page illustrations of the great worthies of this excellent stable at Claremont. It is certainly a credit to this firm, and their enterprise will no doubt meet with a hearty recognition from their many patrons. The pedigrees of fourteen stallions including twelve Clydesdales and two Hackneys, and that also of ten Clydesdale mares, together with the complete history of their ancestors in showyard and stud, is fully given. A fitting close is made with the prizes won by the animals of this stud, their conquests of 1887-88 alone occupying two full pages.

The Ontario Pump Co.—The field of action of this company enlarges with each year, and their trade increases proportionately. They are sending their Halliday windmills and other implements to all parts of the world. Recently they filled an order for six wind mills, with pumps, towers and attachments, from the Sante Fe, Cordova & Great Southern Railway Construction Co., Argentine Republic, South America. The following was received by this firm from S. T. Pian, Aide-Camp and interpreter to the Prince of Siam, Bangkok, Siam: "The wind mill of the Halliday plan, I have last year bought from you, two mills have demonstrated and answered the purpose satisfactorily, and I now request you to forward me one more mill of the same size and price."

The Dominion Shorthorn Herd Book.—A well edited and handsomely bound volume bearing the above title in bright, gilt letters, comes to hand through the secretary, Mr. Henry Wade, of Toronto. This is the third volume issued, and the same plan is followed as that adopted in its predecessors, the chief features being the history of the Canadian importations still continuing down to 1872, chronologically arranged, separating the imported from the American bred animals, printing the pedigrees of imported animals in full, and abbreviating the American bred ones as in second volume. This volume contains the pedigrees of 1421 bulls and 3174 cows, and will be joyfully hailed by all lovers of the name of Shorthorn.

Dominion Dairy Association.—As most of our readers are probably aware Mr. W. H. Lynch, of Danville, Que., has been contributing to the press a series of valuable as well as interesting articles on dairyming. The last we have to hand advances the scheme of organizing a Dominion Dairyman's Association. He very truly remarks that we have already excellent local or provincial organizations and that we lack only general or Dominion organization. There is certainly a fertile field for such an association, which, if cultivated, cannot but prove fruitful in good results. It is further suggested that a meeting be held at Ottawa during the coming session of Parliament in co-operation with the fruit growers. Mr. Lynch in his travels abroad has purchased several new inventions in the dairy line (as, for instance, a milk testing apparatus that he found in use in the Copenhagen Milk Supply Establishment) which he has kindly offered to place on exhibition at the convention.

Live-Stock Agent.—Canadian breeders without any connection in Great Britain have found great difficulty in purchasing and importing pure-bred animals. Mr. E. G. Preece, of Shrewsbury, has decided to meet a long felt want in this respect. He claims an intimate acquaintance with the flocks and herds of Great Britain, and is, we believe, a capital judge of stock, taking as a criterion of this the Shropshire ram that he purchased for Mr. Shaw, and brought out by Mr. John Jackson, Abingdon. We understand that he selected for Mr. Campbell, of Woodville, the members of his flock that have made such a brilliant record for themselves in Canada this season, and also has done extensive business with Mr. J. Jackson, of Abingdon, and others of whom we mention J. L. Newton, of Ohio, for whom Mr. Preece personally selected, purchased and shipped to him 100 Shropshires last October. He is willing either to buy on commission or assist those desirous of purchasing pure-bred stock. He attends all the fairs and sales there and finds that he can purchase at about 25% lower prices when unaccompanied by foreigners.

The Ontario and Experimental Union.—We learn through the energetic president of the above given society, Mr. F. J. Sleightholm, of Humber, Ont., that a meeting of its members and those interested in the welfare of our national industry, will be held at the Ontario Agricultural College, Guelph, on Thursday and Friday, February 7th and 8th, 1889. We cannot do better than give his own words: "The object of this meeting is the advancement of agriculture and the improvement of the condition of the agriculturist. All subjects treated will, in consequence, bear directly upon the first of Canada's professors. Prof. Shaw, of the C. A. C., will handle in his usual thoughtful and comprehensive style 'The position of green fodder in Ontario,' which will be worth thrice the time and expense of a visit to the Union. Papers treating on Lucerne, sheep husbandry, bees, fruit culture etc., etc., together with concise reports of an extended series of experiments relative to grain fertilizers and potato growing will be given by persons competent to do the subject justice. We extend a very cordial welcome to everyone. We especially invite all farmers as they love their calling to endeavor to attend this one of the first of agricultural meetings in our Province."

Clydesdale Horse Association of Canada.—A meeting of the executive committee of the Clydesdale Horse Association of Canada was held in Toronto, 26th, Jan., 1889. There were present Messrs. Beith, Graham, Johnston, Miller, Rennie, Sorby, and the president Wm. Smith, M. P. The secretary, Mr. Wade, made the following report: In accordance with the resolution passed at the annual meeting of the Association instructing me to make enquiries about the Provident Life and Live-Stock Association, I beg to report that I wrote to the inspector of insurance for Ontario, and he replied that the Association had made no deposit with the Government, and was not licensed by the Government, and did not report to the Government. I have further to report that several of the members of the Board of Directors, as published have resigned their office. The following vote of thanks was read and adopted and ordered to be engrossed as had been directed at the annual meeting: "Vote of thanks to David McCrae, Esq., retiring President of the Clydesdale Association of Canada, on motion of Mr. Wm. Rennie, seconded by Mr. Robt. Beith, and unanimously adopted: That the thanks of this Association be tendered to David McCrae, Esq., of Guelph, Ont., for the ability, assiduity and dignity with which he has filled the office of President of this Association since its organization, and for able and interesting contributions to Clydesdale literature." Spring stallion show—The next subject to come up was the prize list for the show. As was decided at the annual meeting, there were to be two classes, one for Canadian-bred only, which were then defined as animals that did not trace to an imported mare on the side of the dam. The prize-list is as follows: CLASS I. Sec 1. Stallions foaled previous to 1st Jan., 1886, 1st prize, a handsome marble clock worth \$45, donated by John Wanler, Jeweler, Yonge st. Toronto, 2d, \$30; 3d, \$20; 4th, very highly commended; 5th, highly commended; 6th, commended. Sec. 2. Stallion foaled in section 1. \$40, \$30, \$20, and three grades of commendation as in section 1. Sec. 3. Stallions foaled in 1887, \$30, \$20, and three commendation cards, and a sweepstakes gold medal from the Agricultural and Arts Association. CLASS II. Canadian-bred stallions only. Sec. 1. \$30, \$20, \$10, and three commendations. Sec. 2. Same as in section 1. Sec. 3. Foaled subsequent to 1st Jan., 1887, \$30, \$10, and three commendations. Sweepstakes gold medal for best Canadian-bred stallion, by the Industrial Exhibition Association. The unanimous choice for judge fell upon Mr. Alex McLaren, of Blandinville, Ill., U. S., and in event of his being unable to come, Mr. John Hope, of Brantford, was to be appointed. The meeting then adjourned.

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WANTED—Good Farm Foreman, married, one who understands feeding thoroughbred stock and general farming. Must be temperate. State lowest salary will take by year. House and fire wood provided. Address, FARMER, Box 31, Dunnville, Ont.

SALESMEN wanted to canvass for the sale of **NURSERY STOCK**. Steady employment guaranteed, **EITHER SALARY OR COMMISSION**. Apply at once, stating age. (Refer to this paper.) **CHASE BROTHERS, Colborne, Ont.** Feb., 1889. 12 ns.

IMPORTED AND CANADIAN BRED SHROPSHIRE SHEEP For sale. Registered pedigrees. Agent for Dana's Sheep and Cattle Labels. **JNO. DUNKIN, Brucefield, Ont.**

R. BLAIR, Almonte, Ont., Lanark Co., breeder of pure-bred Clydesdale horses, Shorthorn cattle, Shropshire sheep and Berkshire swine. Young stock for sale. Prices right.

ALBERT P. BALL, Lee Farm, Rock Island, Stanstead Co., Que., has for sale A. J. C. C. H. R. Jerseys, all ages. Moderate prices. Write for what you want.

For Sale—Young Bulls and Heifers
Good colors, good pedigrees. Got by Lord Lovell. Prices reasonable. **E. GAUNT & SONS St. Helens, Ont.** Lucknow Station, three miles. fe-31f.

Two Ayrshire Bulls For Sale.
Registered in Canada Herd Book.
fe-21f **MICHAEL BALLANTYNE, St. Marys P. O.**

Shorthorns For Sale.
Two dark roan bulls, 12 and 9 months old. Sired by imp. Cr. clear black bull Endymion. For particulars apply to **WM. WILSON, Hadden Hill Farm, Brampton, Ont. Box 192. fe-2**

For Sale—Leicester Sheep.
Ten ewes, served by a prize ram at Toronto show, and five ewe lambs. **JOHN WOOD, Freeman P. O. fe-1**

SHORTHORN BULL FOR SALE
ROYAL PILOT = 10536 =, red and white; calved March 5th, 1888. Sired by Excelsior, imp. (51233); dam, the prize cow Matchless of Elmhurst 6th. Any further information sent on application to **W. J. BIGGINS, Elmhurst Farm, Clinton, Ont. fe-3**

FOR SALE—CLEVELAND STALLION, bred from prize-winning stock. For further particulars apply to **W. C. BKOWN, Meadowvale, Ont. Farm, 1/2 mile from Meadowvale station on C.P.R. ja-3**

SHORTHORNS FOR SALE.
A fine **SCOTCH SHORTHORN BULL**, fit for service, sired by Roan Prince (imp.), also a few good **COWS** and **HEIFERS.**
jan-3 **H. J. DAVIS, Box 290, Woodstock, Ont.**

SHORTHORN BULLS FOR SALE
12 and 14 mos. old, one red, the other roan; sired by (imp.) **BARON (52424).** For further particulars apply to **ja-31f JOHN CURRIE & SONS, Everton, Ont.**

FOR SALE—A few young Berkshire Pigs, of Autumn litters. **THOMAS SHAW, Woodburn P. O., Ont.**

SHORTHORN BULLS.
FOR SALE—Seven Shorthorn Bulls (Bates) from seven to eighteen months old, sired either by 5th Duke of Holker (imp.) = 12422 = (44687), or Duke of Salisbury (imp.) = 9280 = (58780). Excellent animals of good pedigree and chiefly red. Apply to **JOHN IDINGTON, Stratford, Ont. ja-2**

FOR SALE—Shropshire Down Sheep and Lambs, of both sexes. A number of good ones still on hand. **THOMAS SHAW, Woodburn P. O., Ont.**

SHROPSHIRE FOR SALE CHEAP.
from imported ewes, 5 two-shear rams and 5 shearing ewes. All choice animals. Address **ISAAC N. COBER, Hespeler, Ont. jy-6**

Shorthorns and Devons For Sale.
A number of young Bulls and Heifers of each breed, with registered pedigrees, also a few pairs of **WHITE HOLLAND TURKEYS.** Am overstocked; will sell cheap.
ja-2 **W. J. RUDD, Eden Mills.**

SHORTHORNS FOR SALE.
3 Imported Shorthorn bulls, 22 months old, bred by Mr. Campbell, Kinellar, Aberdeenshire, Scotland, and selected by him as the best raised by him in 1887. A few young bulls, home bred, from imported cows, also a few heifers, imported and home bred. **J. & W. RUSSELL, Richmond Hill, near Toronto, Ont. jan-3**

FOR SALE
6 CHOICE YOUNG SHORTHORN BULLS and a fine lot of Berkshires, very, very **CHEAP.** Send for prices.
EDWARD JEFFS, Bond Head, Ont. ja-2

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Stock Notes.

Horses.

An alteration will be noticed in the advertisement of Graham Bros., of Claremont.

Dr. G. D. O'Neil, V. S., of London, lately sold to some gentlemen from Illinois, an imported Clydesdale stallion. He was a grand specimen, and represented the Durnley family. He tipped the beam at 1750 lbs., and sold for about as many dollars.

Mr. R. Blair, of Almonte Ont., has a number of imported horses, including a stallion bred by Jas. Drummond, Jr., Dunfermline, Scotland, and a mare, Maggie, of Buccleugh, bred by Mr. David Birrell, Greenwood. His stock bull is Sir Redvan, sired by Vice-Consul, the first-prize and silver medal bull at Toronto, in 1888. Among the cows are Levinga the 7th, bred by John Miller & Sons, Brougham; Rosabel, sired by Duke of Lavender; dam Red Rose, Rose of Strathallan; Rosens, sired by Huntingdon, dam Rosabel; Roxina sired by Duke of Wellington, dam Levinga 7th. A number of Shropshires are also kept, all from importations of John Miller & Sons, Brougham.

We learn from the *Morrisburg Courier* that Mr. Carlyle, of Dunbar, has made a sale of five Clydesdales and two Shires, ranging from one to three years old, carefully selected by him from England and Scotland's best studs. This leaves in these stables seven imported stallions out of sixteen imported during the present year, and two ponies out of twelve. One of the former is a half-brother of the Prince of Albion that sold for \$3000 in August last. A number of Hackneys of high merit are also stabled here.

Percy & Young, write as follows: "Since writing you last we have to report the following sales: To Messrs. J. J. Miller & Son, of Decorah, Iowa, the Canadian bred stallions Farmer's Fancy and Gen. Milcock; to Mr. J. Myllie the stallion Defiance, and to Mr. Merry, Darlington, the 2-year-old filly Bonnie Kate. Our stock is all wintering well and are doing finely. Our two fillies have done well, and to all appearances are in foal to Cairnbrogie again, who was awarded first-prize at Provincial Exhibition at Kingston, and Manfred, whose reputation is such as needs no comment here. Enquiries are the order of the day and we hope to be able to report other sales in our next. See ad.

Shorthorns.

E. Gaunt & Sons, St. Helens, Ont., have a number of young Shorthorn bulls and heifers for sale. See advt.

An advertisement from W. J. Biggins, Clinton, will be found elsewhere, offering for sale a Shorthorn bull.

A public sale takes place on March 6th, of Shorthorns, Cotswolds, etc., as set forth in advt. of Thos Colley, Castleberg P. O., Ont.

Imported Oxford, a Durham bull, owned by Sidney Barclay & Son, Dale P. O., is offered for sale.

J. Y. Reid, of Paris, Ont., makes a change in his advertisement with this number.

An auction sale of Shorthorns is to be held by John Hart, Woodstock. Notice advt.

Mr. R. McLennan, of Lancaster, gives notice in another column of an important auction sale of Shorthorns, Hamp, and Shrop rams, and also a number of farm horses and implements.

Mr. Henry Smyth, of Chatham, writes: "My stock are wintering first-rate. I sold eighteen head of pedigreed cattle that were shipped to Mrs. Jas. Thom, of Abilene, Texas, on the 26th of December. I got fair prices."

Mr. R. R. Sangster, of Lancaster, Ont., reports that his herd is doing well this winter with four calves to their credit last month, and all good ones, sired by imp. Count of the Empire. He has a couple of thrifty young bulls, 12 and 14 mos. old, awaiting disposal.

Mr. Samuel Staples, of Ida, Ont., reports that his herd of Shorthorns are doing moderately well, they having gone into winter quarters rather thin, due to the fact of the pasturage being short. The herd numbers sixteen head, of which 12 are females and 5 bulls. The imported bull Belochs heads the herd.

James S. Smith, of Maple Lodge Stock Farm, writes under date of Jan. 19th, as follows: "Our stock is doing nicely, and the lot we intend offering will be, I think, the best we ever sold at auction, comprising an exceptionally fine lot of heifers, sired by Baron Constance 5th and Duke of Colonus, and some cows with calves at foot, also a choice lot of young bulls." They advertise sale on 28th March. See page 51.

D. Clark, Peabody, has captured no less than seventy prizes this fall at local shows, and six diplomas, and has succeeded in taking the Durham herd prize for three years in succession; the grade herd prize five years in succession at the Chesley shows, whereby he got a Brantford mower for being the most successful exhibitor.

Wm. Linton, of Aurora, writes us as follows: "My bull, Baron Ingram (52471), is the sire of seven pair of twins this year, and two of my imported cows had three calves each

within ten months. All my cows are breeding regularly. We have three heifers calved within the last three weeks, giving us three red heifer calves, but we would much rather have had any good Shorthorn color, even had it been white. We would almost as soon have no calf at all as a red. I have sold Baron Ingram to go to the States.

Mr. H. J. Davis writes us that his recent sales have been as follows: Shorthorn bull Red Emperor, sired by imported Roan Prince (54923), 2d prize-winner at the Western Fair, London, to J. Stonehouse, Wyoming, Ont.; 1 Berkshire boar to E. Howler, Delaware, 1 sow to A. West, East Zorra, 1 boar Geo. Gould, jr., Rutherford, 1 boar to John Ferguson, Eagle, 1 boar and sow to A. Shupe, Thamesville, Ont.; 1 sow to Thos. Fraleigh, Arva, 1 boar to S. C. Carmichael, Fingal, Ont.; 1 boar to John Clark, Blythe, Ont.; 1 boar and sow to F. W. Charteris, Chatham; 1 boar and sow to Mr. McKay, Rat Portage; also boar and sow to Mr. Hallock, East Zorra. A few good bulls and heifers on hand yet.

Herefords.

Mr. Mackie, of Springdale Farm, Oshawa, writes "I have sold twenty-four young Hereford bulls, mostly under a year old, to Mr. W. T. Hurd, of the Detroit and Rio Grande ranch. He had 48 more at Detroit to go with them. They were from the following herds, viz.: 1. S. Rundle, Hampton, 1; John Hogarth, Brooklyn; 1; S. W. Dearborn, Oshawa, 3; J. H. Baker, Oshawa, 1; L. G. Drew, Oshawa, 8; A. Mackie, Oshawa, 1, and from my own herd, 9. This takes all the available bulls except three or four good ones in this section. Stock doing well.

Ayrshires.

Two Ayrshires are offered for sale by Michael Ballantyne, St. Marys P. O., in this issue.

Messrs. H. & J. McKee, of Brookside, Norwich, Ont., write that their herd of Ayrshires are doing splendidly, and are proving themselves to be just what is wanted for the dairy. Their herd now numbers twenty head. They still retain Roy C. More, bred by E. W. Ware, at the head of the herd. He is proving himself a splendid stock getter, the great majority of his get being heifers.

Mr. E. W. Ware, Hamilton, who intends having a sale of Ayrshires in March, writes us: "The following are the Ayrshire cattle that I have sold at fair prices: Mr. J. W. Miller, Victoria, B. C., four Ayrshire heifers and one Ayrshire bull; Mr. Judevine, New York State, one heifer and one bull; Mr. Fields, of Waterdown, one Ayrshire bull; Mr. Geo. Tuckett, Hamilton, one Ayrshire heifer; Thos. Carr, Hoperville, one Ayrshire bull; Arthur Harrington, Ruthven, one heifer—enclosed you will find his acknowledgement: Jan. 12th, 1890. On arriving home this evening I found your letter of the 2th inst., enclosing pedigree, etc., of heifer awaiting us. She suits me splendidly, and is the admiration of the whole town. Please accept my best thanks for careful shipment. Yours truly, Arthur Harrington, Ruthven, Ont."

Holsteins.

Smith Bros., of Churchville, Ont., are out in a new dress. See advt.

Messrs. H. & W. F. Bollert, importers and breeders of pure-bred Holstein-Friesian cattle, Cassel, Ont., write us as follows: "Thinking that it will interest some of your esteemed readers, who imagine Holstein-Friesians small cattle, we will, with your permission, give you the measurements of our bull, Barton. He measures from nose to tip of tail, 15 ft. 3 ins.; height at shoulder, 5 ft.; from ground to basket, 15 ins.; across hips, 2 ft. 3 ins.; girth, 7 ft. 10 ins. On account of his great size and weight he has to be kept very thin in flesh, which greatly reduces his girth. His hair is short and silky, as that of a mole. With his great size he combines wonderful fineness and great quality, which he invariably stamps onto his offspring. To assist him in the herd we selected Lord Westwood, whose breeding is of unsurpassed richness. The 15 cows (including one 2-year-old heifer) given in his pedigree have an average milk record of 86 lbs. 7 ozs. in a day, one of them (the only one tested for a longer period) gave 20,113 lbs. in ten consecutive months; eight of these cows (all that were tested) have an average better record of 19 lbs. 7 1/2 ozs. in seven days. Individually, he is as good as his pedigree. The demand for superior stock is very brisk; during last week we sold to Mr. S. Stephens, of Wauaboo, Ont., our richly-bred Aargie bull Mard Hamming's Neptune, and the heifer Wauaboo Princess. They are a grand pair, and Mr. Stephens deserves credit for introducing such stock to Lambton county. To E. Pearson we sold the imported bull Goldstone, he is one of the finest bulls ever imported, a great prize-winner, and grand stock-getter. Our motto is to import and breed the very best only, sell right, and use all alike, and with this we have succeeded admirably so far."

Jerseys.

Samuel Smoke, of Canning, Ont., offers for sale in this number a herd of Jerseys.

Sheep and Pigs.

Mr. John Wood, Freeman, has Leicesters to dispose of. Advt. in this issue.

F. J. Ramsey, Dunnville, Ont., makes a change in his advt.

G. Gould, sr., has bought two Leicester ewes from D. Harvey, West McGillivray P. O. One of the ewes has taken first prize at Toronto as the best aged ewe for the last two years. They have been served by Mr. Harvey's imported Leicester ram, that gained the sweepstakes at Toronto last year.

Brown Bros., of Springville, write as follows: "Our stock of sheep and pigs have done well this year. At Peterboro Central we took seven first, six second and three third prizes on sheep. We have made the following sales: 1 Shrop ram to H. M. Mathewson, of Bradley, Da., U. S.; 1 Cotswold ram lamb to Robt. Carl, Campbellford; 1 Cotswold ram lamb to David Baxter, South Monaghan, Berks; 1 boar to Alex. Matchert, Peterboro P. O., Oranabee township; 1 sow to R. & W. Bothwell, Springville; 1 sow to Jas. Bappte, Springville; 1 boar to Robt. Stewart, Frazerville; 1 sow to John Clarke, Plainfield P. O.; 1 sow to R. D. Dundas, Springville. Our Berks are of a large strain, and registered in C. B. R.

For Sale No. 1 YORKSHIRE PIGS of both sexes. Fastowed the 25th January, will sell at farmer's prices. Also will book orders for March and April litters. Orders promptly attended to. Address ANDREW GILMORE, Oakdale Farm, Huntingdon, Que.

CHOICE YOUNG HOLSTEIN BULLS AT OAKDALE STOCK FARM.

The bull calves from Oakdale Farm took first, second and third prizes at Toronto Industrial Exhibition, and again first at London. The young bull, Banker, taking also a silver medal for best bull of any age. The Oakdale herd of Holsteins won in 1887 and 1888, more money prizes, medals and diplomas than were ever won at the same number of exhibitions by any herd in the Dominion. Address JOHN DUNN, Foreman, Oakdale Farm, Pickering P. O., Ont., or John Leys, Toronto.

FOR SALE.

THE IMPORTED COACH STALLION, LORD SUDLEY,

Has taken the following prizes: 1st at London, 1886, 1st at Toronto, 1887, 1st at Kingston, 1888, besides eight firsts at central and local shows. He has never yet been offered anything but a first. For terms and particulars address

fe-3 SAMUEL STAPLES, IDA, ONT.

SHORTHORN BULL FOR SALE.

12 months old, Cruicshank blood. Sire and dam both won first prizes at Provincial fairs.

H. & W. D. SMITH, Hay P. O., Ont.

Exeter Station, on G. T. R., 1/2 mile.

PONIES FOR SALE.

One dark brown, 13 1/2 hands, 700 lbs., from T. B. mare and half Arab stallion. One light brown, 13 hands, 600 lbs., from a 4 minute trotting Exmoor pony mare, and a 14 1/2 hands, Phil Sheridan stallion, 240. Both very kind and nicely broken to saddle. Address

Dec-31f. JAMES MOODIE, Esq. School Grove Stock Farm, CHESTERVILLE P. O., Dundas Co., Ont.

FOR SALE.

AYRSHIRE BULL CALF, 12 mos. old, and some choice young cows and heifers, all registered in Dominion Ayrshire Herd Book. Also A. J. C. C. JERSEY BULL CALF, 8 mos. old. 50 per cent. St. Lambert. Would sell or exchange Heavy Draught or Roadster Stallions.

ja-2 CALDWELL BROS., Briery Bank Stock Farm, Orchardville, Ont.

Durham Bull For Sale IMPORTED OXFORD

Four years old, bred by S. Campbell, Aberdeenshire, Scotland, has been our stock bull for three years, and is now for sale. Oxford is a grand bull, of great substance and good qualities. Warranted to be a sure stock-getter or no sale. Was never beaten in the show ring. Also four of his gets, from 13 to 22 months old. All registered in the D. H. book. They are a good lot of calves; all red in color. For further particulars apply to

feb-3 SIDNEY BARCLAY & SON, Dale P. O., Ont.

PLYMOUTH ROCKS FOR SALE

First-class PEKIN DUCKS FOR SALE. THOS. SHAW, Woodburn P. O., Co. Wentworth, Ont.

AWAY AHEAD AGAIN.

PRIZE-WINNING BIRDS FOR SALE.

LIGHT and Dark Brahmas, Plymouth Rocks, Langhams, W. F. Black Spanish, Houdans, Colored Dorkins, Bronze Turkeys, Rouen and Pekin Ducks, Toulouse Geese. Upwards of 60 prizes at the recent Poultry Shows.

EGGS FOR HATCHING IN SEASON.

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

WM. HODGSON, BOX 12, BROOKLIN, ONT.

IMPORTED STALLIONS FOR SALE AT VERY LOW FIGURES.

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

ORMSBY & CHAPMAN, OAKVILLE, ONT.

R. Rivers & Son, of Spring Hill Farm, near Walkerton, have recently made the following sales of sheep for breeding. To Rev. Father Laussie, Carleton Place, 2 pair Southdown shearing ewes; Joseph Parker, Dunkeld, 1 pair Southdown shearing ewes. James Whitehead, Walkerton, 6 Southdown ewe lambs, and to Mathew Cation, Brampton, 1 pair aged Leicester and 1 pair ewe lambs. The demand for Southdowns steadily increasing. Their Shorthorn calves and yearlings, sired by the present stock bull, are doing well. One red yearling bull out of first prize sire and dam, for sale yet.

Mr. W. J. Aikins, a son of Mr. Robt. Aikins, Knatchbull, Ont., recently purchased a car load of pure-bred stock, and shipped the same from Guelph toward the close of last December to replenish the ranch of Mr. D. F. Bossevaun, Moose Mountain, N. W. T., of which Mr. Aikins is now the manager. The shipment included the following: 1 two horses from R. Husband, Nassagaweya; 1 Shorthorn bull and calf from D. Aikins, Knatchbull; 1 pure cow and calf from A. Brockie, Nichol, and cow from John Watt, Salem; 1 pure Holstein cow from Smith Bros., Churchville, Ont.; 5 pure Shropshire sheep from Jas. Hunter, Sunnyside, Alma; 2 from T. Shaw, Woodburn, and 23 grade Shrops from different breeders; 5 pure Leicesters from R. Husband, Nassagaweya, and 7 from A. Kennedy, Acton; 6 Southdowns from W. Anderson, Nassagaweya, and 8 from A. Brockie, Nichol; 1 pair pure Suffolk pigs from Bell & Sons, Stewarton; also four boxes of poultry. The passage was made from Guelph, 10 Moosomin in seven days, and the remainder of the journey on foot—forty five miles—in one day. We understand the section gave much satisfaction to the ranch owner on its arrival. It is very gratifying to notice so many of our young men from the farm getting in positions so responsible, and filling them so well. Young men of the farm, remember there is still lots of room in the upland country.

Poultry.

Wm. Hodson, box 12, Brooklin, Ont., draws attention to his prize-winning birds in our present number.

A farm foreman is advertised for by a stockman. See advt. The Cream Supply Co., of Guelph, place their advertisement in this issue.

John A. Bruce & Co., Hamilton, Ont., advertise their garden and field seeds in this issue.

J. F. Millar & Son, place an advt. in our columns which should be read by those interested in implements.

A. G. Hull, St. Catharines, Ont., makes a specialty of the Russian apricot. Eaton, Vergennes and Worden grapes, and Jessie strawberry plants. See his advt. this number.

FOR SALE.

JERSEY and GUERNSEY BULLS

We have a yearling bull of each of these breeds, which, on account of shortage of feed, will be sold VERY CHEAP, if taken soon. Write for prices.

THOS. BALLANTYNE & SON, Neidpath Farm, STRATFORD, ONT.

Shorthorn Bulls

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

A. C. BELL,

Troutbrook Farm, New Glasgow, N. S.

SHORTHORN BULLS FOR SALE

We offer the following well-bred Scotch bulls for sale:

MARQUIS OF NEIDPATH, roan, calved Sept. 11th, 1887, sired by the Dutch bred bull METHLICK HERO (imp.), a son of the \$1000 cow purchased for the Exp. Farm; dam, Marchioness 4th (imp.) by Cayhurst (47550); 2nd dam, Marchioness of Derby, by the great show bull Earl of Derby and (31061), etc. Also

2nd MARQUIS OF NEIDPATH, red with little white, calved April 22, 1882, sired by Lord Stratford, a son of Methlick Hero; dam, Marchioness 6th by Furberlow Duke (imp.); 2nd dam, Marchioness 4th, as above. They are first-class bulls, and fit to head any herd.

THOS. BALLANTYNE & SON,

dec-3 Neidpath Farm, STRATFORD, ONT.

FOR SALE

Shorthorns and Southdowns

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

JAMES HUNTER, ALMA, ONT.

Importer and Breeder of

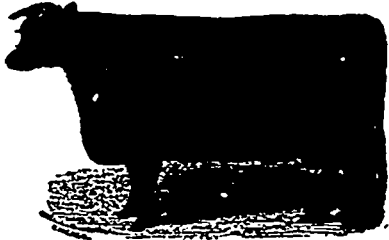
SHORTHORN CATTLE,

CLYDESDALE HORSES,

AND SHROPSHIRE DOWN SHEEP.

Stock of both sexes for sale. mar-y

DISPERSION SALE OF SHORTHORNS



The entire herd of Shorthorns owned by

MR. T. SHAW,

formerly of Woodbarn, Ont., now of Guelph, will be sold by
Public Auction, at the farm,

ON FEBRUARY 20th, 1889

It consists of some **50 HEAD** of well-bred animals, of which 41 are females and 9 are bulls, which are only in good breeding condition, never having been injured through over-feeding, and therefore likely to give good satisfaction to purchasers. The bulls, with the exception of the stock bull, British Sovereign, are mostly reds, and are likely to make good stock bulls. The herd was mostly built upon a Bates foundation. The principal stock bulls during recent years have been the Experimental Farm, Cruickshank-Booth bull, Prince Hopewell; the imported Polworth Booth bull, Waterloo Warder (4722), and the Mantilini Booth bull British Sovereign, a grandson of the great Sir Simeon, for many years the stock bull in the herd of Mr. Hugh Aylmer, West Dereham Abbey, England. The young stock are nearly all by British Sovereign and his son, Gem of Riverside. Most of the animals in the herd are young, right in color, form and pedigree. A goodly number are first prize winners at many prominent exhibitions in Ontario.

The Shorthorns are all recorded in the new Dominion Shorthorn Herd Book, and certificates of registration will be handed to each buyer at the time of purchase.

There will also be a number of

High-Bred Grade Shorthorn Females

sold, some of them first prize winners at Toronto Industrial, Kingston Provincial, and Great Central, Hamilton, 1888.

A number of

FARM IMPLEMENTS

New from the manufactory, will also be sold, including one Combined Reaper and Binder, manufactured by A. Harris & Son, Brantford, Ont.; one Combined Reaper and Binder, manufactured by David Maxwell, Paris, Ont.; one Fanning Mill, manufactured by A. Manson Campbell, Casham, Ont.; one "J. C. C." Sulky Plough, with triple trees, manufactured by The Cockburn Plow Co., Brantford, Ont.; and several other articles used by farmers.

TERMS—All sums under \$50, cash; over that amount, 8 months' credit on furnishing approved notes. Discount will be allowed for cash at the rate of 6 per cent. per annum.

Visitors will be met at Rymal station (6 miles from Hamilton) on the N. & N. W. Railway, on the arrival of the train which leaves Hamilton at 6:50 p.m., on the evening of the 19th, and at the office of the LIVE-STOCK JOURNAL, Hamilton, on the morning of the 20th, until 9:30 a.m.

Catalogues furnished on application

This sale will furnish an excellent opportunity for securing useful young bulls or foundation females for new herds.

If stormy, sale will be held under cover.

GEORGE ANDREW, Auctioneer.

THOS. SHAW,
48 JOHN ST. SOUTH, HAMILTON.
or, EXPERIMENTAL FARM, GUELPH.

PUBLIC SALE

SHORTHORNS

MAPLE LODGE STOCK FARM

On 28th March, 1889.

We will sell by auction about 20 cows, heifers and young bulls. Particulars next month. Catalogues ready about Feb. 20th. Send for one.

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

AUCTION SALE

RODERICK McLENNAN, Lancaster, Ont.,

Will sell by auction on

Wednesday, March 16th, '89

16 head of pure-bred

—SHORTHORNS—

All registered in D. H. Book 12 of them are females and 4 are bulls.

SIX HEAD OF HORSES

comprising four fillies, from 1 to 4 years old; one aged mare, and grade Clyde stallion.

10 SHEEP, bred from Hampshire and Shropshire Down Rams, and a number of

FARM IMPLEMENTS.

Sale will take place at owners' farm, 4th Concession, Lancaster, 4 miles north of Lancaster station, on the G. T. R., and 4 miles north of Green Valley, on C. P. R.

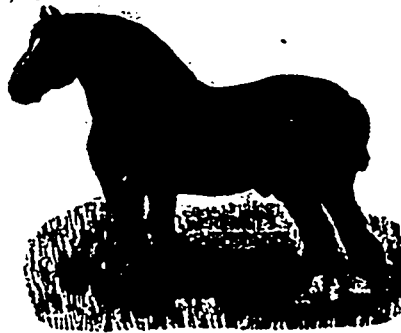
Sale at 12 o'clock sharp.

TERMS—Sums of \$10 and under, cash; over that amount, 12 months' credit by furnishing approved joint notes. 6 per cent off for cash. feb-1

AUCTION SALE

Of High Class Pedigree

IMPORTED CLYDESDALE HORSES



The undersigned has received instructions from Wm. Rennie Toronto, to sell his entire stock of imported Clydesdales, viz., fifteen stallions and seven mares, on **TUESDAY, MARCH 27th, 1889,** at the stables, 87 Duchess St., Toronto. As Mr. Rennie is retiring from business, all will be sold without reserve. This will be a rare opportunity for farmers to secure first-class imported Clydesdales for breeding purposes, at reasonable prices. Six Shetland Ponies will also be sold. For Catalogue address **WM. RENNIE, Toronto. ja-3 GEO. ANDREW, Auctioneer.**

PUBLIC SALE

Shorthorn Cattle, Cotswold Sheep and Heavy Draft Horses

The subscriber will sell at public auction

ON WEDNESDAY, MARCH 6th, 1889,

at his farm in the Township of Albion, Cardwell Co., 6 miles from Bolton Station, on the Toronto and Owen Sound branch of the C. P. R., and 6 miles from Palgrave, on the Hamilton and North-Western.

20 head of Shorthorns, mostly young, and all registered in the D. H. B.

40 pure-bred Cotswold Sheep, all bred from imported stock. 20 of these are ewes in lamb to an imported ram. 20 yearling ewes and rams by imported rams.

8 Heavy Draft Horses, brood mares and colts.

This stock is all of excellent quality, and includes a large number of prize animals at local fairs.

Teams will meet trains at both stations on day of sale.

Catalogues are being prepared and will be sent on application.

The sale will be without reserve, as the proprietor, on account of ill health, has rented his farm.

JOHN SMITH, Auctioneer, Brantford, Ont. THOMAS COLLEY, Cattleberg P. O., Ont. fe-1

Important Auction Sale

BEVERLEY, YORKSHIRE, ENGLAND.

JOSEPH CRUST will hold his Annual Spring Sale of —SHORTHORNS—

at Beverley, Yorkshire, England, early in April, when upwards of 80 Young Bulls will be offered. A favorable opportunity to foreign buyers. fe-2

AUCTION SALE OF Shorthorn Cattle

On WEDNESDAY, MARCH 27th

I will sell on the

MARKET SQUARE, WOODSTOCK,

entire herd of Shorthorn cattle, about 25 head of cows, heifers and young bulls. This herd has been bred with great care, to preserve the milking qualities of the breed, and about ten of them have been giving milk or suckling calves all winter, and are very thin. This will be an excellent opportunity to farmers to procure first-class stock cheap.

TERMS OF SALE—Nine months' credit on approved joint notes.

JOHN HART, Proprietor.

STRICKLAND BROS., Auctioneers. fe-2

MAPLE LANE

Herd of Jerseys For Sale

- 1st—King Hugo of St. Annes No. (16396), 3 years old. Pure St. Lambert
- 2nd—Clover Smith No. (29523). She is a pure Rex cow, out of Governor Lorne and Lady Lorne.
- 3rd—Violet of Glen Rouge No. (20755), a grand-daughter of Stoke Pogis 3rd, and due to calve April 1st.
- 4th—St. Lambert's Beauty No. (41069), a pure St. Lambert.
- 5th—Daisy of Maple Lane No. (44546). Just dropped a beautiful heifer calf.
- 6th—Darling of Maple Lane No. (52582), 50 per cent. St. Lambert, and due to calve March 1st.
- 7th—Flower of Maple Lane No. (52581) 25 per cent. St. Lambert, and due to calve March 1st.
- 8th—Lady Hugo of Maple Lane No. (52583), 75 per cent. St. Lambert, and due to calve 24th May.
- 9th—Mary Ann of Maple Lane No. (52584), 75 per cent. St. Lambert. Heifer, one year old.

Also a few young calves. These cattle have been my choice selection for the last six years, to get the best milk and butter cows. They are not culls, but are my entire herd, and have been shown in all the big shows, and are all prize animals. They must be sold, as I intend to retire from farming this spring. Any one wanting information about any of these cattle, by writing to me it will be given, but would rather that intending buyers would call and see them, as I know the cattle will speak for themselves. fe-2

SAMUEL SMOKE, Canning, Ont.

The Wyton Stock-Breeders' Association

WILL HOLD THEIR

FOURTH AUCTION SALE

OF THOROUGH-BRED

HOLSTEINS

At WYTON STATION, ONT.,

On April 19th, 1889, at 1 p. m.

There will be offered for sale to the highest bidder thirty head of Holsteins, from calves to four-year-olds, heifers and bulls.

Wyton Station is on the G. T. R., between St. Marys and London. For further particulars address

W. B. SCATCHERD,
Wyton, Ont.

THE SPRING FAIR

—AND— STOCK MARKET OF ESSEX

Will be held at **ESSEX CENTRE**, about the **FIRST OF MAY, 1889.** Any person wishing to **BUY** or **SELL** Live Stock or Poultry at the above named market may have the same advertised in the sale catalogues **FREE OF CHARGE**, by sending a description of the animals wanted to buy or sell to the Secretary not later than **March 15th, 1889.**

The people of Essex are determined to have better stock. Send for price list and sale catalogue after April 1st to

W. H. RUSSELL, Sec., Essex Centre, Ont. fe-1



H. D. GEORGE,

FUTNAM, ONT.,

IMPORTER AND BREEDER OF

Improved Chester White Swine

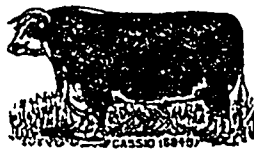
Breeding and Individual Merit
Unsurpassed. fe-2

HILLHURST HERDS

**HEREFORD,
Aberdeen-Angus and Jersey**

HEIFERS, COWS AND YOUNG BULLS FOR SALE

At reasonable prices, Send for new catalogues.



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

IMPROVED YORKSHIRE PIGS

SHIRE AND CLYDE HORSES.

J. Y. ORMSBY, V. S.,

—MEMBER—

English Shire Horse Society.

Dominion Cattle Horse Association.

English Nat. Pig Breeders' Association.

American Shrop. Sheep Breeders' Assoc.

All our pigs registered in the English Herd Book.

SHROPSHIRE SHEEP.

Geo. S. CHAPMAN.

ORMSBY & CHAPMAN,

ONTARIO LODGE,

OAKVILLE, ONTARIO.

Incorporated and home bred stock for sale.

Every pedigree guaranteed. Prices low.

Correspondence promptly attended to.

"Good Stock with Straight Pedigrees," our motto.

THE GLEN STOCK FARM.

Innerkip, Oxford Co., Ont.



**SCOTCH SHORTHORNS,
SHIRE HORSES,
BERKSHIRE PIGS.**



Herd headed by imported Earl of Mar (47815), winner of the gold medal at the Grand Dominion and 24th Provincial Show, and numerous other prizes. P. O. and Telegraph Office at Innerkip. Farm is one mile from Innerkip station on the C. P. R. (Ont. div.), and a short distance from Woodstock station on the Canada Pacific and Grand Trunk R. R.

GREEN BROS., THE GLEN, INNERKIP.

CREDIT VALLEY STOCK FARM.

SMITH BROS.

CHURCHVILLE, (PEEL CO.) ONTARIO,

**THE GREAT BUTTER AND MILK HERD**

OF PURE-BRED REGISTERED

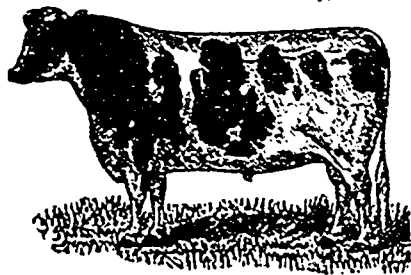
HOLSTEIN-FRIESIAN CATTLE

Best strains, as Aferedes, Mink, Aaggie, Siepkje, Tensen and Ykema, for sale. Particular attention paid to individual excellence and good breeding combined. Prices low for quality of stock and within range of all farmers. Send for catalogue.

J. E. PAGE & SONS,

AMHERST, NOVA SCOTIA,

On line Intercolonial Railway.



Importers and Breeders of

HOLSTEIN-FRIESIAN CATTLE

Including strains of the best milk and butter families living. Herd headed by CLOTHILDE and ARTIS, whose dam Clothilde and, gave at 4 years old 23,600 lbs. of milk, and made 23 lbs. 4 oz. of unsalted butter in seven days when six years old. G. dam, Clothilde, winner sweepstake prize at New York Dairy Show, has milk record of 26,030 lbs. of milk and 28 lbs. of unsalted butter in seven days. Sire, Artis, winner first prize at New York Dairy Show.

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

A. C. HALLMAN & CO.,

NEW DUNDEE, WATERLOO CO., ONT.



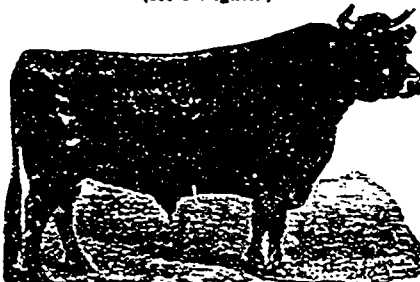
Importers and Breeders of Thorough-bred

HOLSTEIN-FRIESIAN CATTLE.

Herd headed by the noted prize-winner Prairie Aaggie Prince H. F. H. B. No. 2, first prize at the Industrial and Provincial in 1885; dam, Prairie Flower, 5 yr. old butter record of 20 lbs. 1 oz. unsalted butter per week. This herd has been crowned with more honors in the show-ring than any other herd in Canada. Selections made from the finest herds and most noted milk and butter producing families in America. Every animal selected for its individual merit—symmetry, size and weight a special object. Our motto, "QUALITY." Stock for sale. Visitors welcome. Correspondence solicited.

OAKLANDS 'JERSEY' STOCK FARM

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



Cows with well-authenticated test of from 14 lbs. to 24 lbs. 13 oz. in one week, and from 81 lbs. to 106 lbs. 12½ oz. in 31 days are in this herd. Young bulls (registered in the above herd book) for sale from \$100 to \$500 each.

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

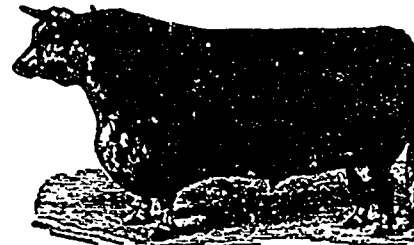
no-y VALANCEY E. FULLER, Hamilton, Ont.

BROOKSIDE FARM

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

STANDARD-BRED TROTTERS

American Cattle-Club Jerseys.

POINT CARDINAL HERDS.**HEREFORDS**

Selected with great care from the celebrated herds in England. At the head of the herd stands the imported Marlow bull Rambler 6th (6630) 13514.

SHORTHORNS

Heifers and bulls for sale, mostly sired by imported Duke or Hazelcote 68th, 65797.

Also a number of fine Hereford grade heifers and young bulls.

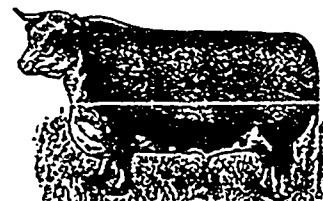
no-y. **G. F. BENSON, Cardinal, Ont.**

ABERDEEN-ANGUS POLLS

The undersigned are in a position to supply young bulls of the above excellent breed of cattle at prices within the reach of all, and as to their quality we need only mention that our herd finished last season by taking the medal and diploma, for the fifth year in succession, at the Provincial Exhibition, held in Ottawa. Send post card for our Illustrated Catalogue, and give us a call before investing.

HAY & PATON, Proprietors,

New Lowell, Co. Simcoe, Ont., Canada.

THE TUSHINGHAM HERDFORDS

THIS herd, grounded on selections from the best blood in England, is remarkable for the number and uniformity of the good calves that it has produced during the three years of its existence, owing in a great measure to the excellence of the stock bull Tushingham (8127), by Charity 3rd (6359), by The Grove 3rd (5051). Several young bulls of his get are held for sale.

J. W. M. VERNON,

Tushingham House, Waterville, P. Q.

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

JAMES DRUMMOND,

Petite Cote, Montreal.

Importer and Breeder of

PURE-BRED

AYRSHIRE

CATTLE

Of Large Size, and from Choice Milking Strains.



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

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



For Sale or Exchange.

The Dapple Gray Percheron Stallion
VOL AU VENT 1233,
Foaled 1877. Imported from
France by M. W. Durham,
Illinois, 1881. Recorded in
the Percheron Norman Stud
Book (Vol. 2). at present owned
by the Lansdowne Percheron
Horse Association. The above stallion is for sale, or
exchange for a pure-bred Percheron Stallion. This
is a good stallion, sound and gentle, and a sure foal
getter. Apply to

A. D. McNEIL,
President Percheron Horse Association.
OR, HIRAM CAPES, Secretary,
Gananogue P. O., Ont.

ja-3

John McMillan, M. P. & Sons,
CONSTANCE P. O., ONT.,

Importers and Breeders of
CLYDESDALES

AND
Canadian Draft Horses

Stallions and Fillies, from one to
five years old, always
on hand



FOR SALE. PRICES REASONABLE.

Our select are made with great care from the best blood in
Scotland, including such strains as the Darnley, Prince of Wales,
Newhope, Gilderoy, etc., etc.

Residence, Huron Co., Ont., six miles from Seaforth, and
eight miles from Clinton stations.
Correspondence solicited, and visitors always welcome. nov-17

JOSEPH REDMOND
PETERBOROUGH P. O. - ONT., CANADA.



I have still on hand and for sale an excellent lot of imported
bulls, heifers and young cows, besides an exceedingly good lot
of home-bred heifers and bulls all by imported sires and mostly
from imported dams. I can supply intending exhibitors with
first-class show animals of either sex and of various ages, from
calves upward. Of my last imported ten were from Bruce and
Cruickshank breeding, all show animals.

Peterborough is on the C. P. R. and G. T. R. Six trains
daily. Write or wire me when to meet you. Will be pleased to
show the stock, whether you purchase or not.

a-3

JOSEPH REDMOND.

D. ALEXANDER,

Brigden, Lambton, Co., Ont



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

THE BRIARS FARM
Sutton West, Ont.

Choice of 60 head of
SHORTHORNS



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

A NURSERY AT YOUR DOOR.
TREES VINES AND PLANTS IN VARIETY.

Specialties: Russian Apricot, Eaton,
Vergennes and Worden Grapes, Jesse's
STRAWBERRY PLANTS, and other
New and Old Sorts. The Mailing
Department receives special attention.
See Free Catalogue before placing
your orders.

A. G. HULL
Central Nursery,
ST. CATHARINES ONT.



PERCY & YOUNG,

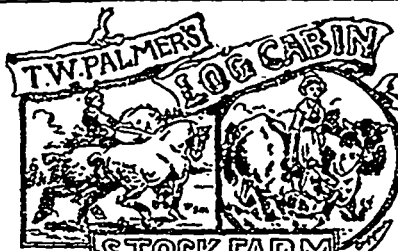
Bowmanville, Ont.,
Home of the Provincial Renowned
Manfred (1758).

Prize Winners. Rare Individuality.
Lowest Prices.

Have on hand for sale, on very reasonable terms, 8 very choice
and carefully selected

REGISTERED CLYDESDALES

consisting of 1st, 2nd and 3rd prize winners at Provincial Exhibi-
tion, at Kingston, 1888, as well as winners at big shows in Scot-
land. Every stallion but one prize winners at leading shows
both in Canada and Scotland, and from such noted sires as Lord
Erskine, Cairnbrogie Kier, Good Hope (by Darnley), Crown
Jewel and others.
Intending purchasers and all horsemen are invited to inspect
our stock. Correspondence solicited.



**OVER 150 TYPICAL
PERCHERONS
AND
JERSEYS.**

For CATALOGUE and Prices, address
E. W. COTTRELL,
No. 4 Merrill Block, DETROIT, Mich.

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., 16 1/2 hands high, and
registered in 10th vol. C. S. B. of G. B., also C. S. B. of Canada,
winner of 4 first prizes; also 12 varieties of pure-bred Poultry,
at low prices. Bronze Turkeys a speciality. Correspondence
answered by sending 3 cent stamps. Address,
MAJOR THOS. HODGSON, Port Perry, Ont.

**CLYDESDALES,
SHORTHORNS AND
SHROPSHIRE.**

JOHN MILLER,
Brougham, Ont.,



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

Particular attention is called to our Stallions and young Bulls,
which will be offered at moderate prices. Terms easy.
Residence, 3 miles from Claremont Station, C. P. R., or 7
miles from Pickering, G. T. R., where visitors will be met by
telegraphing us at Brougham. Correspondence solicited.

J. Y. REID, HILLSIDE FARM,

2 1/2 miles south from Paris, on the G. T. R.



We have on hand and for sale a superior lot of show cows,
heifers and young bulls. This season's calves being
mostly from the imported Scotch bull Earl of Roseberry. All
Intending purchasers will be met at Paris station. Apply to
James Goddard, Manager, PARIS, ONT.

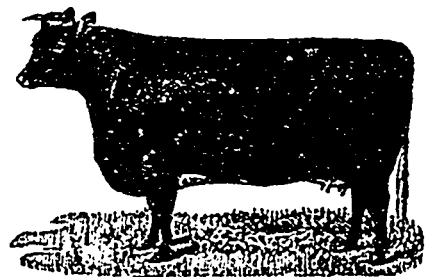
BOW PARK HERD



PURE-BRED SHORTHORNS

Have at all times a number of both sexes for sale.
Catalogue of young bulls recently issued.
ADDRESS, JOHN HOPE, Manager,
Bow Park, Brantford, Ont.

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



SHORTHORNS AND SHROPSHIRE

Have a grand lot of bull calves sired by our imp. Cruickshank
bull Vermillion (5038), and a very choice lot of heifers, now in
calf to Vermillion; also shearing rams and ram lambs from
imp. sire and dams. Prices moderate. Terms easy.

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Lying between Canada
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A-1 Shorthorns

Baron Constance 10th
heads the herd.

Leicester and Cotswold
Sheep, Berkshire Pigs,
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I HAVE still on hand and for sale an excellent lot of imported
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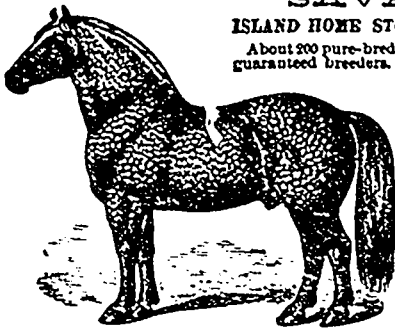
I can supply intending exhibitors with first-class show animals
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I have also a good lot of imported CLYDESDALE STAL-
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Claremont Station, C. P. R., or Pickering Station, G. T. R.
Write or wire me, when and at which station to meet you.
Send for catalogue. No business, no harm.

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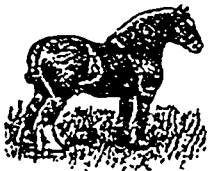
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 Choice
STALLIONS
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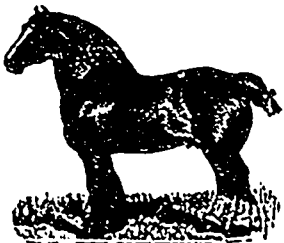
Which are registered in the Clydesdale Horse Society of Great Britain and Ireland. One of my present importations is Duncan Bruce, winner of the first prize at the S. Armont Union Show, Scotland, last year as a year old.
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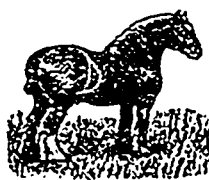
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Also a few **Shetland Ponies.**
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Ranging from one to five years old, including gets of the celebrated Lord Erskine, Belted Knight, Sir Wyndham, Warrior, Goodhope, Lord Kirkhill, Old Times, Pride of Galloway and Macgregor. Prices reasonable. Catalogues furnished on application.

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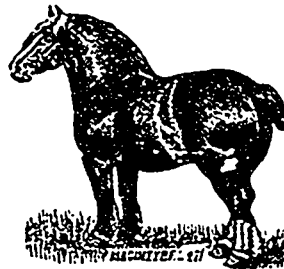
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STALLIONS AND MARES

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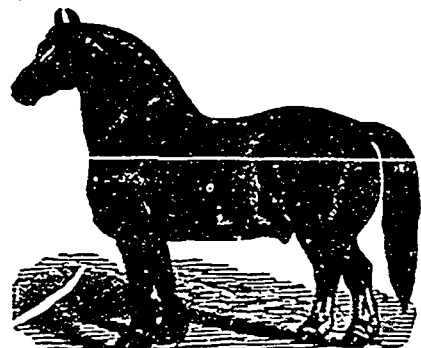
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The importations of 1888 comprise a large number of one, two, three and four-year-old registered stallions and mares, the gets of such sires as Macgregor (148), Darnley (222), Harold (6326), Crown Jewel (2708), Lord Marinton 2620, St. Lawrence (3220), and others of like merit. Also a few choice **SHETLAND PONIES.**
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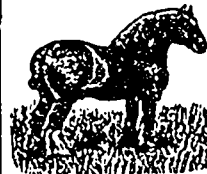
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We have on hand and for sale a superior lot of imported and home bred
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ALSO A FEW CHOICE SHETLANDS.
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SUFFOLK and BERKSHIRE PIGS

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ONE IMPORTED TWO-YEAR-OLD STALLION.

PRICES MODERATE.

Inspection invited. Catalogues on application.





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TESTIMONIALS

HAMILTON Oct. 24th, 1888

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THE GREATEST DISCOVERY SINCE THE ADVENT OF THE EARLY ROSE

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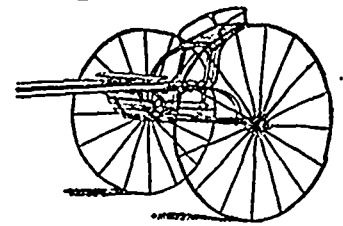
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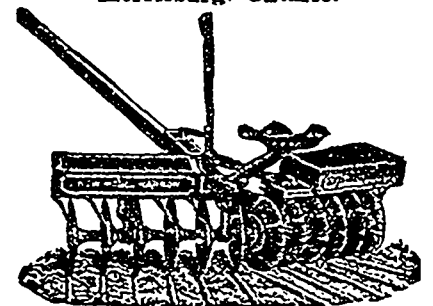
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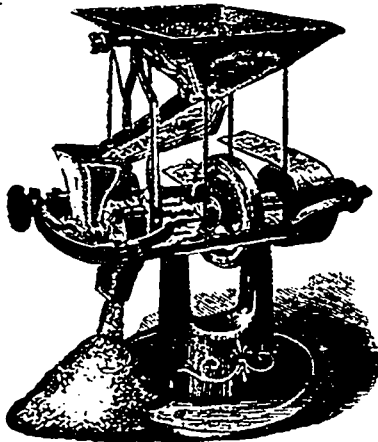
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double lined with air space the best in use, also the most improved OIL TEST CHURNS, will test up to 200 parts 15' cream at once

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Danish, A size, skimming	2750 lbs. per hour.
" B. "	2150 " "
" Hand Mach. "	160 " "
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Backstrom Separator, "	800 " "

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In the year 1886 I sowed one pound and have produced from that quantity in two years two thousand bushels.

The grain is white, large and plump, ripens early, has a stiff straw of good strength, and has an open or branching head. It tilters freely, and so can be sown thinner than is customary. These oats are

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Price, by express or freight, at expense of purchaser, per bushel, \$1.25, or 2 1/2 bushels for \$3, including bag. A liberal reduction for larger quantities. Orders promptly attended to.

Address, **JOHN MILLER, Markham, Ont.**

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9 Cords in 10 Hours
Runs Easy
NO BACKACHE
Folded
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Has a Pad different from all others, in cup shape, with Self-adjusting Ball in center, adapts itself to all positions of the body, while the ball in the cup presses back the Intestines just as a person does with the finger. With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail Circulars free. **EGGLESTON TRUSS CO., Chicago, Ill.**

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GEORGE G. STEWART, Howick, Que., importer of pure Clydesdale horses. Stock always for sale on fair terms. 68-6

THOMAS TAYLOR, Harwich P. O., Ont., breeder and importer of recorded Clydesdale and Cleveland Bay horses. Stock for sale. 71

SHORTHORNS.

ADAM A. ARMSTRONG (successor to John S. Armstrong) A breeder and importer of Shorthorn cattle and Oxford Down sheep. Speedside, I. O., (near Guelph), Ont. 71

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WM. PORTER, Cedar Grove Farm, Lloydtons P. O., Ont., breeder of Shorthorn cattle and Southdown sheep. Young stock for sale. 71

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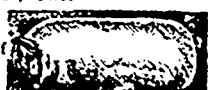
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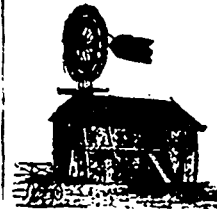
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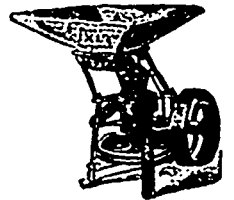
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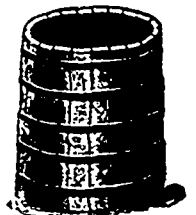
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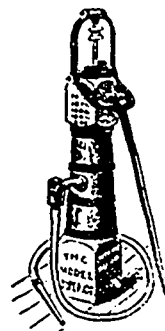
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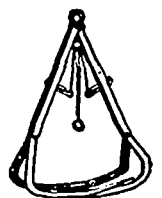
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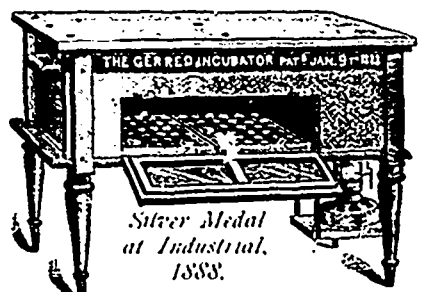


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