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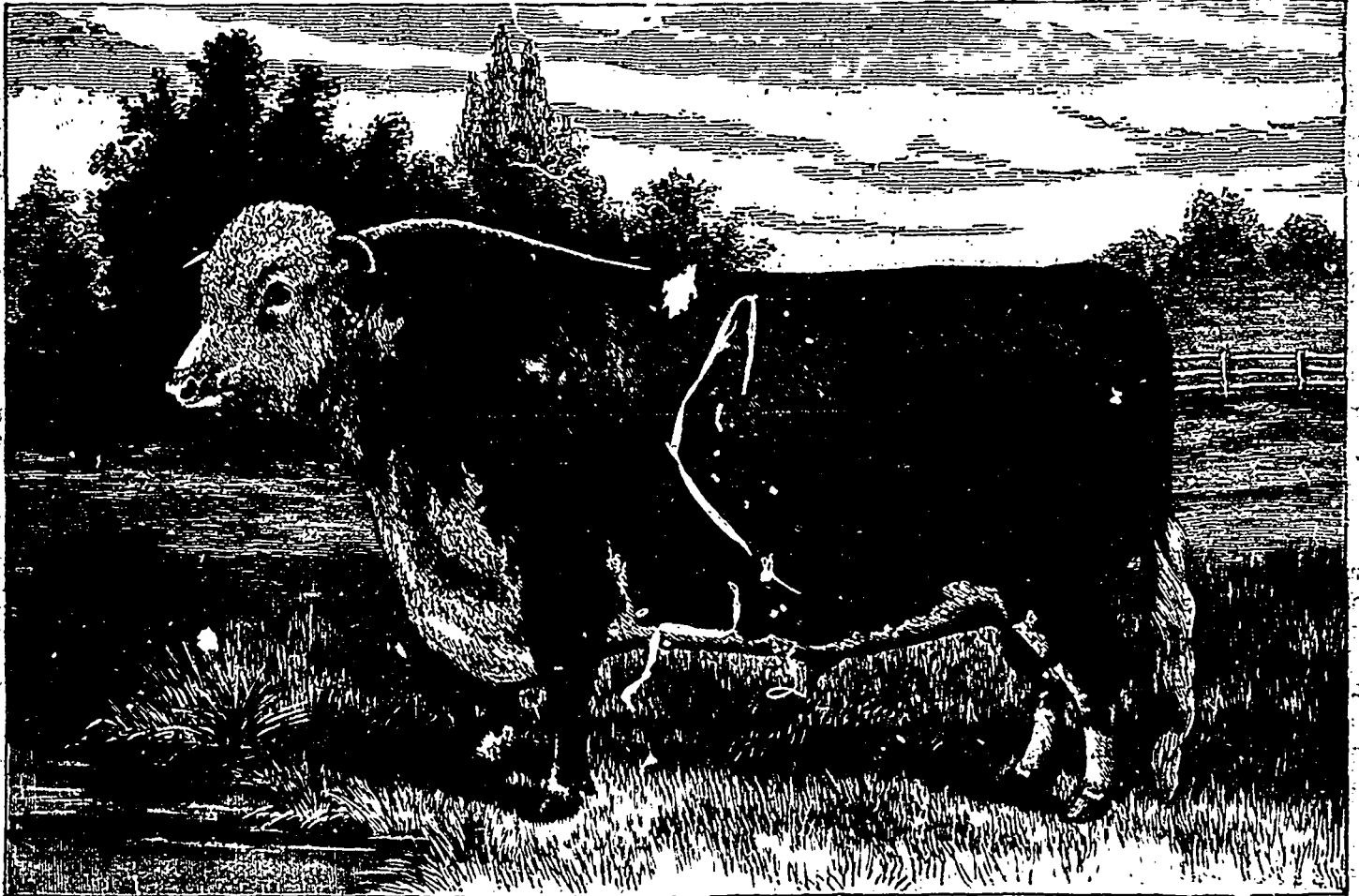
CANADIAN LIVE-STOCK JOURNAL.

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

VOL. III.

HAMILTON, CANADA, AUGUST, 1886.

No. 8



HEREFORD BULL TUSHINGHAM (8127), 19450, A. H. B.

Imported by and the property of Mr. J. W. Vernon, Waterville, P. Q.

The Hereford Bull Tushingham (8127), 19450, A. H. B.

The above representation of this most potent Hereford sire, though a good one, by no means flatters him. For some three years past he has stood at the head of the imp. Hereford herd of Mr. J. W. Vernon, of Tushingham House, Waterville, P. Q. Bred by Mr. Aaron Rogers, of The Rodd, and from that most successful sire, Charity 3d, 6350, 9728, A. H. B., by the even more famous The Grove 3d, he has for dam, Morella 4th, vol. xii, p. 318, E. H. B., the winner of three first prizes at leading fairs in England in 1878, by the sire Grateful 4622, winner of 16 firsts and nine champion prizes at the leading fairs in England. The claim then that this bull "is as royally bred as any bull in America" will not for a moment be questioned.

Mr. Vernon's herd made a creditable showing at the Sherbrooke exhibition last October, where Tushingham 19450 only stood second to the great Cassio 11353, although then only in breeding condition. We greatly admired his well proportioned body, good size and fair handling, when attending the above-mentioned show. He is to be shown at the leading fairs this fall, and is now offered for sale, having served his

term at Tushingham House, which renders a change necessary.

The breeding record of the herd since it was established by Mr. Vernon at Tushingham House has been something unique, without parallel we believe in the annals of Hereford breeding in Canada. Reference was made to this in the December number of the JOURNAL, 1885, and the record this year is equally good.

Breeding stock purchased in such a herd is almost sure to give satisfactory results, as investments of the kind very seldom prove blanks.

The enthusiasm with which Mr. Vernon has engaged in his favorite work, along with the careful foundation on which he has built, explain in part at least the marked success which has attended it.

Our farmers who are looking in the direction of shipping cattle—and we confidently hope that many men's eyes are thus directed in these days of seventy cents per bushel for wheat—should well consider the claims of the Herefords, with their early maturing and excellent grazing and feeding qualities. Our shippers like to get a hold of Hereford grade steers almost as well as the London eaters.

The Outlook.

In Ontario, at least, the superabundance of the production of recent years in cereals is receiving a check. We think we can pretty safely precast the nature of Mr. Blue's August report. It will be found that the crop of hay is a light one—quite a little under the average in quantity, but excellent in quality and well saved; that the fall wheat crop is a good long way below the average, though the sample will be good; that spring crops will be rather under than over the average, and that the fruit crop is not encouraging. The above conclusions have been arrived at from personal observation in many portions of the Province. With the low prices of to-day and a shortage in yield, there must be diminished revenues. To those having large sums to meet, these tidings are not cheering, and they should see about getting their house in order, but to farmers out of debt it does not matter so much, as a little more economy may in their case make the cash account nearly equal to that of other years.

"I would not like to be without your JOURNAL."—Robert I. Crisp, Plum Creek, Scuris P. O., Man.

Canadian Live-Stock Journal.

PUBLISHED MONTHLY BY

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THOMAS SHAW, RIVERSIDE FARM, EDITOR.

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

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

To Advertisers.—Advertisements of an appropriate nature will be inserted in the JOURNAL at the following rates: For a single insertion, 18c. per line, nonpareil (12 lines 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.

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, AUGUST, 1886.

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

We have received a letter bearing the Woodstock post-mark, containing only one dollar. Will the sender please forward his name and address. If John Milton Terry, who asks for the June issue of JOURNAL, will please give his address, it will be sent at once.

We are constantly in receipt of letters similar to the above, which cannot be attended to from insufficient information, hence the delays, for which we are not to blame. Subscribers, new or old, should always give P. O. address and name with accuracy. If it is desired to change address from one post office to another, we should be advised of the same.

We have stated repeatedly that there is no money in feeding rough and inferior kinds of stock for shipment. And as the time is drawing on when stocks are to be picked up for winter feeding, those who expect to be thus engaged should heed well what they do. If at prices better than those that rule now, cattle of this class did not give an adequate return for their keep, how much less can they be expected to do so now? All such cattle should be sold off the grass to the local butchers, and for just what they will bring, and their reproduction should altogether cease. Although the number of feeders is on the increase, so is the number of stockers suitable for feeding. There is no need, then, for haste or precipitancy in making selections. If they cannot be secured of a suitable class in one locality, they can in another. Best of all, a number should be bred on every farm where they are fed, and these at least can be of that class which will give ample return for the outlay.

WHILE making a hurried tour of Ontario recently, the very large numbers of the various lines of live-stock running upon the highway caught our attention,

and from the numbers that were often congregated remote from villages, we were led to conclude that these wandering creatures belonged to farmers. It is needless to add that it was usually stock of an inferior quality, since observation has long since taught us that road pasture will not produce first-class beasts, and that first-class farmers think too much of their beasts to allow them to run on the highway. It has long been argued that the poor man should not be denied the privilege of pasturing his cow on the road, but how much does he gain, we ask, by pursuing such a course over the returns that would accrue from hiring proper pasture, and always knowing where to find his beast? Pasturing stock on the highway is a dangerous game to play. It is always liable to accident. It is also a source of great annoyance to farmers, who find it much more difficult to fence against those rascals of the highway than against their own stock. The fencing along the highway is a cause of much outlay, and might be entirely dispensed with if cattle were not allowed to run at large. This relic of the middle ages, like the keeping of scrub stock, is one of the things that must soon go.

NOT very long ago we heard of a party who had been negotiating for the sale of a pure-bred animal, and had been offered his price, but on learning that the intending purchaser was a poor feeder, he refused to part with the beast. We hold that that man acted wisely, although many may take a different view. Some will see only an element of selfishness in the act, but it is a selfishness that is overshadowed by a self-respect that is praiseworthy, and that has its charitable side, for, to allow an animal that has been properly fed to go where it is certain to be poorly fed and cared for, is not much short of cruelty. Then, too, there is that sacred thing called reputation to be guarded. A good beast is oftentimes purchased and taken to new quarters anything but congenial to its former habits, and through sheer indifference on the part of its new owner, it becomes a mere shadow of its former self. The neighbors say, "If that is all Mr. So and So can produce, I don't want any of his imported stock," and the prejudice against this class of stock is deepened and the love of the scrub intensified. Thus it has been that many a skilful breeder has been wounded in the house of his friends, and it is therefore certainly important that the seller have some regard to the habits of the would-be purchaser in reference to his care of stock.

NOTWITHSTANDING the statements of journalists and others, that we in America have enough of the blood of the old country herds, the current thereof is continuous in its onward flow. Not only does it run in the direction of America, north and south, but also in that of Australia and New Zealand, and in smaller streams in the direction of the continent. Why is it that in both hemispheres, in the islands of the sea, and on both sides of the equator there is so great a demand for British pedigreed stock? It is because it possesses *intrinsic merit*, because of its superiority. Britain possesses breeds of live-stock which have never got a footing in any other land, and just because their merits would not warrant the breeding of them elsewhere. If then, large draughts are made from other classes of stock, it is because the purchasers have found the investment a profitable one. It is certainly a high tribute to British breeders that America, which in several lines of manufacture is ahead of Britain, still finds the necessity of renovating their herds with blood from beyond the Atlantic, which would not be the case if the breeding there was not of a high order. Let our Canadian breeders learn a lesson here. On-

tario is fast becoming a breeding ground for other lands, particularly in the lines of beef-production and draught-horses. The standard should be kept high. Improvement should be the constant aim. The moment the standard of high breeding is lowered, the purchasers will see it, and will seek for what they want elsewhere.

Mortality Amongst Draught Foals.

The more that we travel through our country, we are the more strengthened in the conviction that the mortality amongst foals of the heavy draught type is very great; comparatively, indeed, much greater than it ought to be. If there is any method of managing the brood mares that will almost altogether prevent this, it will be worth thousands for the country to know it.

During almost every trip that we have made amongst breeders of the heavy draught types of horses, they have but the one complaint, which is, that the mares have failed to breed at all, or that the foals have either come dead or so weakly, that soon after birth they have died.

At a meeting of the farmers of Huron, held in Exeter last winter, we were asked our opinion as to the remedy for this state of affairs, and since that time we have heard of instances where breeders with a large stud have lost every one of their foals.

Where the breeding of heavy draughts can be carried on successfully—by the term we mean without the loss of many foals—it is unquestionably a paying business, and doubly so if it can be done, and have the mares worked moderately at the same time; but when high prices are paid for imported mares and large sums are invested in bringing them across the sea, and when they are kept idle during the whole or even the greater part of the year, and then either fail to breed at all, or lose their foals when they do breed, it is simply ruinous. Men with but a limited capital could not long undergo such an ordeal without going to the wall.

As nothing transpires in life without a cause, there is surely a cause here, and it certainly becomes our breeders of this class of horses to try and ascertain what the cause may be. Various reasons have been assigned which we stay not here to name, but we may add that our own conviction is, that neither the sire nor the dam is sufficiently exercised, but especially the latter. Many lose foals who do exercise their mares daily—that is, in one form of it—by turning them into a field or paddock. The difficulty here seems to be that the heavy creatures, it may be carrying a cumbersome load of fat, will not of their own accord take a sufficient amount of exercise, on the principle that a feeling of inertia soon overcomes the individual of our race, who has not taken much exercise for a time. Indeed, he will feel so languid, and wonder what it is that makes him so weak and will very probably apply to his physician to help him with a tonic. It may seem strange that any class of the lower animals should ever become thus enervated, as in a state of nature they seem to delight in exercising. But the conditions in which brood mares are kept are often other than natural. In winter they are confined in a box stall the greater part of the time, and therefore exercise infinitely less than if compelled to paw for their living amid snows which hide the grasses.

Turning them out into a large sod field every day of winter that is not real stormy, is a good plan, one which has been very successfully adopted by the Messrs. D. & O. Sorby, of Guelph, Ont., during the past winter. Oftentimes the snow is shallow, and they exercise a good deal while searching for the grass,

We think, however, there is a better plan even, where there is room for carrying it out, and it is certainly a simple one, that is, to *work the mares moderately*, a major portion of the year. This compels them to take exercise, and thus overcome that inertia so fatal in its consequences to their young.

During our recent journey through Ontario with Mr. Hobson, of Mosboro, examining the farms entered this year in competition for prizes, we met with a number of instances where it was the practice to work the mares of this class moderately, and in no one of them where this plan had been adopted was there a complaint of either barrenness or weak or sickly foals.

The matter is certainly well worth looking into. If moderate labor is going to secure fertility and successful maternity, by all means give it, for there is the further gain of having the brood mare more than pay her keep in labor, thus obviating the necessity of keeping so large a number of working horses. Superfluous horses are expensive luxuries, very much more so than a piano or even a fine lawn, for the former eats nothing and the latter ceases to prove a drain in winter, while the extra horse is a burden of expense the year through. Indeed, so expensive are they to keep, that in ordinary farming we have sometimes thought, where there is but little work for the horses in winter, it would pay to let out the ploughing of two or three fields in the fall of the year, if by so doing one team less would suffice on the farm. To keep a span of horses in working trim for a year amounts to \$200 for feed and shoeing (less the value of the manure), allowing three pecks of oats per day at 32 cents per bushel, and ten tons of hay at \$10 per ton, for it must be of a good quality; nor does this include the grooming. If working the mares would obviate the necessity of keeping but one span of horses, it is something in the line of economy, and if it ensure successful foal-raising, it will prove of immense advantage.

It may be objected that there is difficulty in finding work in winter, that period when the mares want exercise the most, and in this objection there is a measure of truth. Our suggestion in such a case is to allow the other working horses to rest, turning them out into an open shed and allowing them to feed on coarser fare, and do what work there is to be done with the brood mares, always avoiding those conditions that are dangerous to the well-being of pregnant mares, as much backing in the harness or wading in snow drifts. In this case there would be a double gain—a gain in resting the worn work horses and in the exercising of the brood mares.

Breeders of heavy draughts are giving a large measure of attention to this method of exercising brood mares across the sea, and if this is needful in that land of slender winters, how much more is it needful in this one of prolonged snow visits. The conviction grows with us from day to day, that highest success in Canada in breeding heavy draught horses can only be attained by giving much attention to the *careful* working of the mares.

If any of our patrons have tried the plan we recommend—given it a fair trial, by working the mares moderately and with careful hands, and have found it unsuccessful, we would like to hear from them through the columns of the JOURNAL.

"Every intelligent farmer in this fair Canada of ours should give his hearty co-operation to the CANADIAN LIVE-STOCK JOURNAL."—Ed. *Grand Valley Times*.

"I like the JOURNAL very much, and think it of great value to every farmer."—W. C. Fleury, Pleasant Stock Farm, Belmond, Iowa.

Our Export Trade in Live-Stock and Live-Stock Products.

Our attention has been drawn to this matter by reading the report of Mr. John Dyke, the agent of our Dominion Government at Liverpool for the past ten years. The old country papers are loud in their praises of Mr. Dyke and the efficient manner in which he discharges his work. It always gratifies our feeling of national pride to know that the agents of our Government are doing their work well.

Mr. Dyke draws attention to the great falling off in emigration to the Dominion this year, and no doubt justly imputes it in a great measure to the general depression, and in part also to the rebellion in the Northwest. In 1885 the emigration to Canada from Britain numbered 17,674 as against 29,345 in 1884.

On the other hand the export trade in live-stock from the Dominion has increased, the only country in the world exporting cattle to Britain wherein there has not been a decrease. The total export from Canada alone in 1885 was 68,556 head, or an increase of 7,473 head over 1884, while the decrease from Denmark alone was no less than 28,532 head. Canada now is only second to the United States in the extent of her live-stock shipments to Britain, the latter country sending over 137,783 head last year.

The cattle were landed mostly in good condition, owing, in no small degree, to the better accommodation of our ships of transport, and the fact that our stock are not on the scheduled list, gives us an immense advantage.

The prices realized may not have been so good as in some previous years, but these enormous shipments were not made at a loss, as the shippers would oftentimes have us believe. During later years some of them have been saying to us that they were continually losing, and therefore must lower the buying price, but we cannot believe that our exporters are so completely philanthropic as to increase the sphere of their operations in exporting, simply for the good of the farmer. It may be that the margins have been narrow, in some instances too narrow, but there has generally been a margin more or less.

We hope, then, that when the shippers send out their agents to buy cargoes for them, that the latter will tell the truth, as it may have a tendency to discourage our farmers in growing shipping cattle to have it ever and anon driven into their ears that the shippers are working at a loss. We cannot but think that in buying cattle, as in other things, truth will ultimately form a tower of strength.

There has been some anxiety on the part of many as to the probable continuance of the export trade, as cattle-growing is not a business that men can get rightly into in a year, and out of it again as quickly. On this score the indications are certainly favorable. If in the year 1885, a year of Britain's greatest depression, the trade increased, what may we not expect when good times come again to Britain?

The report mentions that Britain alone requires 1,500,000,000 pounds more meat each year than she herself produces, and although other countries come in for a share of the harvest, the lion's share must ultimately fall to that country on the trade of which there are no restrictions.

Mr. G. F. Frankh, our exporter of Toronto, puts it well when he says, "as Great Britain has a population of nearly 40,000,000, the moderate allowance of one pound of beef and one half pound of mutton per head per week, it represents 3,200,000 cattle and 16,000,000 sheep per year.

The strongest competitor of coming years may be South America, as the imports of dead meat from some

of its countries is rapidly increasing, but notwithstanding, we fully believe that if Canada only remains true to herself by keeping disease at bay, and by further producing beef and mutton of the very best quality, that she will be able to hold the fort in the British meat market in spite of all other countries, owing to her natural position, and other facilities, for not only carrying on the work successfully, but for greatly enlarging it.

In speaking of the shipping of stores, after referring to the demand for them in Scotland, Mr. Dyke says: "I would much rather see the cattle come in a finished condition, the Canadian farmer getting the full benefit, than see the store cattle trade expanded." We are in full sympathy with the above sentiment, and we again call upon our Canadian farmers to kill the trade in this class of stock by refusing to sell their stores. That a transatlantic trade in stores should ever have had an inception is a stupendous monument of the short-sightedness of those who allowed it an existence by furnishing the material.

It deals with the present demand in England for first-class horses for military purposes and for carriages, a subject which is stirring the hearts of British producers just now to the very core. The very large number of the military in the empire at present unmounted, renders the demand a certain one, and Col. Ravenhill has accordingly been despatched to Canada with instructions to purchase a few as samples, at a price not exceeding £50. We trust that he will be properly cared for by our Canadian horsemen, as we feel sure that we can supply a goodly portion of the material that he is looking for. Mr. Dyke has labored to bring about the result we have chronicled, and we are pleased to notice that Mr. Douglas, of Liverpool, is manfully fighting our battle in the English agricultural press.

Mr. Dyke mourns in common with the rest of us over the languishing state of our butter trade, the exports of which have decreased from 12,000,000 lbs. in 1870 to 8,000,000 lbs. in 1885. He quotes Prof. Arnold as having stated that "Canada loses \$5,000,000 annually from her imperfect system of butter-making and packing. We hope that our newly formed Provincial Creamery Association will have some good things to tell us in this line by the end of the year.

The value of the cheese imported into Britain from Canada in 1885 is set down at £1,241,310, and the value of eggs imported into England from foreign countries at \$3,000,000 more, not many of which, however, come from Canada. This is surely a trade well worth looking after.

There is nothing more likely than that the export-trade in live-stock and produce from the older provinces of the Dominion to Britain shall continue to increase, and that the exports of cereals shall continually decrease. The producers who are wise will govern themselves accordingly.

Rambling.

The month of June, of all the months, is the most enjoyable for travel. She lacks the prolonged heat of August and the occasional chills of October. Her soft winds fan the fevered brow, and the cup of balm which she holds out in her right hand soothes the most lacerated spirit. Nature has not as yet put on her mourning garments, the harbingers of autumn, and every trace of the war of vegetation with the eccentricities of springtime are quite obliterated. She has clad all nature with her varying shades of loveliest green, and with the glories of her meadows and the richness of her forests and the endless succession of the varied forms of vegetable life which flourish dur-

ing all her transitory sojourn. She feeds the traveller with the substance and the sweetness of a perpetual feast. Of all the months of all the year, give us the month of June for travel—the happy, artless maiden month that whispers to us once a year of a paradise regained. It was during the declining days of June and the advancing days of July that we were favored with a ramble through many of the counties of Ontario.

Dumfries, in the county of Brant, is a favored region. Its strong, ample outbuildings speak of the wisdom of its farmers, and the advancing elegance of its farm dwellings bear witness to the rapid advances refinement is making in many of our rural homes. Who will draw for us the happy limit where parsimony should end, and where extravagance should not begin in the construction of our farm dwellings? The neat kept lawns and the attractive surroundings of the dwellings of this section will keep many a young man of Dumfries from making his grave by the banks of the Peace river or the Saskatchewan. The rich strong soil of this favored region is a tribute to the sagacity of the "canny" Scot, who is only outdone by the prudent German in ferreting a fine country on which to erect the pillar of his own and of his children's homes.

Oxford has for us a charm that deepens with every successive visit. We do not know which to admire most—the succession of her undulations, the crystal clearness of her waters, the number and beauty of her shades, the strong, business-like look of her dwellings or the fertility of her varied soils. Her pleasant places abound on every hand; her highways, like those of Brant and Middlesex, are mostly gravelled, and the number of her sons who have made their mark in the literary and professional walks of life outnumber, in all probability, those of any other county in Ontario. And yet even in Oxford rank thistles line the highways here and there, and stick up their obtrusive heads to mar the beauty of the grain fields. The battle with the weeds is soon to be the hardest conflict of Ontario; fiercer than the campaign in Britain over Home Rule and immensely more prolonged. Every farmer in the land should at once up and gird him for the fray, for in this conflict there can be no discharge till victory is inscribed on the banner of every tiller of the soil.

Middlesex with her lighter soil did not look quite her best, owing to lack of moisture; yet her many miles of under drains were doing very much to neutralize the effects of the lack of rain, and the grand old hills of Westminster looked down upon the Thames as in the summer days of yore, clad in their queenly garments. In the neighborhood of Chatham the farmers are still extracting the fatness of their amazingly fertile soils without pondering sufficiently the question as to what the end may be?

Simcoe, the city of trees, sleeping in the valley of the Lyn, is much favored by her situation. Here the adjoining townships meet and feed her with their fatness. The number and beauty of her suburban groves are a decided feature, and one which lends a bewitching charm. The light soils around her have called into being a light class of horses possessing more than local fame.

Wellington, with her undulations like the big swells of the mighty deep, has a grandeur all her own in the month of June when the strips of forest that dot the hills are looking their very best. But there is a strange peculiarity belonging to her valleys that sadly mar their beauty. Many of these are quicksand bottoms where the waters congregate, producing a vegetation of the fen order. Would it not be better to allow the ancient cedar to reclaim this lost domain and to re-

clothe it with the beauty and utility of the growths of long ago? This county has long been known as the Shorthorn banner county of the province. Overtaking Ontario county in the race, she, in turn, is being sorely pressed by German Waterloo; for if Scotchmen have shown Germans how to feed, as some people say, the latter have shown Scotchmen how to grow the feed. The names of stockmen are thick as bees in some parts of this county. One of these, Mr. John I. Hobson, of Mosboro, has a well tilled, well kept farm, good enough, we think, for that of a farm judge; hence we can believe that it is not in vain that he has been chosen seven times in succession to fill this office in Ontario. Mr. Hobson's cattle are good, all of them; and his calves without a cull, some ten or twelve in number—as they grazed in their evening pasture, for they are kept in during the day, we admired them very much. The bull, of Kinellar stock and well charged with Sittyton blood, is a strong, useful beast, and, unlike a good many mortals here, even better than he looks.

While admiring a beautiful piece of meadow we noticed a plot in the field that was very deficient, not carrying more, perhaps, than one third of the surrounding field. We were told that that part had been mowed last autumn for soiling purposes and because it was the strongest part of the field.

Is the statement extravagant when we say that we believe the annual yield of hay in Ontario is reduced nearly *one half* by autumn pasturing? "But what shall we do," says one, "to avoid this?" That is for every farmer to decide for himself. It is worth doing a good deal to save half a hay crop every year.

Mr. James Laidlaw, M. P. P., whose two hundred acre farm of fine rolling land is found five miles from Guelph, has also a number of good strong Shorthorns, the calves of which are pushing well ahead. Mr. Laidlaw, in common with many of the pioneers of the locality, assisted largely in transforming the wilderness into its present conditions of beauty and utility; and several of his sons are showing their good sense by taking up the calling of their father. Like all sensible men, Mr. L. is an inveterate enemy of scrub stock. It always meets our view of the fitness of things when we see farmers represented in Parliament by men of their own calling, and we do hope that more attention will be given to this matter in future.

Mr. John E. Meyer, of the Belvenoir Stock Farm, lives across the Waterloo line. Everything about Mr. Meyer gives evidence of a most careful thrift. The Shorthorns, some fourteen in number, carry indications of good breeding, skillful mating and feeding that is scrupulously careful (see stock notes column). The calves were still getting roots and dry feed, but cut. When Mr. M. feeds green feed, he deems it an advantage to have it wilted. The stock bull, 6th Duke of Kent [11643], bred by F. W. Stone of Guelph, is straight Bates, and to the usual Bates' style he adds the Cruikshank packing. With the exception of his being a little high in the tail he would not be easily beaten, and best of all, he has proved himself an admirable stock bull. Lady Maxwell 3rd, a first prize winner last autumn at the Provincial, London, deserved what she got, and a one year, from the dam Ruby, is about as good.

At "Woodlands," Messrs. D. & O. Sorby have their breeding stud of Clydes in the pink of condition. They have this season got three fine foals from imported mares, and look for more as the season advances; and at "Alton Hall," Mr. Harold Sorby is busy already re-erecting capacious barns which will be better adapted to their purpose than were those so recently reduced to ashes.

But the old log school house on the hill, not so very far from Mosboro and on the way to Mr. Laidlaw's—it would be a shame to pass it by unnoticed. It is not because country dances were held there in the good old days of yore, when the toddy was heated in a big kettle without, that we linger in memory around the old ruin. It is not even that the voice of prayer was raised betimes, in those days when churches were scarce, within the walls that so often shook in sympathy with the dancer's feet. Nor is it that the old schoolmaster living over on the hill spent twenty-seven faithful years within its walls; but because it was there that Mr. Joseph Hobson graduated—the man who mainly overlooked the engineering of the Buffalo and Fort Erie International Bridge, and who now deservedly rides in a car of his own while superintending a large portion of the Grand Trunk system of Ontario. The generation of to-day pursue their studies in fine, spacious brick dwellings. What a shame it would be if they showed themselves less worthy and less able than the men who finished their course in the log schoolhouses belonging to a departing generation.

Vaughan, Markham and Scarborough show this year again that strength of soil that has filled so well the pockets of the wealthy old farmers located there; but it seems a pity that they do not spend some of it in smoothing the roads. Rough roads in June are unpardonable in any old settled country.

The Clydes of Mr. Wm. Rennie were busy at work on the farm, though devoted to breeding purposes, and yet they looked well. This is certainly better for the farm, and we believe also better for the Clydes.

Mr. Simpson Rennie finds it necessary to have some open drains and to plough his land in ridges with shallow surface furrows although his land is underdrained, and although the subsoil is not over retentive. Men underdraining their farms would do well to heed this. In some places open drains seem a necessity, though they do prove a troublesome one, to carry off the rush of water.

Mr. John Campbell, jr., of Woodville, is still improving his Gold Medal Farm of 1884. Some New Zealand oats in a portion of one of the fields looked well, and we shall await the results. His stock looked well as they always do, although the Shrop lambs were later than usual. The stock bull, MacDuff (see stock notes column), is a grand good sire, as is evidenced by the calves of his get, both at Fairview (Mr. Campbell's), and at Embro Farm (Mr. Grant's), across the way. MacDuff, red in color, and of fine heavy build; with a vigorous constitution, is soon to come into the market, and will be a good acquisition for some man who is seeking good cattle.

Messrs. D. Grant & Sons, of Embro Farm, Woodville P. O., have some 500 acres of land in one plot, of which nearly 400 acres are cleared. This firm usually turn off three lots of cattle in the year, the first at Christmas or Easter, the second about the first of June and the third in early autumn. They have about 50 pure-bred Shrops on an imported foundation, and many of them of a grand quality. Of pure Shorthorns they have some 10 breeding cows of the Necklace strain, largely Booth in their make-up. Shorthorns have been bred here for about 10 years, and first came from the herd of Mr. Henry Reazin, of Linden Valley. We saw four bull calves about nine months old, and very good ones, all sired by MacDuff, and which will, no doubt, make very useful sires. The fine brick dwelling of this farm gives a commanding view from the broadly elevated ground on which it stands, and the barns are capacious and neatly painted.

A dash of some two or three hundred miles carries

us through the weird country, by night, that is traversed eastwardly by the C. P. R. from Peterboro, and in the smiling morn we revel in the never-ending beauties of the Ottawa valley.

Hundreds of saws in a dozen mills tear through long logs in far less time than we take in telling it, on the cumbered waters of the Ottawa; some with poles steer logs into the gangway, which, with endless chain draws them up in a never-ceasing succession, some with canthook in hand roll the slimy lubbers all day long upon the saw carriages, and upon the latter others ride ceaselessly till nightfall, their only business to turn the logs down in slabbing. Other gates complete the sawing of the slabbed logs at one run, some edge sundry boards continually, some handle only slabs, some cut pieces tainted with punk into blocks for matches, some sort the lumber on tables which whirl about in any requisite direction, and yet others—and they are a little army—pile up the lumber tier upon tier, and pile after pile, till it appears to cover the river bed like the dwellings of some Venice of old. Logs lie in tens of thousands in the stream above, and in the midst of all this din of human movement, and the chatter of the saw teeth, the angry waters of the huge "big kettle" boil and churn and hiss and foam as unconcernedly as in the days when the little fleets of birch canoes floated on the waters of the upper river.

The frosts have dealt very harshly last winter with the farmers of the Ottawa Valley. The timothy has been so badly injured, either with the intensity of the cold, or through smothering with the ice, that it will not be half a crop. The Messrs. Graham, of Bell's Corners, tell us that this is an unusual occurrence, not taking place once in a score of years. The stock on these two fine farms, which last year were awarded the gold and silver medals, is still improving. On the "Lakeview Farm," Mr. Wm. Graham has some good calves, though young, and on the "Rock Farm," Mr. Thos. Graham has added to his herd by the purchase of two fine heifers from J. C. Snell, of Edmouton, and the bull, Lord Irwin, which is used conjointly between the brothers. Those gentlemen sold fat cattle, and a large lot of them, shipped toward the end of June, for 5½ cents per pound, a price that is ahead of what was realized this year in the West. In one lot purchased by Mr. Thos. Graham, and for which he paid \$41 each, was one evil genius of a scrub, but which he had to purchase in taking the lot. This fellow, he at once turned around and offered to the seller for \$20. The reply was, "I will not give it. By the time you have had him as long as I, you will want to get rid of him too." This would make a good item for the stock notes column of the champion organ of the scrubs.

Mr. John Airth, of Renfrew, is wisely trying to hide the rocky ridges of his fine Silver Medal Farm with young timber. How unsightly those rocky ridges are when naked and bare, but how beautiful when covered with the mantle of a young forest, and we may add how profitable, for the roots of trees will glean a bountiful support on rocky lands where cattle will starve.

If any one wishes to see a grandly rugged country, where the rocks lie pile upon pile, and the stones assume the dimensions of dwellings, and where the trees, some scorched, and some dead, and some reaching out their ragged arms, which one day extracted a living from the fissures of the rocks, and where now and then a lone lake lies cradled in a land of solitude, where the lumberman's hut is deserted, and where one almost starts at the sound of his own voice, let him take a run over the Kingston and Pembroke road. This beautiful weird-like valley, nowhere much wider

than a stone's throw, makes not so bad a race-course on which the iron horse may gallop from day to day.

Below Kingston some are giving battle to the weeds and some are not, and while there is some improvement in the stock of the country, there is still much room for further advance. The long narrow farms along the St. Lawrence are to a certain extent being cut in twain and broadened, which is wise.

At Burlington the pastures of Mr. John Fothergill support a fine herd of large Shorthorns and Shorthorn grades; and Prince James is still fat and even and useful as in the days of the past.

Mr. Andrew Waechter is fighting a useful battle on his four-hundred acre farm, some four miles from Walkerton, in the county of Bruce. His fall wheat literally fills the fields; but it was the waters that "flow on for ever" through the troughs in his stables that caught our attention. These are brought in iron pipes nearly three-quarters of a mile, and from a spring 65 feet below the level of the troughs. The spring until recently spent its time in mischievously puddling the spongy valley beneath it, but now through means of a ram, it sends water through all the days of the year to the barns of Mr. Waechter, and in copious supply. Why cannot hundreds of our farmers profit by this lesson which Mr. Waechter has taught them?

From what we saw on this trip we conclude that our farmers must content themselves with lighter crops than those of recent years. Fall wheat seemed only really good in Bruce, Grey and Simcoe, and hay was on the whole a light crop almost everywhere, yet there is no saying to what extent these losses may be supplemented by the returns of autumn.

Horses for England.

In another column we refer to the movement in England in search of horses for replenishing the army. The results may prove so important to Canada that we cannot easily over-estimate them, as it may lead to the establishment of a regular traffic between the Dominion and Britain in this class of stock which may some day assume very large proportions. Our farmers will commit an irretrievable blunder if they fail to put forth every reasonable effort to respond to the requirements of the present search for cavalry and artillery horses. Since writing the brief reference we refer to, we notice a leader in the *Toronto Globe*, of date July 8th, which handles the subject so well that we reprint it:

"From a national and commercial point of view all must desire that the mission of Col. Ravenhill and Col. Phillips should prove successful. These experienced officers have been selected by the English Horse Guards as the most competent persons to decide the question whether Canada can furnish the English cavalry and artillery with suitable remounts. They are, moreover, armed with authority to purchase at once such animals as they can land in England within regulation price. Their arrival here is due to the persistent efforts of Mr. Pattenon, postmaster of this city, who has been in correspondence with Col. Ravenhill for a long time past, and had more recently proposed, through Mr. C. F. Douglas, now residing in England, to send over a sample supply of three or four hundred, to be bought by Mr. Douglas and other experienced buyers in Ontario. Sir Frederick Middleton, Lord Lansdowne, Lord Melgund, and many of the officers now in England who had actual knowledge of Canadian horses, endorsed Mr. Pattenon's proposal. The Horse Guards have, however, preferred at first sending out officers to purchase without the intervention of a contractor. These gentlemen will be met by two main difficulties. The price of an animal may not be quoted to them as low as it would be to the professional Canadian dealer, and the steamboat companies having the English Government to deal with may stand out for such terms as are virtually prohibitive. In the first struggle to establish the cattle trade between Canada and England, one of these

difficulties was encountered. The shipowners wanted all the profit. Boston and New York, however, came to the rescue, and the Montreal agents and owners were brought to their senses. In the present case farmers and ship owners will be guilty of suicidal folly if they do not within reason favor the present endeavor to the utmost of their ability. Once started, this trade has no limit. We now export thousands of horses every year to the United States, but they are not of the sort wanted for the English army. These, as may be seen from an advertisement in our columns, are chiefly riding horses under sixteen hands and over 15.2; well bred, rangy and active, girthing in the neighborhood of six feet and measuring eight inches under the knee. Horses for guns must be stouter and heavier than the above, but equally active, and well bred. The hairy-legged cart-horse is not wanted, but what is here called an express or omnibus horse. For this last-named class the English officers will pay at least \$175, and for the lighter cavalry horse, \$150. Suitable horses are in the country, and are every day bought at the above prices by those who know how and where to procure them. The French officers who were out here on a mission of inquiry a few years ago reported that any number of artillery and cavalry horses could be got in Ontario on an emergency. The English colonels may not buy the horses they want, but they will have to report that they saw them, and if their present mission has no other result, it will have been so far satisfactory. Of course a worse season of the year than hay-time and harvest could not have been chosen for their operations. If responsible contractors undertake to provide them, accepted on this side of the Atlantic, Col. Ravenhill will be in a position to recommend the acceptance of the lowest tender should his report come to be acted upon.

"It is true that these who have exported horses to England have found it a losing game, and that at this moment scarcely any are being sent across; Messrs. Douglas and Hendrie were the last to quit the field, and would not have done so if the speculation had been a profitable one. Mr. Pattenon some years ago shipped horses to London, Liverpool, Edinburgh, and other centers, but lost money by the venture. Dozens of enterprising men have done the same. The veteran dealer, Mr. Simon Beattie, took over horses this spring, and did fairly well with them. But failure by these exporters has no bearing whatever on the present question. Money has been lost hitherto, because the market in England was not assured. The delays and expenses, on the other side killed the trade. In the present case the horses are, to all intents and purposes, sold and delivered in Canada, and the main item of risk is eliminated. All that is necessary to secure the supply of all the horses required for English military purposes is a proper organization of the business. If the thing is once undertaken, there will be no lack of horses to meet the demand. It was so in the cattle business. Thoroughbred Shorthorn bulls were used instead of the scrubs that had hitherto been ruining our breed as fast as importations improved it. In a few years the supply is up to the demand. And now thoroughbred blood sires for the procreation of riding horses will be patronized, directly their owners can point to the market awaiting their produce. Thoroughbred stallions are a drug in the United States, and Canadian farmers already have the mares to mate with them. We can raise horses here for the English army at a so much lower cost than that at which they can be furnished in England or Ireland, that putting ocean freight and insurance at mortality risk premiums on the top of cost price, we can beat the home breeder as surely as the same has been done in the case of a bushel of wheat. The animal required is here now. If not in sufficient quantities, the farmers can be soon enough taught how to fill the bill. The rest of the venture depends on the ship-owners, and if worst comes to worst in that direction, there are plenty of British Government transports lying idle in time of peace, and when it is too late ship-owners may be brought to see with regret that half a loaf was better than no bread.

"The English Commissioners propose to visit all the chief breeding centres in the Province, and to give ample notice of their coming by advertisements in the local press and by handbills. It is to be hoped they will be met in a proper spirit by those having horses to sell, and that, notwithstanding the busy season, farmers will be induced to bring in their animals and so lend a hand towards the establishment of a new branch of trade no less important than the exportation of bullocks.

The Beef Breeds of Cattle.

BY R. C. AULD, DEXTER, MICH.

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SHORTHORNS—CONTINUED.

ADDENDA.

(1) SHORTHORNS AS DAIRY CATTLE.

In a review of the year on prize-winning milkers, at the English dairy shows of 1885, the *London Agricultural Gazette*, says:

"Putting them all together, therefore, it appears that the best milker is a Shorthorn, with 98.30 marks out of 100; the second Shorthorn with 98.10 marks.

(2) THE ROANS ARE TO BE FAVORITES.

At a meeting of the Michigan Shorthorn breeders, held lately at Jackson, Mr. Smith, of Hillsdale, said that he found roans feed better than the reds; that they were better handlers and superior in every respect.

Prof. Johnson, of the Agricultural College, being called upon, said that they had found at the college that the roan feed better than the red, but thought that it was a foolish idea that had got among the farmers that an animal was inferior unless it was red. He thought a good animal should be taken upon its merits regardless of color. In answer to an interrogation he said that he had never observed that in breeding red to red the tendency was to go back to the darker colors.

The general opinion seemed to lean toward roans in the matter of color, as being better feeders, and producing more meat to the net weight and as also being less liable to vermin.

(3) PROPORTION TO OTHER BREEDS.

It has been stated, on authority, "that this family of cattle outnumbered any other breed by seven to ten."

(4) AMERICAN "NOTIONS" IN SHORTHORNS CRITICISED BY A VERY HIGH BRITISH AUTHORITY.

The writer of this essay, on inspecting herds of Shorthorns at home and in the show-ring in this country has noted many things that has puzzled him, and which have had some notice in that excellent guide to American live-stock industry, Jas. Macdonald's "Food from the Far West." The points referred to allude to what I may term the five C's—coat, carriage, color, crest and contour. On which points Mr. Macdonald comments thus (pp. 203, 204):

"Americans seldom handle an animal in forming their judgment thereon, and pay more attention to outline and size than quality. Even in the matter of outline their notions do not accord with ours. In their ideal very often will be found upright shoulders, flat ribs, bad short ribs, prominent hooks, short ill-packed quarters, light thighs and big belly—all of which faults are compensated by high carriage, gay walk, short hair and dark red color."

The craving for high carriage has almost amounted to a mania in some parts, and he relates that a Scotch farmer on one occasion was not a little amused on entering a stable to find "three heifer calves with their heads tied up so high that their forefeet could barely reach the ground. The poor animals, as he afterward learned, had to undergo that process of torture for three-quarters of an hour every day. Such crest may be seen still in many figures of Shorthorns.

"Upright shoulders are not desired by American breeders any more than by their brethren in Britain, but the American model Shorthorn must have a buffalo crest, and without upright shoulders it is difficult to obtain that massive upheaval. Upright shoulders are suggestive of a light waist, and it is but too true that Americans not unfrequently sacrifice both waist and shoulders for the essential crest. The American love for red has been carried ridiculously far. Calves with dark tinged hair are coming thick, and in the showyard a moderate red is sometimes preferred to a very good roan or an excellent white. Probably one

of the most unfortunate features in British Shorthorn breeding at the present day is the wholesale objection to white colored animals; but in America the ill-formed idea is carried much farther. There even roans are at a discount. I was rather amused to hear the auctioneer at a Shorthorn sale in Illinois inform his customers, in robust and boastful language, that a certain bull, then being sold (red, of course) had never been known to get but two roan calves! Long, soft, velvet hair, so much prized in England and Scotland, 'counts' against an animal in America; and though no harm can come from long hair on an animal, still it is easy to understand that the climate of America neither requires nor encourages such a growth of hair as that of England and Scotland. It is difficult, however, to see any advantage, aesthetically or otherwise, in clipping the tail till it becomes rat-like, of depriving the ears of every hair a quarter of an inch long; or of scraping the horns till blood is almost oozing out. And yet this is how some American 'show teams' appear.

I have little doubt that if my eminent friend were to revisit this great country on which his valuable book treats, he would find, as the previous addenda would indicate, some advance from the old notions. This I believe is the result chiefly of the splendid "missionary" work that has been and is being performed by our leading stock journals.

Prof. J. P. Sheldon, author of that elegant work, "Dairy Farming" (Cassell & Co.), says in his introduction:

"A comprehensive and painstaking history of the various breeds of cattle which are found in the British Islands yet remains to be written, and it may well be doubted if such a history will ever be written, since the annals from which the earlier portions of it would have to be derived are admitted to be meagre and obscure."

That was written in 1879, but this herculean task, we believe, is being tackled with now by the best band of investigators ever associated together for live stock enhancement in Britain. The work has, indeed, been initiated, part of it has been accomplished, and we are willing to venture the prediction that before the end of the present decade we shall see a principal part of the completion of such a task performed, in the publication in Britain of an exhaustive and voluminous history of the "red, white and roan." Time is only required to see the fulfillment of this.*

(To be continued.)

FOR THE CANADIAN LIVE-STOCK JOURNAL.

Showing Animals at Fairs.

BY JOHN DIMON.

As the time of fairs is fast approaching and as the showing of animals of all classes from the horse down to the chicken is, at present, more or less occupying

* The above was written in December, 1885, and appeared February, 1886, in this country. The following appeared in the *London Live-Stock Journal*, April 30, 1886, and the extract from the "leading article" will prove interesting, in connection with the above:

"CORPORATE VS. INDIVIDUAL DISCRETION.

"Materials for a history of British stock-breeding are accumulating, but the book is certainly not likely to be written yet—by reason of the huge gaps which still exist in the records of the pursuit. Mr. Thorold Rogers, in the course of his searches—among the muniment rooms of colleges, halls and manor houses, for materials for his well known volumes upon "Work and Wages"—had opportunities which (had he been an enthusiastic stock breeder) might easily have been turned to good account. As it is, he has obtained evidence enough to show that, prior to the dissolution of monasteries, or the breaking-up by kings of the over-powerful noble families, a very large proportion of the land in the southern half of the island was farmed by stewards, who made periodical reports, in writing, to their lords of everything connected with the stock and produce. It can hardly be doubted that, when this huge mass of materials comes to be sifted over (and with a population whose interest in the past increases every day, this sifting is sure sooner or later to be effected), not a little that is curious, and even valuable, about the development of our various breeds of domesticated animals must certainly be discovered. For the appearance of this, the *magnum opus* will have to wait. Until it does appear, we must solace ourselves as we can with the bits of information which here and there turn up about the methods which seem to have been partially, if not generally, employed to bring about the results which we now see in the flesh."

the minds of many of the breeders and farmers of the Dominion, it may not be amiss to have a short pen and ink talk with them on the subject. Having had considerable experience in fairs, both as an exhibitor and manager, and also as an expert judge on various classes of animals, I feel that your readers will pardon me if in my short article I am somewhat positive in my assertions.

First, in showing animals. None but good ones are worth showing or will bring credit to the exhibitor, even if, by want of competition, the exhibitor should occasionally gobble a premium with an inferior one. Be sure you have the proper animal to show, and then by all means show him. Be certain of its pedigree, and have it all traced beforehand and made clear to the judges that there may be no trouble on that score. It is best to not only have your pedigrees all straight, but entered in the proper herd books when practicable, that the judges may readily refer to them, and thus be clear on these points, and able to act promptly in their decisions and awards. It has been said and perhaps truthfully, "animal first and pedigree afterwards." Better have both at time of exhibition.

All animals intended for exhibition should be put in good healthy show condition. By show condition I do not mean that they should be excessively loaded with fat. I most heartily disapprove of getting any animals—save those exhibited in the fat stock class—overloaded with flesh, and although I know that flesh often covers a multitude of deformities, I, invariably, when acting as judge, give the benefit of all doubts in such matters to the leaner animal, whose real points are more readily observable. I doubt not but that the putting of animals into what the Canadian exhibitors consider good show condition has been the ruin of many most valuable beasts. The Canadian exhibitors go to much greater extremes in this respect than the Americans across the border. I would object to too much flesh, were I acting as judge. I would prefer to meet the animal on exhibition in a good healthy, clean show condition, showing that while it had not been crammed or overfed it had been well cared for, and put in the best condition possible for its own comfort, and for honestly showing to the public just what its real merits were.

Another important point in the animal, old or young, destined for the show-ring, is to have it well halter broken, as it does not materially add to the attractions of the show-ring to have the animal exhibited therein hauled in by two stout men at the head, and pushed at the rear by two or three others. Neither does it give great pleasure to the elder attendants of the fair to see a man thrown down and dragged for rods upon the ground by a headstrong unbroken heifer or cow, although it may make fun for the boys. If a calf or colt is worth raising, it is worth halter breaking, and when this is thoroughly done, you have an animal you can handle anywhere, and the value of which is enhanced at least twenty-five per cent. For show-ring purposes a well halter broken animal appears to much greater advantages than one not broken. All animals should be shown and judged on their own individual merits, as those considered most competent to reproduce themselves.

In showing sheep I cannot sanction the fraud indulged in by most exhibitors, I think here in Canada, of doctoring the forms with the shears. I most heartily believe it wrong to trim sheep as many exhibitors do, for the purpose of deceiving. I believe in honest fairness in all matters connected with the show-ring, and have ever endeavored to act honestly and

justly whether acting in capacity of exhibitor or judge. Of course there is something to be learned at all great fairs, for look at them as we will, fairs are great educators. Last year, while acting as expert judge on Short-horns at the Michigan State fair, I learned that some Western Shorthorn breeders remove the shell of the horns of their show cattle, and then carefully smooth and polish the hardened pith into a better appearing horn than can be made of the entire one, and also giving the whole head a finer and neater appearance. Of course this is practicing a fraud, and is all wrong, but perhaps no more so than many others practices, which the show-ring is afflicted. In conclusion I will say to my brother breeders and farmers, let us act honestly and gently in all our exhibits and win when we can, but win honestly or not at all. Another very important item to be looked after, is to have cards on each stall or pen, giving the breed of animals and the owner's name and residence. Such cards may be made quite attractive with but little expense, they add much to the fair in various ways, are instructive to visitors, and often prove a very profitable means of advertising to the exhibitor. Let us then by all means have an attractive card on each stall, pen and coop.

Windsor, Ont., July 9th, 1886.

The Canadian Colonial Exhibition.

(Written from Glasgow.)

EDITOR CANADIAN LIVE-STOCK JOURNAL.

SIR,—Never have we realized the extent and importance of the colonies of the United Kingdom as we do on viewing the collections at the exhibition, in all its varied departments, coming as they do from the various colonies from every part of the known world. Here we have impressed upon our minds the truth of the proud boast of Britain, that the sun never sets upon her possessions.

Here are the products of the various colonies, with those of the Indian possessions, grouped in their various courts, as follows: India, Dominion of Canada, West Australia, South Australia, New South Wales, Victoria, Queensland, New Zealand, Ceylon, Hong Kong, British Guiana, West African Colonies, Natal, Cape of Good Hope, West Indies, Malta, Cyprus, St. Helena, Fiji Islands, Strait Settlements, Falkland Islands and North Borneo. All are arranged with the greatest taste, India of course taking first place in extent of exhibit, but Canada standing close to her in extent, towers over all in that class of exhibits which go to show an advanced and high state of civilization. Commencing at the educational department, we find a very complete display of exhibits, showing our entire system, from its rudiments to the highest grade taught in our highest institutions of learning, and also many works of art, showing its results; and in fact every exhibit, from science, art or soil, seems to show the marks of its handiwork, and gives our display a standing high over all others. We cannot do better than quote the words of an English writer, viewing as he does the display of products from the different colonies from neutral ground, as follows. He says:

"Here our vast Dominion of Canada welcomes us with eloquent and forcible demonstration of her many natural resources and national industries. Agricultural implements and products appear on triumphal trophies. The great game trophies with its enormous walrus, and its life-like moose, cannot fail to awaken interest. Minerals, wool, timber, stuffed animals, plant specimens, furs, skins, etc., fill gallery, avenue and arcade, in close proximity to trade specimens, expressive of a high state of civilization and luxurious prosperity which is most pleasant to contemplate. The visitor is sure to be delighted with the huge agricultural trophy of this section. It towers to the roof of the lofty annexe, and is composed of fruit and grain specimens, agricultural implements, dairy products, etc., grouped with wonderful ingenuity and taste."

One thing to be regretted is the delay in getting exhibits in their place, caused partly by want of space, and also by late arrivals, but all are working hard and doing their very best, and we are not the only ones behind time, for some of the Australian and Asiatic sections are still busy erecting late exhibits. Of course no live stock is shown, but

we are pleased to see the practical exhibition and working of the Australian and New Zealand cold meat trade, as shown in the colonial market, which no doubt most affects the interests of the Canadian farmer. Here are shown from 100 to 200 carcasses of mutton and some beef, kept in a room at a temperature of 27° Fah., in as fine-looking condition as the days it was dressed, after a voyage of from 30 to 40 days by ocean steamer. This is exhibited in the colonial market, an arcade set apart for the sale and sampling of all products of the various colonies not yet fully introduced to the markets of the world, in quantity. From this place much of the meat goes to supply the tables of the contractors, as well as the Intercolonial school of cookery and their tables. The room containing the frozen meat is supplied with cold air by means of an engine of six horse-power, running a pump which takes the natural outside air standing at 80 Fah., and produces the above results, and in this way gives a dry air which is best for the preservation of meat. The School of Cookery above mentioned, we are pleased to say, is one of the most useful institutions of the exhibition. Here the art of cookery is taught, and the products of their labor and processes served to the public in their dining-rooms, in the shape of a dinner, composed of meat, potatoes and bread at the nominal figure of 12 cts. If more is wanted, a charge is made in proportion. The meals are cooked according to the latest and best formulas, and are very palatable and healthy indeed, thus serving more than one purpose; and we trust that our Canadian educational authorities may soon give us a system of education in cookery and hygiene, which is so much needed in America.

A visit to the Exhibition suggests to the visitor many advantages and lessons. First in importance probably stand the interests of trade and commerce in general. The exhibits of the various colonies, many of which are new to the markets of the civilized world, are here introduced to the trade and public, and with them comes the efforts of the producers and the committees or commissioners of the different colonies to assist in introducing their products; and also their favorable advantages for producing them by every possible means in their power, under the very favorable circumstances in which they find themselves placed at the Exhibition. And while the colonies with India vie with each other in friendly relationship as colonial brethren, still it behooves every one to be up and doing while the sun shines, and no colony can afford to lie on her oars while her sister colonies may carry off the trade. Of course what affects trade generally affects emigration, and wherever an article of trade can be produced with a good profit and is carefully fostered, thither will emigration turn.

In the matter of exporting meat Australia and New Zealand are taking the lead in the dressed meat trade, and are demonstrating this to be the shape for the dealer in Britain and other European countries to take hold of it. The old adage is again found true, that "necessity is the mother of invention." While they had abundant advantages for its production, they were practically shut out of the markets of the world by distance, but they have shown us that mutton can be shipped that great distance at a cost of 6 to 7 cts. per lb. If they can do this, why cannot we? And if meat can be thus safely handled, why not our choice fruits, such as plums, pears, and even peaches and grapes, which sell at such high prices in Britain?

We notice some disadvantages in shipping live cattle to the British markets, as the extra space required; the extra cost of attendance; the feed required in transit, the percentage of loss from disease and rough weather; the loss of juice and flavor of meat, attributed to the feverish state of the blood and the whole system, from lack of rest and comfort during the voyage, which causes it to sell at about one penny less per lb. dressed; whereas if our meat could be slaughtered at home it might prove to our advantage. We are pleased to learn that we have a first-class committee, with Sir Charles Tupper as our Commissioner at its head, doing their very best to advance our interests, and they invite and urge the immediate assistance of every Canadian who has it in his power to join in the work. Much has been done and much remains to be done in a short time, to introduce our products to the British trade to the best advantage. In the matter of shipping Canadian food products of a perishable character by the cold air system, our committee have already interviewed the leading steamship lines, and have, with good prospect of assistance, invited the Government to aid in the work.

We understand that the Allen Line of steamships have furnished some of their vessels with the necessary arrangements for shipping by means of refrigerators, the missing link being refrigerator cars to ship from any point in Canada to Montreal. The most pressing need at present is for fruits to supply the place of the fruits now on exhibition, which are fermenting and spoiling in the antiseptic fluids, and which also takes away the bright color of all our high colored fruits. The Committee are arranging for a fresh supply and hope by this means to keep not only an exhibit up, but also to supply the Colonial Market and thus introduce them to the trade and public, and to also arrange for any surplus to be sold on the London market. Australia has already set us an example and has now an exhibit of apples and pears in a very fine and fresh state of preservation and of very fine quality and appearance, thus giving not only a practical proof that such can be done, but also reminding us that we will have to compete with them yet, and it surely behooves us to be up and doing.

Other advantages loom up before us and we understand that already the representatives of the different Colonies are holding conferences in the Conference Hall of the Exhibition, discussing the advantages of confederation both colonial and imperial. Many seem to think that it must commence with the Colonies and advance upward rather than downward, and that it will be the only means for settling the Irish question. But be that as it may, the Indian and Colonial Exhibition has a strong tendency to bind the nation and her colonies in one strong, harmonious whole.

JOSEPH TWEEDLE, Stony Creek, Ont.

News From Amaranth:

EDITOR CANADIAN LIVE-STOCK JOURNAL.

Your valuable JOURNAL comes to hand regularly, and we welcome it among our exchanges, and read as many of its interesting letters as our time will allow. Then we look it all over again and give it away to some one who does not as yet see his way clear to subscribe for a good live-stock and agricultural magazine. For an elegant, handsome, interesting and finely gotten-up paper, your JOURNAL fills the bill. We admire the neat, clear, beautiful and well executed print, also the fine quality of paper thrown in gratis.

Imagining that you would probably like to receive another letter in regard to the progress that our agriculturists are making in the stock raising business and other farming matters worthy of note, in the first place we might remark that Amaranth is still in the same place, and has no intention of putting on boots and walking over to the far-famed Northwest yet awhile.

Our farmers are on the march forward, which means improvement, whether it is from the fact that your JOURNAL is getting scattered among them and they are seeing how well others are advancing, is the stimulus we cannot tell, but there is an upward tendency among them, and a desire towards reaching the top of the ladder.

Of late years, the greatest drawback that this section had to contend with was the "scrub nuisance" of every kind, still, it seems that it will even now take some time to get some of our farmers induced to wipe this "scrubbery" out of existence; but we hope that the JOURNAL widely circulated among them will have its influence towards opening the blind eyes of those who are wedded to old ways, who cling to this "folly" and that other "trophy" because their fathers did so.

The advantages to be derived from the rearing of "improved stock" over the common or "scrub" types or breeds, is imminent to every wide-awake and intelligent farmer. Looking at the matter in the light of science, every stock-raiser will discover that it costs no more to feed a good animal than a poor one, and the remuneration to be derived from the sales-made is vastly different. An improved animal, costing no more for its production than a scrub, will, at the lowest calculation, sell for double and sometimes treble the price to be obtained from the sale of an animal of the scrub type. But some one will say that "a scrub can stand the ruggedness of our winter climate, where a thoroughbred would assuredly perish." Be that as it may, an animal that will not pay the cost of its production should not be kept on the farm.

The class of stock animals reared by our farmers, in general, are the Shorthorn type of the Durham breed. This class commands a ready sale in our markets, at very fair figures. At present, they are purchased in large numbers and shipped to England,

which speaks well in favor of the fine quality of our live-stock, and the advancement of our fair county in the stock trade.

It may be stated that it is truth itself that scrub cattle, in their almost every feature, do not fall the extending bill of modern Jemans, and those who content themselves with this insignificant breed, are allowing an abundant store to lie ungathered on their farms. It is to be regretted that more light cannot be diffused upon this subject, that the owners of this class of cattle cannot see their way clearly to abandon this pernicious waste that is going on year by year. Putting food into the stomach of a scrub, is simply wasted, as there is no adequate return given for the amount of food consumed. It is to be hoped that our farmers will no longer remain in ignorance of the difference between scrub stock and the better classes.

JNO. MCPHERSON.

Waldemar, Ont.

An Opening for the Disposal of Surplus Stock.

EDITOR CANADIAN LIVE STOCK JOURNAL

SIR,—I have read in your valuable and widely circulated STOCK JOURNAL, a correspondence from a settler in the North West. His idea of thus obtaining stock by keeping them on shares has often occurred to my mind, and especially since the founding of the new herd book. As you appear to favor such a scheme, I venture my opinion on the subject.

There are many good and reliable farmers who understand cattle raising in this country, who are anxious to get into good stock, but owing to their recent settlement here and other drawbacks, they have not until now been prepared to raise stock. Some have not had the means to purchase it, others have not had suitable buildings or pasture fenced, and I think if those stock raisers in Ontario who can afford to do so, and those who have a surplus stock on hand could make arrangements with the farmers in the way in which your correspondent proposes, it would be the means of introducing into these provinces the stock of Ontario breeders, and must with reasonable care, give good profit to both parties, as it would be to the advantage of those interested with the cattle to take every care of them.

Your Ontario breeders could secure themselves by chattel mortgage on the stock sent to the farmers here, and give the latter the option of buying at the end of three years or so. There are capitalists who are placing sheep in this province in that way and they are well satisfied with the scheme. They placed 800 sheep in one district last year and are wanting to place 2000 more this year, so it looks as if they had confidence in the undertaking. Individually I would be only too glad to take a small herd with a good bull on these terms, and would take 100 sheep. No objection to cattle ruled out of the Dominion Herd Book.

I have authority to say on behalf of the Souris Valley Joint Stock Cattle Co., Limited, that they are prepared to take an intimated number of cattle or sheep on the terms mentioned. This Company has leased from the Government for twenty-one years, 34,400 acres of grazing lands in the Souris district, and known as the sand hills. The lands selected are unequalled for rich pasturage, good shelter and water. Barns and sheds will be provided for the winter.

As an experiment I have had running out all winter five sheep, one two-year-old grade steer and one two-year-old heifer. They have run to the straw stacks; had hay once a day; the sheep one quart of oats per day; and all came through in the best condition.

ROBERT I. CRISP.

Souris, Plum Creek, Man.

A Tribute of Great Price.

EDITOR CANADIAN LIVE STOCK JOURNAL.

SIR,—I thank you for the remarks you made in the June number of your JOURNAL, in reference to horse-dealers. I only wish that all dealers, as well as editors, would only act thus—what a different world it would be! Continue to speak out in this way and there will be a hope left that all are not rogues, as some would have us believe.

A STOCKMAN.

June 22d, 1886.

Stock Matters in Brock—The Mission of the Journal.

EDITOR CANADIAN LIVE STOCK JOURNAL

I am very friendly toward your monthly visitor. Personally or by reputation I know many of your correspondents, and amongst them Prof. Grenside, of the Ontario Agricultural College, where I spent a few weeks in the winter of 1883. I can readily realize the loss many Canadian farmers are entailing on their sons in not encouraging them to embrace some of the many advantages offered at the above institution, and at a nominal cost. I have traced many of the students to lucrative and prosperous fields through the teaching and influence of the college. "Knowledge is power," without it we wage a blind warfare, even with it the battle of life is hard enough.

We live within a few miles of your lively competitor for the prize essay on "beef production," and the owner of the gold medal prize farm in the group inspected in 1884—Mr. John Campbell, of Woodville. We are in the midst of a very rich agricultural country, Brock township, in Ontario county, some parts of which were settled as early as 1820. Grain growing has been so bountiful that the stock interests have been until quite lately almost entirely neglected. At the present time, Clydesdale horse-breeding is becoming a rage, and apparently a very profitable business. We have many \$2,000 stallions and upwards, being used for breeding purposes, and many farmers are keeping from three to six brood mares. On an average, there are from eight to twelve fine brick farm houses built annually in our township, ranging in cost from \$1,800 to \$4,000. also many barns at \$2,000, so that we have many things here that ought to stimulate an ambitious farmer.

Just a word on the "scrub" war—a good subject, but a hard fight. We keep the only imported bull in our township, at a cost of pretty nearly \$100 per annum, yet there is little or no patronage at a \$3.00 fee, so that I believe if the scrubs were consigned to oblivion, general stock-breeding would go along with it in many localities, and your JOURNAL would be most certainly "boycotted" for having advocated such a measure.

I wish to say a few words on the veterinary articles which are being published therein. That they are very profitable, your readers will see from the relating of my own experience. On the 7th March we had a very valuable Clyde mare to slink foal, and a fine one, she having been bred to an imported horse. She did not do well after. We had just received the March number of the JOURNAL, and with it came just what I wanted, an interesting article from the Professor, on the retention of after-birth—just what ailed my mare. We had the medicine prescribed, but not the rustic appliances as a substitute for better, as intimated in the article—no pithed alder tube and no preserved bladder to operate with; but being stimulated to the heroic, I removed the after-birth, and thinking a short piece of rubber hose would answer, through it we flooded the womb as directed. So much for the JOURNAL. To me it meant at least \$3 and perchance my mare on that occasion. He who reads may learn. Wishing you all prosperity.

ROBT. C. BRANDON.

Pearldale Farm, Cannington, Ont.

Veterinary.

Diseases and Accidents Incidental to Parturition.

BY F. C. GRENSIDE, V. S.

DROPPING AFTER CALVING.

There is certainly no disease, of a non-contagious character, that causes greater loss to cow-keepers, particularly those engaged in dairying, than the above mentioned one. "Milk Fever" is the name by which it is usually spoken of, but it is a very unhappy title, as it leads to the impression that the disease is characterized by fever, which is really not the case, as the temperature is in many cases lowered beneath the normal standard. Professional men usually speak of this disease by the name of "Parturient apoplexy."

It is a malady peculiar to the cow, and occurs with-

in a day, to three or four days, after calving, occasionally taking place before that act. Cows that are heavy milkers are most prone to this trouble, hence its prevalence amongst the improved milking breeds, and its almost entire absence in those breeds cultivated as beef producers. Not until a cow has had several calves is she so evidently predisposed to this disorder, her susceptibility seeming to increase in direct ratio to the abundance of her flow of milk. It requires no lengthened experience to enable an ordinary observer to discriminate between the significance of the

SYMPTOMS

of the disease under consideration, and any other known bovine disorder; for they are pretty regular in their course, and decidedly marked in character.

One peculiarity is the suddenness of the onset. The first, but least definite premonitory indication, is the greatly reduced quantity of milk given. The subject has a wild expression of the eyes, and there is occasional shaking of the head. The movements of the hind legs become irregular, and they are jerked up repeatedly. When an attempt is made to move, the quarters sway from side to side, and there is more or less knuckling at the fetlocks; those paralytic symptoms increase rapidly in severity until the cow staggers and falls, the power of voluntary movement being altogether suspended in most cases. Occasionally, after falling, the patient has power enough left to enable it to partially or completely rise. In some instances, or when the attack is a mild one, paralysis is never complete, and the suffering animal may occasionally, with difficulty, rise, or if there is inability to accomplish this, the head may be held up in a natural manner, and not spasmodically turned, and held towards one of the shoulders, as is usually the case in a pronounced attack. If the patient is left to herself she is likely to lose power to even lie naturally upon the breastbone, but becomes prostrated on her side, lying outstretched, which position is very unfavorable, and causes aggravation of the disease.

The bowels are always inactive, and there is inability in many cases to void urine. Gas is occasionally noticed to form in the stomach, the belly becoming drumlike. The pupils of the eyes are dilated, giving those organs a glassy appearance, and they lose common sensibility, so that the finger can be run against them without causing any obvious pain. The pulsations are not at first much raised above the normal—which is forty to fifty beats to the minute—but the pulse is full and soft, and as the dulness and stupefaction increase, becomes more frequent, small, and weak. In fatal cases, which are very common, fully from forty to fifty per cent. succumbing, death may take place in twelve hours, but usually does not occur before twenty-four or forty-eight, some patients lasting three days. Although this disease is remarkable for the abrupt manner in which it sets in, it is no less so for the hasty way in which recovery occurs in some cases, and in many instances when it is least expected. When the result is thus favorable, the first encouraging signs are the opening of the eyelids, some movement of the eyeballs and apparent return of sensibility to them. The head will occasionally be held in its natural position, and as the coma rapidly passes away, it will be continually suspended. There may be every symptom of returned consciousness but the patient may continue to lie until something excites it, when it will jump to its feet and seem almost as well as ever. The period during which the drowsiness is passing off varies, but is usually not more than an hour or two.

In some cases, after the stupor has passed away,

symptoms of inflammation of the lungs are noticeable, due to fluids having been poured into the mouth, and as there is inability on the part of a patient suffering from this disease to swallow, the fluids may pass into the windpipe, and thence to the lungs, producing irritation and inflammation. Another unfavorable sequel of "Dropping after calving" is the continuance of paralysis, as shown by inability to rise or stand, after all dulness has passed away. In treat ing of the

CAUSES

of this disease we are considering the most important feature of it, for there is no doubt that proper treatment is in no small measure capable of preventing it. It has been already stated that heavy milking breeds are most prone to this malady, so that we must look upon this disease as being intimately connected or dependent upon the activity of the milk glands, and that great activity constitutes a predisposing cause of this trouble.

Full-bloodedness is one of the most important preventible causes, and is brought about by heavy feeding immediately prior to calving. The blood that has gone to sustain the calf is abruptly thrown into the circulation of the mother as soon as birth is effected, thus repletion must follow great fulness.

When the feeding is steadily liberal during the time the calf is carried, it is not found to be so dangerous, as when a spare diet is substituted by a plentiful one a short time before delivery. Insufficiency of exercise is no doubt a cause, for amongst dairy cows that are much confined and well fed, the disease is particularly prevalent; markedly more so than when heavy milkers have to exert themselves as they do in pasturing on hilly land, under which condition this trouble is proportionately rare. Exposure to heat or cold will, in a cow predisposed, exert an exciting influence in producing this trouble.

The observations and investigations in regard to the

NATURE

of this disease have been numerous, and although there are some points not entirely cleared up, still we know enough of the malady to be certain that the brain is the seat of the trouble, and that the disorder in connection with this organ is due to the modified character of the circulation, hence the general use of the designation "Parturient apoplexy."

The conditions found on examining the brain, *post mortem*, vary. In some cases no marked change can be detected, unless it is that the organ seems more than usually bloodless, which is no doubt the case, and the derangement then results from the insufficient blood supply. At other times the vessels are found to be very full, or the fluid portion of the blood has passed through their coats, appearing as a straw-colored fluid, in the brain substance; these latter conditions impair the function of the organ by pressure on its substance. A feature worthy of notice in connection with this disease is, that it never occurs after a prolonged or difficult birth, but usually follows when delivery has been accomplished with the greatest ease.

PREVENTION.

Considering the innate tendency there is in good milkers to the development of this disease, and the impossibility of foretelling with any certainty what subject it may attack, it behooves the managers of cows to feed them so as to reduce as much as possible their liability, in so far as full-bloodedness—pleth—is concerned.

Pregnant cows should be liberally fed at all times, but when the critical period of birth-giving is near at hand some caution must be exercised, and by simply

allowing a moderate quantity of hay and water for a few days before and a few days after birth, other casualties besides the one under consideration may be averted. Half a pail of bran mash may, in addition, with benefit be given three times a day. Very frequently we find just the opposite course pursued, and meagre fare throughout pregnancy substituted by a liberal diet on the approach of parturition, and after that act. In speaking of the causes, want of exercise was instanced as a predisposing one, so that there is no doubt a certain amount of movement should be allowed. Heavy milkers in high condition—high condition does not necessarily mean fatness—or in other words, predisposed subjects, we are of the opinion are benefitted by the administration of a moderate purge, as a pound and a half of Epsom salts dissolved in water and given in one dose immediately after calving. Although proper caution will very materially lessen the losses from this disease, it is questionable if the greatest care could obviate every case, so strong is the predisposition in some subjects.

TREATMENT.

The most intelligent and assiduous efforts to cure this disease often result in disappointment; but on the other hand some very hopeless cases make rapid and satisfactory recoveries. A simple course of treatment we have found the most successful. When the attack is just setting in, and before the power to stand is lost, bleeding is decidedly advisable. This should be followed by the administration of a purge, as a pound of Epsom salts dissolved in a quart of water, with a drachm of croton oil mixed. When the ability to stand is lost, the purge mentioned should be given, but much care must be exercised in giving it, as the patient will at this stage have partially or completely lost the power of swallowing, so that there is much danger of the fluid going down the windpipe into the lungs and either immediately smothering the animal or causing inflammation of those organs. The safer way is to pass the hose of an injection pump into the stomach, and pump the fluid down, or else pass a probang and pour the fluid through it. If any power of voluntary movement is still retained, drenching is frequently accomplished without any bad results, but it must be done cautiously, only a small amount being poured into the mouth at a time.

In our opinion no more medicine is necessary, for in addition to the risk of giving it, we have found no benefit accrue; but there is other treatment of even more importance than medication; and the first step in it is attending to the position in which the sufferer must be forced to lie. The tendency of the cow to stretch herself out on her side has been alluded to as unfavorable to her chance of recovery, so this must be controlled, which is best effected by wedging the patient up well with bags stuffed with straw, so that she may be forced to lie on her breast bone. The head should also be kept elevated to some extent by a bag or two of straw. The body ought to be kept warm with blankets, and we have found that when copious sweating has been produced through their agency, it has had a salutary effect. We also attach much importance to the application of ice to the head, which is easily done by breaking some of it up, wrapping it in a cloth, and placing it immediately behind the horns with the ends of the cloth brought in front and tied.

The purgative will be aided in its action by injecting soaped-water into the bowels, every hour or so. In some cases the bladder becomes much distended with urine, and the patient has not the power to void it. This condition can be readily detected by passing the hand into the bowel and feeling for the bladder

beneath it; if it is found full, moderate pressure will usually cause its expulsion; but if this is not successful the hand should be passed into the passage leading to the womb, and on its floor, about four inches from the entrance, will be found the opening of the canal leading to the bladder, which is covered by a thin fold of membrane that requires to be raised before the finger can be forced into the canal. The channel being thus dilated, will encourage the flow of urine. If the belly becomes distended on the left side, from the evolution of gas in the stomach, the trocar and canula should be used to draw it off; and, if this instrument is not at hand, a penknife will do to make an opening, in which a quill may be held to allow the gas to escape through.

The treatment of "Dropping after calving" requires much vigilance, and it is only the persevering nurse that will be successful, and have the satisfaction of witnessing a recovery. Either recovery or death will soon occur to relieve the anxiety of the attendant.

The Farm.

THE borrowing nuisance on the farm is in many instances an intolerable one. In the days when farms were being cleared it was a real necessity, as then men were not able to buy; but now it is different. If only those borrowed now who can't afford to buy, there would not be much borrowing done. To the man who is anxious to keep a full set of farm implements, and in good repair, this is a most intolerable nuisance. Such men are truly martyrs, for they are sure to be made a target by their selfish and stingy neighbors, and every neighborhood has some of these. Where much lending is done, implements cannot be kept in a good state of repair, as men who borrow much are usually not the men to take a pride in using them carefully. Those who are perpetually borrowing should not fail to read the golden rule every morning, yes, every evening.

ONE of our old country exchanges discusses the question as to whether it will be more profitable to buy grass seeds or to raise them, and casts the ballot in favor of the former course, stating as a reason that but few ordinary farmers have the requisite knowledge of details in growing this class of seeds to render them completely successful. This may be true when applied to the growth of the rarer and more delicate varieties, but most of our farmers know or may know how to grow our ordinary clover seeds and timothy successfully. While we admit that where small lots are wanted they can be purchased more cheaply than grown, we at the same time advise farmers either to grow their own grass seeds or buy from some neighbor or seedsman in whom they have implicit confidence, as we believe more foul seeds are introduced through the medium of grass seeds than in any other way. If purchased from a neighbor it is well to secure next year's seed in good time and before any arrangements have been made for marketing the same.

THE amount of clover in the Province of Ontario this year will be very much below the average. During our recent tour through the Province we were much surprised to see the small amount of clover of any kind in proportion to the extent of land in meadows. The frost of last winter and the ice were the great instruments of destruction. In old meadows it is almost wholly gone, so that nine-tenths of the hay in Ontario this year will be timothy. This will be of a good quality, but scant in quantity. Ontario farming cannot be made a great success without the aid of clover; we think there is but one opinion on this sub-

ject. We cannot do without it as a fodder, as a prime ingredient in pastures, and as a fertilizer. The requirements of the country, then, demand that an unusually large amount be sown next spring, and farmers will do well to take this into account when laying their plans. We can spare no one article of diet for our cattle and sheep so ill as that of clover.

Wheat Sowing.

The world seems puzzled just now to know what to do with all the wheat that it possesses. One country after another is asking the question, is wheat to go out of cultivation, or at least is it, instead of being a leading factor in the list of farm productions, to take a secondary place? It is for each of them to answer these questions for themselves. So far as Ontario is concerned, we need not think of giving up its cultivation, though prices are low. A certain amount will always be required of course for home use, and this amount will increase with the growth of the population, while the area of lands yet uncleared and unreclaimed will not keep pace with this growth.

It is clear to us, however, that farmers must make up their minds for a less acreage than formerly. They must not expect to make their principal gains from wheat growing, as in other years, and as a matter of course must look about them and set their house in order, to introduce some change in their methods. What that change will be is for every man to decide for himself.

In our own case, we shall give increased attention to stock-keeping, and we fail to see why it would not be the best course for all farmers. This does not necessarily imply that a less amount of wheat shall be reaped than at present, but that a less acreage shall be sown, for stock-keeping, more than anything else, tends to the production of a large yield of grain.

If the present low prices persuade our farmers to sow a reduced acreage of wheat, it will be well for their lands and well for the country. The temporary rest that they will thus get will be good for them, and our people will be gradually drawn into the habit of keeping more stock, a habit that is not easily given up when it is once fairly got into.

We fail to see why the wheat acreage may not be reduced by one-third and yet the returns continue as at present. It only requires better tillage to bring this about, and additional sources of manurial enrichment.

The time for wheat sowing is again drawing on, and if there is to be an increase next year in the average yield, farmers must bestir themselves. Much of the poor wheat in the country every year is the result of late sowing, and a little extra push through the month of August may prevent this. Take it one year with another in the ordinary winter wheat belt of Ontario, and the wheat sown on fairly good ground between the 1st and the 10th or 12th of September seldom fails. One advantage, then, of a reduced acreage will be, that the crop can be more easily got in at the proper time.

The land on which winter wheat is sown is seldom ploughed sufficiently long before the time of sowing, especially where the soils are somewhat heavy. In such cases it is well to have them ploughed at least a month before sowing, and worked as much as is practicable on the surface. This not only tends to pulverize the soil, but it induces dampness, which at once produces a rapid growth of the newly sown wheat, and the solidity of the ground renders the wheat less liable to heave through the action of the frost. Where there is a good stand in the fall, there is not very much danger of a complete failure in the crop. Let our

farmers, then, use every diligence to get their winter wheat sown not later than the 12th of September. Let them use every endeavor to get the ground put in a thorough state of preparation; and where this cannot be done, we say to them, rather than run the great risks consequent upon late sowing, keep the seed in the barn. If the usual yield can be kept up with a reduced acreage, then we shall have made a long stride toward the solution of the question, what is to be the outcome of the low prices of wheat?

An Ontario Farmer from English Eyes.

We clip the following from the *Mark Lane Express*, which in turn copies from *The Field*. It gives the view of some English writer (we are sorry we don't know who) as to the general condition of Ontario farmers. The writer, after condemning the payment of £100 to an agent in Britain for placing a young man on a farm in Canada, goes on to say:

"But now, as to farming in Canada, or, at all events, in Ontario, the general conclusion which I have arrived at is, that to men of the class to which I am addressing myself it affords no career, and no inducement, and no prospect but that of failure and disappointment. I will present to you a well-to-do Ontario farmer, and the individual whom I will introduce to you is, I believe, a fairly truetype of the generality of his class. He was brought up in the public free school of the section in which dwelt his father, who was a farmer before him. When he was a boy he worked on his father's farm. When he grew up and located himself on a farm of his own, he married a young woman, who, in like manner had, under her mother's guidance, done the 'woman's work' of her father's household—swept the floors, made the beds, milked the cows, and cooked the dinner. Look at him on the farm. His house is a plain farm building, very probably constructed by himself. Garden there is none. He rises before daybreak, and goes to bed at sundown. He is the hardest worker on his farm. If he has hired men, he works with them all day, and he has his meals with them. More generally he and his sons do all the work of his farm, and his wife and daughters do all the work of the house. His food is of the plainest, perhaps little more than he refused of his own farm. His drink is tea and whiskey. Luxury he knows not the meaning of; content he is little acquainted with. Every dollar he spends he ponders deeply over. An occasional prayer-meeting is one of his main recreations. His narrow religion, however, does not prevent him taking a shrewd advantage of his neighbor, if he sees his way to it; and the country, being newly settled, property rapidly changing hands, and farms and farm stock frequently being bought and sold, he often makes a good thing out of the misfortune or ignorance of others. Reading he has neither the inclination nor the time for. He takes in the 'habby little local paper, and goes to sleep over it and his pipe, as he sits in his shirtsleeves after work is over for the day. His neighbors are like unto himself, and he is satisfied with them, though he may not love them as himself. The country is rough and bare, but he has no eye for scenery. The young Englishman whom, for a very small portion of the £100 he has taken upon a farm, is a strange enigma to him. He will get all the work out of the young 'greenhorn' that he can as long as he remains. Such is our Ontario farmer, and as such he makes a fair profit from the farm and from his neighbors, and dies worth perhaps a few thousand dollars. His own hard manual labor, his sparing and parsimonious life, the utilization of his family in place of hired servants and laborers—these are the methods by which he has made his farm yield a moderate per centage on the capital invested, and, so far as a farmer can be, he is content."

The writer then concludes that "this is not the kind of life suited to a young gentleman fresh from 'Eton, Harrow, Rugby, or Winchester,'"—about the only commendable sentence in the whole piece.

Oh, English justice! oh, British fair play! whither hadst thou fled, when the above cowardly and mean misrepresentation was penned? Cowardly, because it was directed to the British agricultural press where it was supposed but few Canadian eyes would see it,

and mean, because of the false coloring of its insinuations. Though but a scion of the "public free school" of the section in which dwelt my father, who was a "farmer before me," we cannot let this onslaught go unchallenged, even though it should be a "young gentleman fresh from Eton" with whom we cross swords. May our right hand wither rather than we should sit tamely by and witness the slandering of that class of men—the farmers of Ontario—who have made her the envy of many lands by those same hard labors, which this Englishman derides, without endeavoring to parry his blows and give them back with redoubled force upon his own head.

Our readers will observe that the meanness of the letter lies more in the artful nature of the insinuations and the conclusions to which they lead than in direct misstatement.

What is the offence of the average Canadian farmer? Why, "he was brought up in the public free school of the section in which his father dwelt." We have read somewhere that the manse is not a bad place from which a young man may take a start. We believe the same is true of our public free schools, judging the tree by its fruits. Our Ontario free schools have, we believe, turned out more men true and strong during their young history, than ever came from Eton, Harrow, Rugby and Winchester, and we mean no disparagement to the latter when we say so. Several of the premier ministers in the Dominion got their start in the public free schools of the section in which their fathers lived; many of our merchant princes graduated in the same school. Not many days gone by we looked upon the old log school where Joseph Hobson got the start which enabled him very greatly to assist in building the international bridge at Fort Erie, a work which the great Stevenson said could not be done. And we believe Sanford Fleming, the man who has done so much by way of engineering the great Pacific highway, owes not a little to the same class of public school. Our farmers, then, need not be particularly ashamed of graduating in such a place.

"When he was a boy he worked on his father's farm." And why not? This is certainly infinitely more to his credit than practising the manly art at Eton. It is looked upon as one of the patriot's glories that in the day of need he wield his father's sword in defence of his country. And why should it be considered one whit the less glorious, for a Canadian farmer's son to use his father's plough for the general good, as soon as he is able? Experience has taught the people of every country, unless it may be the students of Eton, etc., that to attain best results in life we must begin young.

But this average Canadian farmer is charged with marrying "a young woman who had, under her mother's guidance, swept the floors, etc." Where is there anything incongruous in this? Why should he marry some one a long way beneath him, and become disinherited by an angry father, or why should he bring some doll to sit in his drawing room in a young land where so much invigorating labor is to be done? Why should he desire to place a queen over his home who knew absolutely nothing of the great principles of its government, as would most likely be the case if he sought a wife from some other class of society. Long may our farmers' wives be of that class who shall be able to rear their own children, and to care for the happy homes over which they are called upon to preside.

But his house is "a plain frame building, very probably constructed by himself." There is surely more honor in living in a dwelling built by one's

own hands, if adapted to its purpose, than in a mansion in which our lot has been cast by the accident of birth. It may not be quite to the taste of the gentleman of Eton who has come to sojourn there while learning farming, nevertheless it may be a splendid place in which to rear the pillar of the future usefulness of a well-doing family. In thousands of such dwellings have such pillars been erected, which have proved at once the pride and bulwark of the Canadian commonwealth.

"He rises before daybreak, and goes to bed at sun-down," implying that his mode of existence is much on a par with that of the lower animals on his farm. And yet for true manly intelligence we do not fear to pit the average Canadian farmer against the average young English gentleman who comes here to learn farming. His manner will not be so cultivated, and he is far behind the latter in a gentlemanly address, but for a real knowledge of events, we doubt if he is one whit behind, unless it be in matters such as relate to the Derby races or some recent fox-hunts.

"His drink is tea and whiskey." Thou libeller of truth! He does drink tea, but this is surely a thousand times better than vile porter made from the befouled waters of the Thames, the drink of many Englishmen; but the average Canadian farmer *does not drink* whiskey. In this respect the farmers of Great Britain might learn a wholesome lesson. The drinking habits which have proved the one disgrace of this class in Britain, are reduced to a minimum amongst our farmers. We have Scott Act legislation in a large majority of our counties, and who but the stalwart farmers have made it thus, and in most instances by overwhelming majorities?

"Comfort he is little acquainted with." And yet in the same breath almost the writer says, "so far as a farmer can be, he is content." We venture the assertion that he is a thousand times more content than the young English gentleman who is seeking a place whereon he may rest the sole of his wandering footstep.

"Every dollar he spends he ponders deeply over." Great pity that more of the young gentlemen of Eton do not ponder more carefully over the distribution of the dollars that they have never had the satisfaction of earning. Dollars earned by ourselves are pretty certain to be judiciously spent, and if some Canadian farmers become over fond of them, this even is better than playing the part of a spendthrift.

"An occasional prayer-meeting is one of his main attractions." This is the most "unkindest cut" of all. For the credit of the writer we regret that it was ever penned, for in so doing he has laid bare the state of his own heart. An old writer once said that the true Christian never sat in the seat of the scornful, or in other words, that he never makes a mock of true religion. Young men of the farm, please try and remember, that a good man cannot make sport of religion; therefore, if ever in the company of one who does, shun that person as you would the bite of an asp. The road to life is all too narrow, and too few enter therein, to admit of our mocking those who do. The prayer-meeting has always proved a long way in advance of the pot-house or even of the hunting-grounds of merry England.

We are not surprised at the same writer calling the religion of our Ontario farmers "narrow," and at his basely charging them with taking a "shrewd advantage of their neighbors" as opportunity offers. In behalf of our Canadian farmers we repudiate the charge and fling it back in the face of him who makes it. As a class our Canadian farmers are not dishonest, and they are not ready to take undue advantage of the

"misfortunes" of others. In a majority of cases the barns and stables of Canadian farmers remain unlocked the year round. Can our British farmers say so much? And numberless are the instances in which our farmers have got themselves in trouble by what we deem an undue generosity in assisting weaker neighbors by way of endorsement.

"He takes in the shabby little local paper, and goes to sleep over it." Hear that, ye noble army of editors who bring out spicy little prints, at once so readable and so creditable to their respective sections. It may be, if ye gave more about the last fox-hunt or the Lord Mayor's dinner, ye would be less "shabby."

"The country is rough and bare." The man who penned the above must surely have gone through Ontario with his eyes shut. What of the magnificent lakes on all her borders and cradled in her northern limits, with waters glassy enough to form a mirror in which any English swell might see himself full size?

What of the charming scenery of the Thousand Islands, where a fairy even might find a fitting home? What of the undulations of Oxford, and the highlands of Westminster, and the fatness of Waterloo, and the garden country lining the shores of Ontario? And if wierd-like, rugged scenery is required, what of the ride over the Kingston and Pembroke railroad?

"The young Englishman, whom, for a very small portion of the £100 he has taken upon his farm, is a strange enigma to him." No doubt of it. We were once treated to the services of one of those young Englishmen, and he was indeed an enigma, so much so that we would not want another similar for £200. We hope the party referred to was not a fair representation of his class. We shall try and believe that he was not; but the truth is, that the vocation of young Englishmen from Eton and Harrow, whatever it may be, is not Canadian farming; and if the writer of the letter we have been sifting a little, but convince some English gentlemen of this fact, who may have been looking to Canadian farming as an opening for their sons, it will have accomplished one good purpose.

There is room for a class of Britain's agriculturists here, but it is not the sons of gentlemen, who have never done a day's work in their life. It is those sturdy farmers, with a little capital to give them a start, men who do not fear to cast off the coat and take a round with the workhands. There is a wide opening for this class; and if a goodly proportion of these would visit our shores and locate judiciously, and try to do their duty here, we can assure them that on a tide of advancing prosperity they would soon triumphantly ride, far away from the doleful wail that is ever ascending from their present home, over the untimely decay of the interests of British agriculture.

First Prize Essay:

ON THE BEST METHOD OF UNDERDRAINING THE DIFFERENT SOILS OF ONTARIO, THE COST AND THE PRACTICAL BENEFITS RESULTING THEREFROM.

(By the Editor.)

(Continued from July Journal.)

THE PRACTICAL BENEFITS RESULTING FROM UNDER-DRAINING.

These are legion. We can only enumerate some of them, as our space will soon be gone, and every one of them points in the direction of a practical gain, since whatever affects the soil beneficially so as to promote the growth of vegetation or to facilitate the working of it, must be of great practical advantage to those who live by the proceeds of its cultivation. Farmers of Ontario! lend us your ears while for a

little time we break open the seals, and read to you of the rich legacy that is left to every one of you in the vast stores of latent fertility that lie buried in your lands, regarding the existence of which, although ye may have had an inkling, like the dying old cultivator, ye have never been able to discover the exact whereabouts. His parting injunction was, "dig for it." So, too, is ours. Dig drains smooth, and deep, and long, and ye shall be sure to find it.

One principal advantage of underdraining consists in its beneficial action upon the soil. Like those silent forces in the spiritual world which gradually, but surely, transform the arid wastes of a renewed heart into suitable receptacles for the seed of the Word of Life, where it may grow with resplendent beauty, those buried channels hidden from human ken, by the abundance and constancy of their labors transform even the dreary wastes of the soggy marsh into a garden of the most wonderful fertility. Like the busy earth worm—the most ancient of under-drainers, they are tireless in their labors. (1) It renders the soil more porous, which is attended with many advantages. Porous soils are capable of absorbing far greater quantities of moisture than those which are not so, which is a potent factor in the advancement of plant life. Water filtering downwards through the earth forms minute channels which draw off the surface waters. By the processes of absorption and evaporation experience has taught us that drained lands become so porous that they usually assume the pulverulent state. In the minute openings between the particles of soil, plants luxuriate on all the richness which the land contains. The rootlets in decay leave open these apertures in addition to the enrichment they produce. Behind the happy ploughman's furrow the friable earth seems alive as it crumbles down, and when the seed is sown it is imbedded in those conditions as regards moisture and exclusion from the air most suitable to germination. This, too, greatly facilitates easy, deep and thorough cultivation, and thereby greatly reduces the cost thereof. (2) It prevents drying by evaporation. When earth becomes dried by evaporation it becomes so encrusted on the surface after heavy rains in clay soils as to become almost impervious to the action of the air. Rapid drying causes it to gape open in fissures, tearing asunder the rootlets of plants which struggle to make headway upon it. These irregular pieces of clay remain selfishly locked up in blocks until the next rain moistens them, vegetation in the meantime pining or making but a doubtful advance.

Removing water by evaporation lowers the temperature of the soil in a marked degree, thus robbing vegetation of one of the essentials of growth—heat. Waring, quoting from Dr. Madden, makes the difference between drained and undrained lands as $6\frac{1}{2}$ Fah., which is equal to a difference of 1950 feet in elevation. It comforts us to think that while only the tremendous upheaval of a mighty earthquake could throw up our Province 2,000 feet higher, that placing little circular sections of burned clay in the earth certain distances apart will practically place the conditions of our plant life, in many of its essentials, on a plane 2,000 feet lower.

But be it remembered that clay soils will not remain porous, even though under-drained, if worked when unduly moist. The process of filtration in these is always slow, and therefore both man and beast must be allowed to tread upon them with a prudent caution after heavy rains, hence the owner of stiff clays in this Province will always be more at the mercy of the elements than the possessor of lighter soils; but in this world, remarkable for its compen-

sations, his soil will hold more faithfully what he commits to its keeping. That under-draining will completely obviate the cracking of stiff clays has yet to be demonstrated in Ontario, and also as to whether it will enable the cultivator to dispense entirely with open furrows, so destructive to harvest machinery and to the quietude of spirit of him who drives it.

Under-draining is a grand friend to vegetable life. It stands by it as a trusty friend, both in the heat and drouth of summer and in the destructive frosts in winter. I never labors more assiduously than when the desolating storm-king is flooding other lands with disaster. No replanting is required in drained soils; nor is the hope of the husbandman cut down by a ruinous shortage in crops, let the season be what it may, where he has done his part. It fosters plant life in many ways. (1) By extracting nutriment from the air, when the friendly rains fall down to earth with their rich stores of fresh air, carbonic acid, ammonia, nitric acid and heat, they generally leave these in the upper earth, and bear the water away so soon as it has done its work. Hence the wisdom of utilizing every drop of this that falls to earth. In sloping soils it is sometimes arrested by horizontal furrows. What a comment on the almost universal practice of trying by means of open ditches (though necessary in undrained soils) to hurry surface water away. (2) By lowering the water-table, and thereby extending the foraging-ground for plants. In undrained soils in spring-time, the top of the water of saturation in heavy soils lies within a few inches of the surface. Drains lower this to their own level or nearly so. Below the water-table no rootlet from our cereals dare venture. To most forms of plant life it is one dreary realm of death. But when the table is lowered, porosity follows in the subsoil, rootlets find new fields of exploration where they may revel amid congenial supplies that hitherto were latent, but which are now rendered available by the aid of the vast quantities of oxygen that penetrate the soil on the lowering of the line of saturation. (3) By its beneficial action on manures. The soil has been well compared to a chemical laboratory in which a succession of changes, separations, combinations and re-combinations is continually going on. The free admission of air hastens these changes by which organic and unorganic substances are assimilated as plant food. The atmosphere, by its oxydizing influence on mineral substances, present in a greater or less degree in every soil, renders their fertilizing parts available for the use of rootlets. So, too, will animal manures lie inert, and vegetable matters but partially decompose, in proportion as the air is excluded. Manures can only be effective when properly incorporated with the soil, which incorporation is much facilitated by the fine mould produced by underdraining. (4) By enabling plant life to successfully withstand drought. The idea that in dry seasons under draining dries the land unduly should be ashamed to lift its head in this century of light. Science has demonstrated what experience has corroborated, that soils absorb moisture from the atmosphere and from the dews in proportion to their porosity, and that they attract moisture from the water table on the principle of capillary attraction. The ability of plants to withstand drought depends in a marked degree upon the depth to which their roots penetrate, which is always very much greater in well-drained soils. These soils also prevent the heaving of vegetation by the action of the frost.

The unenumerated mechanical advantages of under-draining, its lengthening of the season of labor, clothing of useless lowlands with abundant crops of the most nutritious kind, its effect upon salubrity, and its

benefits in a hundred other ways, cannot be dwelt upon here. But its remunerativeness is its greatest practical benefit. This is the grand summation of all the others, the mighty outlet where they all discharge with a continuous flow. And here we leave the domain of all theory to sun ourselves in that of indisputable fact.

Messrs. C. & W. Graham, of Ottawa, who have a greater outlay buried underneath the ground than expended in improvements above it, consider that in two or three years the expense of draining is returned in the increased crops. Mr. James Leitman, of Renfrew, told us that partial draining on his farm repaid the outlay the first season, which proved a wet one. Mr. Jas. Phee, Packenham, is convinced that his tile drains gave him back the cost in two years. Mr. F. Smith, of Morrisburg, increased the return of strawberries the first year fully fifty per cent. by placing drains 60 feet apart and $3\frac{1}{2}$ deep. Messrs. Dryden & Thompson conclude that the under-drainer is sure to be repaid in from one to five years; Mr. Simpson Rennie, in from one to eight years; Mr. George Morgan, of L'Amaraux, Scarborough, in from one to two years. Mr. F. Malcolm fixes the time at from one to two or three years. Similarly Mr. F. Green and Mr. Davis, of Woodstock, and Mr. McMillan, whose experience has been most extensive, think it one of the best possible investments. Mr. W. Heron told us of having reaped thirty bushels of wheat after draining, where but little would grow before. The first year it increased the spring wheat yield in one of Mr. A. Hod's fields from eight to thirty bushels, and secured for Mr. P. Rennie, of Fergus, an almost fabulous crop of turnips, and thus we might continue to pile up this class of evidence, but where is the necessity, in the absence of every particle of that which is to the contrary?

It is not easy to over estimate the advantages of under-draining, or to apply to it the language of extravagance. Since first practised its march has been victorious—a succession of triumphal conquests. It has drawn the line of demarcation between the domain of the living and the dead in plant life. The battle-ground of occupancy between the principles of vegetative production and vegetative destruction, it has given to the former. It has broken the iron sway of the fitfulness of the seasons, and taken away its yoke. It has supplanted a sickly delicacy in plant life by the robust vigor of a strong growth. It has unlocked the hidden chambers of the secreted forces of the soil, driven them out from their hiding-places, and forced them to give of their hoarded wealth to the husbandman. It has given abundant "seed to the sower" and "bread to the eater," has filled the barns of the yeoman brimful, and their pockets with yellow gold. It has practically chained the frost-king to ice-rocks of the north for two whole weeks in autumn, and broken his fetters a fortnight earlier in spring. It has smitten the grasses of the marsh (comparatively useless), which love a watery domain, with a hopeless decay, and covered the abode of the frog and the lizard with rich, ripe shocks of well-earned corn. It has turned the joyless fen, where seeds of death hovered in the air, into the happy abode of singing bird and laughing child; and what it has done it will continue to do, if only given a chance.

When individuals first held out this "banner with a strange device," their neighbors thought the quagmire a strange bank in which to put their money, but "wisdom" here, as elsewhere, "is justified of her children." It was not long till derision was changed to respectful attention, which in turn gave way to serious consideration, and this in due time gave birth to

imitative action, and thus it is that the uncomplaining little tile workers, buried in a three foot grave, have secured a fresh resurrection for truth, inasmuch that tile drainage is now the watchword of the most enterprising of our farmers from Lake Huron to the Ottawa, and from the Georgian Bay to the St. Lawrence (Concluded.)

For the CANADIAN LIVE-STOCK JOURNAL.

Farming as an Occupation.

BY D. NICOL, CATARIGUI.

EDUCATION.—continued.

We have in the Ontario School of Agriculture an institution which, as at present conducted, is well adapted for the purpose intended, namely, to educate and fit young men for successfully carrying on the business of farming, and to inspire their minds with the higher views and better and brighter ideas of the profession.

At this college, where study and labor alternate, the student is correctly instructed in everything pertaining to agriculture; he also receives an excellent training in punctuality, order, obedience, industry, habits of inquiry and docility in the acquirement of knowledge which cannot fail to be of great benefit in after life. I believe that through the influence of our Agricultural College in the advancement of science, during the last few years, the status of the Ontario farmer has greatly improved; and as the subject now commands attention, the prospect brightens. The time is fast approaching when, as an agricultural country, this Province will be referred to as one of the most progressive in the world.

There is, however, one error in our common school system—that is, the present tendency in our country common schools to lead the pupils to be more anxious to be able merely to pass an examination, on almost any other subject than that which would be calculated to prepare them for agricultural life. The rudiments of agriculture should be taught there, and they would be sought if the parents manifested a desire for it.

The county high schools, which farmers send their sons, after they have advanced sufficiently to be admitted, have heretofore chiefly confined their attentions to commercial, classical or professional subjects, while agriculture should have the more prominent place. If at these schools scholarships were granted to pupils designed for the farming profession, who succeeded in competition upon agricultural subjects, a great impetus would be given, which would encourage the principals of these schools to introduce the practice and science of agriculture into their curriculums, and lead to the appointment of competent agricultural instructors in connection with them, and in this way popularize agricultural knowledge.

Then the young men intended for farming would be better prepared to receive instruction at the Agricultural College; for the act of learning becomes distasteful to those whose early education has been neglected; and their first efforts at comprehension are painfully laborious, hence they prefer to avoid the task and enjoy those simple pleasures to which they have become attached by habit.

Those having a previous knowledge of farming derive far more benefit from lectures explaining scientific principles than those who know nothing about it, since they can at once grasp at what is meant, and can the more readily understand the principles involved. When a due advancement has been made in this direction, one agricultural college in the Province will not be sufficient to supply the demand for better instruction.

Lack of social enjoyment is sometimes the cause of discontent at farm homes. The average worker in the city toils more hours than the average farmer in any part of the country; he is often the bond-slave of employers and their conditions. The farmer is better off in many respects; he has more command of his own time; he fares better at the table; he lodges better, and is better clothed, and gets a better return for his labor, yet he will drift into the city and there remain, if he can possibly find the means of life. Why is this so common? The error probably arises from a false apprehension of that in which true happiness and real enjoyment consists. It is a very evident folly for parents to give their children the advantages of a liberal education without recognizing the fact that these very advantages call into life a new set of wants, which, if not provided for at home, will certainly be sought for elsewhere. Many farmers have considered principally the means of obtaining a living, while things relating to society and culture have been somewhat neglected. The strong desire to accumulate wealth often precludes the possibility of true social enjoyment, and this often leads to discontent; therefore it becomes the duty of parents not only to encourage but to make provision for the social enjoyment of their sons and daughters. Neighborhood clubs should be established in connection with reading-rooms well stocked with useful, interesting and instructive books and periodicals. Social meetings, lectures and concerts should be encouraged. Museums in connection with natural history societies afford pleasing attractions for both men and women, old and young, and should have the patronage and support of the heads of families.

Farm homes might be made more attractive than they generally are. But be it observed, however, that true home attractions do not so much consist in large and expensive houses, with elaborate furnishings, and extensive pleasure grounds, as in cheerful and tasteful arrangement and tidiness. A building of small dimensions affords as decided, if not as abundant scope for fine taste and careful treatment as the grandest baronial dwelling in the land; a cottage may be quite as pretty and pleasing as a castle or a palace.

In considering this subject one is led to think of the enormous castles of the rich, with their majestic surroundings, and of the suburban villa, with its few acres of ground (such as Dean Swift wished for himself); with its modest flower garden and neat shrubbery, then upon the less ambitious dwelling on the outskirts of the country town, standing on a half acre plot of ground, which gives the tradesman space for the cultivation of a few fruit trees, shrubs and flowers; and also of the wayside cottages, sometimes neat and pretty, often coarse and ugly; sometimes gay with little plots of flowers, sometimes offensively odorous with accumulations of filth; the difference depending not so much upon the income enjoyed by the occupant as upon his having cultivated a kindly, generous, improving disposition, and being accompanied by a tasteful, tidy, industrious, active wife. And various as the dwellings, are the scenes amid which they stand. There seems to be an instinctive desire in human nature to possess some portion of the earth's surface, and a pleasant prospect becomes even more pleasant, when the beauty, which arises from your own associations with it, is added to that which properly belongs to its own.

Among the farm homes throughout the country we frequently observe the cheerful, modest establishment (calculated rather within the income) that win the approval of the most refined taste by their neat and

sometimes even elegant appearance, evincing on every side comfort and contentment. Often we witness the reverse, where all the surroundings are in slovenly condition, indicating unhappiness and carelessness on the part of the husbandman as well as sometimes that of the mistress, for it is not easy for a man to make home inviting if he has had the misfortune to get for his help-mate one who can see no beauty in these things.

The chief characteristics of a farm home should be quiet cheerfulness and unpretending comfort. Both within and without it should be the very embodiment of innocent, simple enjoyment, without affectation or rusticity, but the reality of everything which tends to true pleasure. The architecture should be quiet and simple, of the material best suited to the neighborhood, neither too formal and highly finished, nor yet too rustic. A comfortable and pretty house need cost no more than an ugly, inconvenient one of the same dimensions; gracefulness of form adds nothing to the cost of material.

I would not be understood as looking with much favor on what is known as fancy farming. The purchasing of fancy animals at fabulous prices is only to be indulged in by the rich. It is amusing to listen to the exaggerated ideas of farming by some who have accumulated fortunes in other pursuits, and go to the country to become gentlemen farmers, expecting very large returns from every dollar invested, besides making an enjoyable and comfortable livelihood. They have read in the agricultural journals, what an immense profit some correspondent has obtained from a patch of some new kind of potatoes or onions, how another has discovered some wonderful breed of fowls which lay an incredible number of very large eggs of peculiarly fine quality, which sell at 25 per cent more than the eggs of any ordinary fowls; how much another has made from the sale of a very fine quality of butter made from a cow of the wonderful Jersey breed, and what extraordinary results can be obtained from the fattening of a certain breed of swine on scientific principles. These accounts are very startling to the gentleman farmer; he strives to obtain similar results from his own practice, but generally learns, after a few years spent in his endeavors, that the profits of the farm are not determined by one or even more successful experiments in particular branches of the business, but by the grand results of the whole; and in his case, too often, I fear, the profits are a minimum.

The breeding of high-class animals does not generally go hand in hand with systematic, economical farming. It is in extreme contrast with the stupidity of some who will always sell the best of their stock because it brings the highest price, and keep only that which they cannot sell. This has been a common practice, and clearly accounts for the degenerate stock to be seen in some quarters. Its effects on the rising generation of farmers are no less pernicious—retrograde farming invariably produces retrograde human beings.

REPRESENTATION.

The agricultural class do not have a fair share of representation in our legislatures. This doubtless is due in a great measure to the want of a suitable education, for which the farmers themselves are largely to blame. Before they can be raised to the position which they should occupy politically, they must be raised intellectually and socially. The men who produce the wealth of a nation are the best judges of its worth, and the best qualified to watch over that which has cost them so much to produce.

If farmers are first in numbers, in industry and integrity, then they ought to occupy the first place in society; not as a favor but as a right and justice. If

there are ten farmers for every lawyer in the community, then there ought to be ten times as many farmers as lawyers in our legislatures and places of honor and responsibility. Just so long as the great majority of noble workers who produce the nation's bread are not represented in parliament in proportion to their numbers, there is some danger that a minority of non-producers will rule the nation unjustly.

THE FUTURE OF AGRICULTURE.

In the whole range of human effort there is no more inviting field for improvement than agriculture, yet no field of anything like the same importance has been less thoroughly worked up, nor is there any field that affords such ample grounds for improvement with so many points and objects of special importance that may be taken up and worked out.

Many of the so called farmers are still continuing to plod away in the old beaten tracks, with little or no attempt at improvement. It is very evident that the number of progressive farmers is rapidly increasing. A marvelous change has been brought about within the last quarter of a century through the adoption of labor-saving and scientific appliances, and it would be more absurd to suppose that improvement shall stop where it is, than that it should go on indefinitely. Whatever else is doubtful, progress in this direction is quite certain.

There is before us a bright prospect for the future agriculture of Canada. We are progressing. Year by year we are coming nearer to that system of farming which prevails among the tenant farmers of England and Scotland, where agriculture is the most aristocratic of all pursuits. Is it not probable that here, where every farmer may be the lord of his own land, it will soon become the most respectable of all callings?

Our climate is well calculated for the breeding, raising and improving of live-stock, for which the demand is steadily increasing. Our annual exhibitions of live-stock, I think, would compare favorably with any of the kind in any country. Our dairy products are in a fair way of being more fully developed and becoming an immense source of income. We are steadily and surely coming to the time when it will be the aim of the Canadian farmer to raise the largest possible paying crops, and at the same time increase the productiveness of the land, which is the highest form of agriculture.

Skill is even more at a premium, and henceforth he is likely to be most successful who is possessed of it in the largest degree. For talented young men inclined to the pursuit, there is much from which to take courage. The same characteristics and habits which lead to success in other pursuits are more certain to be followed by success in agriculture.

(Concluded.)

The Breed that Beats the Record.

The above is the title of a neat little book of some 162 pages on the Aberdeen-Angus Polled breed of cattle, that has just been placed in our hands, and that is now advertised in our columns, and is certainly what it purports to be, "a demonstration of the properties, prepotence, pre-eminence and prestige" of this useful beef-producing breed.

The introduction is by Judge J. S. Goodwin, A.M., Beloit, Kansas. It states that the book establishes the following assertions: (1) That the Angus cattle weigh as heavy as any other breed; (2) that they mature as early; (3) that they dress a larger percentage of dead weight to live weight than any other breed; (4) that they are a strong, hardy, vigorous race of cattle; (5) that they are as good, if not better, milkers than any other

breed; (6) that being polled, they are easier to handle, do less damage, require less room and consequently less money in handling; (7) that they are unsurpassed by any other breed for covering or grading up; and (8) that they, alone, are the "Prime Scots" of the British and other market quotations.

The writer has founded his arguments on that best of all foundations, *facts*, and these he has drawn from sources so widely scattered, and so completely independent, that when forged by his dexterous hammer into the links of a long chain, they make a very strong one indeed. With great research and untiring labor he has led in one direction isolated rills of independent testimony, which swell the current of his argument as he goes along, till it at length becomes the volume of a river that would be very hard to arrest in its onward flow.

The service that he has thus rendered to the admirers of this breed are very substantial, and those of them who fail to recognize this fact, either by neglecting to secure or to aid in its circulation, betray an apathy that is far from commendable.

We hope to find space to quote from it hereafter, and very heartily commend it to our readers who have any desire to get an insight into the merits of this noble race of blackskins.

The Coming Exhibitions.

The Industrial Exhibition, Toronto, will be held September 6 to 18; the Provincial at Guelph, Sept. 20-25; the Dominion, Quebec Provincial, at Sherbrooke, 23d September to 2d October, and the Great Central, Hamilton, September 27 to October 1st. The respective secretaries are, H. J. Hill, Toronto; Henry Wade, Toronto; R. H. Tylee, Sherbrooke, P. Q., and J. Davis, Hamilton, all of whom will furnish prize lists on application.

The prize list of the Toronto Industrial, the notice of which did not appear in last issue owing to the absence of the editor, is gotten up with even more than the usual good taste of the diligent manager and secretary, being handsomely illustrated. The stock prizes are fully up to those of other years. The prizes in horses are from \$60 and downwards; in cattle, \$50; sheep, \$20, and swine, \$15. The Clydesdale Association of Canada offer \$50 as a special sweepstakes prize for the best Clydesdale stallion, any age, registered in the Clydesdale Stud-book of Canada.

It is superfluous to add that visitors will receive every attention from the management, who from the inception of this most successful exhibition have shown themselves possessed of the faculty in a marked degree of making even the most distant visitors to feel at home.

Notices of the prize lists of the Provincial and the Great Central exhibitions appeared in former issues, and we would gladly have noticed that of the Dominion Quebec Exhibition, but through some cause it has not reached us (see our jottings page). We attended the Sherbrooke exhibition last year, when the prizes were about \$5000, and we considered it a good show. What will it not be when these are \$25,000—the sum offered this year?

Live stock entries for the Toronto Industrial close with Saturday, 21st August; for the Provincial, 28th August, and for the Great Central, 21st September.

Forestry Report for 1885.

We have before us the Forestry report for 1885, compiled at the instance of the Government of Ontario by Mr. R. W. Phipps, of Toronto, which contains amongst other useful information,

(1) Progress of forestry this year in Ontario.

(2) Notes of visits made last fall to Massachusetts, Illinois and Kansas, to get information as to broadcast sowing of pines, and method of management of walnut and other plantations.

(3) The scientific necessity for care of forests, their uses to agriculture, benefits to climate, and losses suffered where they have been too generally destroyed.

(4) A full account of the value and methods of growing evergreen windbreaks, with complete list of evergreens fit for the purpose.

(5) A complete list, so far as obtainable, of every tree native to Ontario, or so long imported as to be well known.

The short chapter on "evergreen windbreaks" alone would be worth thousands to the country if our farmers would only read it and practice accordingly.

The delusion, however, has got a strong hold upon the farming community, that even though the last tree should be cut down, they can make more money by cropping the land and purchasing fuel. They do not stay to reckon the hundreds of bushels of wheat never reaped, and the thousands of tons of clover annually frozen to death by the cold winds that annually sweep over the country through the disforested thereof. The stiff breeze that fans the cheek of the husbandman in summer may be grateful to him at the time, but he should never forget that that same breeze is bearing away from every plant on his farm a portion of the moisture which otherwise would enhance its growth.

The author of that beautiful poem, "The Dying Gladiator," in the closing stanza, calls on the "avenging Goth" to arise and glut his ire. Cutting his appeal in twain, we address it to our farmers, Arise and protect your forests, and in so doing ye shall protect yourselves, and where there are no forests let them be planted with all possible dispatch. Next autumn should see the walnuts buried by the bushel, and the following spring should see evergreens planted by the tens of thousands in the form of windbreaks.

This very useful report can be got for the sending for, either to the author or to the Minister of Agriculture, Toronto.

Toronto Industrial Exhibition.

The success of the Toronto Industrial Fair, to be held from the 6th to the 18th of September this year, is already fully assured. The number of entries received and applications for space in all departments are already far beyond that of any previous year at the same date. All the space in the large implement building, machinery hall, carriage-building, stove-building and honey-building, has been taken up for some time, and the main building is rapidly filling up. The show of live-stock and agricultural products will this year be unusually large and attractive.

The Association paid in prizes for live-stock and agricultural products last year over \$15,000, and a similar amount is offered in these departments again this year. In the Darham class of cattle the Association have decided to allow animals to compete on the same rules as to registration in the herd books as last year, feeling that it would be an injustice and would exclude a large number of their regular exhibitors from showing their cattle if they were required to be registered in the new Dominion Herd Book for this year, at least. No doubt this rule will be required after this year.

It has been decided to remove the sheep pens from their present location on the lake front to the piece of ground near the eastern entrance and adjoining the pig pens, and to drain all the ground in the locality of the horse and cattle pens, an improvement which will be very beneficial to exhibitors in these departments.

The Canadian Pacific Railway will make a large exhibit of the products of the country through which their line passes from Winnipeg to British Columbia.

Among the implements and machinery entered for

exhibition are all the latest improvements, and will this year prove of unusual interest to the farming community.

A novelty in connection with this year's exhibition will be an exhibit in large glass aquariums of all kinds of live fish to be found in Canadian lakes and rivers, and a large collection of various kinds of reptiles will be made by the Natural History Society of Toronto.

Tuesday, September 14th, has been set down on the programme as "pioneers and old settlers' day." Wednesday, Sept. 15, is set down as farmers' day. Cheap excursions and reduced fares will be granted on all the railways running to Toronto.

Altogether, the Toronto Exhibition this year promises to be of a most interesting character and to equal, if not exceed, in extent and success any of its predecessors.

Our readers, who may be intending exhibitors, should not forget that all entries must be made before the 22d of August, except in the case of grain, field roots and horticultural products, which must be made before the 28th of August.

The Dairy.

Deciding the Dispute in Reference to the Dairy Breeds.

In view of the prolonged battle that has been raging between the admirers of the different dairy breeds; and in the hope of mitigating its intensity, we have thought that it would be a wise thing in the Council of the Agricultural and Arts Association of Ontario to offer a sweepstakes cup at the coming exhibition for the best dairy cow of any breed, quantity and quality of yield to be considered. It is peculiarly fitting that this prize be offered at the Provincial Exhibition, representing as it does the Government of Ontario. In such an event, the judges should be chosen with the utmost care, as the results of the award will be of considerable moment to the owners of the different breeds. We trust that our suggestion is not too late to be acted upon, as publicity could be given to such action through the press.

"Screaming" Statements.

A writer signing himself "G," in the *London Live-Stock Journal*, of date July 2nd, refers to a glowing description of the herd of Mr. V. E. Fuller at Oaklands, from the pen of Mr. Robert Pearce, and dated Bristol, Eng., 30th November, 1855. He then refers to certain references in past numbers of the *JOURNAL* which speak of the way in which the dairy products at the Oaklands are handled, and concludes with the following comments: "No doubt there is a good deal of the mystical in these screaming transatlantic reports of cow records, and methods of dealing with cow-produce; still, with every allowance for this, it remains true that the handling of the best dairy products seems better understood on the other side of the water than it is on this."

Friend G., it is unmanly and un-English of you to speak thus of statements that are true. The genuineness of the famous test of Mary Anne has been demonstrated with sufficient clearness to satisfy any one who has taken the trouble to weigh the testimony in fair balances, unless those who persist in shutting their eyes to the truth. Understand, friend G., the *CANADIAN LIVE-STOCK JOURNAL* does not indulge in publishing "screaming" reports in reference to cow-produce, without first satisfying itself as to the truth of its statements. It is an easy way for old-countrymen to dispose of records which they cannot beat. If Mr. G. has ever the good fortune to visit Ontario we trust that he will visit the Oaklands herd, and examine into the various operations connected with its dairy, and we can assure him, in such an event, that if ever scales fell from the eyes of any man, they will fall from his.

Some Questions for the Breeders of Fancy Dairy Cattle to Answer.

EDITOR CANADIAN LIVE-STOCK JOURNAL.

DEAR SIR,—The gentlemen who are so warmly and good-naturally discussing the merits of their favorites among the dairy breeds of cows, seem to entirely overlook the questions that most concern us—plain matter-of-fact farmers; and in hope of having those questions given their right place in the controversy, I will take the chances of being called an ignoramus by asking the following, because the cost of the food the cow consumes is a very important matter with us.

1st, Which breed will produce the largest number of milk solids from the same food?

2nd, Which breed will convert a given quantity of food into milk in the shortest time, in proportion to the size of the cows?

3rd, If two Holsteins weigh as much as three Jerseys, and consume the same amount of food and return the same amount of milk solids, which would be the more profitable? Would there be any preference?

4th, Which breed, as a rule, has the greatest tendency to convert the food into milk rather than into flesh?

Now the above questions may seem silly, but we simple-minded farmers would like to be satisfied on those points, before we decide to pay out hard earned dollars to improve our stock, as we cannot afford to make a mistake in choosing.

As a class we appreciate the honest efforts that are being made by our enterprising breeders to better our condition, and we are inclined to look upon them as our friends; but when one of them tells us the Holsteins are the very best dairy breed, and another one tells us that they are the very poorest, even we know that someone is wrong; and we therefore ask that the above questions shall be considered.

I do not wish to intrude upon your valuable space, but I do want to give you my method for determining the value of a milch cow of any breed.

First ascertain how much food she requires to sustain the system in a normal condition, and we will suppose that this food costs one dollar for a certain time—say ten days. Now if we give no more than this we have lost at the end of ten days just one dollar; but suppose we give her two dollars' worth of food and in return she gives two dollars' worth of milk, then we are even. But we have learned that the extra dollar's worth of food has produced all the milk, and we will try another dollar's worth of food, and obtain two dollars more in milk; then we have a profit, the account standing, cow, dr. to food, \$3.00, and cr. by milk, \$4.00, or a profit of 33 1/3%. Now, suppose we give another dollar's worth of food and receive two dollars in milk the account stands, dr. to food, \$4.00, and cr. by milk, \$6.00, or a profit of 50%. And the more we feed, the larger the percentage of profit; our limit being the ability of the cow to perfectly digest and convert the food into milk; and this is the point that constitutes the value of a cow, namely: Her power to convert the raw material into the manufactured article with the smallest amount of loss.

Mr. John Nickerson, of Simcoe, is perfectly safe in giving his challenge, that you refer to in the JOURNAL, because he makes the condition that the same amount of food shall be given in each case, and the maintenance ration for the little Jersey heifer would be less than for the large Holstein, and therefore, she would have a larger percentage to turn into milk solids.

J. M. JOCELYN.

Canadian and English Salt.

BY C. C. JAMES, B.A., PROFESSOR OF CHEMISTRY AT THE ONTARIO AGRICULTURAL COLLEGE.

Common salt consists of sodium chloride (97 per cent. to 98 per cent.), water, calcium sulphate or gypsum (1 1/4 per cent. to 2 1/2 per cent.), calcium chloride magnesium chloride, with traces of sand, clay, iron and dirt. The gypsum should not exceed 1 1/4 per cent. to 2 per cent.; in excess it makes the salt difficultly soluble and produces a slime. The chlorides of magnesium and calcium are very soluble, give a bitter taste, and attract moisture from the air.

To determine whether there is ground for the prejudice that has existed against Canadian salt, I have carefully analyzed five samples of Canadian salt and four of Liverpool. No. 10 is added, being a sample sent in by a cheese-maker. It was dirty, difficultly

soluble, impure, and in every way unfit for use. These are all samples of fine dairy or table salt procured for the Ontario Creamery by Prof. Robertson, who is testing them in butter-making.

No.	Brand.	Order as to purity.	Sodium chloride.		Water.		Calcium & magnesium chloride.		Calcium sulphate.		Residue.		Total impurity.	
			1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.	12th.
1	Canadian...	2nd.	97.66	0.49	0.13	0.63	1.63	0.09	1.85	0.08	0.08	0.08	0.08	0.08
2	Canadian...	4th.	97.11	0.71	0.23	0.97	1.37	0.08	2.12	0.05	0.05	0.05	0.05	0.05
3	Canadian...	8th.	94.26	3.29	0.47	1.93	0.05	2.45	0.05	2.24	0.05	0.05	0.05	0.05
4	Canadian...	5th.	97.18	0.58	0.24	1.95	0.05	2.28	0.05	2.28	0.05	0.05	0.05	0.05
5	Canadian...	6th.	96.61	1.11	0.27	1.86	0.15	2.28	0.05	2.28	0.05	0.05	0.05	0.05
6	Liverpool...	1st.	97.12	1.09	0.26	1.45	0.08	1.79	0.08	1.79	0.08	0.08	0.08	0.08
7	Liverpool...	3rd.	97.20	0.75	0.25	1.72	0.19	2.03	0.19	2.03	0.19	0.19	0.19	0.19
8	Liverpool...	7th.	96.93	0.69	0.31	1.88	0.19	2.38	0.19	2.38	0.19	0.19	0.19	0.19
9	Liverpool...	9th.	96.47	0.94	0.23	2.26	0.10	2.59	0.10	2.59	0.10	0.10	0.10	0.10
10	Unknown...	10th.	93.00	1.79	0.33	3.72	0.10	5.21	0.10	5.21	0.10	0.10	0.10	0.10

The "residue" in the above table is the insoluble or difficultly soluble portion.

The average impurity of the five Canadian salts is 2.200 per cent.; the average impurity of the four Liverpool salts is 2.203 per cent. There is as much difference between the various English brands as between the English and Canadian, and the average of the latter is a little ahead of the average of the former.

By means of fine sieves each sample was divided into four classes; these were weighed, and an estimate made of the uniformity and fineness of the different brands. Taking 100 as the maximum of uniformity and fineness, the salts were arranged in the following order: No. 6, 88; No. 4, 87; No. 7, 86; No. 1, 84; No. 9, 83; No. 2, 72; No. 8, 69; No. 3, 66; No. 5, 54; or (1) Liverpool, (2) Canadian, (3) Liverpool, (4) Canadian, (5) Liverpool, (6) Canadian, (7) Liverpool, (8) Canadian, (9) Canadian. In this respect the Liverpool salts are a little ahead, being on the average a little more uniform.

On the average the Liverpool salts are a little more readily soluble than the Canadian. The purer a salt the more thoroughly it dissolves, but not necessarily the more quickly. The rapidity of solution depends upon the shape of the grain as well as upon the size: the more soluble salts are flat, thin, disc-shaped; the more insoluble are compact and cubical in grain. No. 1, for instance, is quite pure and small in grain, but very difficultly soluble; it is gritty in feel; No. 6, the purest and finest, stands fourth. In choosing a salt, then, attention should be paid to the shape of the grain; for a quick pickle the flat grain is preferable, and for dry curing and slow pickle the compact grain. The best Canadian salts are slow in solution, the best Liverpool a little more rapid. Too often Canadian salts have been condemned because a slowly dissolving salt has been used where a rapidly dissolving salt was required; for instance, in the salting of butter for immediate use. Dealers and users of salt seem to pay too little attention to this important question of solubility.

In the salting of food for immediate use, butter and pork, for example, also in the case of vegetable pickling, the rapidly dissolving salts are best. In the dry curing of meat, the making of a lasting pickle, the salting of dairy products to be stored for some time, a more slowly dissolving salt is preferred. For table use a fine salt of uniform grain, clean and white, dry and quickly dissolving, is required. Such a salt as the latter is required also for butter-making, and there seems to be lacking just such a salt among the Canadian brands. The best Canadian salts are either too hard in grain or too large for this immediate use. If such a brand were available Canadian salt would have no fear of competition with Liverpool salt.

The strength of the brine is often measured by a hydrometer, or salometer, and the purity of a sample of salt thereby determined. But this is not an abso-

lute test of the true value of a salt; the soluble impurities may be heavier than the pure salt, and thus an impure salt may produce a heavier brine than a purer salt. For ordinary purposes, however, the hydrometer can be used in determining the proper strength of a brine.

A first-class salt should be pure white in color. The Liverpool salts have a faint bluish tinge; two of the Canadian salts, from the same locality, have a faint reddish cast. These colors are perhaps due to the shells of animals deposited in or beside the salt brines. Enough of the red coloring matter was obtained to determine it to be due to the presence of iron. A very decided red or blue cast should condemn a salt for use. One packer gave as his experience that a dark salt colored the outside of the meat dark also.

A first-class salt should be: 1st, clean; 2nd, white; 3rd, comparatively dry; 4th, uniform in grain; 5th, quite thoroughly soluble in water; 6th, scale-like in grain for quick, and compact for slow solution.

On the whole I see no grounds for the prejudice against Canadian salts. There doubtless are some poor brands offered for sale, but there are also brands that are just as pure as the Liverpool, the only Liverpool brand that stands much ahead being partly shut out on account of its price.

Many of the leading packers of Toronto are returning to the use of Canadian salt. The only matter of doubt now is as to its use in butter. This should be given a fair and unprejudiced trial, and manufacturers should endeavor to fully meet the want in this direction by producing a salt pure in composition, fine and uniform in grain, and quick in solution.

For the CANADIAN LIVE-STOCK JOURNAL.
Dairying.

BY C. C. CHADWICK, INGERSOLL, ONT., SECRETARY OF THE WESTERN DAIRYMAN'S ASSOCIATION.

The following paper was read by Mr. Chadwick at the annual gathering of the dairymen of Dover, in the month of June, and specially revised for the JOURNAL:

Having been kindly invited by your secretary to deliver an address on dairying, or creameries, on this the occasion of your annual picnic, I have presented myself before you, but as to giving you a practical address on cheese or butter-making, I certainly could not place myself in so false a position as to attempt the elucidation of a subject which requires so much matter of fact practical knowledge, which I do not pretend to possess.

I have been identified with the development of the factory system of cheese-making since its first introduction into our country, in fact took a leading part, both by speech and writing, in my own neighborhood, in encouraging our agriculturists to embark in the business, seeing, as I thought, a future before it, which being properly developed, must lead to a great success. In this I feel gratified in saying I have not been disappointed. The results, so far as my own county is concerned, have been of more value than a gold mine. An era of prosperity and wealth, without any demoralizing tendency, has been attained, that should greatly encourage the beginner of the present day, who has so many advantages to assist him, over and above those pioneers who are now reposing on their laurels, and whose coffers are steadily being filled, from a source that, with prudence and proper management, will be never ending. Still, in the face of all this success and prosperity, no one can afford to sit down and say, I have attained to perfection. This is an age of progress and transition. Steam may be said to be the motive power, and electricity the intellectual power, of the day, and we must float with the tide. What was made a comparative success years ago, by a sort of guess, or experimental rule, must now be worked out by the application of science, obtained by investigation, and the interchange of ideas that may be generated by public discussions, such as these we are engaged in.

The art of cheese-making is a subject that I am not going to dilate upon, involving as it does so many distinct manipulations, and its success dependent upon the proper observance of each one, that it would be like the blind leading the blind, in my case; but the business has various phases other than the mere conversion of milk into cheese, from which we may gather much useful information, both profitable and instructive to those engaged directly in the profession. The importance of the dairy interest is now second to

no other branch of our agricultural products, a fact which is fully verified by the following comparisons, taken from the trade and navigation returns.

This, of course, is what has actually been exported out of the country, and does not include the amount or value of what has been consumed at home. I have taken six of the leading articles, the produce of the farm, and for the fiscal years, including the 30th of June, 1875, and the 30th of June, 1885.

The exports for 1875 are as follows :

Cheese.....	32,342,030	value \$3,886,226
Butter.....	9,268,044	" 2,337,374
Horses.....	4,382	" 460,672
Eggs.....	1,605,827 doz"	434,273
Horned cattle.....	38,968	" 823,522
Sheep.....	242,438	" 637,561

Total value..... \$8,579,578

Exports for the year ending 30th of June, 1885.

Cheese.....	79,655,367	value \$8,265,240
Butter.....	7,330,788	" 1,430,905
Eggs.....	11,542,703 doz"	1,330,632
Horses.....	11,973	" 1,554,629
Horned Cattle.....	44,003	" 7,377,777
Sheep.....	335,043	" 1,261,071

Total value..... \$21,720,254

Exports for 1875..... 8,579,578

Increase in 10 years..... \$13,140,676

The increase in cheese during this period is \$4,379,014, more than double the amount exported in 1885, over 1875. There is, however, a decrease in butter amounting to 1,937,256 lbs., of the value of \$906,379. This decrease is no doubt mainly due to the poor quality of the butter exported, as there is no reason why the export of butter should not have gone on increasing, as well as that of cheese, as it is an article quite as much a domestic necessity as cheese, and its consumption as a whole has not fallen off. This should be a lesson to our butter-makers, and is a strong proof of the benefit of organization, as the character and quality of our cheese before the introduction of the factory system, was about as varied as were the cheese-makers.

These figures give us some idea of the importance of our agricultural products, and the rapid strides that have been made in their development; and in so far as the dairy interest is concerned, the profit is not confined to the value of cheese or butter exported, but there is a large corresponding increase in the value of the farm, which, in my own county, I have no hesitation in saying, amounts to many millions of dollars more, that has been added to the permanent wealth of the country. And as this may really be called the golden age, in which the golden calf is, in my opinion, more an object of adoration than ever it was in the days of the Israelites of old, this rapid development must be a source of gratification to the worshippers of the golden calf. The success that has attended the introduction of the factory system of cheese-making in our country, is, I consider, largely due to the efforts and influence of the Dairymen's Association, and in making this assertion, I do it with a certain amount of confidence, in being able to maintain it. On the 31st day of July, 1867, the first meeting for the purpose of forming this association was held in the town of Ingersoll, and was brought about by the exertions of three or four individuals, myself being one of them. From that time to the present I have been uninterruptedly connected with it, have taken an active interest in promoting its success, and think I am an authority in speaking of the results. It has been an organization that has assisted materially in developing this industry, and placing the products of it in the foremost rank in the consumptive market of the world.

Its success is almost beyond precedent, as the year before the introduction of the factory system we imported \$300,000 worth of cheese for home consumption, and now we are exporting to the amount of between \$9,000,000 to \$10,000,000 worth a year, and of a quality that commands the highest price in the foreign market. These results have only been achieved by the exercise of skill and scientific knowledge, obtained mainly through the efforts of the Dairymen's Association, in their endeavors to place before the dairymen, year by year, the results of practical developments, obtained by the experience of experts, in their application of scientific experiments, as to cause and effect, in the production of good cheese. The advantages of united action for the improvement of any branch of agricultural industry must be apparent to every one who has given the subject any consideration, and the application of scientific knowl-

edge, in combination with this action, is producing results that astonish us.

(To be continued.)

Jersey-Holstein Controversy.

EDITOR CANADIAN LIVE-STOCK JOURNAL.

In your issue of July Mr. Cook accuses me of divesting the question of "all argument;" possibly his views and mine as to what forms an argument are as wide apart as our modes of supporting it. I have adduced facts from open and public tests to support my contentions: your readers know on what material Mr. Cook founds his "arguments."

I quite agree with him that when a controversy has resolved itself into one merely of recrimination, it ceases to be of interest to intelligent readers.

I have again and again urged the Holstein men, if they deemed the trials in Canada were not fair or were incorrect in any way, to make another test between the breeds in an open and public manner, but they have not accepted, because they dare not. They asked me to include the United States in my challenge, and accused me of "cowardice and braggadocio" in not so doing. On my at once accepting of their proposition to extend the proposed trials to the United States, they discreetly refrained from acting up to their own proposition, and thereby convicted themselves of "cowardice and braggadocio." What a pitiable plight to place themselves in! I reiterate my claim that their whole actions convict them of preferring to have the public judge the Holstein breed through the evidence of interested parties rather than by open and public tests. Therein they show their discretion, but also expose their weakness.

The exhibitions are now so close that I am content to leave this matter to the milking tests that will then be made, to decide this question. I trust Mr. Miller is not preparing the public for a "back down" at these fairs by refraining to enter the Holsteins, when he says, "Admitting, for the sake of argument, that Mr. Fuller or any other Jersey breeder has one or two cows capable of beating in a butter test every Holstein in the country, it would, after all, prove absolutely nothing." Mr. Cook cannot thus mislead your readers, as the average of all the Jerseys (not only mine) at Toronto collectively distanced the average of the Holsteins at London, *not in butter only, but in milk, cheese and butter.* So badly had the Holstein breeders been beaten at London, they wisely refrained from again exposing their weakness at Toronto.

Mr. Cook shoots wide of the mark when he endeavors to attribute to "a patent right man" the authorship of the letter appearing on page 249 of the *Live-Stock Journal* (Chicago), 1885, as to the "film of cream" at the Western Fair. I have before given the page, the Journal, and date of this letter, and Mr. Cook knew it. The gentleman who wrote the article in the *Live-Stock Journal* (the accuracy of which has never to my knowledge been called in question), is in no way a "patent right man," but an experienced dairyman, highly respected in that section of the country, and whose name has commanded the highest respect in dairying circles, long before Mr. Cook was ever heard of. The only part the agent of the Cooley Creamer played in the transaction was his fruitless attempt to induce Holstein milk to produce a respectable amount of cream. Mr. Cook's "strong reason to believe that the evidence given by the 'patent right man,' etc." was his hope that by so characterizing the source of the evidence he might destroy its force. If he had any doubt as to particulars he could refer to the *Live-Stock Journal*, page 249, of 1885. Try again, Mr. Cook, only endeavor to be a little more accurate in your facts.

Mr. Cook compares the yields of the Oaklands herd with those of the Holsteins of Messrs. Smith, Powell & Lamb. Many and very serious charges of want of proof as to the reliability of these tests have been made in the various stock journals, not only of the United States, but also in England, the last to come under my notice being an editorial in last week's issue of the *American Dairymen*, published in New York, as follows:

"As for our not having the courage to investigate those Smiths, Powell & Lamb records, our reply is that it would be impossible to do so, even if we had the presumption to consider it our duty, and no one knows this better than Mr. Miller. We further state that Hiram Smith has shown conclusively, to any mind capable of reasoning on the subject, that either those records are absolutely false or they have been so

manipulated to create false impressions, that they are utterly unworthy of confidence, and Mr. Dudley Miller is entitled to either horn of this dilemma that suits him best. We have copied the articles, or selections from them, into these columns, and our readers are posted as to whether we tell the truth or not."

I am well aware that Messrs. Smith, Powell & Lamb have ever attempted to refute these insinuations by disinterested open and public tests, and, until they have so done, I for one am not prepared to accept these reported yields as a proper basis upon which to found a comparison.

When Messrs. Smith, Powell & Lamb have (1) conducted as many tests in the hands of disinterested and impartial people to establish the reliability of their tests as have been conducted at Oaklands, and when (2) Mr. Cook will enlighten us as to how many of these heifers calved within 12 or 15 months from the date of beginning these tests (to show whether they were farrow or not); and when (3) Messrs. Smith, Powell & Lamb enlighten the *very anxious*, public as to the cost of producing the milk, I will deal at length with this comparison. If Messrs. S., P. & L. have such wonderful cows, why did they not accept my challenge and convince the public of the truth of their claims?

With relation to the cost of food, if the heifers of Messrs. S., P. & L. consumed as much food as I am informed by an eye witness was given to the Holsteins of Messrs. Cook & Son at the London fair—namely, three patent pails full daily of very rich food—about 24 quarts—the cost of the food producing such milk would be an expensive pastime to Messrs. S., P. & L. Yet we are told that the Holsteins were "not fed" for the London tests. If not, what is the limit of the capacity in feeding of an ordinary Holstein cow?

Mr. Cook also refers to Prof. Brown's report of the tests between the breeds on a year's basis, founding such report on an "estimate" of the annual milking qualities of the breeds. Mr. Cook appears to be in his element in this, as all the facts deduced by him are based on an annual "estimated" yield.

VAL NCEY E. FULLER.

Oaklands, July, 1886.

Poultry.

FOR THE CANADIAN LIVE-STOCK JOURNAL.

Farmers as Fanciers.

BY W. C. G. PETER, ANGUS.

(Concluded.)

When the hatch is out and the chicks dry, provide a new nest, and put a little powdered sulphur in it, and dust the hen again, and be sure not to give the chicks anything to eat for twenty-four hours at least; thirty-six hours is better. They are abundantly fed by nature during this time. As the yolk of the egg is absorbed by the chick before it leaves the shell; this nourishes it perfectly for the time named, and after this period of rest they will digest their food easily. This should be for two days, hard boiled eggs and moistened bread crumbs in very small quantities, and five times per day. Do not let the feed remain uneaten; remove what is left. After this feed any small grain, especially oat grits, or as it is called, granulated oat meal, and a little skimmed milk. Whatever drink is given should be in small vessels so that the chicks do not get their little downy bodies wet by getting into it. If any meal is given, scald it, and put in three spoonfuls of ground bone meal to the pint. This furnishes material for bone in a form readily converted by the digestive organs into that substance, and makes a good sound, large frame for the future bird. Now with good feed and clean quarters, and ventilation secured, the chicks will grow apace, and no doubt there will be one or more fit for exhibition in autumn, for be it understood that every egg from the best stock in the world will not give an exhibition fowl, though I have known a case where one setting has given five

prize birds, and once had myself four from an imported setting, but such cases are rare. However, there will most likely be some, and if so, take them along with the other stock to the show, but be prepared for disappointment, remembering there will be lots more good ones there, but you will stand the same chance, any way, as others; and in order to know which of your birds you shall exhibit, it is important to know what are the chief points of excellence in the breed you have selected, so that it will be necessary to procure a guide, as I am supposing you are not familiar with fancy stock, and this guide is the "Standard of Excellence," a work that describes every part of a fowl; what the plumage and shape should be in a perfect specimen of every variety of fowls, ducks, geese, turkeys, etc. If you mean to go right into the business, take a live practical journal devoted to poultry, of which there are so many good ones. The cost is very small, one of the best, the *Poultry Monthly*, being only \$1.25 per year, and the *Poultry Review* costs but \$1.00 per annum. Now we will suppose your pullets are well cared for; they will lay all winter if you get Plymouth Rocks, Wyandottes, Light Brahma, or such heavy feathered breeds, and they will without fail more than pay twice over for their feed. Through the winter and then next spring, their progeny will give you, if you desire numbers, all the stock you want, and will enable you to send chicks to market, and to send eggs to market, the following winter, when they are fetching 25c. and 30c. per doz., and all this can be secured at the small outlay of a few dollars to begin, with eggs from thoroughbred stock. No one can say this is an exaggerated statement or only theory; it is practised every year and will go on increasing. No other class of thoroughbred stock can be procured so easily, certainly there is a small risk, but it is infinitesimal compared to the risk in other stock and the amount invested. The only requisites are good feed, clean warm houses, and common sense to notice the wants and habits of the fowls, and a gentle manner in attending to the stock. Add to this lots of patience, and success is sure. Before I close I must not be forgetful to name ducks, as a source of profit; they ought to be on every farm. They can be plucked the same as geese, though if plucked while laying it tends to stop them, and some kinds are so very prolific that they ought to find a home on every farm. A duck lays every morning *sure*, and a small pond is sufficient for the breeding stock, which should consist of one drake to three ducks; not more, and every egg almost will hatch. If possible the drake should be older than the ducks when young ducks are used in breeding. The young ducklings are certain to thrive best if they have no water for the first two weeks, and after that a shallow hake tin is plenty to give them; although I have found by experience that to do well, the breeding stock must have enough water to swim in. This can be easily arranged on any farm, by letting the duck pond be near the watering troughs, and letting the water flow through a small channel into the pond, it need not be deep at all. I have seen such ponds lined with the tin taken off tobacco caddies, having a plug here and there to let off the water when necessary. The Rouens are in my opinion the best of all ducks. They never roam, and are very contented with a small amount of water, and though not so large as the Aylesbury and others, they grow very fast indeed. I have sent them to market when eight weeks, weighing 6 lbs. each. It may not be generally known that a young duck will grow amazingly fast, till eight or ten weeks old, but after that does not advance so quickly, so that all desired for market ought to be pushed right along and not kept longer than ten weeks, at the most.

I am quite sure from experience that ducks are more profitable than geese, and yet we see twenty flocks of geese to one of ducks. Ducklings, too, are the hardiest of all young poultry. They will almost raise themselves, and are peculiarly exempt from disease, so much so, that I never had in my experience a sick duckling.

I hope our farmers generally will look into this poultry business and engage in it more thoroughly.

Poultry on a Large Scale.

BY J. W. BARTLETT, LAMBETH, ONT.

(Continued from July Journal.)

THE HOUSE.

Having completed the exterior of the house, we must next provide means for ample ventilation. This is best accomplished by means of a pipe, not less than six by eight inches, inside measurement, running the entire length of the building, at the highest point beneath the roof, with smaller pipes running from this down within two feet of the floor, not more than twenty feet apart. It is not necessary to provide slides or doors in these pipes, but leave them always open, which will, in moderate to cold weather, afford sufficient ventilation, but for warmer weather, openings of any convenient size or shape may be made in the sides (south preferred), but must have means for closing at once when required. As to the floor, we very much prefer a board floor; but this is a point on which many differ from us. Our reasons are, that it is much more easily cleaned; and unless the earth is very dry it is sure to become sour and very unhealthy, unless removed very often to a depth of several inches and replaced by fresh earth. The whole should now be divided into ten compartments, and a hall taken off the north side four feet wide, the entire length of the house. It is best to build these partitions of half-inch lumber to the height of two feet six inches from the floor, and from that distance up use lath or wire netting, whichever is available. This refers to the cross partitions. In the hall place uprights every six or eight feet, and nail a strip four inches wide along the bottom; then take boards ten or twelve inches wide (ten will be found to answer very well); tack, but do not nail fast to the uprights; then nail on four-inch boards above these. Now put on hinges on the top or bottom boards, as may be preferable, the object being to make a swinging door to the feed trough. Then we must have nest-boxes, and these will be most conveniently arranged just above the feed trough, and approached by another swinging door same as the one just described; use a board twelve inches wide for the bottoms of nest-boxes. Eight inches from the hall partition, on the floor, place a four-inch strip sawed to short uprights from the bottom of nest-boxes to the floor, toe-nailing them to both. Now nail laths from this strip to bottom of nest-boxes, two inches apart, which will allow the fowls to eat from the trough, but they cannot trample the food under foot. Dividing the building into ten compartments makes each one twenty feet long, and after taking off the hall, twelve feet wide, four feet at one end of each compartment should be kept for a door, using the remainder of the hall partition for feed troughs and nest boxes, except one foot next the doors.

Dimon Creepers.

EDITOR CANADIAN LIVE-STOCK JOURNAL.

SIR,—I am happy to know that your *great* poultry teacher, J. W. Bartlett, was so much amused at my "comments" on the Dark Brahmas as a laying fowl. He doubts (or seems to doubt) the existence of such a breed of fowls as the Dimon Creepers. Has he not seen them? I think the editor of this JOURNAL rec-

ognizes them and has seen them. Perhaps Mr. B. had better send for a prize list of the great Provincial Fair of 1886, to be held in Guelph in September; he may there find them recognized and premiums offered same as for other recognized breeds. Thanking him for the thrust,

July 14, 1886.

JOHN DIMON.

The Apiary.

Bee Notes During the Honey Flow.

EDITOR CANADIAN LIVE-STOCK JOURNAL.

SIR,—As I am frequently asked by those commencing bee-keeping, how I do, under various circumstances, while managing my bees, I have come to the conclusion, as well as I can, to describe a few operations just as they took place.

Commencing, then, with the 1st of June, at which time my bees were not in what I considered a strong condition, but rather what might be called fair. On the other hand the season was early; and I began to fear that the honey would come and go before my bees were sufficiently numerous to gather it. I therefore studied and schemed how I best could keep them together, having learned from experience that it is the populous colonies that pay. I had evidence of the importance of this while the soft elms were in bloom this spring. I weighed four colonies about eleven o'clock; three of them were among my best, one was only middling. They were again weighed at night; the three good colonies had increased in weight $3\frac{1}{2}$, 4 and $4\frac{1}{2}$ lbs., while the weaker one only increased $\frac{3}{4}$ of a pound. Now there was nothing like this difference as regards number of bees. It is therefore evident that there is great gain by having a large number together in one hive; and although that very desirable condition cannot be obtained as we would like, still we can work in that direction.

I should have said that out of 82 colonies, which wintered in the cellar, under a temperature of from 45° to 50° , six were silent when put out about the middle of April, and a number more were weak. Why was this?

The winter before over 50 colonies came out in splendid condition from the same cellar, the average temperature being a little lower, the winter being colder. I account for the difference from the fact that last year my colonies were very strong in bees at the close of the honey season, about the last week in July. The queens stopped laying almost immediately. The consequence was the bees were old, and died in the cellar in larger numbers than usual. If I am right in this, the remedy would be to feed a little every day for about two weeks *immediately* after the flow ceases.

I wish the reader also to understand that when I state my methods of manipulation and opinions on bee-keeping, I do not say they are better than those of other men. I know from experience that it is very confusing to the beginner, when he tries to learn from reading, to find that hardly any two writers will agree on any single feature. In fact, bee-keeping cannot be learned by reading, however useful it may be; practice must go with it.

One question that is sometimes asked is, "Can more honey be obtained by allowing them to swarm, or by keeping them together?" If the bees are strong and the honey late, better results may be obtained from dividing or allowing them to swarm, but if the bees are weak, and the honey early, it is better to keep them together. Desiring honey rather than increase, my efforts, as before stated, were directed to prevent division. As soon as I saw the bees becoming numerous, and building new comb between the frames, I placed a super on top to give room. In this super I placed empty combs or full sheets of foundation, and generally selected the whitest comb with the whitest honey from the brood-chamber, and placed it in the centre of the super. Strong dark honey should never be placed where in extracting it would become mixed with honey intended for market. If it is necessary to use such a comb to entice the bees to the super, it should be put back after it has answered its purpose. If work in extracting supers or section boxes can be commenced before swarming is thought of by the bees, they will very likely not swarm through the season. But some will swarm apparently without reason, and other means must be used to prevent increase. I practice largely, and succeed satisfactorily, by lifting the hive that has swarmed, turning the en-

trance to one side, placing a new hive on the stand. I should mention that my queens are clipped, and when she comes out she is caught in a wire cage; this cage is then placed at the entrance of the new hive. As soon as the swarm begins to return she is liberated and allowed to run in with the returning bees. This is all done with very little trouble, and free from the risk of swarms absconding. In the evening the old hive is turned and set close to the swarm with the entrances as close as possible. If increase is wanted, five or six days after this old hive should be lifted to a new stand; all its flying bees will enter the hive containing the swarm, and it is from this that honey may be expected. The old hive will not likely swarm again, the number of bees being thus too much reduced. But if increase is not wanted, as it was in my case, I used this old colony, by first brushing the bees from its combs in front of the swarm that came from it, and took off all queen cells from its combs, then set it on the stand of the next hive that swarmed, so that instead of a swarm going into an empty hive, it went on to combs of brood. The brood combs of this second swarm may be used in like manner for the next hive that swarms; but care must be taken not to use it if a young queen has been hatched, which may be known by queen cells being torn down. Many swarms treated in this way will swarm again in about a week, but many will not, and upon the whole it is the best method I know of to keep bees together, which must be done to get a large surplus when the honey season is early.

I have also formed nuclei of the combs after a colony swarmed, if the queen was such as I desired to breed from, taking care that good queen cells were in each. These are frequently used to raise a queen close to the side of a hive that has not a good queen. After the young queen is laying, the poor one may be destroyed, and the colony and the nucleus united, which may be done by placing the nucleus combs at one side of the hive where they will be the better able to protect their queen if the others are not friendly.

In several instances I united weak colonies by moving one or the other a short distance at a time till they were side by side. This was done more particularly where I found a queen defective—that is, not filling the combs with brood as she should. As soon as the bees were located with the entrance of their hive close to the other, having a good queen, I killed the poor queen and alternated her brood combs with that of the other. In this way colonies that were too weak to accomplish work separately made a very satisfactory surplus by being united.

Horticultural.

FOR THE CANADIAN LIVE-STOCK JOURNAL.

Some Notes on Fruit Crop of 1886.

BY E. D. SMITH WINONA.

The past winter was a very trying one again upon varieties not iron clad.

Strawberries, like winter wheat, suffered severely, about one-half to two-thirds of the plants being destroyed on both sides of Lake Ontario. But other parts were more fortunate in having snow all winter, so that notwithstanding this severe loss in the great strawberry region, and an almost unprecedented drouth, which shortened our crop one-half, the price of strawberries ruled too low for a fair profit. Among 17 leading varieties I am best pleased this season with the old Wilson. On the whole, the drouth has reduced a raspberry crop, that promised to be very large, to almost nothing. Cuthbert Queen, of the reds, were totally killed with me, owing partly to wet and partly to the severe winter. The new and much vaunted Marlboro is head and shoulders over all other reds, if my two-year plantation is a test. Berries are as large at least as Cuthbert, earlier than Highland Hardy, canes stocky and hardy and a good grower; also very productive and the berry firm, and good color; as far as I can see, a perfect berry. Gregg, king of black caps, succumbed to the winter. My plantation of 2,000 that looked grand last fall, is almost worthless. Tyler and Souhegan, also Doolittle, came through all right. I prefer the former two.

The blackberries came through better last winter than the previous one. The following varieties came through unscathed: Snyder, Taylor, Western, Triumph, Stone's Hardy, McCracken and Agawam. Dorchester nearly all right; Kittatinny, Early Wilson, Wilson Junior, Staymen's Early and Early Cluster badly hurt, and Early Harvest totally killed. If the drouth continues two weeks longer blackberries will not amount to much.

Gooseberries were in good crop, but have got too low in price for profit. Red currants paid; also black currants, though the latter will likely be blighted next year, as the bushes are badly injured by the green aphid which came in innumerable hosts early in the season, and sucked the juice from the leaves to such an extent as to stop the growth of the bush.

Grapes promise a medium crop. Tender varieties were injured by the cold, but the summer has been favorable. Mildew has shown itself below the mountain to an alarming extent; none on the mountain yet. Peach trees were nearly all killed last winter, being, as they were, in a debilitated condition, owing to a succession of bad seasons. Trees that survived and got through a severe attack of curl leaf this spring, are now looking well. Hales Early stood the racket about the best of any. Apples, that promised such an abundant crop early in the season, promise only a light one now. Trees are fairly healthy and doing well, but fruit thin.

The price of fruit has got so low owing to keen competition, that there is not much profit in it at present, except for an expert upon a choice location. We hope for better profits in the future sometime. The expenses of growing fruit are much larger than theory indicates.

Helderleigh Fruit Farm, July 14, 1886.

The Home.

FOR THE CANADIAN LIVE-STOCK JOURNAL.

Davy K—.

BY MRS. HANLEY.

The children's laugh, the children's glee,
Brings back a happy time to me,
I seem to live again the day
I went to school with Davy K—.

O Davy K—! I see him now—
His full, red cheeks and laughing brow.
Of all the children in their play,
None were so blithe as Davy K—.

And when the hour of study came,
How Davy's cheerful eyes would flame!
For at their lessons none so gay,
Nor diligent as Davy K—.

For Davy K— would break the thrall
Of dark, old intricate Daboll;
And who but Davy dared to brave
The mysteries old Kilkham gave?

And Davy, I remember well
When all the class came up to spell:
If you were head of the long line,
The second place was always mine.

If I was first, at my right hand,
Davy, you were sure to stand;
For, big or little; few could say
They'd spell 'bove me or Davy K—.

And those old spelling-schools each week—
Then came a "tug" 'twixt Greek and Greek,
For there 'twas I and Davy K—
Determined each to win the day.

As prize-men, when they take their stand
Inside the ring, give each the hand,
So we each other did oppose,
The truest friends, the hottest foes.

When all but we had left the ground,
And still the words went round and round,
Till I at length won well the day,
None cheered so loud as Davy K—.

If e'er ambition's restless flame
Has seized upon my active frame,
The germ was planted on the day
I learned to spell with Davy K—.

Long years have past, I hear them speak
(With flashing eye and glowing cheek.)
Of one that's noble, good and true,
Who scorns a coward deed to do;
With honest pride I hear them say
This man of men is Davy K—.

How often mid the din and strife
That wait upon this dream called life;
While jaded with its toils and cares,
And weary of its painted snares,
I'd give long years for but one day
Like those at school with Davy K—.

CAISTORVILLE, ONT.

FOR THE CANADIAN LIVE-STOCK JOURNAL.

Whither Bound?

There are three scenes in this busy world of travel that have a peculiar charm—a vessel starting on her course, her meeting with another in mid-ocean, and her arrival at her destination. These are scenes the effective picturing of which would require a master hand. A noble ship is about to start for a distant port. Amid cheers and yeo-heavoes she is launched, and then the tide of passengers proceeds to occupy the roomy decks and spacious saloons. Notice the thronging, jostling, surging sea of humanity as the vessel gives visible evidences that she is about to start on her course. In the motley crowd we notice people of all nationalities, with their corresponding characteristics, people of all ages with their corresponding requirements, and people of all callings, with their corresponding attainments. The clergyman and the gambler, the millionaire and the beggar, the rude and the refined, are forced into close proximity. The votary of fashion, who travels to while away the weary hours; the merchant, with brows knit in the solution of some vexing problem; the invalid, seeking the lost treasure, and the poor emigrant, hoping to better his condition in a more genial clime, form distinct parts of a great whole. The deafening sound of officious porters shouting, "This way for the Express," "All aboard," mingled with cries of "Up sail," "A little more to the leeward"; "Port your helm," dazes the "green" traveler, frightens the timorous, and annoys the traveled traveler.

But look, the vessel moves! She rocks, roars, splutters, and finally starts. As she slowly moves off, good-byes are said, and dear ones on shore wave their signals to loved ones on board. Mingled feelings of joy and sorrow strive for the mastery; but as the shore recedes new objects present themselves, and the mind is gradually weaned from the bustling scenes. Fellow-voyagers take traveler's license and mutual questions are asked as to "whither bound," and Yankees have long been accused of being most incorrigible quizzers; but in traveling, all become Yankees in a greater or less degree. Travelers are not expected to observe the strict etiquette of our private parlors. A reciprocal interest *pro tem* seems to spring up.

But to return to our vessel. She has now left the land far behind, and on all sides nothing is seen but sea and sky. A strange indescribable feeling involuntarily steals over one, when he finds himself for the first time out of vision of *terra firma*.

Away in the distance a sail is seen, and in a short time the sailor's greeting, "Boat Ahoy!" is heard. The answer is returned, "Boat Ahoy!" "Whither

bound?" A few words of kindly interest, and then each proceeds on its way.

Some days pass and we near our destined port. The spires and smoke just on the horizon give warning that we must prepare to land; and in the dis-embarkation is re-enacted the confusing scene of the embarkation. Lonely indeed are those who find no friend waiting for them at their journey's end. While some call the landing place home, others can only call it a strange land.

We have thus attempted to sketch a pen picture of a voyage which in many of its phases closely resembles the voyage of life. Our embarkation may be said to have been made when we leave the parental roof to push our fortune on the waves of the busy world.

Let us suppose the case of a vessel starting on her journey without either rudder or compass. Whither would she go? After drifting helplessly for a time at the mercy of wind and wave, she would eventually dash against perilous rocks and be destroyed. But granting that our good ship has all the requisite qualifications for successful navigation, yet she starts out with no particular destination in view. No traveler would be so beside himself as to venture on board in either case. And yet how many of us, in the grave affairs of life, act quite as foolishly. We drift on our voyage, guiding our actions by no fixed principles; setting no definite aim in view, but waiting, like Mr. Micawber, "for something to turn up." Let us, then, before we drift on the barren rocks of a wasted life, "tack about," as sailors say, and ask of ourselves, "whither bound?"

There are many dangers to which vessels are exposed as they follow their course. One starts with glowing prospects; everything goes well for a time, but she nears a dangerous coast. A sister vessel hails her—"Ship ahoy," "steer to windward or you'll run on the reefs." "Beware of the shoals as well." So in life's voyage many start with fair prospects; their sky is unclouded, everything seems propitious, and through overmuch success they go unheeding on their way. They near the hidden reefs of forbidden pleasures, or sail in close proximity to the shoals of selfishness and indolence. Kind friends warn them of danger, and unless the warning be heeded, we may sadly say, "whither bound."

Other vessels, small, insignificant cruisers, do duty in coasting nearer home. With these it would be inadvisable to venture on the broad ocean, and yet these, too, may wreck upon the reefs. They must be kept in ready trim, with rudder, sail and oar, as well the large. So in life it is the part of some to lead quiet, uneventful, unexciting lives; as Grey beautifully expresses it, they "keep the noiseless tenor of their way." The reefs of diffidence and discontent must be shunned by these. If duties are neglected because humble, we say, "beware!" "Whither bound."

One other class of vessels we would notice. These are in but little danger of grounding on the shallows or of drifting on the shoals, being piloted, when landward, with an eagle eye. It is in their daring that their danger lies. "Swamped through overloading" is the epitaph written for them by the morning paper containing the story of their loss. In life's voyage we frequently find men gifted with rarest talent venturing beyond their depth, and ruin is inscribed along their pathway. Would these but pause in time to ask themselves, "Whither bound?"

Although the pathways of the deep resemble those of the voyager's on life's ocean, in that they are trackless, there is this difference, that while vessels may head in a thousand different directions, we jour-

ney but in two—an upward and a downward—to the fair haven of rest, or to shores where all is trouble. All voyagers sooner or later arrive at the destined port. Some rejoice in the thought of meeting with kind friends and joyfully sing, "We're Homeward Bound," while others can have no enjoyable anticipations. It is a cheering knowledge, a comfort unspeakable, to know that we as travellers are "homeward bound." Storms will come, threatening to overwhelm us, but why should we fear with an unerring Pilot at the helm? He bids us "pull for the shore," and if we heed his command, all will be well.

MERMAID.

Welcome Visitors.

For the month these are:
Annual Report of the Inspector of Division Courts for Ontario, for the year 1885.

The initial number of a new weekly bearing the name "Investments," published in Toronto, and devoted to the interests of railways, property, building, etc. It contains much useful information on the subjects in hand, and gives evidence of not a little editorial ability. The subscription price is \$2 per annum.

A guide book of the Dominion of Canada, containing information for intending settlers, published by the Department of Agriculture, Ottawa. The amount of information that it contains in reference to the system of government, the products of the Provinces, along with their extent and position, is immense, and must prove of great value to intending emigrants.

Prize List of the annual exhibition of the county of Yarmouth, to be held at Yarmouth, Nova Scotia, on 7th and 8th October, when \$2000 will be paid in cash prizes. The Hon. L. E. Baker is the President and Thomas B. Crosby, Yarmouth, N. S., the Secretary.

Jottings.

Club Agents.—An active club agent wanted at every post office.

Correction.—In the article on "Permanent Pastures" in the last number of the JOURNAL, page 183, fourteenth line from the bottom of first column, "\$10" should read \$6. Owing to the way in which this numeral is used in the article, its correction is important.

Personal.—Mr. John B. Booth, of Killerby Hall, Chatterick, died toward the end of June. Along with his late brother, Mr. T. C. Booth, Warlaby, near Northallerton, he did much to immortalize the Booth strain of Shorthorn cattle. Mr. Booth was only 51 years of age.

Making Cheese at Home.—Mr. J. M. Jocelyn, of Stanstead, P. Q., advertises "Jocelyn's farm cheese apparatus" in the JOURNAL, which he claims will affect a great saving in the operations of farmers who are so situated that they require to manufacture their dairy products at home.

Fleming's Veterinary Obstetrics.—This is the name of a useful work that can be procured at "Caroeths, The Arcade, Toronto, and which treats of the treatment of animals and their young at time of birth, etc. The above is in answer to an inquiry from Minden, Ont.

To Subscribers.—Subscribers wishing their address changed will please give the old as well as new P. O. Any subscriber receiving two copies of the JOURNAL instead of one will please notify us. This sometimes occurs when parties get their mail at two post offices.

To Advertisers.—Persons wishing to advertise in the Exhibition number of the JOURNAL should correspond with us at once. We are offering the cheapest rates we ever offered before, and we think the cheapest ever offered by any agricultural paper in Canada.

Windmills.—The Ontario Pump Co. of Toronto have sold twelve of their windmills to go to Britain and a 22-foot mill to go to the Argentine Republic, South America. Orders from Ontario have increased one hundred per cent over those of last year.

Breeding of Buffaloes.—A company for the breeding of buffaloes has been inaugurated in our Canadian North West. It is proposed to cross these wild rovers of the

plains with the Aberdeen-Angus cattle. Why wouldn't the Galloways, with their longer and shaggier coats, answer the purpose better?

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

Corn for Soiling.—A good deal of diversity of opinion exists as to which is the best variety for this purpose. Geary Bros., owners of the famous Dlibro and Keillor Lodge herds of Angus cattle, use it extensively, and of all the kinds they have tried they say that they much prefer the mammoth sweet Southern for all round results, the cattle always eating it up clean, and thriving well on it.

The O. S. Rixford Manufacturing Company.—We had occasion last autumn to speak of the excellence of the implements manufactured by this firm, and we find pleasure in doing so again. The headquarters is Upper Bedford, Que., and the implements made are axes, scythes, hoes, forks, rakes and other hand implements. We have proved the superiority of the forks and scythes by personal use on our farm at Riverside.

The Holstein-Friesian Register.—This fresh little bi-monthly published at Terra Haute, Indiana, is devoted to the advancement of the interests of the Holstein-Friesian cattle, and is the only paper at present published in America that is exclusively so devoted. It is edited by E. P. Beauchamp, and Mr. Dudley Miller, of Oswego, whose experience with Holsteins may be said to be life-long, its associate editor. The price per year is \$1.50.

The Canadian Cattle Trade of 1885.—Mr. John Dyke, the indefatigable representative of our government at Liverpool, states that last year Canada was the only country which increased her exports of live-stock to Britain. The number of cattle sent there by the Dominion last year was 68,556 head, an increase of 7,473 head over the previous year. The average mortality on the above during the whole year was only .54 per cent.

Sewage.—"It is estimated that the drainage from a town of a hundred thousand people contains enough phosphoric acid to supply ninety-five thousand acres of wheat, a hundred and eighty-four thousand acres of potatoes, or two hundred and eighty-eight thousand acres of oats. The manurial value of the ammonia in the sewage that flows annually into the sea from London is estimated at £1,200,000."

Diseases of Live Stock and Domestic Animals.—This is the title of a new veterinary work, the contents of which impress us favorably as to its value. It is advertised in another column. We believe that the money asked for this book is not extravagant, and that it would be a wise investment for our farmers to make. If its possession only induced young men of the farm to study the symptoms of diseases so clearly and tersely given in the book, it would render most splendid service.

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

From Carrington, Dakota.—From Mr. Robert Hunter, formerly of Sunnyside, Alma, now of Carrington, Dakota, we learn that in that state the weather has been exceedingly dry, to the great injury of the wheat, but it is a splendid year for grazing stock. Mr. Hunter has put in a herd of some 47 head in Montana and they are doing splendidly. He speaks well of the adaptability of the climate to stock-raising, and hopefully regarding the future of that interest there.

The Emigrant.—This is the name of a monthly published in Winnipeg, the initial number of which has just reached us. It is full of useful information concerning this land of "illimitable possibilities." From it we learn that the "great lone land" has no less than thirty-nine newspapers, of which three are dailies. This young journal, devoted to the interests of emigration to the Canadian North West has our best wishes for its success. It is published monthly by J. A. Garman, and the subscription price is \$1.00 a year.

Agents Wanted—In every locality in Canada to canvass for the CANADIAN LIVE-STOCK JOURNAL. Good salary to good men. Sample copies free. Write for particulars to the STOCK JOURNAL CO., Hamilton, Ont.

Suffolk Horses at Easton Park.—The Easton Park stud of Suffolk horses, owned by the Duke of Hamilton, is said to be the best of the breed in the county of Suffolk. The foundation purchases were made in 1876, when several mares were purchased at the late Mr. Chas. Frost's sale—material which the *London Live-Stock Journal* says had taken Mr. Frost "a life-time to raise—that is upwards of fifty years' practical experience." The establishment embraces some 200 horses of the various breeds, including ponies, cobs, hackneys, hunters and thoroughbreds.

From New Glasgow, N. S.—From Mr. J. H. Cavanagh, of the above place, we learn that the springtime in Nova Scotia is very favorable for the crops. He says further, "You will notice that our Province wants out of the union. We expect New Brunswick and Prince Edward Island to join us and perhaps Newfoundland in forming a maritime union. We have regrets at the prospect of parting with Ontario, but we do not consider that we have been fairly dealt with. There is certainly great feeling in our Province in favor of repeal of the union."

Ontario Experimental Farm Sale of Live-Stock.—We take pleasure in calling attention to the advertisement in another column of the ninth public sale of live-stock at the Experimental Farm sale, to be held on the fair grounds, Guelph, on the 23rd September next, during the holding of the Provincial Exhibition. There will be sold Shorthorn, Hereford, Aberdeen Poll, Galloway, Devon, Ayrshire, Holstein, Guernsey and Jersey bulls and heifers, along with some prime two-year-old steers and ram and ewe lambs of the various breeds of sheep. Catalogues furnished on application to Prof. Brown, Guelph. Special conditions will be allowed Ontario farmers.

Guernseys.—This breed of cattle, so numerous in the United States that their owners support at least one journal in their interests—*The Guernsey Breeder*, conducted by M. C. Weld, 9 Murray street, New York—are not yet so numerous in Canada. S. A. Fisher, Esq., M. P., of Knowlton, Que., has one of the best small herds of this breed in that province. Last year he won all the prizes at the Sherbrooke exhibition, and the work he is prosecuting at the same time in growing Guernsey grades is proving very successful. Mr. Fisher has our best wishes for the complete success of the efforts that he is making to introduce this splendid breed of butter-makers.

Binders.—We notice a reference in the *Brant Review* to the great popularity of the "Little Maxwell" Binder in the county of Brant, in which it is manufactured, the works of the company, who manufacture harvesting and stock raising implements, being located at Paris. It is saying a good deal for any implement or machine when it sells well in its own neighborhood. In one day in June, 41 binders were delivered to farmers in the county of Brant and Waterloo, at the works in Paris; 12 in Galt on the following day, and 15 in Brantford. 500 of the Little Maxwell Binders are being constructed this season.

Live-Stock Shipments from Montreal.—The weekly reports of R. Bickerdike, 235 Commissioner street, Montreal, give the shipments of live-stock from that port for the week ending June 26th, 1886.

	CATTLE.	SHEEP.
	4022 head	5808
Week ending July 3rd, 1886.	2690 "	6289
" " " 10th "	2587 "	4290
" " " 17th "	945 "	3526
" " " 24th "	2571 "	9784

With the exception of one cargo sent in the Austrian, which sailed from Halifax, all of the above went from Montreal and were consigned to London, Liverpool, Bristol and Glasgow.

Ontario Central Exhibition.—The Ontario Central Agricultural and Live-Stock Association will hold their first exhibition at Port Perry, on October 5th to 8th. We learn through Mr. John Adams, of Port Perry, who has all along shown a warm interest in the success of the work, that the prospect for a successful exhibition is very good. The grounds contain 22 acres and have a very fine one half mile track. The building is 135 x 66 feet, and 50 x 75 with gallery. Mr. Adams speaks encouragingly of the earnestness with which the farmers are taking hold of the matter. This is always a main factor of success in any exhibition. The people of this section have the material to make a good show, plenty of good stock and grain and farm produce generally, and when this is brought out in the spirit referred to above, the exhibition cannot but succeed. See advertisement.

Holstein Milk Yields.—Messrs. Smith, Powell & Lamb, the noted Holstein breeders, of Syracuse, N. Y., come down pretty heavily on Prof. James Long, in the *British Agricultural Press*, for giving expression to a doubt as to whether any one herd of Holsteins in America had averaged for a year over 15,000 lbs. of milk, and that a single cow had given 23,775 lbs. 3 oz. in a year. They offer to have the records inspected by any American or European gentleman of honor, whom the Professor may see fit to name, and to pay all the expenses of such an investigation. They further state in the letter that all their records have been verified and authenticated under the rules adopted by the Holstein-Friesian Association of America governing the advanced registry, to the entire satisfaction of Mr. S. Hoxie, superintendent of the same, and that this gentleman has taken unusual pains in verifying these records.

The Mertoun Border Leicesters.—From the *London Live-Stock Journal* we learn that the Mertoun flock of border Leicesters was founded in the year 1802, when Mr. Hugh Scott the grandfather of the present Lord Polwarth, purchased 140 ewes from Mr. Weddell, Marldown, at 54s. each, and a number from other gentlemen. Mr. Scott spared no pains in getting the purest blood that he could find at the time, and the flock has, during the greater portion of its history, produced its own rams. Rams have frequently sold for £100 and over, and in one instance the Messrs. Clark, Oldhamstocks Mains, paid £195, in the year 1873, for a single ram. This flock is now perhaps the most famous flock of Leicester sheep in the world, as it is certainly the oldest. It is now famous the world over, numerous representatives from it feeding on American, Australasian and even South American grasses.

Pioneers' Day at the Toronto Industrial.—Tuesday, the 14th Sept., has been fixed upon as the occasion of a grand gathering of pioneers and early settlers of the province of Ontario at the Toronto Industrial Exhibition. The place of gathering is the neighborhood of the pioneers' cottages, on the Exhibition grounds. The co-operation of all is respectfully requested by the committee, of whom John Wilson, 444 Parliament street, Toronto, is the chairman, and R. Playter, 22 Amelia street, the secretary. Reduced rates have been arranged with all the railways running to Toronto. This will be without doubt one of the noblest sights of the exhibition. Every man of them is a herd. Canada cannot muster such another army of veterans in all her borders. An address will be delivered at two o'clock by the Rev. Dr. Scadding, of Toronto.

The Dominion and Quebec Provincial Exhibition.—This Exhibition, the prize list of which has just reached us, is to be held at Sherbrooke, Quebec, 23rd Sept. to 2nd Oct., as stated on cover. The prize list is very full and complete in all the departments. Amongst the specials, of which there is a very full list, the Hon. L. F. R. Masson, Lieutenant-Governor of Quebec, offers one gold, two silver and three bronze medals for the ten best and best trained chargers, from any troop in the Dominion, ridden by officers or privates in uniform—a manly prize. The Hon. Edgar Dewdney offers \$40 for the best five horses, from any one province in the Dominion, best adapted to cavalry service—a timely prize. The Hon. M. H. Cochrane offers \$25 for the best pair of grade Hereford heifers; \$25 for the best pair of grade Aberdeen-Angus heifers, and \$50 for the best herd of grade Shorthorns, got by registered Shorthorn bulls—a very useful prize. The Quebec Central Railway offer \$20 as first for fastest walking saddle horse, and also for fastest walking pair of heavy draught horses—a much needed prize. Mr. R. H. Pope, Cookshire, four prizes for best collection of farm products, grown on land never ploughed—a very humane prize. The British American Land Co. give \$25 for the best herd of grade heifers, and a similar amount for the best herd of grade cattle calved in 1885—a very commendable prize. But lo, what is here? \$50, offered by the Lieutenant-Governor of Quebec, for the best herd of Canadian cattle, consisting of one bull and four females; and a special offered by the Commissioner of Agriculture and Public Works, \$25 for best pure-bred Canadian bull, \$25 for best Canadian cow, for the best herd of pure-bred Canadian cattle, consisting of one bull and four females, 1st, \$100; 2nd, \$75; 3rd, \$50. Can we believe our eyes? Is the Government of Quebec directly or indirectly offering sweepstakes prizes by way of encouraging the production of *scrub* cattle, by jingling to which the province has lost thousands annually? The day those prizes were printed the sun went backward ten full degrees in the sky of Lower Canadian agricultural progress. Oh, tell it not amongst the thousands of the West, lest it provoke their merriment. In the sheep and pig classes the directors have wisely withheld prizes this year for grade males. Entries for live stock must be made by September 4th. Entry forms and prize lists forwarded free by Robt. H. Tylee, Sec.-Treas., Sherbrooke, P. Q.

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Stock Notes.

Horses.

Mr. W. C. Fleury, of Belmond, Iowa, writes that the stock of Clydes purchased by him from Mr. H. H. Hurd, of "Oakwood," Hamilton, Ont., is doing very well.

Mr. Thomas Hall, Ayr, Ont., has a nice yearling filly, Evergreen; bay, with one white hind foot, and stripe on face. She was bred by Wm. Mowat, Kirkcubright; sire, MacMaster (3823), by MacGregor (1487); dam, Rosy (4136), by Lord Byron (473).

Mr. Angus McMurchy, Hillsburgh, Ont., is the owner of a young trotting stallion, Ern Chief, foaled May 20th, 1884. He was sired by Stockwell Chief, he by Erin Chief, he by How's Royal George, etc. Dam by Porter's Royal George, by Young Cadmus, by Old Cadmus, imp. Stockwell Chief is full brother to the trotting mare Kitty Wells 2nd, of 2:15 time, and also to the trotting stallion Aurora Chief.

Mr. Wm. Rennie, seedsman, Toronto, has recently purchased in Scotland an excellent lot of Clydesdales for his farm in Markham. They trace to the most renowned sires of the country, such as The Prince of Wales, Darnley, Lord Erskine; Top Gallant and Lord Lyon. He has also purchased 10 pure Aberdeen-Angus heifers for Mr. Mulock, M. P., for North York. A pure bred Erica bull bought from Mr. Morris, V.S., and got by Lord Semphill's Sir Edwin, is to head the herd.

Mr. A. B. Scott, Vanneck P. O., Ont., has a fine matched team of young mares; bays, both with stripe on face and both white hind feet, both sired by MacGregor (1487). Kate and of Congeith is a 3-year-old, out of Kate of Congeith (2018), by The Laird (865), and an animal of great style and substance and fine bone. At present she is rather the best of the pair. Her mate is Annie, out of Maggie (3488), by Craichmore Bob (2038), both are animals of great promise. We are glad to see such good stock coming to Canada.

Mr. T. C. Patteson, Eastwood, Ont., reports the sale of his Provincial prize gelding and mate, to Senator Cameron, of Pennsylvania. The pair were 4 years old, 16.2½, bright chestnut. He bought one from Mr. Smith, the Shorthorn breeder of Maple Lodge, Ont., and the other from Mr. Justin, breeder of Shrop sheep, at Trafalgar, near Streetsville, Ont. This removes two formidable competitors in the large carriage class from the show-rings next September. Mr. Patteson has also sold a fine bunch of imp. Shrop ewes and ewe lambs with an imported ram, to Sir Donald A. Smith, for his farm at Silver Heights, Man. But we are sorry to hear that while in a pen at the Toronto market awaiting transhipment, they were badly worried and mutilated by dogs. It is likely that the city will be called on to pay a pretty big bill for damages.

Mr. Andrew Marshall, of Ayr, Ont., has three animals. Larkspur (4496), is a dark brown, two-year-old colt, with some

Advertising Rates.

The rate for single insertion is 18c. per line, Nonpareil (12 lines make one inch); for three insertions, 15c. per line each insertion; for six insertions, 12c. per line each insertion; for one year, 10c. per line each insertion. Cards in Breeders' Directory, not more than five lines, \$1.50 per line per annum.

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

STOCK FOR SALE.

FOR SALE

A SMALL HERD OF

WEST HIGHLAND KYLOES

CONSISTING OF

One two-year-old bull	Two cows (milking).
One three-year-old heifer	One bull calf
One two-year-old heifer	One heifer calf.

Pure-bred and the very finest cattle of their kind. Price for the lot, \$450, delivered in Montreal.

ANDREW RADDICK,
Care of JOSEPH HICKSON, Esq.

MONTREAL.

N. B.—I have on hand the largest stock of Ponies and Donkeys in Canada. Aug-3

Shorthorns and Southdowns

FOR SALE.

Three young cows, one heifer and three bull calves, all registered in the Dominion Herd Book. Bred from Campbell and Cruikshank bulls. Also my flock of Southdowns, comprising aged ewes, yearling ewes, ewe and ram lambs, one two-shear ram, bred by Mr. John Jackson, Abingdon, the celebrated importer and breeder of Southdowns.

The above stock is worthy the attention of breeders, some of them are being fitted up for exhibition. Call and see or write

SIMEON LEMON,

Aug-3 KETTLBY, ONT.

FOR SALE

A CHOICE LOT OF

SHROPSHIRES

Rams and Ram Lambs, including the imported ram YORK ROYAL No. 1668 in A. S. R., with a few imported ewes. Also a very large choice Southdown Ram, two years old, with a few very choice Southdown Ewes, two and three years old, which will be sold cheap.

H. H. SPENGER, DORSET FARM,
BROOKLIN, ONT.
July-16

SHROPSHIRE DOWN RAMS.

A LARGE NUMBER OF

AT SHROP, YEARLING RAMS

From his Imported Stock,

For Sale Cheap.

T. C. PATTESON,

Postmaster,
TORONTO.

Clydesdales, Shorthorns, Shropshires, Cotswolds and Berkshires.

WE have on hand at the present time the largest and choicest selection we have ever had of Imported Clydesdale Stallions and Mares, Imported Shorthorn Bulls, Cows and Heifers, Imported Shropshire Rams and Ewes, Shorthorns of our own breeding from imported stock, and Shropshires of our own breeding from imported, prize-winning animals. The Shorthorn Bulls comprise a number of imported and home-bred show animals, and the heifers have already won many prizes. All the pedigrees are guaranteed.

TERMS EASY, AND PRICES ACCORDING TO THE TIMES
Our stations are Claremont, C. P. R., and Pickering, G. T. R., where visitors will be met by writing or telegraphing us at Brougham. This is our fifty-first year in the business, and our long experience enables us to suit mostly all our visitors.

John Miller & Sons,

Brougham, Ont.

Stock Notes.

white on legs, and white stripe on face. He was bred by Jno. Grierson, Kirkcubright, and sired by Belted Knight (1395). His dam, Jean (144), was by Merry Tom (536), and his grand dam, by Lothian Lad (210). Mr. Marshall has also two yearling colts, both by the Great MacGregor (1487), and purchased from Mr. Andrew Montgomery, of Netherhall. They are MacKinnon, bred by P. Gifford, Kirkcubright, out of Torhouskie Maggie (4930), by True Blue (1334), and MacKay, bred by J. Houston, of the Hill, Castle Douglas, out of Dandy and (173), by Lochfergus Champion (449). Both of these animals are bay, with little white on face and of considerable promise.

While in Guelph a short time ago, we had the pleasure of being shown a thoroughbred Kentucky bred stallion, the property of Mr. F. C. Grenside, V. S. This horse, registered as Gleney in the "American stud book," is amongst the heaviness of his breed. He stands 16 hands, and weighs 1,750 lbs., in very moderate condition. He is an animal possessing the factors that go to make up a horse of considerable substance, viz., plenty of bone and muscle. The well worked "Arabian" cut of his head indicates his genealogy as plainly as his registered pedigree. His head is suspended on a lengthy, muscular, clean cut neck, which emerges from shoulders no less remarkable for their obliquity than their length. In the middle piece, the back is short, and the loins muscular, the chest deep, false ribs, long and running well up to the hips; he is, in fact, a well proportioned, symmetrical animal all through, and one that is likely to leave his work as a sire of carriage and saddle horses of substance and quality. Gleney's beautiful golden tinged bay color and his back points will, no doubt, transmit to his progeny, what the market of to-day calls for so loudly in that direction. The famous English thoroughbred Gleney, is Gleney's sire; his dam, the well known daughter of Lexington, called Alert.

IMPORTATION OF CLYDESDALES—There was landed lately at Montreal from the Allan steamship "Hibernian," a very fine lot of Clyde horses and mares. They will help to maintain the already very high reputation which the Clydes have in Canada. Mr. Edward Henry, of Nonceston P. O., Ont., had two, Prince of Geil (4645), a two-year-old stallion, bay, with black forelegs and white on feet, and small white stripe on face. Bred by John Fleming Lanarkshire, and got by the celebrated old horse, Prince of Wales (673), out of Bell (4311), by Raglan (3115). Prince of Geil gained first prize at Strathaven in 1885, also first at Lanark in this class, and also a medal as the best horse in the show there. Mr. Henry has also a very fine yearling colt, Bold Lionel, vol. ix, bred by Alex. McCowan, of Newtonairds. He is a bay, with white stripe on face, and white legs, with fine flat bone, and an animal of great promise. His sire was Lord Lionel (2968), by Darnley (222), and his dam, Bessie (1498), by Newstead (559); G. D., Keir Bessie (194), by Lochfergus Champion (449). Few horses have a better pedigree. Bold Lionel was first at Lockerbie as a foal, and this year was first at Kilmarnock, in a large class of yearlings.

Shorthorns.

Mr. C. Barker, of Paris station, has been breeding Shorthorns for a number of years. His herd is small, but very select, being continually reduced by sales.

Mr. William Lindsay, of Caledon East, Ont., reports his Shorthorns as prospering. Sold bulls last spring to the following gentlemen: Thos. Little, Sandhill, a two-year-old bull; James Lindsay, Mono Road, a one-year-old bull, and William Elliott, Tullamore, a bull calf.

Mr. John I. Hobson, of Mosboro, Ont., has just sold a one-year and a two-year-old heifer, to Messrs. Puxey & Hartshorne, of Man., for \$400. These gentlemen are taking ten first-class Shorthorns from Ontario, and a straight Booth bull from Jas. Hunter, "Sunnyside," Alra.

Mr. L. Miller, Marysville, Missouri, writes: "When I was in Canada last January I bought of Mr. John Dryden, Brooklin, his imported bull, Red Emperor (51958), calved April 3rd, 1884. He is 27 months old to-day (July 3rd), and weighs 2,054 lbs., and is yet smooth in every part. He is called by many good judges here a perfect terror."

Mr. J. B. Carpenter, of Simcoe, Ont., has been breeding pure bred Shorthorns for the past 20 years. His herd of pen cows is a large one, and the young stock bull he is using, is from the herd of J. R. Pettit, Grimsby, Ont. At the time of our visit (June), there were then on hand three yearling bulls, mostly red in color. Mr. Carpenter had on hand a large lot of calves, many of which were pure-breds.

Mr. William Donaldson, of South Zorra, Ont., has a good strong herd of Shorthorn cattle which are being kept in a very good shape. The calves of this year have made a good growth. Amongst them are a number of bulls. The cock bull was sold some time ago and has not as yet been replaced by another. Mr. Donaldson keeps all his stock in a good thrifty condition. His Shropshires are strong and vigorous and have a good crop of lambs. The one-shear rams, of which a few are on hand, are very good.

Mr. Thos. Graham, of Bell's Corners (near Ottawa), has now 5 pure-bred cows and heifers and one heifer calf. Amongst the cows are Louan of Guelph, bought at the Experimental Farm in 1883. She was bred by John Miller & Son, Brougham, Ont. Lord Irwin a two-year-old bull, bought at the sale of J. C. Snell last April weighs 1,940 lbs. He is a dark red with some white, and an animal of no little merit. He is of the Booth strain. He is a good getter. Two heifers bought at the same sale are very good, one two years old and the other three.

Mr. H. H. Spencer, Dorset Stock Farm, Brooklin, Ont., writes that his stock are all doing well. His Shorthorn calves this year, are something extra, and mostly sired by the imported Cruikshank bull Vengarth (7792), bred by Mr. Cruikshank and imported by J. Dryden, M. P. P. One of the bull calves sired by Eclipse, bred by Wm. Duthie, of Collynie, and imported by A. Johnston, Greenwood, is exceptionally good. Mr. Spencer thinks Eclipse one of the best bulls in Canada. His

SHORTHORNS FOR SALE.

BULL CALVES, HEIFERS AND YOUNG Cows in calf, also Southdown ram lambs, Shearlings and Ewes, all bred direct from imported stock from the best breeders in Britain. Prices moderate. Write for particulars to
SETH HEACOCK,
nov-6 Oakland Farm, Kettleby, Ont.

FOR SALE.

10 YOUNG BERKSHIRE PIGS, from seven weeks to eleven weeks old, of the Snell and Sorby stock. The pedigrees run back some ten or twelve generations in the famous Swanswick Sallie line, and some of them are equally good as their pedigree. Can supply young boars and sows not closely related, and at very moderate prices.

THOMAS SHAW, Woodburn, Ont.
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Stock Notes.

Shropshires have done exceedingly well, every ewe raising one and two fine lambs. The few Southdowns left are looking extra well and are in fine condition, and the Berkshires which came in April are a good lot.

Mr. Jas. S. Smith, Maple Lodge P. O., Ont., writes: " We made some very valuable additions to our herd last spring. We bought the cow, 2nd Constance of the Manor, from John Gibson, Denfield, and since then brought from Wm. Murray, Chesterfield, Ont., the grandly bred red yearling Barrington bull, Duke of Colonus. He was sired by 54th Duke of Oxford, by imported 4th Duke of Clarence (33597), dam, imported 20th Duchess of Oxford, dam; imp. Lally of Kimbolton, by 3rd Duke of Underly (38196); grand dam, Lally of Ellington, by Duke of Hilhurst (28401); great grand dam, Lally 16th, by 3rd Duke of Clare (23279), great grand grand dam, Lally 9th, by 7th Duke of York (17754), and on through straight Bates sires to Mr. Bates' Lady Bannington."

Messrs. J. & W. Watt, of Salem, Ont., have made the following sales of Shorthorns recently: To Messrs. Shortreed & Vance, Emerson, Manitoba, the Shorthorn cows, Rosalie and Starlight 4th and calf, the two-year-old heifer, Lancaster's Pride, and the cows, Violet's Lancaster, and Highland Rose and calf. To J. E. Smith, Brandon, Manitoba, the yearling heifer, Lady Irvine; sire, Bampton Hero; dam, Irvine Belle 2nd, and the young bull, Sunrise; sire, Bampton Hero; dam, Matchless of Elmhurst 2nd. Several of the above cows and heifers have been prize takers at Provincial and other shows. The young bull, Sunrise, is a worthy son of his sire, and is full brother to Mr. Milne's Lord Lovel, and Messrs. Redmond & Campbell's Challenge, both of which have distinguished themselves as show bulls and stock getters. To Mr. G. L. Smellie, manager of the Binscarth Stock Farm, the grand show cow, Scarlet Velvet, by Bampton Hero, with heifer calf, by imp. Lord Lansdowne (51602), and the fine yearling heifer, Princess of Fairview 2nd.

The Shorthorns of Mr. John Campbell, jr., of Woodville, Ont., are a good lot. Like all successful breeders, he shows much wisdom in the selection of a stock bull. The present stock bull, now offered for sale—MacDuff, bred by Messrs. J. & W. Watt, Salem, Ont., has done a good work in Mariposa as is evidenced by the fine strong calves produced by him wherever you see them. The herd prize at Ottawa Provincial, 1884, was carried by calves, the get of this bull. MacDuff is to be succeeded by Proud Duke, a red in color and the get of the Messrs. Green Bros., Earl of Mar (47815), of the Glen, Innerkip, from whom he was purchased last winter by Mr. Campbell, along with the heifer calf, Myosotis. Two young calves in the herd, by MacDuff are simply grand. MacDuff 3 years old, a red in color, was got by the great Bampton Hero - 6595 - and from the dam, Princess Macula, running back to stock bred by R. Colling. Proud Duke is from the imported cow, Proud Duchess - by Norman 45272, and has a large measure of the Venus and Verbena blood in his veins on the dam's side. As his name designates, he is a proud, well-dropped, low set bull of much promise. The pretty heifer, Myosotis is also by the Earl of Mar (47815), and from the dam, Mysie 34th imp., tracing through a long line of the Mysies to Kitty of the 15th part generation of ancestry. The Shropshire Downs look well, although some of the lambs are late. We do not need to remind our readers of the many triumphs that Mr. Campbell has won in the show-rings of Ontario, with his Shrops including several sheepstakes pen prizes.

Mr. John Meyer has been breeding Shorthorns for the past fifteen years. He started by purchasing several of the old Kenneth MacKenzie stock, of the Young Flora (imp.) strain. These were sure breeders, excellent milkers and splendid cattle. The herd now consists of some 15 animals, headed by the 6th Duke of Kent 5944; dam, imported Sultana 7th. He is of the Knightly tribe of Shorthorns, a tribe famous, the Shorthorn world over for their excellent milking and beefing qualities combined. He is now just 4 years old and has proved a most excellent sire, one of his calves, Lady Maxwell 3rd, having now the red ticket at the last Provincial. This promising young heifer has every indication of making a cow that will be hard to heat. Her dam, Lady Maxwell is well ribbed, short legged, well fleshed, medium sized and above all an excellent milker. Her owner is of the opinion that she does not stand far in the rear for richness and quantity of milk, of the famous little Jersey, and she, certainly, for wealth of flesh and feeding qualities far surpass them. She is now nursing her third calf, a promising heifer. This strain of cattle were imported into Canada only a few years ago from the United States. They are noted among other things for early maturity. Red Rose of the Syme strain is a fine broad backed, well ribbed cow, now nursing a fine heifer calf. Ruby, by Recruit 24495, is also a fine large cow of the Beauty strain. She has produced a fine heifer calf, now about 9 months old. These are some of the Telluria family in the herd in the ancestry, of which are such bulls as 8th Airdrie (21883), Baron Wildeyes (33100), Oxford's Baronet (29499) and 11th Duke of Northumberland (25993). Mr. Meyer also breeds Cotswold sheep. He says that coarse woolled lambs have sold well with him and that they are likely to soon come into favor again, as it is found that only the first cross of the fine woolled impress. Berkshires are also kept and always found in good demand.

Galloways.

Mr. Thos. McCrae, of Guelph, has landed at Quarantine grounds, Quebec, 56 head of Polled cattle, ex. steamship Hibernian. 54 of these are Galloways from the best herds in Scotland. There are animals from the herds of Duke of Buccleuch, Drumlaney Castle; The Earl of Galloway, Gowliestown; Sir Robt. Jardine, of Castlemill; Capt. F. E. Villiers, of Closeburn Hall; R. & J. Shennan, Baly; Thos. Biggar & Sons, Chapelton; John Bell, Miusea; W. D. Robinson Douglas, of Orchardton; Capt. Maxwell, of Terregles; R. Webster, of Airds; J. Nivison, Lairdlaugh; I. Drew, Craigeacallie; A. McConchie, Mains of Penninghame; A. Milligan, Corwall; W. Graham, Gilsland, and others. Ten young heifers were purchased for Gen. A. C. Ducat, of Chicago, and the fine prize bull, Independence for H. Sorby, of Gourock, Ont. There are also two Red Polls—heifers, for Col. Wm. Blair, of Truro, N. S. These are very fine animals, from the best herd, in England, that of J. Coleman, M.P., Norwich, Norfolk.

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\$5,000 in prizes for Horses, Cattle, Sheep, Pigs, Poultry, Dairy and Agricultural Products. Manufacturers and Ladies Work, etc., etc. **Entries close Saturday, Sept. 25th.** Copies of prize list and entry forms cheerfully sent on application.

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41st PROVINCIAL EXHIBITION

—OF THE—

Agricultural & Arts Association
OF ONTARIO

—TO BE—

HELD AT GUELPH

—FROM THE—

20th to 25th Sept., 1886.

Prize Lists and Blanks for making the entries upon can be obtained of the Secretaries of all Agricultural and Horticultural Societies and Mechanics' Institutes throughout the Province, or from

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1886 EXHIBITORS 1886
—OF—

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in the January, February and March issues of JOURNAL this year. You will see who has used it, and what is thought of it by the best stockmen in Canada. Stockmen feeding stock for the exhibitions will find the addition of THORLEY IMPROVED CATTLE FOOD to their daily feed of great benefit. Be sure, however, you

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For sale by leading merchants in nearly every town and village in the Dominion. Price, per 100 lbs., \$4 75; cotton bag 25c. extra. The following stockmen have purchased in quantities from 100 to 1000 lbs., viz.: Thos. Guy, Oshawa; John Dryden, Brooklin; James Hunter, Alma; J. & W. B. Watt, Salem; Peter Kennie, Fergus; H. & I. Groff, Elmira; J. S. Armstrong, Guelph; Geary Bros., Bothwell; Hay & Paton, New Lowell; Messrs. Sorby, Gourock and Guelph; and many others, whom space forbids us mention.

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ALLEN'S SHORTHORN HISTORY

BY HON. L. F. ALLEN.

The only work of its kind in existence. FOR SALE AT THIS OFFICE. Price, \$3.00, post-paid.

Stock Notes.

The catalogue of pedigree Galloway cattle, the property of Thomas Biggar & Sons, Chapelon, Dalbeattie, Scotland, is before us. In the body of the catalogue are the pedigrees of three bulls in service and 73 females, and in the appendix, it is stated that 21 calves were dropped since the first part was sent to the printer. The renowned Crusader (2888), bred at Chapelon and repeatedly first at the Highland Society's Show, is the chief of the herd. Cromwell (2856), 3 years old, and Coatsguard (3564), two years old, are also stock bulls. This is one of the most select herds in all Scotland. It contains a large number of females of the Balig family.

Aberdeen-Angus.

Mr. James Thompson, Brooklin, has purchased a number of Aberdeen-Angus grade steers from M. Boyd & Co., Bobcaygeon. The object is to test their beefing qualities.

Holsteins.

Mr. Caleb Cotton, Sweetsburg, Que., has sold to Mr. Ogden Sweet, of North Sutton, Que., the Holstein bull calf, Shonny Schwartz, H. H. B., 2025; sired by brilliant, H. H. B., 2905, and out of Maud of Onabruick, H. H. B., 6070. The price paid is \$125. Mr. Cotton mentions that his bull, purchased from the Messrs. Cook, of Aultsville, Ont., is getting well patronized this year, and that there has been good demand for grade calves from this sire. He gets from \$10 to \$20 for these grade calves—for the season \$210, against \$15 received on former occasions for skins and rennet, and has a number of splendid heifers left for his own herd. These facts speak for themselves.

Herefords.

About the middle of June, Mr. J. W. Vernon, of Tushingham House, Waterville, P. Q., sold a fine contingent of some 15 head of Herefords from his herd to Mr. Greig, of Calgary, to found a herd there. A number of these were from his splendid bull Tushingham, 19450 A. H. B., and we learn that they safely arrived at their destination. Mr. V. also sold a bull to Joseph Hickson, Montreal, Manager of the G. T. R., and has still on hand two or three young bulls fit for service, all sired by Tushingham. There is a fine lot of heifers still in the herd by Tushingham, and two herds from this establishment will be shown at the Sherbrooke Dominion Exhibition, to be held there Sept. 23rd to 2nd Oct. Tushingham is 600 lbs. heavier than last year.

Sheep and Pigs.

Mr. G. E. Roszel, Smithville, Ont., has recently purchased the boar, Black Prince, from Mr. Harold So. y, Gourock, Ont., to use in his herd of Berkshires, which are largely of Mr. Sorby's stock.

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ROCK SALT, indispensable for Horses and Cattle.
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There will be

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Holstein, Jersey
and Guernsey

BULLS AND HEIFERS.
along with some prime TWO-YEAR-OLD STEERS, as also Ram and Ewe Lambs of

- Lincoln, Cotswold,**
Leicester, Cheviot,
Highland, Oxford,
Shropshire, Southdown
and Merino.

NO RESERVE, and special conditions will be allowed Ontario Farmers.

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The subscriber will sell

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- 13 Grade Shorthorn Milch Cows, from three to seven years old, and most of which will not be long calved at date of sale. They are fairly good.
- 5 Grade Shorthorn Heifers, two years past. All with calf to imp. Waterloo Warder and British Sovereign. They are not large, but average.
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- 2 pure-bred Shorthorn Bull Calves, one by Waterloo Warder.
- 5 pure Shropshire Down Ram Lambs, from imported sire and dams.
- Some 12 pure-bred Leicester Ewes, from two to four years old.
- Some 12 cross-bred lambs, from an imported Shropshire Down ram.
- Some 20 pure-bred Berkshire Pigs, six months and under, from imported stock of the Snell and Sorby herds.
- A number of Grade Calves will also be sold.

The cows will make good dairy cattle, and most of them will milk all through the winter.

The above stock, with the exception of two animals, have all been bred on the farm.

MR. JAMES KERR will also sell at the same time and place:

- 1 three-year filly, by the blooded horse Risingham.
- 2 two-year fillies, one by Donald Dinnie and the dam by King Tom.
- 2 one-year fillies, by Risingham and Handsome John.

Parties from a distance wishing to attend this sale will be met at the **LIVE-STOCK JOURNAL** office and driven to and from Riverside.

Full particulars in September issue of **JOURNAL**.
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 A small yard of very fine Wyandottes from which I will sell a limited number of eggs at \$3 per 12.
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Sir Archibald won the sweepstakes silver medal at Toronto Industrial, 1885 and also headed the sweepstakes prize-winning silver medal herd at the above fair, and also at London. The cow Nixie L., in the above herd, also won the first prize for milk test, at London, for quantity and quality. I have ten young thoroughbred Holstein bulls for sale, one and two years old.

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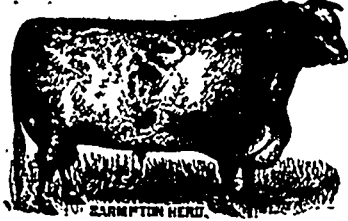
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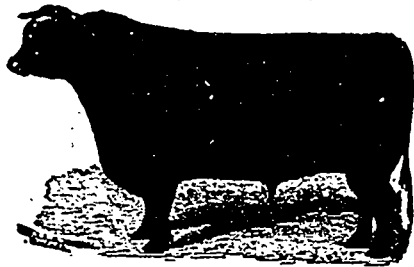
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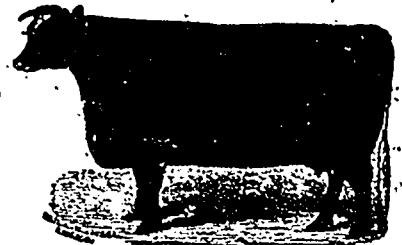
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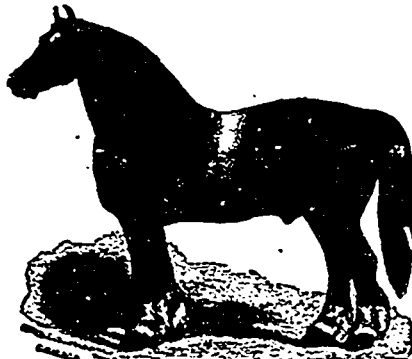


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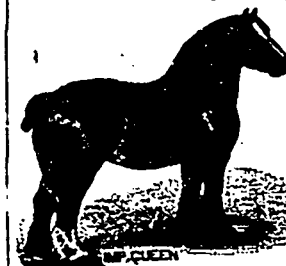
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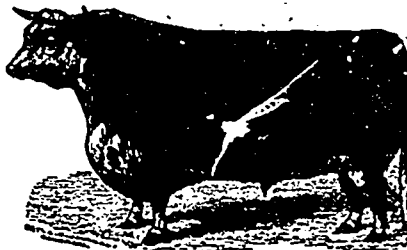


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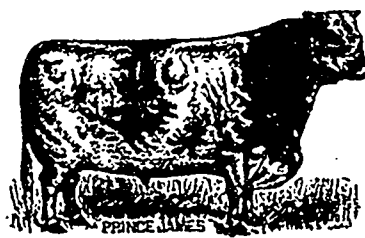
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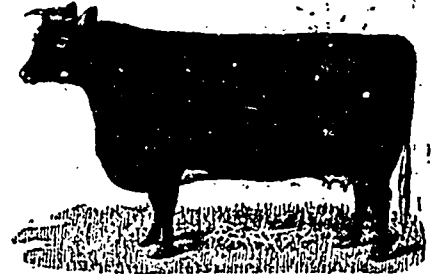
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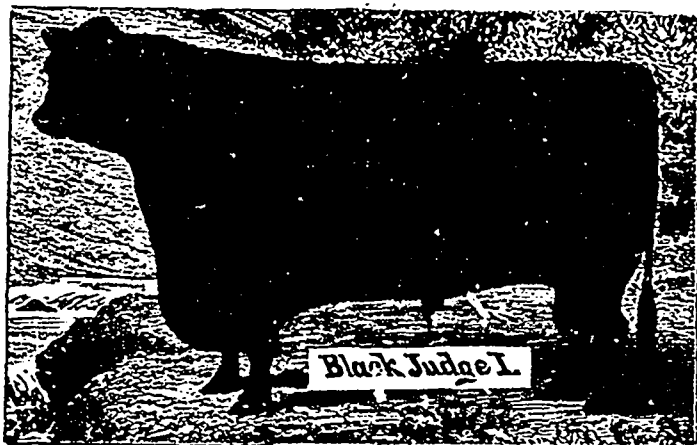
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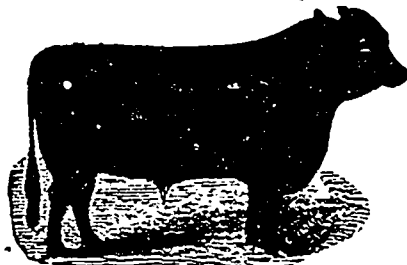
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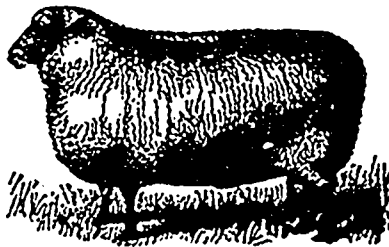
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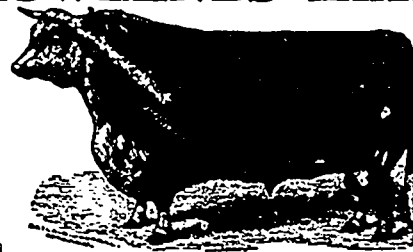
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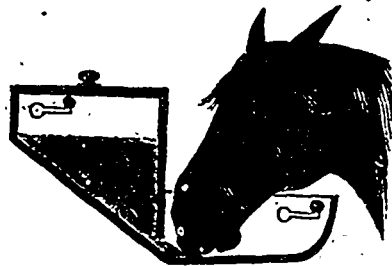
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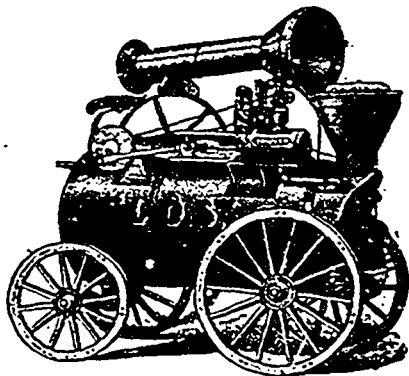
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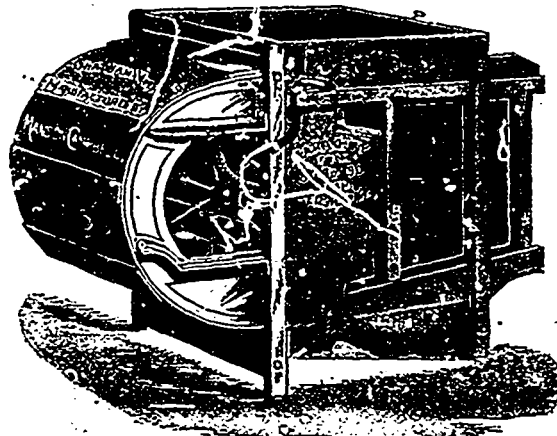
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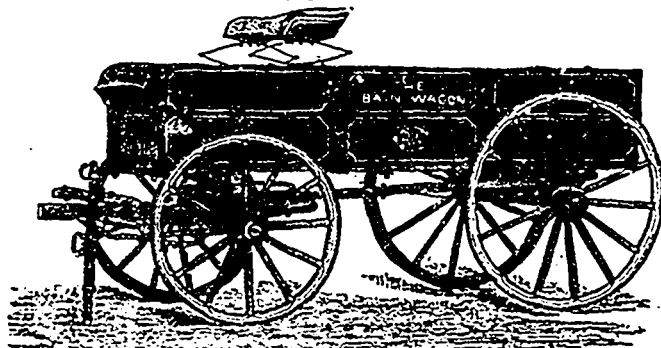
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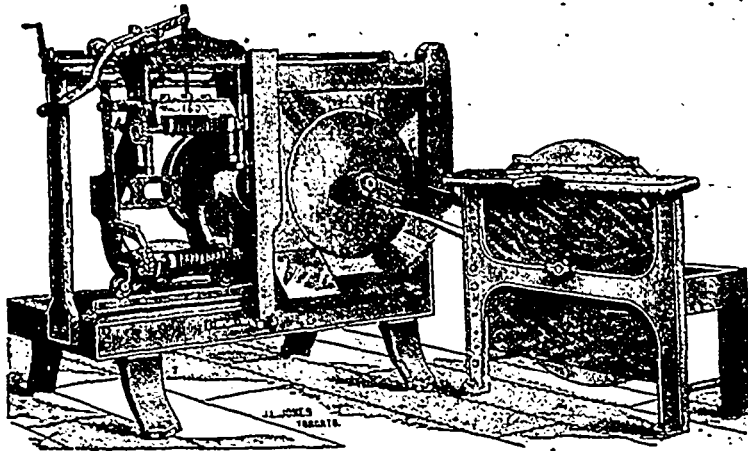
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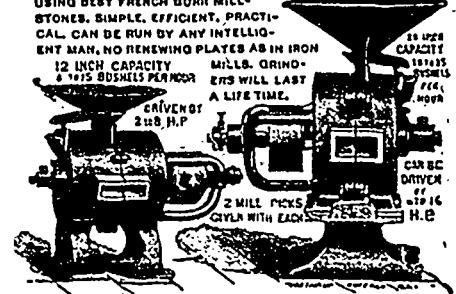
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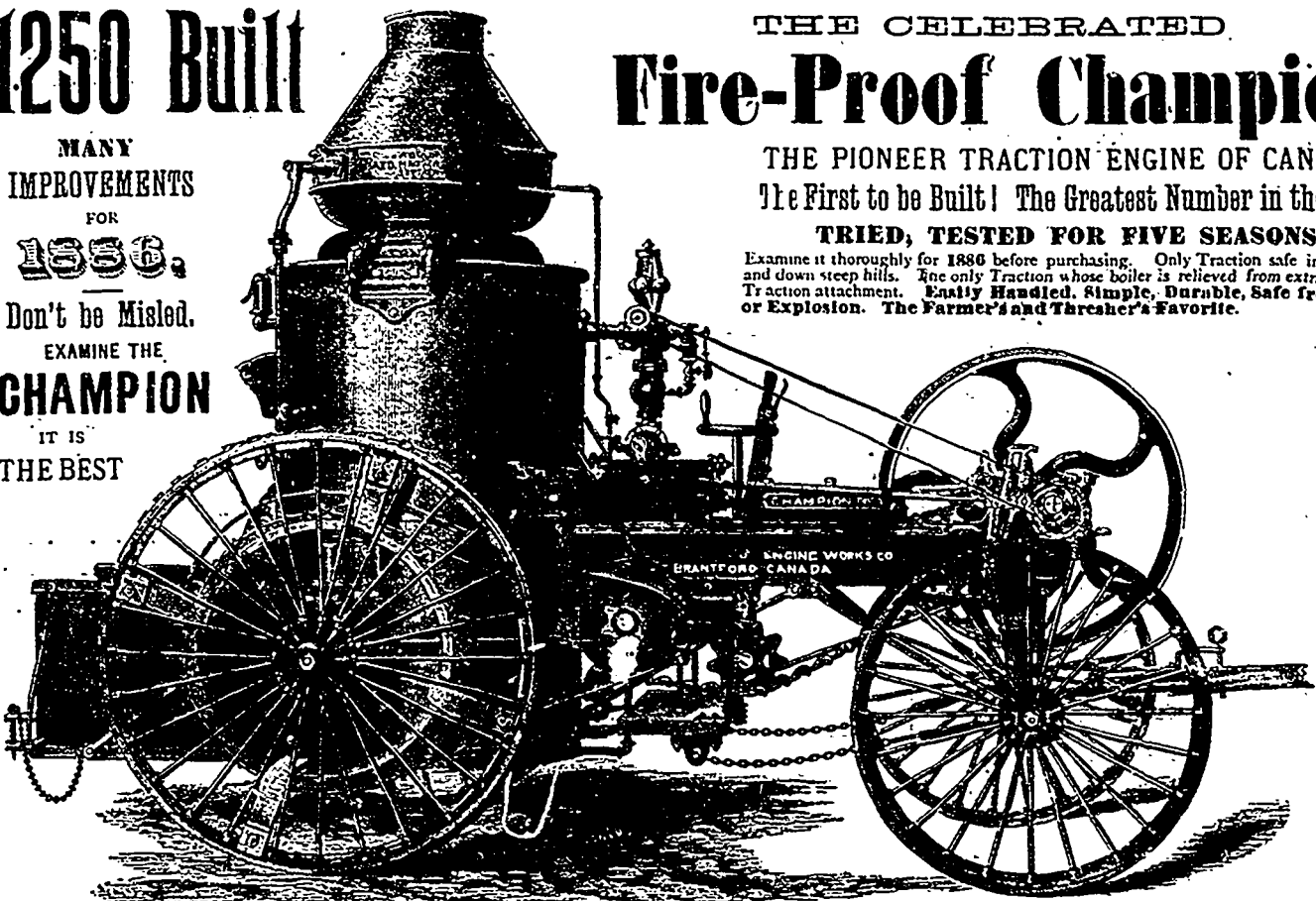
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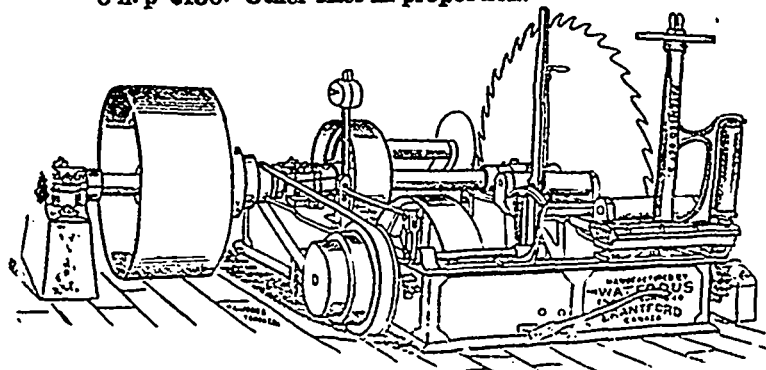
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