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CANADIAN

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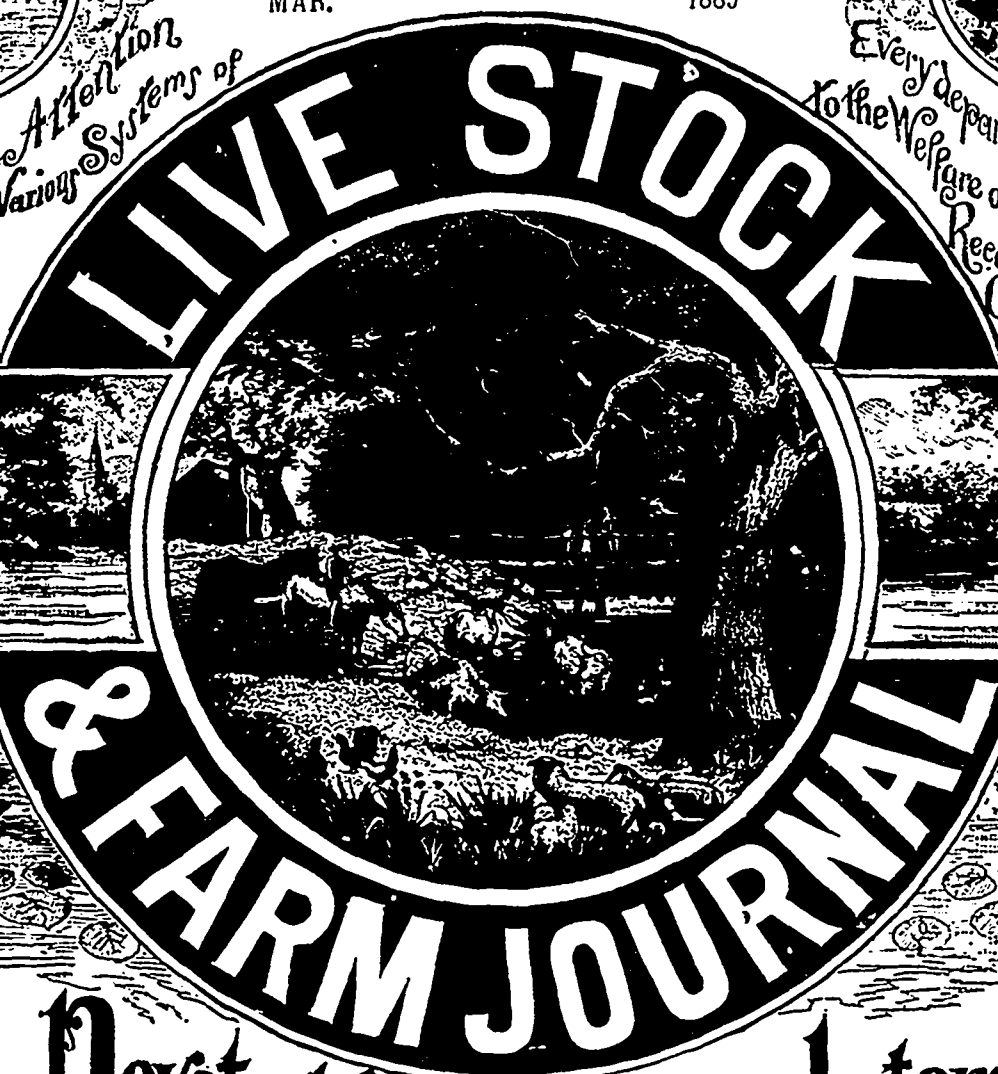
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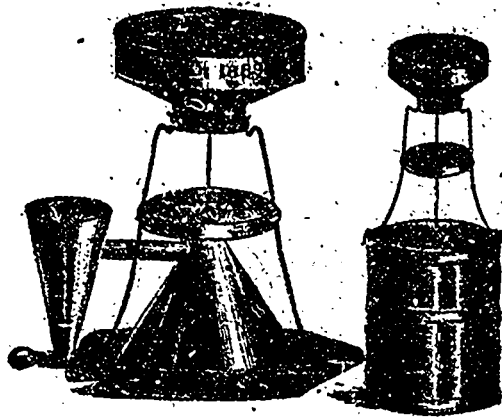
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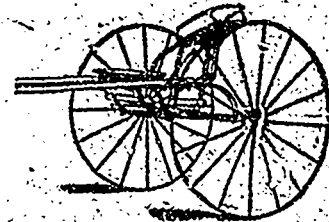
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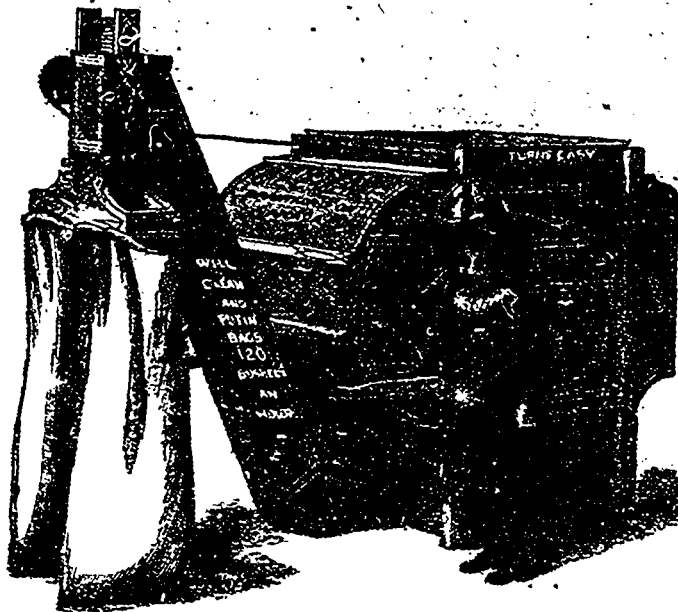
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JAMES J. H. GREGORY, Marblehead, Mass.

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More than 40,000 are reported with other Disk Harrows, which the "Corbin" was sold and settled for the past two seasons. The simple fact of the matter is that the "Corbin" is **THE STRONGEST**

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and the only Disk Harrow that is reversible and cultivates all the land under the tongue and leaves the land level, and its work in the field quickly proves it.

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is made by men who have made a specialty of Disk Harrows for years, and they know what is necessary in a perfectly working Disk Harrow. In this respect they have a great advantage over inexperienced manufacturers.

SEND FOR 1889 CIRCULAR

which has some interesting facts and description of a new Harrow.

Mr. Thos. Shaw writes in *Live Stock Journal* of March, '88: The reason this firm (St. Lawrence Manufacturing Co.) has done so well is because they have manufactured a good article, the usefulness of which we have verified on our own farm.

ABOUT THE SEEDER

This has now a perfected drive gear and gave excellent satisfaction last season. As it greatly adds to the utility of the Harrow at a small cost demand for it is rapidly increasing.

The Corbin Steel Drum Roller, with Grass Seeder.

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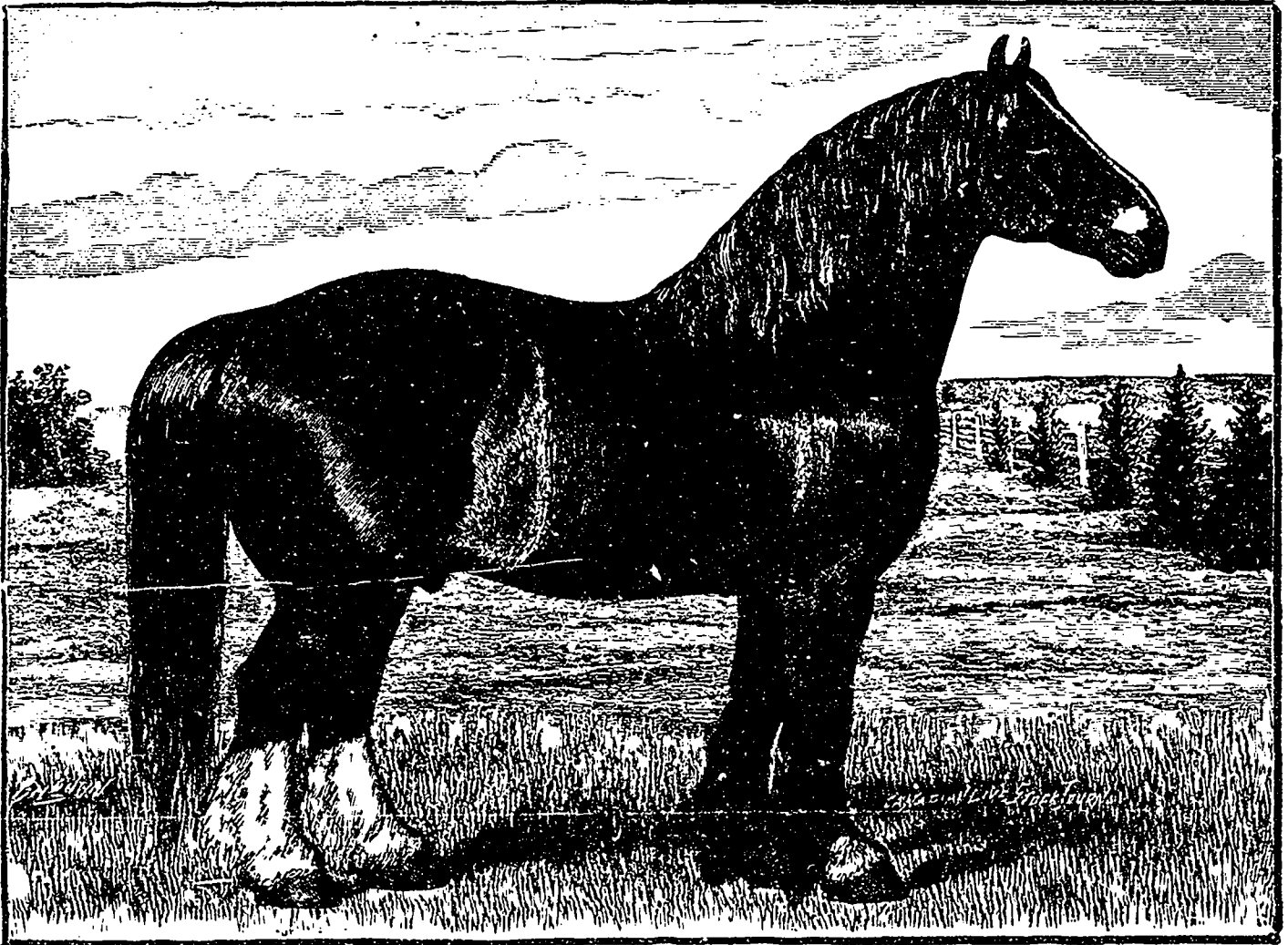
THE CANADIAN LIVE-STOCK AND FARM JOURNAL

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

VOL. VI.

HAMILTON, CANADA, MARCH, 1889.

No. 65



HARLEQUIN [622].

Imported by and the property of D. & O. Sorby, Guelph, Ont.

Harlequin [622].

A solid bay with three white feet and ratch face is the subject of this month's illustration, from the stables of D. & O. Sorby, of Guelph, Ont. He was foaled May 15th, 1886, and was bred by Maxwell C. Muirhead, Holcroft, Dalbeattie. He was imported in July, 1887, by his present owners. Skelmorlie [4027], was his sire, and his dam was Sylvia (2578), by Robert Burns (702, 2nd dam Lane Lily (848), by Lofy (460)). Skelmorlie (4027), was sire of Top Gallant (1850), vol. iv, p. 217. Harlequin thus traces to the famous Darnley (222) and the noted Bloomfield Champion (95).

The prizes won by the illustrious Darnley (222), or those of even Bloomfield Champion (95), are too many to be given in a review article, but those of Top Gallant (1850) are as follows:

In 1880 he won the three year-old premium of £100 at the Glasgow Spring Stallion show, 1st at Glasgow May show, and 1st at the H. and A. S. of Scotland at Kelso. In 1887 five two-year-olds got

by him won 3d prize at the summer show of the Glasgow Agricultural Society.

Harlequin is of a low set, blocky type, impressing the onlooker strongly with his firmness of carriage and solidity of body. His eye is full and mild, a sure criterion of quietness of disposition, practically shown by allowing any one to handle him while loose in his out door paddock. That this gentle disposition was not due to sluggishness was indicated by the way he capered in sportive play within the bounds of his yard. His chest is deep and broad, with a strong shoulder, and full, ugly-ribbed barrel. His quarters are plump and heavily-freighted with muscle running well down to hocks clean and well jointed. Taken all in all he is of a form and build coupled with a healthfulness of constitution that cannot fail to make him a sire of great worth.

Testimony of Our Premium Winners.

We take great pleasure in thanking our readers for the large number of new subscribers sent us during the past month. March is really one of the best

months of the year for this work, and we hope those who have not already renewed will please do so and send in at least one new subscriber along with their renewal. See our supplement of December last and kindly note the many valuable premiums we are offering. We give below a few of the many eulogiums we are receiving with each mail as to the way our premiums have been received by those who won them:

"I received the fowls in due time and am very much pleased with them. I consider them the best Plymouth Rocks I have ever seen. Wishing the JOURNAL every success, I am, sir,

Yours respectfully, JNO. DOUGLAS, Tara, Ont."

"I received the pair of fowls which you sent me all right. I could have sold them three or four times since I got them, but I will not part with them. They are much admired by every one who sees them. If it would not be too much trouble for you to send the breeder's name and price list of his fowl, there are quite a number here that would like to have a pair of the same kind. I feel quite proud of my pair. If I am spared I will in another year try and do better for the JOURNAL."

COLIN CAMPBELL, Crosshill P. O., Ont.

Canadian Live-Stock & Farm Journal

PUBLISHED MONTHLY BY

THE STOCK JOURNAL COMPANY,

48 John Street South, Hamilton, Ont.

Terms, \$1.00 per Annum in Advance.

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. No advertisement inserted for less than 75c. Contracts broken by insolvency or otherwise will revert to the usual rate of 18 cents per line per insertion.

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

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

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

HAMILTON, CANADA, MARCH, 1889.

As SPRING approaches it is customary on many farms to begin feeding the horses for the coming hard work. This being so, a word of caution will not be out of place. A horse is far from being fitted or trained for coming exertion by being stuffed with soft feed, or fed too much oats. One of the chief dangers resulting from this is the tendency for inflammation in some form or other to set in, which in many cases results in death. It would be better not to advance the ordinary hay and oats with the weekly bran mash until the work calls for more food.

THE art of feeding is a wonderful art. It is worthy of the study of the most profound minds. One man undertakes to prepare a herd for the show-rings and ruins some outright before the show-day comes, and others for all time after it is over. Another will fit up cattle for the show from year to year, win prizes with them and have them breed right along. One will so feed that his favorites become patched with lumps, and another so that the hollows are leveled up with good flesh. For every feeder who is master of his business, there are a score who are not. The men who do the effective work are those who should get liberal encouragement. It is preposterous to put the feeder who, year after year brings away his animals from the show-rings uninjured by the ordeal, on the same financial level as to wages, with him who every now and then injures a valuable animal beyond the possibility of recuperation.

We sometimes meet with farmers, who, while conceding the advantages that would accrue from stock improvement, object that they have not sufficient capital to expend in this way. This objection is oftentimes not valid. They may not have sufficient capital to purchase pure-bred females on which to lay the foundation of a herd, but in many instances they are able to purchase a male, when they refrain from doing so. There is no farmer living in a neighborhood in which a pedigreed sire is found, but who could usually profit by the services of such if so inclined. A lack

of will is a greater hindrance than a lack of money. It is owing to the fact that prejudice is stronger than reason, that the force of habit is more powerful than evidence, that the great majority refrain from improving their stock. A contemporary suggests that, rather than go without the advantages of stock improvement, those who have not the requisite cash should borrow it. We look upon the advice as of more than doubtful expediency. The complete renovation of all the stock in the Dominion might be brought about in a few years by the use of pure sires, and all this could be done without borrowing one dollar.

THE Spanish proverb, that "The foot of the sheep is gold," is not without its significance. Sheep manure, liquid and solid, taken together, is fully three times more valuable than that of the cow. On pastures they distribute it evenly, and it does not cake and kill the grass upon which it falls as in the case of cow manure. Another feature of excellence they possess over other domestic animals is their strong digestive power, as instanced by the fact that Sir John B. Lawes produced from 100 lbs. of food 11 lbs. of mutton, and from an equal amount only 9 lbs. of beef; the wool produced being extra. Sheep also have a great proclivity for variety of forage, and thus, by eating all manner of vegetation, they become the scavengers of the farm. Another item is the quickly paying dividends they yield; they strikingly illustrate the old saying, "A nimble sixpence is better than a slow shilling." On no other animal is the risk as small. Let a lamb die at birth, it has cost nothing in food; if it succumbs the first winter the wool will pay for its keep, and so on, the balance in its favor increasing as years roll on.

TOO MUCH care cannot be taken to see that the cows get pure, clean water. Not only is the health of the cow impaired if the water is filthy, but the milk is in most cases rendered unfit for use. Before the Pharmaceutical Society of Great Britain Mr. Adam Gibson read a paper on "Cow's Milk, a Probable Source of Danger," in which he gave the circumstances attending an outbreak of typhoid fever. It was found that the outbreak was confined to families that had used the milk from a certain dairy. On inquiry and investigation it turned out to be that the cows had been pastured on a piece of waste land through which ran an old bed of a river in which a stagnant pool of water had collected. All sorts of rubbish was usually thrown into this old river course. This stagnant pool was the only available place for the cows to slake their thirst. An analysis of the water being made, it was found that the solid matter in it—consisting largely of decaying animal and vegetable matter—amounted to 42 grains per gallon. The circumstances were such and the proof so undeniable, that the investigators were unanimous in the conclusion, that through drinking of this stagnant water the seeds of this fell disease had been scattered in a neighborhood.

The Central Farmers' Institute.

The second annual meeting of this influential farmers' parliament was held in Toronto, February 5th to 7th, and was unquestionably the most representative meeting of that body ever held in this country, embracing as it did not only the delegates sent down by the seventy-two different institutes now in existence, but also those from nearly every farmers' association in the land, including the Ontario Agricultural College, and the Experimental Farm at Ottawa. The attendance was quite beyond the capacity of the York County Council chamber in which the meeting

was convened, a considerable number of the delegates having to stand during several of the sittings of the convention.

The discussions were most animated, and the ability displayed would have done honor to any company even on the floors of the legislature. A striking feature of the meeting throughout was the thoroughly independent nature in which the various measures were discussed. Everyone present seemed possessed of opinions of his own and of the courage to express them. No one in the assembly could arrogate to himself the position of the great Mogul, or command a following at his back. The age is fast waning when farmers surrender their opinions or keep them in abeyance, because a smooth-tongued orator happens to come in their midst, often from places far away, when the day of candidature comes for a representation in parliament.

The trend of public opinion was accurately gauged this year again on many important subjects. The debates on the questions of statute labor, the abolition of township shows, and municipal reform, made it very apparent that as yet the public are better pleased with things as they are. The discussion of the paper read by Prof. Shaw on the work of the Institutes, bore some fruit. The recommendation it contained, that the January vacation at the Ontario Agricultural College be abolished, and that the college term close in June, was adopted with entire unanimity. The other and equally important proposition, that a director of Institutes be appointed to arrange for the various winter meetings, and who shall be held responsible for their success, was tabled for one year. The discussion on this question brought out the truth that public opinion had made a long stride in this direction since the meeting last year, and there is now little doubt but that next year the proposal, which is certainly a wise one, will be adopted.

Although the number of the subjects discussed was too large for the limited time allotted to them, it must be conceded, that on the whole, the findings were rather negative than positive in their character. Yet good work may be done in this way just as truly as in the opposite; for if it is demonstrated to the whole country that the opinions of a minority are not acceptable, it makes it apparent that these opinions may be laid away in peaceful slumber or those holding them must continue to agitate with a persistence that knows no waning until they behold their efforts crowned with success. In this way many a discussion will never get the length of the Legislature that otherwise would absorb the attention of the whole house for days, and to but little purpose, for the Central Farmers' Institute has this intensely practical advantage over the Legislature that it can settle in less than half a day what would occupy the Legislature half a week, with all the venerable fossilism of antiquated form that characterizes its movements, which so often have motion with scarcely perceptible advance. In truth the Institute is the most effective committee on new bills that ever sat in the vestibule of the Legislature of this country.

It has certainly become the great tree of agriculture in Ontario, beneath the branches of which all the various interests of the one great original may find protecting repose. The doors have been thrown wide open by the modification of the by-laws relating to representation, so that the brethren of all the varied agricultural institutes of this province will henceforth come once a year to look one another in the face, to interchange friendly greetings, and together to pull mightily at the wheel of agricultural progress which

has stood so many years in the mire of the oppression of other interests, that the wood thereof is considerably tainted with decay. We trust the yew-heave-away will be united every time. If it is so, it cannot be long until this wheel will be lifted on to solid land, and rendered capable of making revolutions proportionate to the advancing and increasing power of the engine of modern agricultural progress.

Now that the two pioneers of the movement, Mr. V. E. Fuller and Prof. Shaw, have dropped out of the van, its fortunes will be watched with interest. It will doubtless be found here as elsewhere that when organizers have done their work and gone their way, others come in and carry on the work which they have originated.

Mr. Fuller stepped aside in consequence of the demands of business upon his time, amid the regrets of the whole assembly, a resolution having been passed to have the record of his services engrossed at the expense of the Institute, that this crowning work of his life might thus be kept in perpetual remembrance. His mantle has fallen upon Mr. N. Awrey, M. P. P., the member for South Wentworth, and a better choice could not well have been made. Mr. Awrey is still filled with the vigor of a well matured youth, to which is added a large experience in legislative and executive ability. Mr. R. H. Pettit, Grimsby, is Mr. Shaw's successor as secretary, a gentleman who has given good proof of his capacity for this department of the work.

A number of subjects were held over for discussion another year, and already application has been made that others be placed upon next year's list. And why should it not be thus? Interests so vast and varied as those that relate to the agriculture of this country will continually give occasion for discussion and legislation as long as it is a country, and who so well capable of discussion and giving direction to the legislation growing out of this as the farmers themselves?

Ayrshire Importers' and Breeders' Association.

We have to hand a circular from the above association addressed to the owners of Ayrshire cattle, and dairymen, asking their assistance for the furthering of the following laudable ends: To encourage the importation and breeding of pure bred Ayrshire cattle; to keep a perfect record of their breeding and pedigrees; to publish a truly reliable Herd Book of Ayrshire cattle; to develop a friendly rivalry, to excel in breeding and exhibiting, and to promote by every fair means the interests of their owners. The recording and publishing work of this association, the circular informs us, so far extends to 5 000 pedigrees, tracing to reliable importations, all thoroughly revised, contained in volumes one and two, the former being now ready for sale. The wish is expressed that every Agricultural Society in Canada will obtain copies as books of reference, to assist their members in avoiding the purchase of so-called Ayrshires, that are too often offered instead of pure-bred animals. The conditions of membership and the fees are as follows: On the payment of \$5, owners of Ayrshires may be accepted as members by the president, or by the vice-presidents, or by the Executive Committee. Entry fee payable by members for each animal, one half of the charge to new members. Entry fee to non-members for each animal, \$1; certificate and pedigree of each animal, 25c.; transfers recorded of sale, 25c.; transfer certificates and duplicates of each animal, 25c.

The following are the officers of the society: President, Wm. Rodden, Plantagenet, Ont.; vice-presidents, James Drummond, Petite Cote, Montreal; Hon. L. S. Beaubien, Outremont, Montreal; secretary-treasurer, S. C. Stevenson, Montreal.

The Relation that Stock-keeping Bears to Successful Farming,

This relation ordinarily is so uniform that the exceptions are rare, if indeed there are exceptions. Some alluvial lands, formed by accumulations from the best and richest of a large number of varied ingredients, will in time wear out if not replenished from some outward source, and relief in most instances comes from the increment of animals, or from substances formed out of animal remains.

This relation was traced long ages ago, and was practically acted upon in the conservation of fertility. English writers in the sixteenth century have made more than casual reference to its importance in the meagre agricultural literature of the time, and happily now every work on agriculture worthy of the name dwells upon the importance of this relation, when at all within its province. The agricultural newspapers dwell upon it, and theoretically almost every farmer in the land assents to the wisdom of stock keeping as a means of preventing soil-improvement, notwithstanding the major portion of them do not practice what they preach. They say, "I go, sir," and do not go, hence we have the result that in an overwhelming majority of instances the elements of fertility are being drawn from the soil with a rapidity which renders it impossible for the recuperative powers of nature to restore the equilibrium.

Viewed in the light of restoring agents of a vanishing fertility the live-stock of any country is of immensely more value than the actual estimate put upon it as meat, or milk, or milk products, or its capacity for producing these. A fat bullock may be worth a certain sum in cash for the uses of the block, and that is all that is considered in the bureau of industry returns, or in the national estimate of the wealth of the country. No account is taken of the extent to which that bullock has increased the productive power of the country, and of the worth that he will be to it in the same sense if he is permitted to live for a longer period. The assessor enumerates the numbers and ages of the live-stock upon the farm, but he cannot make an estimate of what the increase of future returns will be, because of the fact that those animals have lived.

So intimate is the relation between the stocking of a country and its prospective producing capabilities, that the measure of the one is the index of the other. Where the land is stocked to its full capacity land robbing is arrested of necessity in the feeding of the products of the country upon the farm. This makes it sure that soil denudation will not follow because of grain exportation. We must not forget, however, that because food products are not exported it does not follow that they ensure to us a conservation of fertility; nay, they will not, unless the resultant manure is carefully worked and judiciously returned to the soil as soon as this can be done.

Herein consists the unmeasured importance of giving all needed attention to the conservation of these stores, for just in proportion as this matter is neglected, in the same proportion will the future crop returns be withheld. The husbandman who is prodigal of the food producing supplies is in no wise on a higher plane than he who is prodigal of food supplies in the use he makes of them. The only difference is one of light, for the farmer cannot easily waste food without some twinges of conscience; he may waste supplies of nutriment because that conscience never has been sufficiently enlightened.

The history of agriculture on the American continent since the days of Christopher Columbus amply illustrates the subject of this paper. It has been at

first a system of land spoliation, following in the train of colonization from the Atlantic to the Pacific. However much these colonists in their westward march may have improved the beauty of the country, they did not improve its fertility. The foot-prints of a lessened fertility were clearly traceable over the whole continent, and this arose first from the fact that they kept but little stock comparatively, and second, that they gave less attention to a proper conservation and application of the excrement coming from these. As in the march of the locust, there was stripping, but it was stripping beneath rather than above the surface.

With forestal denudation, and exportation of nearly all the grain that came out of the soil, and inconsiderate waste of the elements of fertility in the barn-yard, there came a time in the experience of nearly every settler when he felt the necessity of pushing westward, not only to get land for his sons, but because the lands had become unfruitful under the processes of perpetual fleecing. The tombstones in the burying places if carefully examined bear confirmatory evidence of the truth of our statements, for the family names at first deciphered in marble within sound of the sullen roar of the Atlantic sea-board, re-appear at various intervals on the inscriptive records of the dead in a regular succession as we move toward the realm of the setting sun.

Let us now notice the means adopted to restore these lands in the depleted east. Why, in nearly every instance the one restorative was used. Stock-keeping was introduced, and artificial manures used as adjuncts. What patent medicines cannot do for the human family, notwithstanding the clamorous and pretentious claims of the vendors, stock-keeping did for these lands. Whatever the form or source of land-sickness, stock-keeping was found equal to the task of restoration.

It should not be forgotten that prevention here, as elsewhere, is a long way in advance of cure, and that the same means that will satisfy lands weak with starvation will much more easily prevent them from becoming starved at a much less outlay. And this is what we urge upon our fellow farmers to give their first attention. If they don't they rob themselves while they rob their lands and commit material suicide with their own hands. Those who are fleecing their lands by selling grain products should stay their hand, and this must follow if their attention is turned to the judicious production of either horse-flesh, meat, milk or wool.

Stock-keeping enriches land not only by restoring what is taken from the surface to the same again, but it draws from the subsoil through the growth of the green crops necessary, and thus increases the fertility of the surface soil. But here it may be objected that this is done at the expense of the subsoil. Well, what of that? Wherein does it afford comfort to any land owner to know that he possesses a valuable subsoil if it lies beyond his reach? The solace it brings is about equal to that brought to a needy, hungry boy looking in at a baker's window, where supplies are abundant, but they are beyond his reach. It matters little to the generation living to know that stores of nutriment, sufficient for generations, lie inert in an inorganic state in the subsoil, if there is no way of making them available for processes of plant growth. True, these may be reached, and drawn upon where stock-keeping is not much practised, for green crops may be grown and sold, but herein is perpetrated a double robbing—that of both the surface soil and the subsoil.

In no country in temperate climates has agriculture made any great advance where stock-keeping is not a

leading factor in the processes of the farmer, and here without a doubt, "the thing that hath been is that which shall be." The farmers of this country who would fill their coffers with satisfying gold must turn their attention to keeping stock of a profitable sort, and put forth the endeavor to produce for them on the farm the bulk of the food supplies fed them. Then if due care be exercised in the use that is made of the resultant barnyard product, they will enjoy at least measurable prosperity, and when the farm comes down to the next occupant it will not prove an unproductive increment from which he would fain get away.

The Canada Coach Horse Breeders' Society.

A society bearing the above name was organized at Goderich on Wednesday, February 6th, 1889, by a number of gentlemen interested in this direction. It appears that horses bred and owned in Canada are not eligible for entry in neither the English nor American stud books. The following are the officers for the present year:

President—John Gillson, London; Vice-president, John Aikenhead, Goderich; Secretary, James Mitchell, Goderich; Treasurer, David Fisher, Goderich. Directors—James Essery and Leonard Hunter, Exeter; Andrew Young and Wm. Young, jr., Colborne; A. J. Conover, Wingham; Wm. Elliott, Porter's Hill; J. D. O'Neill, London; P. McGregor, Brucefield; James Henderson, Belton; J. W. Robinson, St. Mary's; J. P. Fisher, Auburn; Dr. J. B. Whitby, Goderich. Executive Committee—James Essery, John Aikenhead, Andrew Young, P. McGregor, D. Fisher, and the president.

The following was adopted the standard of registration; First, only such animals shall be registered as have at least two crosses of imported English coach or Cleveland bay, or of standard-bred or thoroughbred blood. Second, such horses only shall be registered as accepted sires, for this book, as are at present recognized both in this country and in the United States to be first-class coach horses of known and popular merit, and such individual horses to be admitted upon their approval by the Executive Committee. Horses admitted under this second clause shall be registered free of charge, if dead or removed from the country prior to the year 1889.

The fees were fixed as follows: Membership, \$5; entries \$1 for each animal by members, and \$3 for each animal by non-members.

Feeding Potatoes to Milch Cows.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—An answer through your valuable paper to the following questions will greatly oblige the undersigned:

1. Are potatoes good feed for milking cows?
2. Are they better boiled than raw?
3. I am told that they have the effect of drying off the milk; is it so?

DUFFER.

Welwyn, Ont.

Potatoes are classed with the group of foods known as carbonaceous on account of the large amount of carbon they contain, which is principally in the form of starch. The following is the average composition, which of course is more or less influenced by the stage of their growth, manure applied, etc.:

	Total.	Digestible.
Dry matter	21.90	19.27
Water	78.10	
Albuminoids	2.19	1.43
Fat	1.10	
Carbohydrates, starch, etc.	18.19	17.28
Ash	.88	

The function of starch in the animal economy is to supply heat to keep up the vitality furnishing the

force to run the machine, as it were. Starch is plentiful in vegetable life, and on this account is not of such value as the albuminoids, which are comparatively scarce in plants. For the production of milk, a food rich in albuminoids, is needed, and a glance at the above analysis will show that potatoes contain but a very meagre quantity of these. As a matter of economy it is advisable to cut the small potatoes and feed them to the cows and other stock, but as to buying them specially for this purpose, it should not be thought of, even say at 50c. per bag, for taking potatoes at this price, the purchaser pays \$50 per ton for the dry matter contained in them, (taking cornmeal at current prices for a basis of comparison) which is fully one and a half times more than would buy a ton of corn meal at the present prices, while the latter is a great deal richer in the same constituents, as are contained in the potatoes. Armsby writes in treating of this: "It may be added that the ash of the potato is rich in potash, and contains also considerable phosphoric acid, but only a little lime and soda; this must be borne in mind when they are used for feeding milch cows or young and growing animals."

In the boiling of potatoes or any other starchy food, a change is effected, resulting in a more digestible product. This class of food differs greatly in this respect from those that contain an abundance of albumenoids. The cow, having such a strong digester furnished her by nature, is able to assimilate those foods without such preparative measures being taken, which is not the case with the domestic animals. They are fed raw to horses, owing to the good effect of the juice in ridding the stomach of bots, it being poison to the latter.

Our answer to the third inquiry, grounded on experience, is that fed in moderate quantities, not exceeding 3 or 4 quarts per feed, the potatoes do not have this effect, but if a larger quantity is fed they will in all likelihood decrease the yield and cause scouring.

The Clydesdales at Woodlawn.

Never was name more fittingly applied than that of Woodlawn to the imposing residence of D. & O. Sorby, of Guelph, situated on a commanding site about four miles south of Guelph. The avenue leading to it from the public road winds through evergreens of varied parentage, but alike majestic and beautiful, bearing testimony to the owner's taste as well as skill in the gardener's art. A lawn studded with fitting shrubs, with a green-house at one end, forms the front view from the entrance, which greatly augmented the former indications of culture and taste.

But away to the large and well-filled stables. They contain at present 26 head of draught horses, 23 purebred Clydes and 3 grades. Boydston Boy (111) 1872 [216], deserves the post of honor, being the head of this stud. Though nearly 15 years old he is fresh and sprightly-looking, and still flourishing like "a green bay tree." Space and time would not permit us to attempt to give even a brief rehearsal of the history of this famous horse. All that are acquainted with the name of Lord Erskine (1744) (and what Clydesdale breeder is not), will readily do Boydston Boy honor when told that he is the sire of such a world-renowned horse as the one we have mentioned.

Farmer Lyon (3040) is a horse of splendid quality and of grand action. He has a strongly-knit frame, with an abundance of muscle and bone.

Lord Cross [623] (5157) was foaled 1885, and sired by Scots Wha Hae (4006), by Prince of Wales (673), dam Bet of High Borgue (2469); 2d dam Jean (2468), by Lochfergus Champion (449). Lord Cross stands well, and has a splendid front, with a barrel round and

strongly coupled to prime qualities. He is a very even horse, bay in color, with a white stripe on his face.

What's the Odds [301] (4780) is a strapping five-year-old, sired by What Care I (912), dam, Darling (3679), by Lord Lyon (489). He is a horse of strong bone and heavy build, though his color, a roan, may be against him.

Renfrew Jock [626] foaled May, 1887, one of the members of this stable, is a son of What's the Odds, out of Princess. The latter won 2d prize at the H. and A. S. show at Perth, 1879, as a yearling; 1st at the Royal at Carlisle in 1880; 1st for West of Scotland as a two-year-old filly at Girvan in 1880. She was also 1st with foal at foot at the Provincial at Guelph in 1886. Renfrew Jock is a growthy colt of splendid promise. He stands well on his clean, short limbs, and carries himself nicely. When matured he will no doubt prove a valuable getter of stock.

McLay [964] was sired by Gallant Lad [2781], by Druid (1120), dam Never Mind Him (557), by Prince of Wales (673), 2d dam by Gartverrie (321). McLay has such horses as Lochfergus Champion (449); Samson (741); Bloomfield Champion (95), among the list of his ancestors. He is a very strong-looking yearling, with deep breast and compact body, giving every indication of a vigorous constitution.

We next visit the stables containing the mares, ten in number. Fair Nellie [450], foal of July, 1887, was sired by What's the Odds (401), dam Fair Ellen [218], by Sir Michael (1530). The four great grand-sires of this matronly filly are Victor (892), Darnley (222), Lord Lyon (489), and the Prince of Wales (673). She is a strong-loined filly with roomy barrel, and wide hips and full quarters.

Lady Emma [222] (vol. v, p. 171), foaled May, 1883, sire Prince Charlie (629), dam Dumbarton Belle (1926), by Topsman (886), is a mare of rare worth, as attested to both by her pedigree and personal qualities. She is compactly built, with large barrel and broad, prominent chest.

Lucy Douglas, foal of 1887, sired by Douglas Chief (2603), dam Lucy Bogside (4449). Her sire and dam both trace to the Prince of Wales (673). She is a filly of good bone and substance, coupled with quality of the first order. She is snugly built, bay in color, with full, deep body and heavy quarters fore and aft.

Lady Vera [452] was foaled April 17, 1886, sire Belted Knight (1395), dam Nell (637), by Clansman (150); 2d dam Jess by Victor (892). She is bay in color, with two white hind feet. She has a motherly look that speaks volumes for her as a dam. Strongly framed, with a splendid body and good quarters, she cannot but be a thrower of first-class foals.

Miss Greig [453] was foaled May 8, 1886, sire Goldenberry (2828), dam, Lovely II. (1500), by Monkland Farmer (543); 2d dam Lady of Banks (266), by Lochfergus Champion (449). Miss Greig is a comely filly of great promise; bay in color, with three white stockings. Her body is well rounded and and tightly-ribbed, while her bone and feather is of the best quality.

Jane Eyre [217] (vol. vi., p. 425), was foaled 1882, and sired by King of Kintyre: dam Mary (2535), by Old Times (579). She is a mare of large heart-girth, close to the ground, with extra heavily-clothed bone and grand quarters.

We cannot, for the want of space, do honor to the rest of this worthy stud, sheltering as it does many of the prize-winners of this and other lands. During only the past season the following prizes were won by them at the Guelph Central exhibition, all in the heavy draught class:

First and second for yearling entire colt, first for two-year-old filly, first for yearling filly, first for span, and diploma for best horse in class. At Toronto Industrial Exhibition they were awarded first for span, and sweepstakes for heavy draught mare, any age or breed, second for two-year-old filly, and third for three-year-old filly.

Of the 16 comprising their last importation they have sold seven mares and fillies and one stallion to J. L. Head, Rapid City, Manitoba, and also one of the team that won 1st at Toronto and 1st as best draught mare of any age or breed, to Isaac Dewitt, Fonda, Ont.

Judges and their Appointment.

How to secure equitable decisions and prevent judges from tumbling into the slough of favoritism when acting at our exhibitions, is one of the burning questions, not only of the day, but of days long past. There is a feeling of discontent which has not by any means become mellowed with age, arising from many sources, and calling for the cleansing of our present system.

High-minded, square-dealing judges there have been, who gave decisions to the best of their ability, and if they failed in giving satisfaction it is due to the fact that there are always a few exhibitors who never are pleased with the judges and judging unless their exhibits are exalted to the skies, and given a place above all others.

It is not the croaking of such chronic carpers that we refer to, but there is a ven of dissatisfaction permeating our interests, and that has been sown by many of our most enterprising stockmen, that have time and again been balked of their dues by a trio of nonentities, or those who will truckle to the desires of favorites. We have heard a prominent stockman assert that he preferred to toss his carpers at home rather than journey to any exhibition at considerable expense to have it done publicly for him by another.

The position of judge is one of the greatest importance, for not only do the decisions more or less influence the success of the society for which he serves, but the future career of the exhibitor is in a greater or lesser degree affected, for show-ring honors wrested at our leading exhibitions, honestly and truly won, materially strengthen the good name of a herd or flock, especially if these latter be newly founded.

But beyond this there is another element, an educational feature, that still further augments the power vested in this personage. By giving preference to any one animal, the latter becomes the type of excellence in the eyes of onlooking novices, and also less or more reacts on the sages as well.

Recognizing, then, the prominent position and the wide-spread influence exerted by those who act in this capacity, it is but meet and proper that every care should be taken, and every means adopted to secure the services of men above petty pandering to the wants of exhibiting favorites.

Our friends across the line as well as those across the sea have moved in this matter, alike dissatisfaction prevailing. The former, particularly the swine breeders, have endeavored to introduce a rule of thumb system by way of the score card. That the latter has many features of excellence must be admitted, but trial in actual practice has not increased the number of its advocates. It does not eliminate the danger of partiality, and it robs the bystanders of the short-lived excitement of the brief clash in the show-ring, as the awards are made without direct comparison. To successfully give decisions, grading the value of each

point of merit, it requires of the judge that he be skilled in the using of it.

Our Scotch friends, at a recent meeting of the Highland Agricultural Society, gave loud expression to their disapproval of the present system, and the remedy advocated by the majority was to the effect that a system of nomination by exhibitors with a final selection by the directors would be the most equitable to all. This proposition has an agreeable democratic savour emanating from it, but to reduce it to a satisfactory looking basis would give rise to difficulty. How to obtain the votes of the bona-fide exhibitors would in itself prove an impediment in the way not too easily removed.

It has been suggested and urged that our associations take up this work. On another page we publish a letter over the nom de-plume of "Brevis," who we may say is a prominent light in stock circles, and well worthy to pen an opinion on such matters. While we heartily agree and willingly endorse his statements in regard to the prevalence of wire-pulling, we feel in duty bound to take exception to his remark that this incapacity and underhand juggling that he speaks about would increase one hundred fold. That three or four leading members should be able to control the votes of all the remaining members does not appear to us to be at all likely. We look with favor on the proposition, for we feel assured that the members of these associations have a far better knowledge of the proper persons for filling the position of judges than the directors of any of our leading exhibitions. It need not necessarily be that the associations should appoint these judges, but a selection could be made, such as they would feel inclined to recommend and from these the directors of our several exhibitions could make a choice. This would lessen the work and worry of the directors, and would on the other hand so greatly increase the work of the association, that to master it would be one of the greatest obstacles to surmount. Therein lies the greatest difficulty in this matter, for it would be a task of the greatest magnitude to furnish judges for all our leading exhibitions.

While welcoming this system as an advance on the old, we feel that partiality may ever be tainting judgments until the single judge system be put in actual practice, thus preventing the shifting of bad or biased decisions from shoulder to shoulder, and permitting the centering of the same on the only culprit.

"I received your picture of the Ontario Agricultural College and Experimental Farm. I am so well pleased with it I shall have it framed and hung up in my best room, and I shall show it to every person that comes to my place. Many thanks to you for it, and I consider it should be in every farmer's house. I also think your paper a grand stock paper. It also will be shown to all my neighbors and friends."—J. J. Fischer, Ben-miller.

"I enclose my subscription for the JOURNAL. I think it a very valuable paper for farmers, especially those who are not experienced, as it gives timely hints on farming in all its branches. Go on in your good work."—John Moffatt, Moffatt, Ont.

"Your paper is a credit to journalism. I would not like to be without it, and hope you may long be spared to accomplish the much needed work you are engaged in."—Robt. B. McLean, Kippen, Ont.

"I received your premium picture of the Ontario Agricultural College buildings and grounds, and must say I am more than pleased with it. It is worth nearly all we pay for the JOURNAL."—J. G. Mair, North Georgetown.

"I have received your elegantly engraved premium, and think it a very fine picture indeed, and also my first copy of your JOURNAL, which I believe is the best agricultural paper I ever read. I am highly pleased with it."—Louis Graham, Bethany P. O., Ont.

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.

Shropshire Breeders' Association.

Should we have one in Canada, is a question occupying the minds of many breeders at the present time. Are there any wrongs to be set right, or benefits to be got? Can false prejudices be rooted out, and more useful knowledge gathered? Can anything be gained? are questions apt to spring up when the advisability of forming an association is being discussed.

If breeders generally are quite satisfied with their past success, if all is smooth sailing with them in the way of breeding and rearing; if each has definite and correct ideas as to the points of merit and weakness in his flock, and individual sheep; or if flock-owners are certain that no steps can be taken collectively to further the interests of all breeders, it is quite evident an association is not required, and the time spent and expense incurred would be wasted. But do we find such a happy state of affairs? Among the breeders of all classes of animals the many—and indeed we might say all—meet with disappointments, troubles and trials, which can be very much lessened by an interchange of ideas and methods, which cannot be brought about without a periodical mingling together.

As the live-stock business in Canada is so rapidly growing in importance, and apparently destined soon to become the main one in all the older provinces as it is already in Ontario, is it not prudent for those engaged to use all wise and lawful means to secure what advantages are right in themselves.

In manufacturing and other lines of business we see what can be attained by associations. From sad experience we sometimes learn a lesson as to their power, when they have a monopoly. "Union is strength," but 'tis a pity that that strength is not always rightly exercised. When employed to corner markets, so as to enhance or depress values, setting aside the just law of supply and demand, then false values will profit those associated, and that directly at the expense of the weak and helpless. No right-minded person will fail to think that uniting for such a purpose is wrong in itself, and a great evil to the community.

On the other hand it is by union that wrong can be successfully met. With shoulder to shoulder the efforts unfruitful when scattered, will turn the tide of hindrances and losses, and aid the thoughtful breeders to secure more abundant returns from their operations. The breeding of sheep suffers more than any other from the want of united action on the part of breeders. From the Bureau of Industries' report for 1887 we gather the fact that the number of sheep is rapidly decreasing in our Province. In 1883 we had 1,868,784, in 1886 only 1,610,949, while in 1887 they had further decreased to 1,396,161.

Had our Federal Government, when arranging their N. P. tariff, given equal protection to the producers of the class of wool which is required by the manufacturers to make the goods most in demand, sheep-raising should not have declined in this country where everything but our Government, and that ever-present nuisance, dogs, is so very favorable to a great increase.

Have not the Shropshire breeders here a field for united action? While the Administration will lend a deaf ear to individual requests, it will not be so heedless when the demand is made by an influential association. We might well take a leaf from our southern neighbors' book, who so unitedly, and therefore successfully opposed free wool, one of the main issues at their last Presidential election. While not approving of a protective policy, yet I think that if any industry is protected, those, as sheep-raising, which are really

the foundation of our country's prosperity, should have at least equal benefits.

Another field for usefulness would be the devising of some means whereby intelligent decisions would be given at our leading shows. As these show ring awards, to a certain extent, gives the breeder his standing, and the animals their value, is it not often most confusing to the practical bystander to note the placing of premiums, and certainly the exhibitor whose worthy exhibit has been unnoticed, has just cause to complain. A notorious instance was seen at the last Industrial Exhibition, Toronto. A Shropshire ram, allowed, even by those directly interested in the competing sires, to be among the best, if not the best, in the lot, was not even drafted out in the first selection previous to making the final awards. When it was afterwards discovered that *not one of the committee had ever bred a single sheep*, the whole thing was quite easily understood.

Cannot an association undertake most useful work in appointing for judges reliable men who are competent to select the animals whose points of interest approach the nearest to a standard fixed by the members. Fair managers will undoubtedly be well pleased to be relieved from the difficult task—to them—of getting able and unbiased judges. It is evident "T. C. P.," who wrote on this subject in the January JOURNAL, did not observe the fact that an association may be productive of many mutual benefits without establishing a record of pedigrees. As the American Association have so generously altered their rules to enable Canadian breeders to get the pedigrees of properly-lined sheep recorded, and also have been so liberal in granting \$100 for prizes at the next Industrial at Toronto, the consideration of starting a Canadian record may very well be deferred till we first get our association, and possibly it shall not then be found necessary. At least, while the Americans continue giving us the present advantages, probably few, if any, will wish to have independent books. Even the manner of classifying the premiums which the Americans have allotted to us, would be more satisfactorily decided by an association here, so that all breeders would have equal advantages in competing for them. Prizes may be offered in such ways as to render it impossible for some exhibitor to enter for them, when it is not known for what class, or number of animals they are offered, until the prize lists are sent out a few weeks previous to date of show. And the greatest wrong will be, if privileged parties are previously informed how the offerings are to be, thereby giving them an undue advantage. For instance, a breeder may unwittingly dispose of an animal which bars him from entering for some special prize, being just one short; or it may be a disadvantage not to know what rules are likely to be, even at so early a date, as when ewes are served. Had we an association to regulate such matters it could not fail to be of mutual benefit and general satisfaction.

To learn what can be gained by associations we have only to note the grand success of our cheese-makers, who in a few short years have trebled their production, besides advancing it to the highest place as to quality. To what else can we attribute their success so much as to gathering at their Dairyman's Association meetings, learning from experienced persons and one another the hows and whys of their business.

Woodville, Ont.

JOHN CAMPBELL, JR.

"As a farmer, I beg leave to thank you for the information you have given us farmers and stock raisers through your most valuable paper, for which I hope always to be a subscriber."—Thos. Irvine, West Winchester, Ont.

Sheep Husbandry.

BY H. B. JEFFS, BONDHEAD.

[Read before the Ontario Agricultural and Experimental Union.]

In times of depression such as we have been coming through it becomes a farmer to turn his attention to such branches of his business as will tend to produce the best results, not only in the matter of grain growing, but also that of stock. No man need expect to raise all stock and no grain, but it is well to carry on both on a small scale. Of the stock branches the different varieties of sheep come well to the fore. They have been sold off at a slaughtering pace to pay the rent and taxes, owing to the fact that they would sell and are still selling. This greatly reduced their numbers. The price of both wool and mutton of late has been steadily increasing, and breeding animals are in much greater demand.

There is one redeeming feature about them—that they yield two crops annually, one of which will always be in demand so long as these extremely cold winters last, and the other is also a necessity.

It takes but a small amount of capital to start a flock and they soon increase. The cost for protection in the shape of buildings is very little. All that is necessary is good, comfortable, dry quarters, both over head and under foot. They are easily kept and do not require a great deal of attention, compared with other live stock branches. They return a hand some profit where any attention is given them at all; but many are left very much in a state of nature. If the amount of wool on them was increased by neglect and poor feed, like the hair on an old neglected horse, they would certainly, in very many more cases, be even more sadly neglected, but the reverse is a fact. Another important reason why their breeding was discontinued on many farms was owing to so large an amount of cross-breeding and mixing, many thinking it better to sell out and start with new blood. This I consider a very wise plan. When new breeds were introduced every man, to be up with his neighbor and times, would buy a ram, using him for a season or two and then change to a new breed decidedly opposite. By this means the breeders of pure breeds could not supply the demand, so half breeds were used instead, until many almost ruined such flocks as they had. A ram with almost any fraction of a Down in him was used. This should not be. By all means breed from pure bred males of any of the domestic animals in preference to a scrub or grade, even though such be superior looking animals, which many grades are, let their owners tell it.

Well this might be, so far as mutton is concerned, for breeding a good, large, strong, coarse ewe to a pure Southdown ram will invariably throw a larger and stronger lamb than from a pure bred ewe; but breed the same class of ewes to this grade and see the results. You may try reversing it, though, with these grade ewe lambs and a pure bred ram, which is a step in the right direction—grading up.

In selecting a flock see which six has your preference. Then, I repeat, by all means breed from pure bred males of all classes of stock as well as sheep. The class of sheep for each individual to breed depends on his own tastes and circumstances. If he is prepared to start pure breeding, all well, but the general farmer should grade up what he has or can get conveniently at reasonable rates. The time of breeding depends on a man's own peculiar requirements. The ewes should not be mated until shearings, but whether for early or late lambs the ewes should be in a good, thrifty, healthy condition. It would be well to feed a little grain for a short time before the season, especially when early lambs are the object. A small patch of rape is also very good at this season of the year, if large crop of lambs is wanted to increase the flock. Number, however, is not always everything. Use no condiments or spices at this stage, and only when fitting for exhibitions, fat stock shows or for the block.

The ram should not be used until one year old, and some go so far as to say two shears. He should be well fed up to this time, then increase the feed, especially cats, during the season, to give strength to stand the strain of work. It would be well not to allow him to run with the ewes all the time, only at night and the cooler part of the day, separating again in the morning to admit of rest during the day and time for feeding. Keep culls and inferiors out of sight until after the season is over, for ewes during conception are influenced by surroundings very largely. Thin

down the ewes a little during pregnancy until within four or five weeks before lambing time, then increase the rations to increase the flow of milk for the young lambs. This is the point where many men fail, not knowing just how much to thin down, and some of the ewes do not require any thinning at all, but rather a little extra care. Feed very little roots during pregnancy, as large quantities cause lambs to be large, flabby, weak and unable to care for themselves. A little barley fed during this stage is very beneficial.

Try and have lambs come before turning out of winter quarters and keep them dry. More lambs are lost by being dropped in wet fence corners than through hard frosts. As soon as they are large enough teach them to eat, by having a separate compartment into which they may go at leisure, and always have a little good clover hay and clean grain for them. Hens should not be allowed to run at large to accomplish this properly. The younger lambs will have the advantage here, as the older ones will commence some time and the younger follow their example. It would be a good plan to continue this during the summer until weaning time to make good, strong lambs, so they might be weaned a little earlier, at say from 4½ to 5½ months, when they would be in good shape for taking hold and helping themselves. At this season great care should be taken with the dams to prevent their udders from caking and so lose the use of the same. Some breeds and individuals of those breeds are more given to this affection than others, such as the Southdowns, which are, generally speaking, good milkers and good mothers, rarely ever losing or forsaking a lamb. This is where the profit of one breed is gained over another. You can raise a greater weight of mutton from the Southdowns from a given number of acres of land than any other breed, but when fashions change to coarse cloth they are somewhat distanced in that respect.

Most of the domestic animals have affections or epidemics peculiar to their kind. The hog cholera has swept over countries playing considerable havoc in many localities. The cattle plague has to be watched, for if it once gains a foothold it will be a source of great trouble, annoyance and loss. The horse, the noblest animal of the lot, is subject to epidemics and affections which prove very fatal on many occasions. But sheep have very little to fear in this direction; as yet only a few cases have been known and these among the more delicate breeds. It is an old saying that "an ounce of prevention is worth a pound of cure." To keep sheep in good health is more desirable than to know how to doctor them when sick. No higher type of character is required in any of the various callings of life than is required in that of a good shepherd. You can get ten men to care successfully for horses or cattle for one who can care for sheep. And while the best possible attention and care will not always ward off disease, yet being supplied with sufficient food of the proper kind and having access at all times to salt and pine tar and salt and sulphur, with plenty of pure water, sick sheep are very rare. Those also help to destroy the tick and vermin on them, but if they should get bad dress them with a preparation of arsenic and other ingredients. In this section men make a business of it, charging five cents per head, and it pays very well; but I think once in two years is often enough if properly handled. The Southdowns need scarcely any of this, being a favored breed, very hardy, easily kept, prolific and almost entirely free from disease. It has been said, and rightly said, by writers on the subject, that they are the only breed that cannot be improved by the introduction of any new blood.

In Favor of a Wool Growers' Association.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR—It is not often that I have occasion to differ with you in your opinion in reference to stock matters, but I ask a little space to express a few thoughts in opposition to those advanced in the article in your last issue, referring to *The Sheep Breeders' Association for Canada*.

Will you allow me to say that the demand for this association comes from persons occupying two different positions? One class is anxious for the organization, for the purpose of advancing the interests of sheep breeding in general in this country. The other class is demanding it *only* for the purpose of providing a means of registration in Canada for certain classes of sheep at present bred by them. Let me say, at the outset, that with the latter class I have no sym-

pathy whatever, and I think in saying that I only voice the opinion of many of the more prominent sheep breeders in Canada to-day. Undoubtedly there are several questions which at present might engage the attention of a vigorous wool grower's association, but they would be questions of a general character, and not especially applicable to any single breed.

Your argument that one ought to exist in Canada because one exists in the United States, is not, I think, a very strong one. The separate breeds in the United States are represented by separate associations, and I think a careful inquiry will convince you that the National Wool Grower's Association is kept in existence principally by the danger of attack from the tariff agitation which has been going on for some time. Take that away, and I venture to say all the work concerning sheep breeding will be left to the association organized in behalf of special breeds.

I am decidedly opposed to the multiplication of registration books for any breed or class of domestic animals. No one who has not had experience will understand the amount of time which must be consumed in preparing registration, especially for sheep, for these various places of entry. Besides, it means simply an additional tax on the men who undertake to breed any class of pure-bred animals.

I submit that the business will not stand this heavy drain, and unless some good object or reason can be shown, it ought not to be undertaken.

Your strongest reason is, that at some future time the Americans may demand for the registration of Canadian bred animals, or those bred in England, such a sum as would practically shut them out from registration. Now why not say that there is danger that the association will demand from those living in *New York State* the same fee? I submit there is just as much danger of one as of the other.

The American Shropshire Association is composed entirely of breeders of these sheep living in all parts of the American continent. Those living in Canada have an equal voice and equal rights with those living in New York or Ohio; and from my knowledge of the spirit of the men who are engaged in this work, it is almost insulting to suggest the danger of any such occurrence. With the evil effects of such a course adopted by the Southdown Association, the Jersey Club and the Hereford Association, staring them in the face, surely our Shropshire breeders will never consent to be imitators of it.

It is one evidence of the result of a false system of protection, which never results in a blessing, but is always a curse.

You will excuse me if I say also that your article has a slight tinge of bitterness, which I would rather see suppressed. You say that the opponents of Shropshire registration in Canada are less than a half-dozen, who have personal reasons for preferring American registration. I am at a loss to know what these "personal reasons" can possibly be. What personal reasons can I have that you do not have? In my opposition to a second registration book, I think I am only advocating the interests of every breeder of this class of sheep in Canada. Do you mean this statement as a personal fling at those of us who are seeking to cultivate the American trade?

I have always understood that the editor was decidedly in favor of reciprocal trade with the United States, but in this article I find language which is calculated, in the first place, to arouse indignation on the part of our American neighbors, and in the second place, to excite prejudice among Canadians against those who seek to cultivate American trade relations.

I am afraid, Mr. Editor, when noses come to be counted, your half-dozen will be seen to be multiplied very largely. At all events, you may count me as a vigorous opponent of Canadian registration of Shropshire sheep, which I am now breeding. I say nothing against the registry of other classes, if the breeders wish, but I do say that there is no necessity whatever for a second registration of Shropshire sheep, while the first is fulfilling as it is to-day all the requirements of those bred in Canada or the United States. In union there is strength; why seek to divide and give weakness. While I say this, I shall not oppose the formation of an Association of Wool-growers, in general, having for its object the discussing of such questions as affect all breeders of sheep alike.

With thanks for permission thus to be heard,

Yours truly, JNO. DRYDEN.

"Enclosed is one dollar, sent on the JOURNAL. It pays to have it."—J. F. Davis, Glanworth Ont

Shropshire Association for Canada Needed.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR—I notice an article in your last issue reflecting on those wishing to form a Canadian Shropshire Breeder's Association. The writer launches out by stating that such an Association now exists in the United States, in which he is interested, and which serves his purpose. He is evidently afraid, should a Canadian Association be formed, selfish interests would not be so well served, and as to patriotism, it would seem that also can be measured by selfish motives. I am free to admit the Americans at present are our best customers, but what guarantee have we that this will continue? A few years ago our Cotswolds were booming; who are booming them now? The time may not be far distant when we will have to look for customers among our own people, who are becoming alive to the fact that it pays better to raise pure bred than mongrel sheep. I say, let Canadians establish a national reputation of their own by having an association and record for their flocks. Just fancy an American-appointed committee to formulate a classification for awards, for the use of Canadian fair managers, and as some of these patriotic Canadians have already done, ask fair managers to exclude all Shrops from taking prizes unless registered in the books of the American Association.

D. G. HANMER.

A Sheep Breeders' Association Without Registration.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—In your article in February number of the JOURNAL, entitled "A Sheep Breeders' Association for Canada," you made some statements which I think are misleading, and may be the cause of doing harm and causing loss to some of your readers who are engaged in breeding Shropshires. I wish it perfectly understood that I do not object to a Sheep Breeders' Association being formed in Canada, but must confess that I fail to see clearly any great amount of good such an association would be likely to do, excepting, perhaps, in connection with railroad tariffs on small numbers of sheep. It is possible that if the matter was laid clearly before the railroad companies they would be persuaded that they have no right to charge double rates for carrying sheep in crates that they charge for any other class of freight; but as to any combination of men being able to persuade the American Government that they should allow our wool and mutton to be sold in their markets without first paying duty, I am afraid this would be a work too great for them.

But it is more particularly my desire in this letter to ask you not to connect the registration of Shropshire sheep in Canada with the formation of a Sheep-breeders' Association. If Shropshires have to be recorded in Canada, the work can and will be done by their breeders, and not in connection with any other breed or body of breeders. But I feel certain that they will not, nor do they need to, be recorded here. We have a strong, a prosperous and an energetic association in America. The fees for registration are very moderate, viz., 50c. for lambs; 75c. for American bred sheep older than lambs, and \$1 for all imported sheep. The standard of breeding required is one with which nobody can find fault. Their rules have been set aside for the second time to allow owners of sheep that are over age to be recorded; and this has been done mostly for Canadian breeders, as they own nearly all of the sheep that were barred by that rule. The records are furnished free to members of the association, and the membership fee is only \$5. I think that all will agree with me that no association could be formed on a more liberal basis. If, as you seem to think, the Americans are inclined to nurse us until they get us properly under their thumb, and then make us pay dearly for the confidence we have placed in them, then I think the best thing we can do is to join their association and have some say in the management of the work.

I believe you are making a grave mistake when you state that there are only a few in Canada whose interest it is to foster the American association, and to discourage the formation of a record here. At the present time five-sixths of the breeders in Canada are members of the A. S. A., and before the 1st of April there will be a considerable increase on that fraction. It is a well known fact that our main market is the

United States, and were it not for a prospect of supplying that market there would be fewer of our own people that would want to breed Shropshires or any other class of pure-bred stock. If we had a record here, all the main importers would still record in the States, while smaller breeders not so well informed, would rest contented in the knowledge that their sheep were recorded in Canada, while said sheep were growing past the age of eligibility to the American record, and would not know they were making a mistake until told by some intending purchaser that they lacked that one qualification which sheep purchased by him must have. In short, let all who wish to have their sheep prepared to suit any buyer, have them recorded in the American Shropshire Association's Record, at Lafayette, Ind. Mortimer Livering is the secretary, and he will be pleased to furnish all necessary papers and particulars. There is no time to be lost, as the time is up on April 1st. I buy for the United States all the pure-bred sheep I can get, and what is my interest is also the interest of those from whom I buy

ROBERT MILLER.

Brougham, Ont.

A Change Demanded in our Present System of Judging.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—One can hardly take up an agricultural or stock paper without finding communications or editorials regarding the appointing of judges at agricultural exhibitions, particularly in live stock. Now any one who has had the least experience in exhibiting stock at these shows know full well that the judging is little better than a farce. But I believe the chief trouble is not in getting men who are capable, as in getting men who will do what they believe to be right. It is often the case that one or more of the chief exhibitors in a certain class are instrumental in having the judges appointed in that class, and the same judges may, before this, have purchased stock of this exhibitor, which will have a tendency to warp his judgment in favor of this exhibitor.

I have heard it remarked, time and again, that it was almost impossible to show successfully without you were either on the board of directors or managing committee, or had some way of pulling the wires for your own benefit, and recent events have fully confirmed me in the truth of it.

An exhibitor at the late Kingston exhibition had fully determined to show at Ottawa, but being told by parties who had had more experience "in ways that are dark," that it would be impossible for him to get justice there, as a leading member of the association, an M. P., a wealthy man, and very prominent around Ottawa, would be an exhibitor, he did not go.

At the late Industrial at Toronto, while the yearling Shorthorn bulls were being judged, your correspondent overheard the following dialogue between two onlookers: "Which will get 2d?" (the first by his superior merit being already placed). "The red and white," was the reply. "Never!" exclaimed his companion. "I know it," said the other; "that man (pointing out one of the judges) will go for the owner of the red and white every time. He has had to yield to the other judges previously—they will yield to him in this instance." Well, to the amazement of nearly all, the red and white got 2d. At the late Kingston show this same highly favored exhibitor was exhibiting Shropshire sheep, and this same judge was a judge in this class also. The result was (so I was told by one who was in a position to know) that he went as fervently for his favorite exhibitor there has he had done in Toronto.

Now, it must not be implied that we accuse this judge in acting against his convictions; far from it, for we believe him to be a gentleman of the strictest honor and integrity; but his faith in the judgment of this exhibitor is such that if he owns an animal it is a sufficient guarantee of its superior excellence. But we believe such devotion to any one exhibitor disqualifies any person for the important office of being a judge.

Now in the face of all this wire pulling, this incapacity, this underhand jugglery, I am astonished to read in the JOURNAL for November the following preposterous proposition: "For example, ask the Shorthorn Association to appoint their judges and see that they are on hand at our annual show, and then, if there is anything wrong in the judgment given, you

can simply say, they are the men of your own appointment." There is at least 500 members of the D. S. H. B. Association. Now I ask, will these 500 have an equal voice in choosing the judges? Certainly not. The whole thing will be done by 2 or 3 of the leading members of the association. And who are these leading members? The chief exhibitors. And would they not appoint judges favorable to themselves? Of course they would. And instead of the evil being lessened it would be intensified 100 fold.

And again, take the whole Dominion, there will be over 100 annual exhibitors, and if the D. S. H. B. Association was to appoint judges for all these it would have a herculean task that would be worthy of it. It must also be remembered that not one-third of the Shorthorn breeders of the Dominion are members of the association. What about these? They can have no voice in choosing the judges; they will be left to the mercy of men they were not permitted to appoint. If they did exhibit and were unsuccessful, they would turn round and say, it was sure to be thus—the association put in the judges and they have got all the prizes.

Let the managing boards of the exhibitions appoint the judges. If they are not qualified to do so they have no business on the board. I am in favor of the one judge system. Let him be from a distance, a 1000 miles all the better, and he would not be allowed near the class of stock he was appointed to judge until taken there by the officers in charge of that class. The present system of judges hobnobbing around with the exhibitors, and very often treated most liberally by some of the exhibitors to that which steals away their brains, is a most detestable practice. It is not an uncommon sight at our leading shows to see judges staggering from one animal to another, very often made so by the more unscrupulous exhibitors.

My object in writing this is to expose some of the abuses in the management of our agricultural exhibitions, so that they can be removed. I have scrupulously avoided all names, my object being not to expose any person, but the abuses themselves. And that it may have the weight that it may deserve, and not be handicapped by being over the signature of so insignificant a scribe, we will for the present call ourselves,

BREVIS.

Feb. 13, 1889.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

The Castlemartin Breed of Cattle.

This is a breed which as yet is unknown in Canada, although a few have been imported into the United States. Both the Castlemartin and the North Wales breed of black cattle trace their descent, if our best zoologists (Darwin, Rolleston, etc.) are to be believed, from the wild ox of Europe (*bos primigenius*), and by being united in a common herd book and having had their blood intermingled to some extent by leading breeders, will most likely be so thoroughly amalgamated as to render it impossible to tell whether animals belong more to one than the other. There were, however, marked distinctions at the time of the formation of the herd book. The females of the old Castlemartin type so generally found in the counties of Pembroke, Carmarthen and Cardigan, had more refined, delicate heads and necks than the North Wales cows, the latter being of a shorter, stouter form, with greater thickness, while the former more closely resembles the North Devon. Pembrokeshire, the home of the Castlemartin breed, is the most westerly county of Wales, and is much exposed to the gales of the Atlantic, consequently hardiness is a very necessary qualification in its cattle; and because to this robustness of constitution are added excellent dairy and grazing properties, this variety appears to be the favorite in Carmarthenshire and Cardiganshire no less than its native county. During the past 25 years the Castlemartin herd has been greatly improved, yet it would be difficult to mention a date when they did not stand in high estimation. Hassall, reporting to the Board of Agriculture on the farming of Pembrokeshire at the beginning of the century, says: "The Pembrokeshire cows are coal black, except

now and then a dark brown and sometimes a white face or a white list along the back makes its appearance. Of late years many farmers have been attentive to the improvement of their cattle by rearing bulls from their best and choicest cows, by which our stock is now getting into considerable repute in the neighboring counties, whose breeders send to our farms for bulls. The cow of best character is very fine-boned, with a clean light head and neck, small yellow horns inclining upwards, good chine and loins, round, long barrel, thin thigh, and short, light leg. She is always in good condition if tolerably kept, and has a rich wave in her hair, and an oiliness of skin which ever denotes thriftiness of kind. The true Pembrokeshire ox is a favorite breed with the grazer, and will improve in his flesh as much in two months as some will in five. Our cows are not as productive for the dairy as those of some other countries." Coming to a later period, all the good qualities mentioned by Hassall appear to have been preserved, if not still further developed; for when Youatt wrote his book on cattle the cows had certainly acquired a considerable reputation as milkers. "Great Britain," says Youatt, "does not afford a more useful animal than the Pembrokeshire cow or ox; they have a deep, round carcass, a peculiarly lively look and a good eye. The cows, as far as possible, combine the two opposite qualities of being very fair milkers with a propensity to fatten. They will live where others would starve, and rapidly outstrip most others when they have plenty of good pasture." He further mentions that this breed has the credit in South Wales of being the poor man's cow, but that while perhaps one of the best of cottager's cows, it is equally profitable to the larger farmer. He speaks highly of the beef of the Castlemartins, describing it as beautifully marked and as equal to that of the Scotch. Although the color of the Castlemartin is now black, still there seems no doubt that their ancestors were white with perhaps black or red extremities. Even now an occasional white beast, with ears, nose and feet black, may be seen grazing amongst the herds of black cattle in Pembrokeshire, and it might probably be imagined that the animal in question was a mongrel with a dash of Shorthorn or other alien blood in its veins. But had the owner been questioned, he would most likely have replied that "this was the old breed of the country," and he would have been right, for these white Pembrokeshire beasts are believed by the best authorities to be in direct descent from the aboriginal wild cattle of Europe and first cousins of the semi-wild herds of Chillingham, Chartley, etc. To trace the pedigree of this breed necessitates a glance back to the world's history called by geologists the Pleistocene age, as we have evidence that it is at that period that oxen first occupied Great Britain, which then formed a portion of the continent of Europe. This fossil ox, which zoologists call *bos primigenius*, was the ancestor of the Castlemartin of to-day. The Pleistocene climate was arctic. Britain in those days was a land of snow and ice, and the Pleistocene man hunted the *bos primigenius*, bison, mammoth horse and reindeer, as we know from curious sketches on teeth and ivory that have been found. After the Pleistocene period came the prehistoric age, and the *bos primigenius* was still present as was also the reindeer, but most of the great wild beasts of the former age had passed away. At this time the aborigine became a herdsman as well as a hunter, and owned a small breed of cattle, *bos longifrons*—the long-faced bull—which continued to be the domestic ox of Britain until

the 5th century after Christ. The long-faced ox was never wild in Britain, but was probably introduced from Asia. From these two types of animals, *bos primigenius* and *bos longifrons*, the cattle of England and Wales are descended, the Castlemartin being almost an exact reproduction of the *bos primigenius*. Mr. Storer, in his "Wild White Cattle," says that bodies of all the different herds were white, dirty white, or spotted, and that the ears of all the herds were black with the exception of Chillingham and Lyme, which were red, though Pennant states that in 1786 the former were black. With the exception of the Chillingham herd they all occasionally throw black calves, which are sedulously weeded out. The peculiarities of the skull of the *bos primigenius* are more or less distinctly exhibited in the Castlemartin ox, but it is to be expected that the bony structure would vary from domestication or other causes as has the coloring. The semi-wild herds of white cattle occasionally throw black calves; the domesticated Castlemartin throw white ones; if both were left to themselves, which color would prevail it is impossible to say. Man in both instances interferes; in the first he destroys both bull and heifer calves when black, in the latter the white bulls only are eliminated; therefore, as might be expected, white calves are more plentiful in Pembrokeshire than black ones at Chartley.

AGRICOLA.

Annual Meeting of Ayrshire Importers' and Breeders' Association.

(Contributed.)

The annual meeting of the Ayrshire Importers' and Breeders' Association of Canada was held in Montreal on the 5th February. There was a large attendance of members. Mr. Wm. Rodden, of Plantagenet, Ont., president, in the chair, Mr. S. C. Stevenson as secretary. After reading the minutes of previous meetings and their adoption, the report of the executive and finance committee was presented. It contained the following statements: A copy of the bank account for the year 1888 showed a balance to the credit of the Association on the 1st of January, 1889, of \$466.50. The new members, including those from Ontario and State of New York, make sixty-five on the list.

The resignation of Mr. Geo. Leclerc as secretary was accepted, and the president, as authorised, had made arrangements with Mr. S. C. Stevenson to continue the duties of secretary-treasurer at his office, 76 St. Gabriel street, Montreal, to whom the president has transferred the work of receiving entries for the third volume, which is now opened with No. 5000. A new set of forms, accompanied by rules and instructions, will be furnished free to breeders. The second volume is closed, and the contract for printing awarded to Messrs. J. Lovell & Sons. It was determined to proceed with the publication of the balance of the first volume, which remained unbound and was paid for. In view of the importance of accuracy in pedigrees, it was considered advisable to have the work on volumes one and two thoroughly examined and revised by two competent and disinterested persons. This has been accomplished after a full and complete examination on the written and printed volume one, and the accompanying entry papers, vouchers and voluminous correspondence. The clerical and typographical errors have been made right and are being printed and bound in the books. The second volume is thoroughly verified in the same way before printing. Both the first and second volumes

are found to contain only pedigrees of pure-bred Ayrshires tracing directly to reliable importations. Since the printing of the first volume much information has been obtained in the last three years, from survivors of families, from former employees, from books of auctioneers and catalogues, and from pedigrees given to buyers, some of which went to the United States and the west, thus assisting in completing pedigrees, formerly only known as having been bred from the importations of Lord Dalhousie, Montreal Agricultural Societies, Messrs. Gilmour, McKenzie, Gibb, Penner, Hutchison, Logan, Dods, Gordon, Miller, Ewart, Cameron, and others. The dates of importations and the names of many of the animals are received in corroboration of their importation, and now some of their produce identified, particulars of which will be found in the second volume being printed. To avoid future difficulty it was urged on breeders to, at home, enter births at once, and record invariably before exhibition time. The practice of selling Ayrshire grades for pure-bred animals might be put a stop to in the interest of farmers, if every county agricultural society kept the herd books of this Association in their secretary's office, to enable members to refer to them and detect frauds, which, it is to be regretted, have occurred in some sections distant from access to books that have only pure bred in them.

The report of the executive committee and its suggestions were adopted. The president's report and address were read and approved. He considered it his duty before leaving office to prepare and put on record a history of this, the first Ayrshire Breeders' Association in Canada, and the work done from its commencement in 1870 as a Committee of Ayrshire Importers and Breeders. The report detailed the large amount of work done in assisting breeders in all Canada by collecting information to perfect pedigrees, and much that had been done by personal subscriptions of members to pay clerks, expenses and still keep down the cost of entry fees. The details of the report go to show how much can be done by patience and persevering care in such work, managed by farmers themselves, if attention is given it. The merits of the dairy herds of Great Britain and Canada were fully detailed and evidence was produced to show that the Ayrshire cow produced a large flow of excellent milk at less expense than any other breed. Further evidence of this is found in the improved condition in the homes of the Scotch and Canadian dairy farmers, owners of Ayrshires, and the fact the best milk, butter and Canadian cheese for family use is produced where the pure Ayrshire blood has been introduced. Ayrshire breeders have not pressed their cattle on public notice as much as they might have done, considering their comparative merits as dairy cattle. The president suggested improvements and advantages that might be secured for the members of the association, and while he congratulated them on the present improved condition of their herds and their Association, he desired to terminate his term of office and considered it important to enlist their young friends in official duties and prepare them for continuing the progress already made.

On motion of Mr. James Stephen, seconded by Mr. Muir, it was unanimously resolved to tender the thanks of the meeting to the president for his valuable reports, suggestions, information and assistance.

The election of officers was then proceeded with and the meeting would not agree to the president's resignation, particularly in view of the difficulty in replacing him and the importance of having at hand his experience while the second volume was in course of publication. Finally he agreed to remain for a time, on condition that when Vol. II was printed his resignation would be accepted without hesitation when again offered. Mr. Drummond and Mr. Beaubien were unanimously re-elected vice-presidents; Mr. S. C. Stevenson, sec.-treasurer, and the same executive committee was continued, adding Mr. A. Muir. Mr. J. Drummond and Mr. E. A. Garth were elected auditors, thereupon the meeting adjourned.

Dominion Ayrshire Breeders' Association.

The second annual meeting of the Dominion Ayrshire Breeders' Association was held in the Albion hotel, Toronto, on the 6th February. There were present Messrs. McCormick, Brockton; A. M. Smith, Simcoe; W. M. Smith, Fairfield Plains; Thos. Guy, Oshawa; David Nicol, Cararaqui; Wm. Speers, Cobourg, and Henry Wade, secretary.

The executive committee's report was presented and adopted. It showed the number of cattle recorded in the first volume to be, altogether, 1861, and that it is the intention of the association to print the first volume of its book at the end of the present year. The number of the members is at present 31.

The financial statement showed a satisfactory balance on the right side of the page.

The president's customary address was then delivered by Mr. James McCormick. He referred to the excellent dairy qualities the Ayrshire cow had. He criticised the conduct of certain men who put anything in the shape of a cow in the market under the name of a pure-bred Ayrshire animal, and hoped that every honest breeder will do his best to stop such attempts as these. The president also stated that Mr. James Morton had made an important importation of 11 cows and 1 bull of the Ayrshire breed from the best possible breeders, and that the animals would shortly be out of quarantine. He thought the advantage of having such an exceptionally good lot of animals in their midst would be appreciated by farmers and breeders throughout the country.

The election of officers was then proceeded with and resulted as follows: President, Mr. David Nicol; Vice-President, Mr. David Morton; Directors, Jas. McCormick, Brockton; A. M. Smith, Simcoe; Thos. Guy, Oshawa; H. Caldwell, Orchardville; Jos. Youill, Carleton Place; W. M. Smith, Fairfield Plains. Auditors, Messrs. J. C. Snell, Edmonton, and Wm. Speers, Cobourg. Messrs. Guy and McCormick were appointed representatives to the Industrial Fair, and Messrs. Nicol and M. Ballantyne, of St. Marys, delegates to the Central Farmers' Institute.

Hog Raising and Fattening.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Without expressing any opinion on the question of free trade with the United States, it does seem anomalous that thousands of farmers should be so anxious for it and regard it as the philosopher's stone, to turn all they touch into gold, while they have a gold mine almost unworked at their very doors. This gold mine is the raising and fattening of swine for the Canadian market.

Our senior commenced pork packing in this city in 1854, and in 1860 commenced to export the product to England, and has followed it continuously ever since, but always at a great disadvantage compared with American packers, from the insufficient and irregular supply of hogs. In 1887 we killed 63,457 hogs, of which less than half were Canadian. We should have been only too glad to have got our full complement in Canada. First, we are patriotic enough to wish to leave the money in our own country. Second and last, but not least, the quality of meat of the Canadian hog is very superior to American, and for this reason we pay a higher price for them, and we get a higher price in England for the product.

Canadian bacon is beginning to be appreciated in England, but the small, fital supplies prevent it gaining the position it is entitled to. Our agents talk it up and induce the provision men to give it a place on their counters with Irish and Danish, and they in their turn persuade their customers to try it; but by the time a fair trade has been worked up; the supply, always small, ceases, and the next year the ground has to be gone over again. We do not at this time propose to go into the question as to the most desirable sort of hogs—will leave that for another

time. The point we now want to urge on the farmers of Ontario is that we want five times as many hogs raised and fattened as are now produced.

We are informed that in Denmark and Sweden this branch of farming has received a wonderful impetus in the last four or five years. Denmark has taken the front rank for years with her butter, and she is fast coming to the same position with her hogs and bacon, both quantity and quality.

Now some of your readers may say, if the supply of hogs is increased the price will be lowered in proportion. We do not believe this would follow, and we will give you our reasons:

(a) The National Policy appears to be acquiesced in by the Canadian people. This interposes a 20 per cent. barrier to competition from the United States, and the same is in general terms true of the product, so that Canadian farmers have their market to themselves.

(b) The demand from Ottawa and Montreal is increasing every year, and we are assured that competition by the farmers of Quebec is out of the question.

(c) Modern appliances and system of curing have enabled the pork packers to produce an article of such superior quality and flavor that consumption by all classes is steadily on the increase. This is the case all over the world, excepting of course the tropics.

(d) Lastly, the English market will always act as a safety valve. Any overplus can always find a market there. We are prepared to handle 2,000 per week, and are ready to enlarge our facilities as soon as the supply warrants it.

And now to the question, Is swine-raising profitable? Without hesitation we say, Yes, and we think more so than any other farm stock, and we give our reasons:

1st. We are assured this is so by a number of intelligent farmers.

2d. Consider how small an amount will purchase a breeding sow compared with a cow.

3rd. How quick the return. At fourteen months old she will present you with from 6 to 10 pigs. These want no attention beyond feeding and caring for the mother, and at six weeks old suppose, if you must sell them, and only get \$1 each, you are well paid; and this can be repeated within the year. But assuming the pigs are fattened, they can with good care be made to weigh 150 lbs. alive at six months old, which at 5c. per pound is \$7.50.

4th. Consider the ease of marketing compared with cattle. You can sell them direct to any respectable pork-packer by writing them. We have had them sent us frequently by persons whom we have never seen.

5th. Consider the regularity of the market! It does not vary as does the cattle market with the supply, and drop 50c. per hundred pounds if there are a few extra cars received on any one day.

6th. Bear in mind that mutton or beef is weighed without the head and feet, while with pork these are a part of the carcass.

We could enlarge, but think we have said enough to arrest the attention of those who read, and we hope, ere long, to take up the question of the most suitable breed. Meantime we say, let us have them of some breed, or even mongrels.

WM. DAVIS & Co.

Toronto, Ont.

Veterinary.

Horse Breeding.

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

(Concluded.)

Having explained my convictions with regard to the place that the thoroughbred sire should occupy in the production of the different classes of light horses that are in demand in the horse markets of this country, it may not be out of place to explain where such sires can be obtained.

The English racehorse being a term frequently applied to the thoroughbred, it leads many to think that it is necessary to look to England as the only source from which to get a sire of this breed. Although doubtless as good specimens can be procured there as perhaps there are in the world, still there are some difficulties to contend with

in going there. First, there is the expense of transit, which such a long journey, and a sea voyage involves, to say nothing of the risk. Certainly this would not obtain to the same extent if a considerable shipment were being made. Then, again, those animals that have these desirable qualities, for the purposes described, are in considerable demand for home use; this, in addition to England being a breeding and distributing centre for many parts of the world, all conduces to make the importation of the right kind of sires too expensive, under ordinary circumstances. Fortunately, however, on the other side of the line, just as good horses of this breed are available, being all of the same blood, and consequently possessing the same qualities. It is sometimes asserted that they are inclined to be lighter on the whole, but if this be true there are so many marked exceptions that it is not of much importance.

In endeavoring to procure thoroughbred sires much time and money can be saved by commissioning a good judge, who is on the spot at racing centres, to select for the purchaser's approbation likely horses. Broken down and slow racehorses are just as good for our purposes, and can be procured at wonderfully low figures if a careful course is pursued in buying.

From three hundred to one thousand dollars will buy good specimens; and certainly no pure-bred sire that is capable of doing so much good for the country, can be got at such small figures. Our light horse stock are, very largely at the present time, the get of horses that it is claimed belong to the trotting families, and doubtless most of them have more or less trotting blood in their veins. It cannot be denied that we have a very sorry lot of light horses. They are no doubt more or less useful, but on the whole cannot be called anything better than scrubs, in the majority of cases. Now from the fact that trotting sires have been so largely used, it seems only just to infer, that when mated with the common mares of this country, they are not successful in producing a fair percentage of high-class stock. This, however, is hardly to be wondered at, for what attributes does the average trotter possess that we want to perpetuate? He certainly possesses trotting speed, and transmits more or less of a natural tendency to trot, to his offspring. Nobody can deny but what a fair amount of trotting speed is an advantage, especially if it is combined with good action, and a pleasing way of going; but it by no means constitutes equine perfection, at least the market doesn't say so, for we find three minute horses, that have little else to recommend them, are not in active demand at paying prices. Then how few of the trotting stallions' get can accomplish the three minutes trick, even with an amount of time and trouble spent upon them altogether disproportionate to their value in the market! Trotting sires can be found that have plenty of size and substance, but they are rare, and unfortunately are generally lacking in the essential properties that go to make up a suitable sire to cross with our common mares; that is, in *quality*, style, symmetry. Although the trotting sire usually has the pace, good, high, forward, straight action is about as rare amongst them as it is amongst the thoroughbreds.

Thoroughbreds certainly have not the reputation of having much knee-action, but this is largely due to the fact that it is not cultivated. If they were driven up to the bit, as other horses are at a trotting pace, just as much action would be found amongst them, and not infrequently a fair amount of trotting speed; but their education has always been in another direction. It may be thought by some admirers of the trotter that prejudice has prompted the penning

of these remarks with regard to that animal that has many admirers. We would like it to be distinctly understood that we have no intention of running down the trotter as a horse, but what we want to urge is, that for breeding general utility light horses, with a fair percentage of them to turn out high-class horses for the purposes already indicated, he has not been a success, when mated with the common mares of this country. We have seen some exceptions in which good large horses of trotting blood, when mated with very well bred mares, have produced some first-rate specimens of carriage horses, but the instances have been so rare that it is hardly worth mentioning.

While beauty, style, and quality continue to influence to such an extent, as they do at the present, the value of horseflesh, we should certainly see if we cannot do something to supply these attributes.

If any unprejudiced man with an eye for a horse, would take an opportunity of comparing the light horses of England with those of this continent, he certainly must acknowledge that the old country has a very great advantage over us in all that goes to make a horse valuable, if we except trotting speed. In accepting trotting speed we must not fall into the error that old country horses are not good roadsters, for they are just as pleasant and cheerful horses to sit behind as one would want, especially if the individual is satisfied with a pace that can be traveled without knocking the horse's legs and the vehicle he is drawing into pieces. In the old country horses the blood of the thoroughbred predominates, while on this continent the trotting sire is in general use. It remains with the farmers of this country to determine whether we will in ten years have as good or better a class of light horses as they have in Great Britain. Doubtless they have indulged there in the haphazard system of selecting sires too much, and have used many weedy, unsound, and structurally weak animals of the thoroughbred breed. This error is arousing very general attention amongst the horsemen of England, and they are making strenuous efforts to have none but good sires used; but they are not recommending the abandonment of the thoroughbred, for after centuries of a trial of him, and great horsemen as they are, they are still unanimous in the opinion that if his blood is judiciously used, it is a *sine qua non* in the moulding of all but the draught horses in perfection.

A Skin Disease.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Nearly all my young cattle have been troubled with some disease this winter. It shows most around the eyes; the hair comes off; it looks dry and scaly, and keeps so for a considerable time, then it seems to heal up. It seems to be very common in this section of country, as I hear a number of farmers complain of the same. Could you give name, cause, and cure for this disease? and oblige

J. HAMMOND.

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

The term *Pityriasis* is used to designate the skin affection, characterized by the accumulation of bran-like scales on the skin. It occurs most frequently in young animals, and is associated with mal-nutrition, whether from imperfect supply of food, or from some deficiency of nutritive material in it. Rub in the following ointment, after washing the scaly portions with castile soap and water: Lanolin, 1 oz.; sugar of lead, 1 drachm; apply once daily.

Blue Ointment.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Please inform me through your JOURNAL how to make the blue ointment that is so generally used to destroy vermin on cattle. H. J. Y.

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

It can be bought much cheaper at a druggist's than it can be made. Caution must be exercised in not applying much at a time.

The Farm.

"All Is Not Gold That Glitters."

Through the *Renfrew Mercury* we learn that another seed wheat bubble has burst, but not before a number had seized the gaudy bait. It seems that a personage purporting to be the agent of an unexisting company—Toronto Grain and Seed Co., No. 4 King street east, Toronto—has succeeded in duping some of the farmers of the neighborhood of Renfrew. Though the culprit was brought before the authorities, yet, owing to the fact that those who were fraudulently treated failed to press the matter, the rogue was dismissed. It seems peculiarly unfortunate that these cheats have time and again escaped the clutches of the law, through bare technicalities and want of prosecution. In this case the schemers offered a new kind of wheat for seed, at \$15 a bushel, on condition that the farmer sold none of the produce for less than \$5 per bushel, except to the company, which, in turn, agreed to take part of the crop at \$2.50 per bushel. The agent, to give the transaction seeming validity, gave the farmer a "receipt and agreement," that the note given would not be collected until the wheat was delivered. Such, however, did not better matters any, as the notes could yet be disposed of to others. It is to be hoped that the outcome of the investigation of the committee appointed to collect data in regard to these frauds may be that some sure and effectual means will be devised to rid all communities of these parasites.

Experiments in Corn Growing.

We have before us Bulletin IV. of Cornell University Agricultural Experimental Station, in which Prof. J. P. Roberts reports the results of a number of experiments in corn growing. He is of the opinion that the large varieties of fodder corn, as the B. and W., cannot be depended upon to produce ears excepting in a few rich valleys and river bottoms. There were eight plots in all, each one-tenth of an acre. The corn was sown in the various methods—hills, 3 x 3; drills, 3 feet apart; broadcast with and without cultivation, and that method peculiar to the Western States known as "listed," in which the corn is planted in nine-inch furrow. The results are briefly summarized as follows:

Adopting as a standard the corn in drills, there was a falling off in the yield of green corn of 13 per cent. in the case of corn planted in hills; 40 per cent. in the case of corn sown broadcast and not cultivated; and 29 per cent. in the case of corn sown broadcast and afterwards harrowed. This is very noticeably in favor of drill sowing. The total yield in pounds per acre was from the hills, 21,370; broadcast and harrowed, 17,065; while the drills gave a yield of 24,555 lbs. Taking into consideration the value of the corn for feeding purposes, the drills were again ahead, the produce by this method being richer in protein or muscle-forming compounds.

As regards the best time of cutting, experiments were also made, from which the conclusion was drawn that the real feeding value of the corn increased 166 per cent. after it had tasselled out, and 80 per cent. after it had reached the roasting ear stage.

Destroying Canadian Thistles.

The thistle pest has come to be looked upon as the great weed pest of Canada. Why this should be so is a little singular, because in reality the thistle is far more easily destroyed, if prompt remedial measures are undertaken, than many other forms of weed life. It may be that the rapidity with which it spreads, its

wonderful powers of locomotion, and the prompt and stern punishment it inflicts upon those who are so rash as to meddle with unprotected hands, have all combined to render it the most dreaded foe of the Canadian husbandman.

Mr. S. Rennie, of Scarboro', of gold medal prize farm fame, has been unusually successful in cleaning his farm of thistles, and as the methods he adopts in doing so are only those which any farmer may adopt, we invite our readers to give them their most careful consideration.

Mr. Rennie decidedly favors shallow ploughing for killing thistles, since deep ploughing is found to turn up the horizontal rootlets and to bring them sufficiently near the surface to engender growth.

If the plan of summer fallowing be adopted the ground is ploughed in the fall and again in the spring as early as may be after the grain sowing is completed. The object of the shallow fall ploughing is to prevent an early growth in the spring. After the spring ploughing the cultivator only is used on the fallow, but it is one with broad shares manufactured by a firm in Markham, which cuts the thistles all off every time it goes over the land. If stones were to interfere with the action of this implement a hoe is used, so that the work may be thorough. The prominent idea in thistle-killing is to not allow them to get more than three inches high at any time before they are cut. If the plan of destroying them by a hoed crop is adopted, whether of roots or corn, the cultivator must be kept going from an early date between the rows, which not only destroys the thistles, but is very good for the crop. Of course between the rows they must be taken out with the hoe or spud, never allowing them to get beyond the height indicated.

In pastures they must be spudded three or four times a year, as, though a field may be perfectly clear before seeding it to grass, owing to the blowing about of seeds by the wind, young seedling thistles will soon be found growing in the grass, which must receive sufficient attention before they entrench themselves.

We cannot but think that growing rape is one of the most effective means of removing thistles. The land where the rape is sown may be cultivated on the fallow plan till well on in June, the time of sowing this crop. The growth of the rape where the land has been worked on this principle is usually strong, and if kept well cultivated until the crop is too strong to admit of further cultivation, the chance for thistle life is reduced to a minimum. Rape is in itself a useful crop to grow, and one that receives too little attention at the hands of our farmers.

The rapidity with which weeds are spreading in this country is simply alarming, which renders it a matter of grave importance that their destruction receive every attention at the hands of the farmer.

Green Manuring.

There is not another question of more vital importance to the farmer than that of maintaining the fertility of the soil intact. It is within the range of possibility for any one to farm and deplete the soil yearly, but to be able to farm profitably and at the same time enrich the soil, calls for something beyond ordinary abilities. The proper manuring of the soil lies at the foundation of true economical husbandry, and cannot be slighted by the progressive farmer of this era. The great importance of this question, combined with inquiries in regard to the above practice, are the incentives for the production of this article.

The soil that will receive most benefit from green

manuring is that of a light sandy nature, a hungry soil that will not hold manurial material, being easily leached. For the giving of body to such soils, binding them and making them more compact and retentive of fertilizing material, no practice is more commendable.

The plants used in general are those that will make a rapid, rank growth under adverse conditions, producing a great amount of vegetable matter in a short time, with the least cost. Such plants are red clover, buckwheat, rape, turnips, and Indian corn. One of our correspondents makes inquiries about barley. Taking into consideration the cost of seed, its growth, which is not over rapid nor abundant; and further, it being a shallow-rooted plant, it would not meet one of the most important requirements of a plant to be ploughed under, viz., the bringing of fertilizing material from the subsoil to near the surface; we would not feel inclined to recommend it. Buckwheat is a crop that is often used for this purpose, owing largely to its very quick and abundant growth permitting of the ploughing of two crops under per season, as well as its power of germination in a poor soil. Rye is used rather extensively as a catch crop, sowing in fall and ploughing under in spring. It soon rots in the soil, an advantage it has over clover, the latter taking some time to decay, especially if the soil is the least heavy in nature. But clover is perhaps the plant most generally used, being a very rapid grower, both above and below the ground, the extent of the latter being a marked feature of its growth. It is not until it reaches its second year that it is at its best for turning under, and sometimes the soil is so poor as not even to give the clover a start, when recourse has to be had to buckwheat. Peas are also sometimes used as is Indian corn, their use being largely determined by cost of seed and nature of the soil. Stewart gives the following table, showing the amount of fertilizing material added to the soil, by the following crops being ploughed under:

Plant.	Yield per acre.	Of dry matter in 1000 lbs.		Depth of roots.	Crops in a year.	For what soils best fitted.
		Organic matter.	Mineral matter.			
Buckwheat, 8,000 lbs.	170	10	10	22 in	2	Dry sandy and clay.
Rape, 16,000	214	16	16	8 in	1	Rich and fertile.
Rye, 8,000	221	16	16	8 in	1	All.
Turnips 12,000	77	21	21	12 in	2	All.
Clover, 8,000	250	14	14	25 in	2	Fertile, all kinds.

He also gives the amount of manurial material in the roots and stubble of the different crops:

Pounds of Air Dry Substance	Nitrogen in organic matter.		Phosphoric acid.		Potash.	
	Per cent.	Per cent.	Per cent. in the ash.	per acre.	Per cent. in ash.	Per acre.
Clover 6,580	2.15	180	3.91	71	4.26	77
Rye, 3,400	1.26	62	1.55	14	1.90	30
Peas 2,400	1.76	53	2.24	24	1.70	12

The best time to plough under any of these crops is when they are just about to flower. By the chain attachment they can be easily turned under.

Let us investigate the benefits that are usually credited to green manuring. It was long an undecided question in plant life as to whether clover or other leguminous plants were able to derive any free nitrogen. Able exponents for and against were once plentiful, but now the general trend is in favor of the negative. The constituents of a clover plant that possess a fertilizing value are produced mainly from the soil. It is only such elements as carbon, hydrogen, oxygen and nitrogen (the latter in very small quantities) that are derived from the atmosphere. These,

however, possess a physical effect, and indirectly increase the fertility of the soil. The roots of the plants used, such as clover, penetrate down to the subsoil, and bring from these nutritive material to the surface and leave it close at hand for shallow-rooted plants, such as wheat, etc. These roots in decaying, as well as the turned in tops, have an indirect value besides that of furnishing humus. The result of their decay is the production of carbonic acid, which has a great solvent power, an inference that may be drawn from the fact that experiments have shown it to be able to act as a solvent on magnetic iron, apatite, and several other minerals of an equally hard nature. The result of this action is to render otherwise insoluble constituents soluble, and hence easy of assimilation by plants. For instance, ferric oxide is present in nearly all soils, and it is with this compound that the phosphoric is usually combined, forming a phosphate of iron. The potash is usually in combination with silicates. Water containing carbonic acid has a solvent action on these, making solutions of them the only condition in which plants can assimilate the food that comes from the soil. It is a well known fact that clover is a splendid preparatory crop for wheat. This is due largely to the fact that the close growth of clover and its dense shading of the ground is very favorable for the production of an important plant food, namely, nitrates, one of the special foods of wheat, and on which it is greatly dependent.

The organic matter or humus that results from the decomposition of ploughed-in crops is one of the most valuable soil constituents. In conjunction with its being one of the most retentive constituents of a soil, it is of great importance as a means of connection between the ground water and the surface soil, owing to its capillarity, and on this account a soil largely composed of humus would be more moist during a hot, dry summer than one composed largely of clay.

One of our inquirers requests an opinion in regard to bare fallowing versus green manuring. Bare fallowing may be followed under soil conditions unfavorable for green manuring, and hence the conditions must be specified before reliable advice can be given. The principal value of the bare fallow lies in the fact that if conscientiously carried out, it is one of the best methods of getting rid of weeds on heavy land.

Ontario Agricultural and Experimental Union.

No science is more pregnant with undiscovered truths, nor more fertile with principles unconfirmed than that coming within the scope of agriculture. The ever changing factor of conditions largely accounts for this, modifying experiments, tempering experiences, and rendering the deduction of firm, unshifting axioms well nigh impossible. Even taking but one branch of experimental work, namely, the actions of the various fertilizers on the many farm crops and great collection of soils, the want of enduring and rock bottom principles, even of those only elemental in their nature, is experienced by all laboring in this direction. This alone is a field wide and but surface cultivated, the sub-soil yet being fraught with a rich fertility yet ungleamed.

However much the chemist may do in analysing soils and fertilizers, the fact remains the same that the surest and best way to determine the fertilizer requisite for the best results on a certain crop from a certain soil under certain conditions, direct experimentation, thorough in its nature, is superior. In the latter work the conditions enter into play and are allowed for in the result, but these the chemist cannot make provision for in bare analyses.

The manufacturer shuts out the elements of conditions from his field of labor, making his conditions to suit his own ends. The farmer works under Heaven's limitless canopy, and has largely to make the nature of his work conform to his conditions, the degree to which he does this being a partial measure of his success, the rest being determined by the ability he displays in modulating and changing his conditions to meet his requirements.

Feeling the want in this respect, the students of the Agricultural College at Guelph connected this work with their annual reunion with a view to extended experimentation among themselves along certain prescribed lines. With each year the Union has grown in strength and influence until it now has enlisted in the good work many of the leading agriculturists of our Province.

We are unable to review the papers discussed, but shall have to content ourselves with the presenting of the report of the experimental committee. Those appointed to arrange for and carry out experiments in horticulture, Messrs Clinton, Lick and Prof. Pantan, give the following results from the experiment in potato planting:

KIND PLANTED.	Average.	Yield per acre	Seed used per acre	Yield per acre minus seed.
Large whole	125.91	258	55.49	202.53
Small uncut	112.45	258	14.28	216.17
Small, all eyes out but one	108	221 1/4	13 1/2	207.43
Medium cut in two	118.66	244	24 1/2	219.50
Fresh cut, two eyes	105.08	215 1/4	14.38	201.37
Old cut, five days, two eyes	102.18	209 1/4	14.18	195.12
Cut with one eye	97.18	199 1/4	8.16	191.59
Seed ends	99.5	204 1/2	8.16	196.34

The committee on special fertilizers, Prof. James Yavitz, Linfield, and McCallum, reported that they had received reliable returns from all parts of the Province, from about forty experimenters:

Fertilizers.	Weight per acre in lbs.		Weight of grain per bush
	Straw	Grain	
Egyptian oats—10 experiments.			
Salt	400 lbs.	2557	1427
Superphosphate	400 "	2461	1487
Ground Apatite	400 "	2411	1478
Fresh Wood Ashes	400 "	2300	1295
Farmyard Manure	x "	2706	1575
No Manure		2480	1294
White cluster oats—12 experiments.			
Salt	400 lbs.	2064	1168
Superphosphate	400 "	1979	1204
Ground Apatite	400 "	1717	1012
Fresh Wood Ashes	400 "	1912	1276
Farmyard Manure	x "	1946	1119
No Manure		1806	953
Common 6-rowed barley—12 experiments.			
Salt	400 lbs.	2394	1258
Superphosphate	400 "	2372	1279
Ground Apatite	400 "	2110	1012
Fresh Wood Ashes	400 "	2221	1278
Farmyard Manure	x "	2406	1268
No Manure		2087	1212
Red Fife wheat experiments.			
Salt	400 lbs.	1773	916
Superphosphate	400 "	1595	902
Ground Apatite	400 "	1475	871
Fresh Wood Ashes	400 "	1475	871
Farmyard Manure	x "	1711	1108
No Manure		1480	866
Average of total 40 experiments.			
Salt	400 lbs.	2077	1201 1/2
Superphosphate	400 "	2180	1232 1/2
Ground Apatite	400 "	2017	1207 1/2
Fresh Wood Ashes	400 "	2073	1274 1/2
Farmyard Manure	x "	2111	1278 1/2
No Manure		1987	1221 1/2

I must say the amount of increase in the yield was far beyond my expectation."—John Gascho, Wellesley, Ont.

Farmers' Institutes.

MEANS THAT MAY BE USED FOR THEIR ADVANCEMENT.

[FIRST PAPER.]

The design of Farmers' Institutes is to assist the farmer in giving him a better knowledge of his calling and ultimately to protect him from undue encroachments of other classes in the commonwealth. It is very clear that these objects cannot be realized without members and officers to manage the Institute, a fair attendance on the part of the farmers at the meetings, and parties competent to impart the information.

It is a great matter, then, that every reasonable effort be put forth to increase the membership. When we think of the amount of good that is being done at these Institute meetings and the lowness of the membership fee—the nominal sum of twenty-five cents, it is simply marvellous the limited number of farmers who have enrolled themselves. Of the sixty Institutes now in existence the aggregate membership is still under five thousand. But this arises very largely from the fact that the farmers are not generally aware of the objects of the Institute. But why are they not aware of them? In this matter they are verily guilty and have laid themselves open to the charge of indifference, as inexcusable as it is prevalent. The beacon on the hills for the assembling of the clansmen was viewed by none of them with indifference. They took it as the signal for the gathering of the clans, and not a man of them was missing when the count was taken. They did not always know why the call was made, but they came to see. Shall the earnestness of the clansmen of a semi savage age put to the blush the cold indifference of the Canadian farmer of to-day? Two years ago the beacon of the Institutes was kindled in many of our counties. Its smoke curling up to the calm of our blue Canadian skies has been seen by every farmer from Kenfrew to Essex, and yet many of them have never said, "What does it mean?" much less have they come to see. Well, if they will not come to us, we must go to them. They must be made to know that the Institutes are for them and that they should therefore sustain the Institutes. Instead of four thousand members we should have forty times that number, and even then a sufficient force would be left at home while the Institutes are in session.

Two agencies may be employed to increase the membership that are sure to be effective. The first is individual effort and the second the holding of meetings in different neighborhoods. There is not a member of a Farmers' Institute in Ontario at the present time but who could induce at least five persons to join the Institute during the year. This would enable us to commence the year with at least 20,000 members, and if the same effort were put forth by every one of these the year 1890 would open with a membership of 100,000. Let every member of the Institute bring at least this number to the membership roll before next year and he will have the satisfaction of knowing that he has done a great kindness to that number of his fellowmen, for no farmer can attend the Institute meetings regularly without being a great gainer. Be not discouraged because they are not alive to the importance of the work. They must be made alive to this. If men are to be let alone because indifferent, then the benign influences of Christianity must perish, and the spiritual guides of the people sent to the plough and to the factory. It is one of the glories of humanity that it may influence other men, and one of its highest privileges, a magnificent talent that will almost cry out itself in the most earnest remonstrance if laid away muffled in a napkin.

The second agency whereby members may be captured for the Institute is by planting meetings in their midst. Advertise them well by posters and fly-sheets, mailed in bulk to the different school teachers, with a postal card, requesting them to give each family one, and at the meeting make it a matter of first importance to secure the names of those who attend as members. This may be done by some of the directors, even while the meeting is in session, perhaps better then than at any other time. By holding the meetings at different places in the riding a large membership may in this way be secured. Then there is another class of meetings that may be utilized with much advantage in this direction. Picnics may be called annually at some suitable season on a mammoth scale. Suitable speakers may be secured for these. By suitable speakers we do not mean politicians—at least politicians who are so wedded to politics that, like saltpetre in meat, it gives a peculiar flavor to all they say. It is always in order to secure the Ministers of Agriculture, the professors of our agricultural colleges and experimental stations and farmers suitably gifted, who are known to stand in the forefront of their special lines. Then if there is still a dearth, politicians may be chosen who may be trusted to behave themselves.

To Detect Adulteration in Maple Syrup.

Mixtures of commercial glucose and maple syrup in various proportions have in recent years been branded and sold throughout the country for genuine maple syrup to such an extent as to drive the genuine article almost entirely from the market. The reason for this condition of affairs is not to be found in the taste or choice of the consumer, but is due entirely to the fact that the adulterated article offers a much greater margin of profit to both wholesale and retail dealers. Commercial glucose is a mixture of grape sugar (starch sugar) and dextrine, and its presence in a suspected sample of syrup can be readily detected in the following manner, by any one: Place about a tablespoonful of the syrup upon a watch glass or porcelain saucer, and then add four or five drops of an alcoholic tincture of iodine. In case of the genuine syrup the iodine will soon dissipate and the original color of the syrup be restored. But if commercial glucose be present a brown coloration or precipitate will remain (dextrine reaction).—Report Ohio Experimental Station.

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

BY D. NICHOL, CATARAQUI, ONT.

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

(Continued.)

As long back as we have any distinct records of agriculture to refer to we find information respecting this plant. Finny mentions three distinct species, of which he gives a detailed description. He speaks very strongly in their praise, and says they were accounted third in value of the cultivated crops of his time, the vine and corn being ranked before them. He tells us that many of the turnips raised on well cultivated farms weighed upwards of forty pounds each. Our enemy the "Turnip Fly," (Skipping Beetle) appears to have been well known to the Greeks and Romans, as all the best authors speak of the injuries it caused to their crops, and offer remedies or palliatives for its attacks. Palladius repelled the insect by strewing a mixture of soot and wood ashes in the drills at the time of sowing. Our "turnip fly" is probably the same insect as that referred to by the Roman authors.

Our most approved remedy is to place the seed in

the soil under those conditions most likely to ensure a speedy and vigorous growth, so as to carry the young plants as quickly as possible out of the power of the enemy. This we consider is accomplished by depositing at the same time with the seed a certain quantity of readily available artificial manure, either in a solid or liquid form.

This is our advanced practice, and now only to be met with in practice on our best cultivated farms; and yet this practice was known to and commonly adopted by the Roman farmers more than 2,000 years ago.

In the cultivation of the turnip, in its general use on the farm as a feeding substance for live-stock during winter, the ancient farmers seem to have been quite as well versed as the modern. And indeed that improved system called "turnip husbandry"—which so much contributed to the progress and material welfare of Great Britain at the close of the last and commencement of the present century—appears in the time of Columella to have been practiced in the Roman provinces of Italy and Gaul.

We have reason to believe that in Great Britain turnips have been cultivated from the earliest periods of its history. They are mentioned by several of our early authors—by "Gorge," in 1586; by "Gerarde," in 1599; by Parkinson, in 1629, and the Great Ray in 1686, distinctly informs us that at that date they were commonly grown as food for cattle.

Leslie, in his "Observations on Husbandry," at the beginning of the eighteenth century, speaks of them as a field crop. But the first and principal improvement in the mode of treatment appears to be due to Lord Chas. Townsend, of Rainham, Norfolk, in 1730, whose successful system of cultivation gave them a status as a crop which they did not before possess.

Brown, in his "Treatise on Rural Affairs," remarks that the introduction of the improved "turnip culture" into the husbandry of Great Britain occasioned a wonderful revolution in the rural art, and that before the introduction of this succulent root it was not possible to cultivate light soils successfully or to devise suitable rotations for cropping them with advantage.

It was about 1775-80 that the Swedish turnip was introduced into Scotland, some seeds having been sent over from Gallenberg, from which sprung the different varieties of Swedes we now cultivate. And probably also at a later period the yellow and hybrid varieties, the produce of a cross between the original white turnip and the newly introduced Swedes.

Now, the Swedish turnip naturally takes precedence of all other root crops, therefore it is the keystone to the improved system of farming in the most advanced agricultural countries in the world. It is the crop by whose success or failure the welfare of the whole rotation system of farming is mainly influenced.

The Swedes are usually known by the color of the top of the roots, such as purple, green, or purplish green. Of each of these there are now several varieties in cultivation. The common purple top is the stock from which most of the others originated; it may be distinguished by its oblong shape. Its color is a dull purplish of the upper part of the root, and yellowish underneath.

Skirving's purple top is a well known variety that was introduced in 1857. Since then an important variety has been brought by Mr. Skirving, which possesses all the good characteristics of size and solidity of the other, and is a better cropper, matures earlier, and keeps well when properly stored. The common green top is one of the oldest varieties in cultivation. It has, however, of late years fallen into disrepute, owing to the greater attention that has been paid to the purple top varieties.

Laing's improved purple top differs widely from the other varieties of Swedes in having large, entire, cabbage-like leaves which, by their spreading, horizontal habit of growth, speedily cover the soil between the drills, which to some extent prevents evaporation from the surface and materially checks the growth of weeds. It is very hardy, of a fine, globular shape, with very little neck. But, of the many excellent kinds of the Swedish turnip, it would be impossible for any to say which, under all circumstances, would be the best. In addition to those already mentioned, we have the Bangholm, bronze-top and Drummond's Swedes, highly recommended as heavy croppers, while Sutton's Champion is freely recommended by the leading seed merchants as growing

the largest of any of the Swedes. But, be it observed, the laigest kinds are not always to be preferred. Sometimes the gain in bulk is over-balanced by loss in solidity and richness.

Of the common turnip the number of varieties is far greater than that of the Swedes. Lawson enumerates and describes no less than forty-six. Many of them are of similar habits and qualities, consequently numerous descriptions would only lead to confusion.

The common white globe is most generally grown by stock-breeders in Britain. It is the kind of which the largest bulk per acre can be produced, and of which cattle are exceedingly fond, but is not well adapted for our climate. The Aberdeen yellow is admirably adapted for a late crop, to be sown on newly cleared land. It is a valuable sort for winter keeping—gives large returns on good low land generally.

(To be continued.)

Agricultural Hall at Toronto.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR—The September and October numbers of the JOURNAL contain a paper read by the former editor at the meeting of the Central Farmers' Institute held in the city of Toronto in February last, entitled "Erecting an Agricultural Hall in Toronto," which gives much information as to the standing of agricultural interests, giving facts and figures to show that it is by far the most important of all the different lines of business in existence in the Province, and while agreeing with much of it, yet there are some points raised that are worthy of further discussion. In speaking of the holding a fat-stock show in Toronto, the probable attendance, and the amount each visitor would spend while in the city, I think the writer is above the mark in placing it at \$25 per visitor. As I have not, nor do I suppose there exists, any correct data, apart from hotel expenses, upon which to base the figures, I can only say, speaking for myself, that I think it altogether too high. As to purchasing supplies of seeds and other articles in Toronto when attending these fairs, I would just ask that gentleman if there are not seedsmen and merchants in other lines of business in the city of Hamilton, much nearer his own farm, just as reliable, and who are in just as good a position to supply their customers with as good articles and seeds as cheaply as those in Toronto, and the same may be said of Guelph, and almost every other town and city in the Province, for although their establishments may be smaller, yet perhaps the goods sold are equally pure and reliable with those offered in larger places.

Speaking of the live-stock sales of Great Britain, it is contended that sales similar to those held in that country are essential to the advancement of farmers' interests here. If I understand rightly you are in favor of public sales for all classes of stock, both for breeding and feeding, as well as the fat or finished article. The truth of the statement, "that similar conditions produce similar results," is, I take it for granted, not disputed at all, and if it can be shown that there exists so great a dissimilarity of conditions, both physical and material, between Great Britain and Ontario as to render the result of such sales extremely doubtful, then a long step will have been taken in the direction of nipping in the bud that which in my opinion is doomed to failure. Never having visited Great Britain, and, consequently, not having attended any of the sales spoken of, I have had to trust for my information to friends, and to what I have read, and if incorrect, then I have been wrongly informed. Take the item of lambs, and I believe they are a class of stock very largely disposed of at these sales. In Britain it is well known that there are certain sections in which, from the nature of the soil, sheep raising is almost the sole occupation of the farmer, and that the grass or principal part of the food of these sheep is not of such a character as to fatten the lambs or sheep to anything like a condition fit for the butcher. In order to fatten them they must be sold from these "heather clad hills" when they are raised to others, where roots and rape can be raised in sufficient quantities to enable the farmers to handle them with profit. On a single farm in the south of Scotland containing some 2100 acres of hill land (not considered a large farm) worked by a friend of the writer, breeding ewes to the number of 1400 are kept, and rating the increase at 1½ lambs per ewe, we have 1,750 lambs. Now with the number of lambs raised on this farm added to the fact that a very large part of that country is similarly situated,

and used in the same way, it is a very easy matter to get these lambs to the towns where sales are held, the distance being short, the number of lambs raised within a very limited area being so great, and the food on which they live being of such a peculiar character that they must be sold at a certain time. These facts are very important factors in the success of the sales alluded to, and it is largely to them that they are indebted for the liberal patronage they enjoy. Now take the case of the Canadian farmers and compare them on the same points. The returns of the Bureau of Industries and Statistics show the number of sheep under one year to be about three per farmer. The figures upon which this estimate is based are furnished by the assessors, and are likely correct, or as correct as the farmers furnish them to these officials, but we must remember that their work is done in the early spring, and before a great many of the lambs have come, and perhaps the bulk of these may be lambs that are wintered over. But if we add to this the number shipped to the United States, as shown by our Trade Returns, and we know that almost all of our export of sheep to that country is in the shape of lambs, we may arrive at a fair aggregate of the lambs annually raised in the Province. By this we find the average number raised by our 180,000 farmers to be about 4½ per farm. Some experience in buying every fall a number of lambs to fatten would warrant me in putting the average rather higher than the above, in this section, or say between eight and ten. You find some flocks of half a dozen, some a dozen, a few as high as eighteen or twenty, and quite a number with no sheep at all. One thing is certain, that we find no large sections of country devoted to sheep raising, to the seclusion of other lines of farming, such as we see in Scotland, and consequently no large flocks. At an average of five per farm, it requires 42,000 acres to produce the number produced on 2,100 acres in the Scotch farm. With this comparatively small number raised, in order that a sufficiently large number could be got together to make the sale successful, they would have to draw from a very large tract of country, and this adds largely to the expense of getting them to the place of sale, railway freights and other necessary expenses, such as commission, hotel bills, etc., all of which must be added to the value of the sheep, and which the farmer must believe to be fully recouped in the price realized by public sale before he can be induced to patronize them. As our market for lambs depends entirely on the prices and demand in the eastern states, it is hard to see how the buyer can afford to give more at a public sale in Toronto than he can in the country. In point of fact he must give less, for if he bought them in Toronto, he must run them out at once, be the Buffalo market's good or bad; whereas, did he buy from the farmer in the country, if markets are bad, almost any farmer would hold them a few days until prices rally, rather than force the buyer on to a depressed and almost certain losing market. What is true of sheep and lambs is equally so of our fat cattle. What would be the result if, as it is proposed to do, they shipped their fat steers to Toronto for sale? Suppose that at any particular sale there should happen to be say (5,000) five thousand steers, and every one knows that in the spring, with lots of other work on hand, farmers are anxious to get their stock off their hands, they might all send their stock at once. The reports of British markets were bad, with worse prospects; the farmers had incurred the expense of shipping their stock, many of them perhaps from 50 to 150 miles, and to meet this depressed market, they cannot afford to ship them back again, and therefore must sell at a sacrifice. Were they sold as at present, if markets were bad, almost any farmer would, and we know that they often do, hold them a few days or even a few weeks, until markets had a chance to improve. Enough has been given to show that our conditions are so different from those in Britain, with their hundreds of lambs on the same area as our tens, and by this fact their consequent nearness to markets, their scarcity of proper food to our plenty of the best of it; these are surely enough to satisfy anyone that our attempts would be almost certain to be as great a failure as theirs is a success. "When a farmer wishes to purchase a sire he cannot afford to spend half the price in travelling from herd to herd, and from flock to flock, to attain this object," says the same article. Any reader of the JOURNAL can, by turning to the Breeder's Directory, find that in almost any part of Ontario there are herds and flocks of pure-bred stock, among whom produce can be found, many animals fit to be sires in any herd or

flock in the country, and these can be reached by a much smaller outlay than if those wishing to purchase such animals had to travel to Toronto from the extremes of the Province to do so. In Britain it is different. At no point are they more than a fraction of the distance from some such centre, that many of our Ontario farmers are. The small measure of success that attended the sales of pure-bred stock, inaugurated by the British American Herd Book Association, and their ultimate failure, are still fresh in the minds of everyone, and require no further comment. As to the uses of such a hall as a place of meeting for such associations as the Dairymen, Poultry Breeders, Live Stock of different classes, Grange and Institute meetings, I have nothing to say, and from what little I know of them it might be useful for such purposes.

J. L., Jr.

Guelph, Jan. 24th, 1889.

The Dairy.

In a state of nature the cow serves her purpose in producing simply enough milk to nurture her offspring, until such time as the latter may be able to provide for itself. A dairy cow, however, is called upon and should be expected to do far more than this, and her energies should be so directed by good food training and the best of care. Let her struggle against natural conditions, and she will give you Nature's return. That a cow can be educated in any natural direction without sacrifice of constitution, by careful and continuous attention being paid to that special end, cannot but be admitted. It is also equally true that by injudicious feeding, with the object of securing a big milk or butter yield, her constitution may be undermined. A robust constitution furnishing the vital force to carry on her life duties, is the prime essential of a dairy cow. A cow, hearty and hale, that has been fully developed as a *dairy* cow, will have every tendency to reproduce in her progeny these enhanced qualities, only awaiting cultivation in the latter to bring them to light. This being so, not only does the educating of a cow to do her work well give marked present results, but the good effects also become apparent in her progeny.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.

Our Experience with a Silo and Ensilage.

By E. BIRDSALL, BIRDSALL P. O., ONT.

Any farmer who wants to take a leading position in his profession should build a silo. It is not only of value to the man with four or five hundred acres, but is even of greater worth to the small farmer, as he may thereby greatly increase his produce per acre. The dairyman by this means can have green food the year round, and in this way increase his milk production from 3,000 lbs. to 6,000 or even 7,000 lbs. We all know the value of green food all the year round to the stock-raiser. The farmer who follows mixed farming is in need of a silo not only to furnish food for his cows, but it is also a splendid food for colts as it tends to keep their bowels regular, and keeps them growing. Sheep and pigs are also very fond of ensilage, and even the *gerse* will eat it greedily. Farther than all this, it is one of the very cheapest of foods. We put it in the silo this year for \$1.75 per ton, counting rent, taxes, etc., but I think next year, that as we know exactly how to grow it, and the easiest mode of handling it, we can put it in for \$1 a ton. The great growth per acre, the small space required to store it in, and again, the time of year that it requires most attention being just before and after the busy season of grain harvesting, all point to the fact that every farmer should have a silo.

The land, in our experience, for growing ensilage corn, wants to be well manured, and it is all the better for being near the barn. We sowed five different varieties. Mammoth Southern Sweet, Ensilage or Red Cob, Western, Indian corn, and Sorghum. Part of the first mentioned was sown broadcast, at the rate of 3 bushels to the acre, and it turned out at the rate of 12 tons to the acre, but had very few cobs. The rest of it was sown in drills, with a seed drill, at the rate a bushel to the acre, by stopping up three sprouts and leaving one open, and driving as straight as possible. This was cultivated three times, and turned out at the rate of 25 tons to the acre. The Western and Red were sown broadcast, but was not as good as the Southern Sweet. The Indian corn was planted in hills and cultivated, but for ensilage purposes I do not like it. The sugar cane was sown in drills the same as we sow turnips, with a Hamilton horse turnip drill. It was a splendid crop, although sown too thick, and we intend growing considerable of it next year, if that which we put in the silo turns out all right. I strongly advocate sowing the corn in rows wide enough to cultivate between, and would recommend sowing the corn with land plaster after it has started to grow. By drilling the corn the harrow can be used on it after it is up, and the cultivator should be run through as often as possible, not only to keep down the weeds but to stir up the soil, especially if it is a dry summer. We had, on what we sowed in drills, stalks measuring over 11 feet high, in fact they averaged over 10 feet, and some of them weighed over 4 lbs. It is ready to cut when the corn glazes in the ear. For cutting what was in rows we used a sickle, and left the corn in bundles; the broadcast was cut with a scythe. Leave one full day after cutting before putting in the silo. Our silo is 30 feet long by 14 wide, and 8 feet high, and is built under a straw shed in connection with a bank barn. The silo should be convenient to the cow stable. First we had the ground levelled down and put in cedar pipe drains. Then put in cedar sleepers one inch above the ground. On these we laid a floor of pine boards driven up tightly, and then covered with tarred paper, and then another layer of boards; then 2 by 4 scantlings were set up perpendicularly and nailed to the floor and the timbers of the straw shed above, 3 feet apart. These were sheeted up on both sides, the boards being driven as tight as possible, and this was covered with tarred paper, both inside and out. The paper should be lapped 4 inches, and again covered with inch boards. On the side next the cow-stable we left a door, which should be double and lined with tarred paper. Before filling the doorway of the silo put boards in front of the doorway so as to keep the ensilage away from the door, and cover these boards with the paper. Our silo is divided into two bins at present, but we intend next year to subdivide it into four, as we find it will be more convenient to fill.

The cost of the above was \$56.38, divided as follows: 3,760 feet lumber, \$30.14; 300 feet of scantling, \$3; 8 rolls paper, \$8; 1 keg nails, \$3; work, \$10; sundries, \$2.24.

As soon as the corn was glazed in the ear we commenced to cut, and left it one full day before starting to put it in the silo. We drew it in on a truck that is used on the farm, it being more convenient than a waggon, as the corn has not to be lifted so high. The corn was all run through a Hamilton cutting machine run by horse power, and cut into inch lengths and put in from the barn floor. We put in 4 feet, and left it for three days, and then put in 4 more. Next year we will fill at least 5 or 6, as it settles a good deal. The corn should be left in a conical shape,

and at the end of three days should be levelled down and tramped thoroughly, and then filled in again.

When you have your silo filled, put tarred paper on top of the corn, lapping the edges 4 inches, and cover over with straw, which is more for the purpose of keeping the paper in place than to weigh down the corn. Next year we intend to put about 2 feet of cut straw on top of the corn, then inch boards, and the paper on top of the latter, and then cover the whole with straw. In this way we hope to save the 6 or 8 inches of corn that always wastes on top of the silo. The idea is that the straw will spoil instead of the corn. The temperature to make good ensilage should range from 140° to 145° Fah.

Cured ensilage weighs from 40 to 45 lbs. to the square foot, and 40 lbs. is considered a ration for a cow, fed in conjunction with other foods. Some people expect too much from ensilage; they should remember that it is no better than green corn.

Our experience of last year has taught us many things, first among these being the fact that the more you cultivate the corn the better and stronger it will grow. Be sure and plant enough corn, for a small silo holds a lot. Be sure and get the best seed, and do not plant it on a gravelly ridge. Further, do not cut your corn all down before you commence to fill, as you cannot fill it all in a day. The silo I have described I do not consider to be a model one by any means, but I do consider it a cheap one, and one that will answer the purpose very well, and one that is within the reach of every farmer.

To farmers who are considering the advisability of building a silo I would say, sow your corn any way, and if you do not build the silo, it can be harvested and fed with great profit without ensiling it. This winter I saw corn that was cured by Mr. Carlo, of East Northumberland, which was not the least musty and was greedily eaten by the horses.

Mr. McCrae, of Brockville, grows corn and keeps 60 head of cattle on 100 acres, and the only food he buys is bran. He attended the East Northumberland Farmers' Institute, at Warkworth, and after hearing all that was said in favor of the silo, made the statement that he would go home and build one, and increase the number of his cows from 60 to 100. His cows have averaged nearly 7,000 lbs. of milk per year. I have heard some men say they will build a silo, and will grow no more roots. I say, build a silo but I would think twice before giving up growing roots.

In conclusion, I would urge every farmer to consider the advisability of building a silo. Let him consider how his hay has turned out for the last two or three years; let him put 25 tons of green corn on one side of the balance and one ton of hay on the other, which has been the way our corn and hay has turned out the last two years. And further, let him place ensilage and hay before his cows and see which they will eat first. It is true, we are told it takes three tons of ensilage to equal one ton of hay for fat-producing, but I think that two tons of ensilage will make more milk than one ton of hay. This fall we weighed the milk from one of our cows for a couple of days and then fed her on one feed of ensilage a day for two days, and found an increase of 2 lbs. of milk a day. We had about 30 tons of ensilage this year; next year I hope to treble this amount.

"We are well pleased with the catalogue prepared for us by your Mr. Craig. We think it the best got up catalogue we ever saw, and feel sure it is going to do us a great deal of good. Hoping you may be able to give every one the same satisfaction as you have given us, we remain, yours truly,

"GRAHAM BROS., Claremont, Ont."

Dairying in the Northwest.

(From our Special Correspondent.)

Dairying in the ordinary sense of the word is a comparatively new thing, even in the oldest parts of the Northwest. Butter is made very much on the same methods as prevailed in Scotland three-quarters of a century ago by the old settlers along the rivers, some of it of very good quality, as with cleanliness and care it can always be made, even by people who hardly know what the grain of butter means. There is another variety. The cows are corralled on the top of the same dung heap where their grand-parents were, their milk set in a damp cellar where decaying logs and last year's potatoes contribute their own share of the flavor, and "trade" butter, worth an average of 10 cents, is the result. Too much of the country butter made by newer settlers all over the province is of the same sort, and for similar reasons. This trade system has done much to keep down the quality of our butter product. No store-keeper who valued his own peace of mind would venture to give directly for the best butter more than he gives for the worst, or a general break up of his pleasant relations with his customers would ensue. As a result of this, all who know that their output is superior to the average, keep it for an advance of price in the fall; and when they do bring it in to the best points, find that the prices they could have made for export to the west coast early in the season are broken, the market having been supplied from California or Ontario, and they must sell at a loss in a half dead market. We have found to our loss that bad prices and bad quality act and react on each other with tolerable certainty. While this is the case with old-style dairying here, we have something very encouraging to say for the new, which has taken strong hold within the last few years.

Inspectors in boom times from the older provinces were quick to note the fine quality of the natural herbage and the excellence of the milk from the native cows, and such men as Andrew Malcolm, of Minnedosa, with the newest skill and best equipment known in the east, started cheese-making. Mr. Malcolm's make is mainly confined to his own herd of some 40 good grade cows; but he turned out, in 1887, samples of cheese that at Toronto, Ottawa and elsewhere won high praise from expert judges, and some prizes in a contest where only the highest grade of excellence had any chance of a prize-ticket. Himself and his next neighbor, Mr. Paterson, of Rapid City, were the only western competitors at these eastern fairs; but the make of cheese generally is of high quality. This is partly owing to the excellence of the milk, and quite as much, perhaps, to the skill of the makers, who are, without perhaps a single exception, men of skill and experience from the eastern factories. They need no higher commendation.

But though the milk and the makers are all right, cheese-making is not yet the business success it ought to be. The great trouble is the scattering nature of the settlement. It is not very rare to find a patron ten miles from the factory; and even with that drawback there may be from 70 to 150 cows, rarely 250, attached to one factory, and a cost of \$7 for collecting 3,000 lbs. of milk. This combination of disadvantages, scattering settlement and uncertain support, makes the cost of manufacture far too high, and that in turn breeds discontent among the patrons who read, it may be, in eastern papers, about cheese made at a cent a pound, while here it costs 2½ or 3c.; and even at those figures the maker is not too well paid, if we make proper allowance for cost and depreciation of equipment.

Last season was rather unfortunate here for dairying. The weather was cold and dry, with frosty nights till the end of May; then came a rush of vegetation, and a still greater rush of mosquitoes, which tortured the cows and checked the milk flow; then summer frost and a dry fall, making a loss for the season of more than \$5 per cow at the least calculation. For all the summer months nothing is supplied the cows except what they collect from the prairie herbage of aromatic weeds, flowers and grasses, yet there are men all over the province who could report in 1887 a gross yield of \$50 per cow from cheese and butter.

The returns for 1888 for the Manitou cheese factory, by H. J. Rockett, who runs other two small factories, may be taken as an example:

Pounds of milk received.....	662,000
" cheese therefrom.....	65,616
Gross value of cheese.....	\$ 6,190
Charges for making, etc.....	2,107
Average pounds of milk to pound of cheese.....	10.09
" gross price per pound cheese, cents.....	9.43
" charges per pound of cheese.....	3.21

There are at present 22 cheese factories scattered over the parts of the country most adapted for grazing, besides two in the territories, and one or two may be added during the current year. But the vacillating purposes of the patrons and their want of thorough local organization, keep down the chances of what, with more hearty and general support, might be a most profitable industry, as most of the cows are grazed on free land, and the cost of the present mode of wintering are very low. Their winter feed is practically prairie hay and water, and the cows have got educated to drying up for several months in winter. This, with a more liberal system of fall feeding, might be very much improved on, with profit to the owner.

There are four creameries in the province, the only one of any size being that operated by Prof. Barre, who makes a considerable quantity of first-rate butter by means of a Backstrom separator and a 10 horse-power engine. The milk is collected from about 60 patrons, sending close on 10,000 lbs. per day in the season, and yielding in the middle of August 1 lb. butter to 20 lbs. of milk. The patrons pay 5c. a pound for making, and get back three-fourths weight of separated milk for their calves and pigs. It is safe to say that even allowing nothing for the extra percentage of cream extracted, the individual farmers could not get within 5c. a pound anywhere else of the price made here. Most of the output, some 48,000 lbs. last season, was sold to British Columbia, at about 23c., put on at the factory. Mr. Caron, who along with Mr. Barre, made the highest prizes in the Dominion at both Toronto and Ottawa, operates a horse-power centrifugal on his farm at St. Charles, near Winnipeg, and sells freely at 25c. Arrangements are now being matured for starting some more creameries in the north-western division of the province, where the abundance of cheap pasturage and water indicates a choice field for dairying. Some of these will operate on the cream gathering system, as they prefer to have the skim-milk left at home to raise calves, which is one of their reasons against cheese-making.

In 1886-7 the Government of the province employed Prof. Barre to travel, giving practical lessons in home-dairy work and visiting the cheese factories as well, a work which he did with most gratifying results, as his recent acquaintance with the best work done, both in the east and in Europe, enabled him to give pointers to the best hands in the country. It was while so engaged that he decided to remain in the country and operate in both cheese and butter, mainly on the Red River. Even the old style butter-makers got valuable suggestions, and we are now able to send to the west

coast regular consignments of both butter and cheese. This trade has been mainly done by Messrs. Grant & Horne, commission merchants, Winnipeg, who in spite of initial difficulties, have succeeded in building up a very satisfactory connection. With more prompt collection from the best of the small farm dairies, and a better supply of creamery make, of which enough can never be had, these gentlemen are likely to help very much the development of our very great dairy capabilities.

The cows used everywhere are the common grades of the country, bred with no special eye to dairy points. In fact men who had very good models of the dairy farm have messed things badly, trying to "grade up" according to the beef rules, entirely forgetting that a beef bull is no fit sire for a dairy cow. The Shorthorn with an old streak of Ayrshire, is the prevailing grade, but some Holsteins, Ayrshires and a Jersey or two, have lately been imported from the East. Several good judges lean strongly to the Holstein sire as likely to give a type that will make milk freely from rough feed, while leaving a fairly satisfactory steer as well. The frost of last summer has given an additional impetus to the feeling in favor of dairying, especially in the late districts, where thousands of stock might be maintained at no cost except for labor.

A dairy association has been in existence for some years, but the difficulty of communication prevents them meeting as often as desired. Within the present year they held two meetings, and are pressing Government for a grant to enable them to appoint an inspector on the Ontario model; but the expense of visiting outlying factories would be very great. The last year's estimates of Government did include a bonus of \$50 to every factory making a certain stipulated weight of butter and cheese, but it is uncertain to what extent this aid may be continued.

Poultry.

Dark Brahmas.

The Dark Brahma, says the *Poultry Monthly*, is a splendid breed, and justly earns the reputation of being useful in a commercial point of view. It is singular, while they owe their origin to America, they were improved and beautified in the hands of English breeders, and came back to us with well-defined characteristics. True, the early specimens were not as well marked as those which came later, for some showed single as well as pea combs, with more or less bronze and red feathers on the hackles and wings of the males, and buff, bronze and gray on the ground color of the hens.

The origin of the Dark Brahma is not authoritatively known. Many conjectures have been put forth that appear plausible, but the one most generally accepted is, they were made by the union of a black red Shanghai cock with a gray Shanghai hen, the former known as the Marsh strain of Partridge Cochins. English breeders added Partridge and Buff Cochins blood in order to retain the distinct pencilling and barring, while American fanciers top crossed with the Light Brahma to establish the pea comb, improve the type and secure the steel gray color. The English bred birds have to the eye of the majority of American breeders one serious fault—they possess the "vulture hock" to an extent quite deserving the title of "winged," and those are invariably deficient in fullness of breast. The "vulture hock," however, seems fashionable in spite of all that is said against it by those of competent authority, but if not carried too far like in and in breeding, it gives better development to the leg feathering, and improves those birds which throw sparsely feathered shanks.

The Dark Brahma at one time bid fair to rival if not eclipse the light breed in popularity. They were cultivated quite extensively among leading fanciers of this country, and in England their cultivation was steady and progressive; they were favorites of a large class of well-to-do farmers and titled land-owners, who regarded them with more favor than they did the Light,

as they could be kept in a more presentable condition of plumage. In the Western States, many poor specimens were palmed off by unscrupulous breeders, which checked their growth and cultivation to a great extent, and when the "boom" was over, other promising breeds came forth, and were taken up by the western breeders.

The merits deservedly given to the Light Brahma might with justice be equally shared by the Dark variety. Upon the lawn or green sward, in the fowl house or clean run, the Light may prove more attractive to look at, but in city yards midst dust and smoke, or on soil where iron abounds, the Dark will retain the sombre plumage in better condition, and look more inviting in their everyday dress, as it defies alike the sun, the smoke and the rain to mar its exquisite markings. In this respect they are more desirable than a light-plumaged fowl, for they will not show the dust, smoke or dirt of a city or village yard like a white fowl.

Dark Brahmas possess many points of merit that please the eye and satisfy the taste. They are handsome and shapely, finely marked, and docile in disposition, but their value is mainly due to their large size, agreeable proportions, and artistically penciled plumage. The hens are extremely handsome, and look pleasing in their dark background of feathers, so finely and distinctly penciled with silver. In light or in shade, the rich silvery, slaty penciling presents harmony in its arrangements. They are well suited to the broad acres of the homestead, or the narrow confines of the cottage lot. They are easily confined and handled, and one of the most contented breeds we have. They can bear the rigours of our fall and winter months, are good winter layers, their soft, fluffy feathers protect them from extremes of cold, and their small combs and wattles seldom get injured from frost.

The plumage of the Dark Brahma varies in the sexes, that of the hen being far more difficult to get good. They are a hard breed to master and on this account few amateurs have made their breeding a success. The number of old and experienced breeders are few, compared to the scores who cultivate other breeds with profit and pleasure. A great deal of inbreeding is necessarily employed to get good specimens among so few to choose from for breeding pens, but it is at the same time taking out their vitality, and robbing them of their natural vigor and productiveness. We regret to say there is a want of enthusiasm among the Dark Brahma breeders in this country, as evinced by the few specimens seen at our exhibitions the past few years.

The art of breeding Dark Brahmas to a high standard, and still retain their physical qualities, has been a question much discussed by English breeders, and evoked many experiments that aided very much to improve and beautify the breed, without losing its stamina or constitutional vigor. The first point was to secure good penciling, while the second point was the comb, the third the size, and afterward shape and leg feathers. In the course of breeding it showed these last are, in this breed at least, most easily modified by a single cross, so that, for instance, even almost bare legs will produce grandly feathered stock, with a hooked male parent, and even size can be restored without any great difficulty to as great a degree as is desirable; but the others were hard to get, for good penciling defied the skill of the best breeder, and therefore had to be formed by selection and great painstaking.

While those breeders fastened their attention on penciling and selected the hen as the most important factor to begin with, the actual experience gained suggested other pens to be conducted on strictly the same principles, in order to avoid any necessity for a cross until the new strain was thoroughly established. This intelligent plan had its advantages, for by two or three strains from nearly allied or similar hens, the definite objects being kept in view and conducted alike, the evils of inbreeding were avoided. Where another must breed together brother and sister, or else resort to a foreign cross, a breeder thus armed can take a bird out of his families, which, in the course of breeding has arrived at precisely the same point, and will produce similar effects, yet with nearly all the advantages of a cross.

It is a difficult task to get desirable penciling on the females, and much easier to get the silvery white on the head of the male, but not quite so easy to get the silvery white hackle with a distinct black stripe down the centre of each feather, when the back is too dark, and the saddle too heavily striped. A solid black

breast, accompanied with a silvery white back, and wing primaries black, with narrow edging of white on lower web, secondaries the upper web black, the lower web black and white, ending with a distinct black spot, wing coverts greenish black, forming when the wing is folded a well defined bar, are hard to get good. It is still harder to get the dark and distinct penciling upon the breast, throat, and thighs of the females. Great objects are not usually attained by easy methods. The cultivation of the Dark Brahma is a nice thing when done to perfection.

The Apiary.

BEES, in common with hens, are looked upon by many as but necessary evils on a farm, and hence are slighted by these as unworthy of recognition as wealth-producing factors. The latest returns inform us that nearly 3,000 lbs. of honey was sent to other lands over and above the large quantity used in home consumption. Considering the little encouragement this industry has received in the past, it must be very gratifying to those who are laboring in this direction to know that the apiary has obtained such a foothold in our province. Surely it is worthy of a place at that excellent institution, the Central Farm at Ottawa. Apiculture, like its sister arts, is yet rich in hidden truths, unproved principles, and vexed questions, awaiting the experimenter for solution. As with other experiments so with these, they are too costly, and require too much time and care to be carried on by private individuals. Our American neighbors have recognized this, and have even gone so far as to establish an experimental station with this as its sole work.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

A Word to Beginners.

BY R. F. HOLTERMANN, BRANTFORD, ONT.

SPRING WORK.

At the late meeting of the Experimental Union, Guelph, some stress was laid upon the fact that the experiments which prove a success are not of greater value than those which prove unsuccessful, as the latter prevent many from attempting that method of work. The *Bee-keepers' Review* devotes a large portion of its last issue to the mistakes made by bee-keepers. It is natural for man to publish his successes rather than his failures. This is probably from selfish motives, for no better lessons can we receive than to hear of the mistakes of others. I propose in this issue of the LIVE-STOCK JOURNAL to lay aside some of the selfishness and direct attention to some of the mistakes made in bee-keeping.

THE BEGINNER.

When the bee-fever strikes you, do not lose your head and at once become so dwarfed in your conception that all the successes, all the wonderful instances given of success, rise up before you and form a perfect picture of a path to riches and prosperity, whilst all the reverses and failures are discarded as unlikely, insignificant, and at most due to carelessness and ignorance. If your intention is to keep a few colonies on the farm or in connection with something else, go ahead; no great harm can be done; but if you choose bee-keeping as a life pursuit, and all your income will depend directly or indirectly on bee-keeping alone, weigh well the question, and if you can, take even a year or more to decide. Let me say the great successes year after year are few and far between, and the average results from a large number of colonies, can generally not be as good as from a few colonies. Having decided to keep bees, the next question is, do you intend to start with a few col-

onies or with many? If with a few, say not more than five, you can do all right by purchasing one or more of the late publications on bees. *Cook's Manual* is very good, but we have a host of them; the last out is *Langstroth on the Honey Bee*, revised by Dant, which every bee keeper should buy, if for no other reason than the great debt we owe to father Langstroth, viz., the movable frame hive. Then there is Rost's "A. B. C."; Doctor Mille "Thirty Years Among the Bees"; Newman's "Bees and Honey"; Quimby's book, revised by L. C. Rost, and a host of pamphlets, etc., on special subjects, are published, varying in price from 5c. to 25c. Then all first class agricultural papers have a bee-department; and there are a large number of journals devoted to bee-keeping. Take one or more of these. Do not believe everything you read, but judge for yourself after reading the opinion of a number of men. Go slow, and gain experiences as you go along. If it is your intention to make a special business of bee-keeping, and you wish to start with a pretty extensive apiary, then spend not less than two years with practical bee-keepers. I do not say two seasons, but two years, because you should see the care and attention given to bees in winter. It is not much, but it is not desirable that you should learn how to care for them at this time by "sad experience." Do not remain the two years with one bee-keeper, but with two at least. Their systems will vary. You will not be so liable to accept as gospel their methods, and all more likely to be set thinking for yourself, and greatly benefit by the varied experience if you are fit to be a bee-keeper. Visit conventions of bee-keepers all you can, and visit other bee-keepers; they are generally a very hospitable people, and have no secrets as to their methods of success. Let practical experience and reading go hand in hand.

CAREFUL WORK.

Every business suffers from careless, procrastinating and slipshod methods of work, but probably no business requires more care and diligence to succeed than the bee business. If you know you do not possess these qualities, then you had better leave bee-keeping as a business alone. If you want an excellent schooling, then purchase a few colonies and make up your mind to succeed with them, and you will have excellent schooling. With bees, "delays are dangerous." If anything requires to be done and you delay, you may be sure you will suffer loss in some way.

If your temper is not easily controlled and you want to be mastered or retreat, go into the apiary and knock things about for awhile; you will find it will not do to "kick against the pricks."

Many wish to purchase bees, and think they will lessen outlay by buying bees in box hives. After a thorough experience in this matter, let me say, "don't." It does not pay. You have to transfer; the comb is very liable to be largely drone comb or unfit for transfer. You have to purchase a movable frame hive; comb-foundation in part for it (as there will not be sufficient comb to fill it), and it is a set back to the bees. These advantages must be experienced by the skilled apiarist, and alone suffice to make transferring from box hives at ordinary prices unprofitable; but when we add to that the inexperience of the novice, the tendency to loss of queen in some way, and the liability to robbing, especially if the bees you transfer are black—and the bees in box hives generally are—it is folly to undertake the work. In spring many will be wishing to purchase colonies. Do not buy the heaviest but the most populous, and do not purchase until fruit bloom.

RACES.

Bee-keepers generally are not as divided on the question of breed, or as we call it, race of bees, as the cattle, horse, sheep and poultry breeders appear to be. When I commenced the business I thought (and doubtless many think the same when commencing), I would get a very expensive queen, and one taken from one man and another from another, so as to have my young queens mate with other blood than their own. The idea of separate or distinct blood has certainly its merits, and I believe we should aim at getting in some new blood every year under ordinary circumstances; but as to the price, we do not think there is any necessity for paying big prices for queens. A breeder may occasionally pay a big price to get the best queen a good bee-keeper has; but the average bee-keeper, we think, would do as well to get a dollar queen from some reliable breeder. As to the breed, for honey production I do not want any black bees. Ask a man who says he is troubled with the "moth" in his living combs, "Are your bees black?" and the invariable answer is "Yes." The majority of the hives robbed out—if Italians, or any other race and blacks are together—the majority are blacks. For these and many other reasons I do not want black bees. I want nothing but Italian and Black bees in the apiary. If it were not that I sell Italian queens, I should have no objection to having my bees Italian and black crosses, more than half being Italian blood, so that if your bees are hybrids, leave them alone, only put a little fresh blood in the apiary at times. Crosses I believe are not desirable to breed from.

It is folly to buy and pay a high price for a queen imported from Italy. There is no doubt just as good can be had in this country. That the Italy Land and Cyprian bees have proven a failure in no way lessens the enterprise for which we should give Mr. Jones credit in seeking to secure new races.

Before the next issue of the LIVE-STOCK JOURNAL many may have set their bees out of winter quarters. Let me say, be careful. If they appear to be doing well in cellars, and have ample stores, leave them in the cellar until maple bloom. If a colony is affected bad with diarrhoea it may be well to set them out; but in this case I should contract the brood-chamber, putting a division-board at each side with a piece of thick flannel between them and the side of the hive; put another good woollen cushion on top, and you have a snug hive.

If you put a cake of sugar or some bee-candy on top of the frames it will be liable to keep them in the hive cold, windy days. Contract the entrance. More harm has probably been done by putting colonies out of the cellar too early than by leaving them there to avoid the early cold winds.

*Horticultural.***A Rockery of Native Plants.**

The influence of a subtle hand and a trained eye may show itself as strikingly in the trim yard and neat garden of the humblest cottager as in the more costly grounds of the wealthiest nabob. Taste, the handmaiden of culture, is not the offspring of riches, as is commonly supposed, though the possession of the latter may give it greater scope. That window, in its floral fulness is a voucher for the social worth of those living within, and that garden plot, small though it may be, shows the impress of taste in the grouping and design, and bears the insignia of a cultured mind.

Our woods teem with many plants worthy of the

best of care and culture. These can be used to best advantage by growing them on rockwork or under trees. The first principle in constructing a rockery is to choose stones as large as possible to give the pile a look of stability. A rolling surface is best for a site, but this will not greatly influence the good effect. By all means see that the crest is well covered with large plants. The spaces between the stones should be filled with swamp muck or soil with plenty of vegetable matter in it, so that it will keep moist for some time, besides being rich. Some paint the stones, but that has not a good effect, making it appear unnatural. The growth of mosses of all kinds should be encouraged by keeping the soil moist and transplanting these from the woods. All our native ferns, and some very finely cut and delicate ones we have, should be also used. After these once get a hold they require very little care. They cannot be grown very successfully without having plenty of moisture, and do best when shaded. As to the other plants, they should be mostly creepers or trailers. The beautiful Trailing Arbutus (*Epugia repens*) is without doubt the prettiest runner we have. Its fragrance, richness of color and freshness of foliage, finds few equals, if any, among our cultivated plants. Being an evergreen, the leaves are always smooth and of a deep green hue, while its flowers are of a rose color gathered in clusters. It is very hardy, but is not plentiful in our woods. Another beautiful wild plant is the Twin Flower (*Linnaea borealis*), which so captivated the great botanist, Linnaeus, that he wore it on his coat-of-arms, and hence its technical name. It bears many nodding pink-colored flowers in pairs on a slender stalk, and it has small oval-shaped leaves. It is a very rapid grower, and may be found in almost any piece of bush. A plant of smaller foliage and growth is the commonly called Partridge Berry (*Mitchella repens*), but it has small white flowers. It is very plentiful in our woods, and is generally found in company with our native creeping Snow Berry (*Chiogenis hispida*), which may be often seen covering half rotten logs with bright green oval-shaped foliage. Other plants, such as our wild Wintergreen (*Gaultheria procumbens*), with its white nodding flowers and bright red berries; and also its near relative, often called wintergreen (*Pyrola rotundifolia*), with its sweet-scented spikes of pure white flowers, could be used to advantage. Similarly our early spring plants, such as the early Liverleaf (*Hepaticum*) and the delicate Spring Beauty (*Claytonia*), and many others could be employed with good effect. If given plenty of moisture we have a number of strikingly-colored orchids that would grow well here, such as the Ladies' Slipper (*Cypripedium*), the Rattlesnake Plantain (*Goodyera*), Ladies' Tresses (*Spheanthes*), and many others that may be found native in our woods. The Wild Bean (*Apios tuberosa*), with its beautiful purple flowers in fragrant clusters, and our Honeysuckles (*Lonicera*), would lend their hues and fragrance for the furtherance of this laudable work, and form a fitting cap to the beautiful pile.

FOR CANADIAN LIVE-STOCK AND FARM JOURNAL

Some Diseases and Insect Enemies of the Grape.

BY E. D. SMITH, WINONA.
(First Paper.)

There is probably no fruit that has more, destructive enemies than the vine; but fortunately the most destructive of these have not yet reached this favored land. Whether they will yet do so, or whether the winters of Canada and the Northern States are too rigorous for them, or whether other

causes will operate to preserve our vineyards from these ravages, remains to be seen. However, there are quite enough of pests already with us to make the growing of grapes anything but a sinecure if we wish to secure the best results.

Probably the most destructive, because the least assailable enemy, is the phylloxera, which, though it does not seem to thrive as well on our vines, and especially the native varieties or those with a large admixture of native blood, as upon those of sunnier climes, and has not as yet become a serious pest here, it is, nevertheless, increasing rapidly, and may prove as formidable an antagonist here as elsewhere. The Niagara and other soft-rooted vines, are especially subject to its attacks; and I am told by nurserymen who grow Niagara vines largely, the roots cannot be grown twice upon the same land in succession, as the soil becomes infected with phylloxera during the growth of the first crop, which goes to show there are plenty of them; which, if the case, seems to indicate that our climate or our varieties of vines are able to grow and produce crops in spite of their presence in very considerable numbers. Every person purchasing vines should examine them carefully, and if knotty swellings are found upon them, these should be cut off and burnt and the roots dipped in hot soap-suds or tobacco water. Concord, Warden, Clinton, and such sorts with hardy roots, seem to resist the attacks of the insect, or rather afford it so poor pasture that it resorts to some other more succulent-rooted variety, such as Niagara or the different hybrids, such as the Rogers. So it is to be presumed that if the phylloxera were deprived of these latter they would turn their attention to the former, and this may ultimately be the result in Europe and California, where it is found the easiest way at present to combat this terrible scourge is to plant hard-rooted American vines, and graft them. The phylloxera leaves these to prey, doubtless with increased virulence, upon the remaining vineyards. Where most are thus replanted it remains to be seen whether the half-starved myriads may not turn upon the replanted vineyards and attack them as destructively as ever they did the native roots. There are at present in France about four and three-quarter million acres of vines in a state of healthy productiveness. At the close of 1887 there had been 416,192 acres replanted with American roots, 66,662 acres treated by submersion, which, where practicable, is the most efficacious remedy, the vineyard being submerged with water for twenty-five or thirty days during September and October. It is expected double that amount may be submerged, the Government going to the expense of the undertaking, being recouped doubtless by taxes levied on the vineyards. Besides this, there were 165,513 acres treated with sulphur of carbon and 12,052 acres with sulpho-carbonates. This is done by inserting from two to three ounces in the soil around each vine, which, giving off an offensive odor, kills or drives away the enemy. Heavy applications of potash are also beneficial, both as being offensive to the insect and as giving increased vigor to the vine.

Besides this root inhabiting form of the phylloxera there is a form that lives on the leaves, or at least makes the leaves their hatching ground preparatory to their entry into the earth, where they work such fearful havoc among the young rootlets. This form is quite prevalent here. It does not appear very clear, I think, even to experts in entomology, that the two forms are distinct, and in view of the fact that the leaf-inhabiting form does not seem to do much damage to the leaves except as occurs from so many galls

or warts being formed upon them, distorting and destroying the proper functions of the leaf. As a layman I would suggest that the two forms are simply different stages of the same insect, or, it may be, the parent louse has the choice of depositing her eggs either upon the leaves or the roots, according as the season is most suitable. In either case the young, as soon as strong enough to move about, finds its way to the root, where the damage chiefly is done. If this be true, which is half admitted by experts, then the most effectual way of reducing their numbers, is to gather and burn every leaf found infested. This is not so very formidable a job as at first sight seem to be the case, if taken in time, as they will be found almost entirely upon the tender leaved kinds, such as Delaware and Clinton. My own vineyard was once attacked by them in considerable numbers, but by carefully picking and burning the leaves I have got rid of them. It may even be that in our climate the phylloxera cannot multiply except by depositing its eggs upon the leaves. If this be the case, then we have the remedy easily in our own hands, by plucking and burning the leaves. Affected leaves can be quickly detected, as the galls or warts on the underside vary in size, from a pin head to a pea. And as each gall contains about one hundred eggs or young lice, and there are often a hundred galls upon a leaf, some idea of the countless myriads that would soon be feeding upon the roots may be gleaned. It is said phylloxera is not so destructive in sandy soils as in others. Too much stress cannot be laid upon the care which should be taken in purchasing vines to see that no galls are upon the roots.

Besides the phylloxera, there are two species of borers which attack the roots of vines. The one a large borer from $2\frac{1}{2}$ to 3 inches in length, which bores out the centre of the root, sometimes leaving little more than the bark. As this lives some three years in the larval state, and could not easily be detected, even if the roots were exposed, little can be done to combat it. Where a vine dies from some unknown cause the roots should be examined, and, if found infested by these borers, they can be destroyed ere they turn to the mature beetle, which issues forth in July to seek fresh victims for its offspring. The other borer somewhat resembles the peach-borer, the beetle, a wasp-like fly, laying her eggs just beneath or at the surface of the ground; the larva, when hatched, descending feeding upon the bark and sap-wood of the large roots. This borer is exceedingly destructive in the middle and western States, and may become so here, as the peach-tree borer seems to be admirably well pleased with our climate. The most efficacious remedy is a sharp knife, hunting out the rascals and killing them, after clearing away the soil from the collar and large roots. This will be, however, an expensive job, as the grub leaves no exuding gum at the surface of the ground to announce its presence, as in the case of the peach-borer, hence each vine would require to be examined. Pouring very hot water upon the exposed roots is said to kill the borers whilst not injuring the tree. A preventative measure is to leave a mound of earth around each vine, which prevents the fly from depositing her eggs, or an application to the base of the trunk of some offensive matter, such as carbolic acid mixed with lime and sulphur, or coal tar alone might deter the parent from depositing its eggs where it would otherwise do.

"I congratulate you on the continued and indeed increasing excellence of STOCK JOURNAL. It is heading 'head and neck' anything of its class in Canada. Success to the enterprise."—L. Gaetz, Red Deer, N. W. T.

The Home.

The Old Number Four Plow.

BY ANDREW RAMSAY, MORRISTON, ONT.

Last time I returned to my father's plantation,
The light on the landscape was vividly green.
The breezes were filled with the sweet exhalation
Of flowers and song, and the sky was serene;
My spirit rejoiced in the beauty of summer,
And fancy took flight unattempted before,
But suddenly sank when I saw a new comer
Had taken the place of old No. 4.

My joy was dispelled by the shadow of sorrow
As all the reverses arose to my view,
Since steering the plow with its share like an arrow,
Its iron beam, and its handles of blue.
How often afield when the crimson of morning
Made golden the mist on night's shadowy shore,
As the wood-robin welcomed the day-light returning,
I turned the brown furrow with old No. 4.

And all the day blest with the thrilling reflection
That soon as the even tide drew near
By chance I would meet with the blushing perfection
Of golden haired Annie, the tenderly dear,
And wonder with her, in the beauty a sharer,
'Neath a roseate round earth's flowery floor,
Till earth seemed to fade and Heaven come nearer
The field that was furrowed by old No. 4.

Perhaps after all 'tis this rose of our spirits
Plucked out of earth's wormwood, yet gathered in vain,
That gives the old plough such a halo of merits,
Being mingled with joys that return not again.
My heart fondly turns from life's wearisome changes,
And beats for the beauty that blessed it of yore
And loves to remember, whenever it reviews,
The rapture connected with old No. 4.

Early Education.

The education of the young is justly considered a matter of prime importance in every land that pretends to lay claim to an advancing civilization. The popular idea of education makes it to consist chiefly in that knowledge which is imparted at the school, which is a very superficial view of the matter. The education of the fireside and of the home are far more potent in the formation of character than that which is imparted by the teacher of the public school. It is far more potent and far-reaching in its effects than the education of social influences. How shall a boy or girl be made to take a true interest in his or her future life-work that will grow with their growth, is at all times a question of great importance. Yet it is one that parents have to a large extent in their own hands. A farm matron, wishing her daughter to take a true interest in the calling that her mother delights to honor, should set about seeking this result at a very early day. A little girl can take charge of a flock of chickens at an early age, and will soon become so wedded to them that the thought of a few days' absence will be almost painful. So, too, when more advanced, the care of a little flock of sheep and of a calf or two will wonderfully draw forth the kindly sympathies and attachments peculiar to the sex. Milking the favorite cow may soon become a source of very great pleasure. Nor should the toddling little one be discouraged who comes to the pet cow at milking time with her kitten in one hand and little pail in the other to get a supply for the latter. It will strengthen her young hand and comfort her young heart to strip a little at the cow. The tender attachments of the flower plot, which with un-failing regularity receives its daily visits, will wonderfully entwine themselves in the affections which bind with a silken tether to the memories of home. Nor should these duties be looked upon as unmanly in the strictest degree.

Whilst the performance of these little duties serves to bind those who do them to the attachments of home in a way that neither time nor distance can sunder, it also tends to strengthen and beautify the physical development as naught else can.

We thus perceive the most intimate relations between the development of the physical and the moral in rural life. In fact the inter-dependence between them is so close that it cannot be separated. The tending of animal or plant life, while it invigorates the physical powers, stimulates the mental powers to activity, and quicken the germs of affection into a new, and it may be, a hitherto undiscovered life. While the hand that pulls the weeds from a flower plot is strengthened in the act, the cords of attachment to the scene of those labors are also strengthened. Not from the innate love of weed-pulling but from the pleasure arising in the hope of the greater growth of the flowers. And so it is with the performance of all rural duties that are rightly regulated. This two-fold result is a constant harvest that the youthful reapers gather in, gratifying to themselves and more so to those whose they are.

If those duties are not cheerfully performed both results are lost, for neither moroseness, nor sullenness, nor unrest, nor ill-temper, nor pouting, can lead to either physical or moral development. The guiding hand can never be too careful not to assign duties that cannot be engaged in with the acquiescence of the will of the youthful performers.

Similar results will be generated in the minds of boys, and fruits equally precious will be gathered from their lives, if they are properly educated in the work of the farm. The performance of these little duties cannot well begin too early, as habits, even those of a disposition to labor, or the reverse, originate with the early years.

It should not be forgotten that *ego* is a very important person with most of us, and children are no exception. With the more matured it may be kept bandaged with the swaddling clothes of modesty; and it should be kept well in the background in the case of children. Yet for all *ego* is a very important personage, and this fact in the management of the young cannot be ignored. They should early be allowed to look upon little things as their own, and when old enough to understand when the proceeds of their labors are turned into the market, as in the case of lambs, eggs, etc., they have a right to at least a portion of the same. The pleasure of ownership should be allowed them, although guided by a wise controlling oversight on the part of the parent.

Sighs and bitterness, aching hearts and deep down sorrows, have been generated in ten thousand hearts in every land where the parents had fondly hoped that the children they had nourished would have remained to till the lands for which they themselves had so severely labored. Instead, they behold them desert both themselves and their lands, and in those days when the shadows of the west are drawing on, and for occupations that are frivolous compared with those of agriculture.

We may go some distance back to seek the cause, but it can be found, and we very much fear that it will be as certain that those seeds of bitterness, if not sown during the first ten years of life, were at least during that time not uprooted. The right training of a child is a magnificent undertaking. A human production of superior physical, mental and moral development is, when matured, worth a thousand prize horses or cattle, and yet must we say it, many a father gives much attention to the rearing of a prize horse who pays, but little attention to the education of his

son; and many a mother gives much attention to the quality and quantity of her butter, who gives too little attention to the rearing of a daughter with whose future it may be the joy or sorrow of a family becomes so inseparably linked.

During every year of youth it will be found profitable to take time to train it with a gentle, firm hand, as during no period will the influence of that training be so marked as in the earliest years. The law of development in lower animals is the same as that which governs moral development. The gains are less rapid the further we recede from the birth period.

Literature for Little Folks.

I do not think children ought to be written for or down to. Children are quite capable. In an intelligent household the little folks are quite capable of appreciating the ordinary conversation that goes on between the members of the family—so much of it, at least, that is good, and eliminating that which is bad. When a child goes into a great library it is known that literature that is good makes its impress, but literature that is bad fails to penetrate the child's mind. They may read Shakespeare or the old Testament, and they will never know anything except what is wholesome and good in it. I think the whole business of children's literature, like Sunday-school treatment and pamphlets, has been over-done, and it is in a large measure done to the artificial stimulation of the publishers. The vast portion of it is of a very dyspeptic character. It weakens their minds.

These builders of nursery fiction write about children so and so; but children want something more ideal. Very young children, almost all the very young children—and when I use the word child I mean those varying in age from 8 to 15—are interested in Homer and would like us to write about him, or the Iliad story of the Odyssey. Such subjects are much more wholesome and would serve better ends. But in the present literature there is nothing enervating or stimulating to the mind; nothing but what retards development in every way. Something more ideal is wanted. The imagination of the child wants to be fed as much as his eyes and appetite. I don't mean that the child should read a lot of fiction all the while. That is not the point. Even a commonplace diet is as injurious to a child as it is to you.—Charles Dudley Warner in *Inter-Ocean* Interview.

Experimental Work for Farmers.

The members of the Experimental Union are endeavoring to introduce a system of practical experiments, in which they solicit the co-operation of the farming community. The object is to inaugurate such experimental work as will be valuable to every farmer in the province.

These experiments are intended to be such as can be carried out by almost every farmer, with but little trouble or expense. The following are the experiments chosen for this year, and the systems for carrying them on:

1. A continuation of the experiments of 1888 on the same plots, without further application of fertilizers.

2. A test of superphosphate, dried blood, farm-yard manure, and no manure with oats.

3. A comparison of the different systems of raising fodder corn.

The first is only to be undertaken by those who experimented with fertilizers in 1888; the second is to ascertain the value of some of our quick-acting and best known fertilizers. This experiment will prove especially valuable to small farms, grain and truck farms.

The third, the shortage of pasture and increased use of supplemental crops impresses upon us the need of the best methods of raising fodder for summer and winter use. With this object in view the experiment with corn was planned.

Other experiments are being arranged in stock feeding, dairying, horticulture and bee-keeping by different committees.

We solicit the help of farmers in this work, and would ask them to apply to Mr. C. A. Zavitz, secretary of experiments, O. A. C., Guelph, for further information.

Our means being limited, those who apply first will be supplied with experimental material. The result of the work should well repay each one who takes part in it.

EXPERIMENTAL COMMITTEE ON GRAINS AND FERTILIZERS.

[This article was received too late for proper classification.—Ed.]

Welcome Visitors.

We have received a copy of the handsomely illustrated catalogue issued by Wm. Rennie, the well-known seedsman of Toronto, and it is certainly one of the most complete publications of the kind which has reached us this season. Mr. Rennie offers a general list of vegetable, flower and agricultural seed grain and potatoes, and in addition to a large collection of standard varieties, has a number of sterling novelties, which are worthy of a trial from our patrons. The catalogue will be mailed free to all upon application to Wm. Rennie, Toronto.

We have to acknowledge the kindness of the Vaughan Seed Store, 88 State street, Chicago, in sending us their handsome catalogue of garden seeds, etc. It is a credit to any firm.

The firm of Patterson & Bro., of Woodstock, favor us with their 38th annual catalogue, which is full of new features in the implement line, not a few of which are connected with their light steel binder that they now have on the market. This firm has the latest inventions in ploughs, harrows, cultivators, set forth in their bright catalogue, which every farmer should have in hand before the spring trade opens. Their ensilage and feed-cutters, and grinding mills, are also offered with latest improvements.

We have to hand a catalogue of field, garden and flower seeds, small fruits, garden implements, etc., issued by J. S. Pearce & Co., 119 Dundas street, London, Ont. It contains the newest varieties and is replete with valuable information for the gardener. This firm has an extensive establishment, and has been before the public for 25 years. Write them for catalogue.

Mr. John A. Bruce & Co., corner King and Macnab streets, Hamilton, favor us with their bright annual catalogue, containing an extended list of seeds of all kinds, with abundant information as to methods of culture, etc. Reliability, the helm of the seed-grower and nurseryman, is assured by the fact that this is the 38th issue of their annual catalogue. Be sure and send for their catalogue before spring trade opens. See adv. this number.

We have to hand a catalogue from Ellwanger & Barry, of Rochester, N. Y., containing a long list of roses kept on hand by them. Instructions as to care and cultivation of these floral beauties are also given.

A catalogue of trees, vines and plants reaches us from A. G. Hull, St. Catharines, Ont., containing many new as well as old and tried varieties of flowers and fruits.

A descriptive catalogue of American grape vines and small fruits is before us from Geo. S. Josselyn, Fredonia, N. Y., setting forth the merits of the many varieties handled by this firm.

Dundas & Granby, Springville P. O., Durham Co., Ont., forward us their catalogue containing the pedigrees, prizes won, and description of the registered Clydesdale stallions and fillies now at their stud. Persons interested would do well to write for this, which will be sent on application.

David Maxwell, of Paris, Ont., sends us his tastefully gotten up catalogue of harvesting machinery, including his Little Maxwell Binder, Maxwell Reaper, Maxwell Mower No. 2, and Maxwell Sulky Horse Reaper. Any farmer who buys any implements of the nature handled by this firm does not do himself justice unless he consults this catalogue.

We are in receipt of the new catalogue of the

Greenwood herd of Shorthorns, the property of Mr. Arthur Johnston, of Greenwood, and find, as usual, that it contains a vast amount of information in connection with the families of cattle kept by him. The families represented are 8 Kinellar Nonpareils, 6 Kinellar Minns, 2 Kinellar Claretts, 3 Golden Drops; 6 Sittytton Victorias, 2 Gordon Castle Wimples, 4 Sittytton Lancasters, or Lavenders, 2 Kinellar Rosebuds, 3 Sheriff-Hutton Fames, 3 Crimson Flowers, besides a number of other well-bred animals of various desirable families, all or nearly all finished with the best bred Scotch crosses. The catalogue is well gotten up, and we would advise the admirers of Scotch Shorthorns to apply for them.

The Watson Manufacturing Co., of Ayr, Ont., have sent us their new catalogue of all kinds of farm implements, from their two horse all steel binder and Lyon reaper to root-pulper and Ensilage-cutter, with carrier attached. The merits of their machines are clearly shown by the aid of many draughts, so that any one may understand the points of excellence. Good bargains are now being offered.

We have just received a very handsome seed catalogue issued by the Steele Bros. Co. (Ltd), Toronto, that contains description and prices of everything in seeds, roses, climbing vines, flowering bulbs and grapes; a book of 112 pages, profusely illustrated, has also a chromo-lithograph plate, showing four varieties of their "New Art Collection of Flower Seeds." New and rare novelties in flower, vegetable and field seeds occupy a large portion of the work. The firm occupy the Mammoth Seed House, corner Front and Jarvis streets, Toronto (visitors to which are always made welcome), and have an immense establishment, employing 100 hands, and doing business from the Atlantic to the Pacific. Send your address for a catalogue, they are mailed free.

Maasey's Illustrated, a monthly, published at Toronto, comes to hand decked in mid-winter dress. Its pages are bright with many illustrations to catch the eye, and replete with many spicy stories and news from all quarters, enough to satisfy the most ravenous reader. Send for sample copy and it will speak for itself.

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Jottings.

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

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

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

Spring Stallion Show.—On March 14th, 1889, the third Clydesdale Stallion Spring Show will be held in Toronto, at the Drill Shed. It is to be hoped that all interested will exert themselves to attend and make this Show a success in every way. Many prizes of value are offered and the classes are numerous. See advertisement this number and write Henry Wade, Toronto, the secretary, for certificate for 1/3 railroad fare at once.

A Remarkable Ewe.—An aged imp. Shropshire ewe, belonging to John Campbell, Jr., Woodville, Ont., which lately died, dropped 11 lambs in 7 years. Nine of them were sold as lambs and shearings, the prices of which, together with prizes awarded, amounted to \$667. A choice three shear ewe and a ram lamb, still remaining in the flock, and some 15 fleeces, would add another \$100 to her credit. Though she was never fitted to show, her progeny were yearly prize-winners at the leading shows.

American Aberdeen Angus Herd Book.—Through the kindness of the secretary of the American Aberdeen Angus Breeders' Association, Mr. Thos. McFarlane, we have been favored with a copy (Vol. II) of the above herd book. This association, though it dates its birth from but 1833, has made rapid progress. The volume before us contains 4,600 entries, and contains the names of 798 owners of animals; 190 are foreign and 608 American owners. Of the 4,600 entries, 613 animals are owned abroad and 3987 are owned in America. A frontispiece to the volume consists of a striking engraving of the Black Prince of Rutland and 2nd.

Clydesdale Exportation.—We learn from the annual report of the Clydesdale Horse Society of Great Britain and Ireland for 1888, that the number of certificates issued during the year for exported horses was 1149. Of these, 556 were for horses exported to United States, 371 were for Canada, 155 were for South America (chiefly the Argentine Republic), 61 for Germany, 3 for Belgium, 2 for Russia, and 1 for Holland. The year which closed on the 31st of December last was, it is stated, the most prosperous in the history of the society, and also that the season of 1888 witnessed a greatly increased foreign demand for pedigreed Clydesdale horses, and prices for the same class of stock at home were never so high.

Canadian Draught Horse Association.—At a recent meeting of the above society the Secretary's report showed that about 200 animals had been registered in the stud-book during the past year, bringing the total number of recorded animals up to 472. The report shows a balance on hand of \$78. The following officers were elected: President, F. F. Coleman, Arthur; Vice-President, Alfred E. Keffer, Concord, Directors, J. Gardhouse, Highfield, C. Lawrence, Collingwood, John Vipond, Brooklyn, Dougald McLean, York Mills, Thomas Nattrass, Macville, W. Owens, M.P.F., Lachute, Que., and L. T. Page, Concord. The meeting adjourned to meet again at the call of the chairman.

Death of the Clydesdale Stallion Prince of Wales 673.—Without doubt this horse has left behind him a record both in regard to his own prize winnings and those of his get, that fully equals if not surpasses that of any other horse. Mr. Thomas Dykes in the Retrospect Vol. of the Clydesdale Stud Book for 1887, says of him: "His successes in the show ring and at the stud have secured for him the reputation of being the most fashionable sire of the day." He was foaled May 2nd, 1866, sire, General 372, dam, Darling. He is described as being about 17 hands high and dapple brown in color. His head, well set on, was large and masculine, with prominent eye and forehead. His shoulders were nicely laid and upstanding. He was well ribbed, round in the barrel, broad behind the saddle and with good quarters—in fact, in horse-breeding phraseology, he had a grand top. Few horses have been seen with larger bone or of better quality, and his legs, feet and pasterns

were faultless. The Shire devotees have a mortgage on him, as the weight of evidence goes to prove that his grand-dams were both Shire mares.

The St. Lawrence Manufacturing Co.—By the manufacture of implements of extra quality and the best mechanism, this firm has gained the confidence of the agricultural public, and this they have not betrayed. As the manufacturers of the Corbin Disc Harrow they have gained a world wide reputation, as this implement has won for itself the eulogies of all that have given it a fair and impartial trial. They also manufacture a seeder attachment, as well as rollers and other implements. Our readers wanting implements for spring work will do well to write them for descriptive circular. Their large works are situated at Prescott, Ont. Look up advt this issue.

Morrisburg Implement Works.—The New Model Disc Harrow, manufactured by J. F. Millar & Son, proprietors of the above works, though but put on the market about a year ago for the first time in Canada, has been accorded a hearty reception by their many patrons. As a means of securing fine tilth for a good seed bed, one of the most important considerations in growing all crops, it stands among the foremost. It is provided with scrapers, that keep the discs clean and permit them to do their work, and a seeder attachment, and many other excellent features to commend it. They also manufacture other agricultural implements of equal merit. Being fully 30 years before the public, and having each year added to their good name, is surely a testimonial of the greatest value. Write them for circular, fully explaining the merits, and principles on which they are based, of the many high-class implements they handle. See advt. this number.

Dominion Draught Horse Breeders' Society.—The circular to hand giving the minutes of the annual meeting of this Society, held at Clinton, Dec. 12th, 1888, shows that the finances are in a very satisfactory condition, a balance of \$415 being now on hand. The number of members now enrolled is 217, while the number of registrations so far is 457 stallions and 489 mares. One of the unsettled points of the Society definitely fixed was that registration in the Dominion Stud Book be limited to animals bred in Canada, but that the progeny of animals registered in the Dominion Book but bred in the United States, be allowed to be entered therein as progeny, without a number, at a nominal fee of \$1. Another was that imported stallions of mixed breeding, if from registered stock on both sides, shall be accepted as sires and registered in the books of the Society. Officers elected for the ensuing year were as follows: Pres., Jno. McMillan, M. P., Constance, vice-pres., D. McIntosh, V. S., Brucefield, sec., Jas. Mitchell, Goderich, treas., J. J. Fisher, Benmiller; directors, Jas. Henderson, Belton, Jno. Mason, Londonboro; Thos. Green, Dublin; J. D. O'Neil, London; Jno. McDiamond, Lucknow, P. Curtin, Adare; J. J. Fisher, Benmiller; Thos. McLaughlin, Brussels; S. Smellie, Hensall; Mr. Wellwood, St. Helens; J. E. Blackall, Clinton; J. Aikenhead, Goderich; Alex. Innes, Clinton.

Horses, Cattle, Sheep and Swine.—With such a title as the above emblazoned on its substantial dark red binding, a highly illustrated, interesting and instructive book comes to hand through the kindness of the author, Geo. H. Curtis, M. S. A., Prof. of Agriculture, Mechanical College, Texas. It is particularly gratifying to us to find no less than six of our engravings among the many illustrations of this book. While very comprehensive in its nature, dwelling on the history of the various breeds of horses, cattle, sheep and pigs, and touching on the management of these several classes, it is yet thorough and concise, showing that the author has been laborious in the collection of data, and an active observer, perhaps accounted for in the preface where he says that from early boyhood he has been a lover of good stock. On the same page we are pleased to find the JOURNAL mentioned among the list of those that the author has become indebted to in the compiling of his work, it being, by the way, the only Canadian periodical so favored. We may say that there is not a breed of horses, cattle, sheep or pigs, known to us, that is not at least noticed by the author, their merits being duly recognized, and the demerits stated as well. It is a book that should be in the hands of all stockmen, besides being an ornament that would grace any table. It is replete with valuable suggestions in management, and rich in useful information in regard to the peculiarities of breeds, thus enabling the novice to become acquainted with their characteristics through direct comparison of the excellent illustrations, as well as by the valuable points given. The price is \$2.50.

Canadian Manufacturers Abroad.—The J. B. Armstrong Manufacturing Co. Limited, of Guelph, Canada, have just been advised of a most gratifying success in the award on their exhibit at Melbourne International Exhibition, Aus-

tralia, of two gold medals and a diploma of merit, the highest honor in the hands of the commissioners, and secured by this firm in the face of competition with the leading prominent manufacturers in their lines from England and the United States. The manner in which these people have recognized the many advantages of this firm's improvements in their new perfect single and perfect plate carriage springs, steel gears for buggies, carriages, carts and gigs, jump seat steels, seats, steel heeled poles and shafts, etc., is certainly flattering to Canada as a manufacturing country, and Mr. Armstrong as the originator and patentee of these specialties, now so well-known on the American and European markets. The prospect for considerable and increased Australian demand for them are good. Our readers should be familiar with the Armstrong Company's advertisement appearing regularly in our columns, and in its changes they endeavor to keep the public posted on their specialties and improvements in their line as produced from time to time.

A Valuable Purchase.—The North riding of York is very fortunate in receiving such a valuable acquisition to its horse stock in the imported, prize-winning Clydesdale mare Jessie Macgregor. Mr. Wm. Mulock, M. P., with his wonted enthusiasm in all that belongs to agriculture, has added this valuable animal to his nucleus of a stud of Clydesdales, having purchased her from the well-known importers Messrs. Graham Bros., of Clarmon. Jessie Macgregor is rising four years. As a two-year-old and three-year-old, she took first prize in her class at Industrial, Toronto, beating a large number of competitors. She is by the world famous Macgregor, and has inherited his fine quality. For beauty, action, style and symmetry, in addition to wonderful massiveness, it is questionable if she has her equal in Canada. Her dam is by Bonnie Scotland (4430). She is in foal to imported Marmion, he by Lord Marmion. Marmion was a very successful prize-winner in the old country. He gained first prize at Kilmarnock, Edinburgh and the Royal, Newcastle. We congratulate North York in having a gentleman of Mr. Mulock's enterprise. Such mares as this should be kept in this country and not allowed to go across the line where most of the good ones go for want of purchasers with enough pluck to pay for them.

Canadian Association of Fairs and Exhibitions.—The above association met on the 26th and 27th of Feb., consisting of delegates from the several fair associations in the province. In the morning session Mr. J. J. Hill, secretary of Toronto Industrial Association, read a paper on Gates and Tickets, by Sidney Smith, of Texas. The afternoon session was begun with a paper by Prof. Shaw, of the O. A. College, Guelph, on the duties of exhibitors at exhibitions, in which he said a good word for the officers of the several associations, pointing out that they were often accused unjustly of neglect of duty, etc., when the fault could be traced to the negligence of exhibitors. He emphasized the fact that the success depended on the directors, the exhibitors and the visitors. Mr. D. McCrae, ex-president of the Canadian Clydesdale Assoc'n, Guelph, read a paper on the need of a change being made for the better in the classification and exhibition of horses at fairs. He offered the following as remedies for the existing evils: 1st, a well arranged prize list; 2nd, catalogues containing all entries numbered; 3rd, animals arranged in stalls in order; 4th, stalls so arranged that animals can be seen during exhibition hours; 5th, parades at stated times for all horses in each class. The following resolutions were passed by the association: "That it would benefit the central associations to have the names and residences of persons competent to judge in any departments of a fair, and as it is impossible for this information to be obtained by the officers of each fair, it is recommended the secretary of each organization send a list of the different judges in his locality to the secretary of this Association, stating the qualifications of each judge, so that a list of judges can be obtained from the secretary by any of the organizations." The second one read as follows: "It being of the utmost importance that all animals be judged with a view to their usefulness, this Association recommends that as far as practicable such judgment should be made on a system of points which is used both in Great Britain and the United States, as this Association considers that by following the said method general satisfaction will be given and the present practice of over-fattening animals and making them unfit for any useful purpose will be discouraged." During the following forenoon session Mr. J. J. Hill read a paper on Fair Management, which was appreciated. Another able essay was read by Mr. Henry Wade on Exhibitions as Educators of the Young Men and Women of our Country, which was well received. The president elected for the ensuing year was Mr. F. C. Bruce, of Hamilton; 1st vice, W. Rutherford, Peterboro; and vice, C. McGee, Ottawa, secretary, Geo. McBroom, London, executive committee, Messrs. Smeaton, Moberly, McCuaig, McFarlane and Martin.

Stock Notes.

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

Pekin Ducks, Brahmas, Leghorns, Langshans and Hamburg are offered by P. H. Hamilton, Hamilton, P. O., this number.

W. D. Grand places an advertisement in this number of his auction sale, which takes place on 19th, 20th, 21st, 22d and 23d of March.

Shorthorns.

Auction sale of herd of pure-bred Durhams will be held by R. Ellis, Milton, Ont., on March 13th. See notice.

John Thornton will sell by auction at Whittebury, near Towcester, Eng., the entire herd of pure-bred Shorthorns bred by the late Sir Robt. Loder, Bart., on Wednesday, May 15th, 1889. The herd, it is stated, consists of some of the very finest and highest bred specimens of Bates blood, among them being a large number of animals of the celebrated Duchess, Red Rose, and Winsome tribes. Catalogues will be sent to all applying at this office. See advt. this month.

As mentioned in our issue of Feb., Mr. M. H. Cochrane, of Hillhurst, Que., has purchased of Mr. Clement Stephenson, Newcastle, the yearling bull Garter King, son of the celebrated Ballindaloch Encha bull Evander (13717), and his dam is Gravity 4844. The *North British Agriculturist* says in noticing this purchase in a recent issue, "The youngster now selected is an admirable specimen of the tribe and should prove a great acquisition to the fine herd at Hillhurst." To join the same herd, the yearling heifer Lady Betty (14306) also left Ballin College Farm. Lady Betty is of the Kinlochry Favorite family and has for sire the well-known Royal prize-winning bull Souter Johnny (1615).

Mr. Arthur Johnston, of Greenwood, writes to say "At his herd of Shorthorns never were in better form than at the present time. The calves arrived to date number fourteen, six bulls and eight heifers. They are as good a lot as have ever been dropped on the farm and all good colors. Enquiries for catalogues and prices have never been better. Sales up to date have not been quite up to last year. Four bulls and six heifers have been sold since winter set in. Feed is very scarce, excepting turnips which are exceedingly plentiful. Straw was never so scarce during the past three years, and the same may be said of hay. Ordinary farm stock sell at high prices when offered at public auction. Canadian draught stallions with four crosses have never been in such demand before."

Mr. John Dryden, M.P.P., of Brooklyn, reports that the demand for prime Shorthorns continues unabated. Sales for the month include six bulls of various ages and two young cows. Four of the bulls go to Western Ontario and two remain in the County of Ontario. These have been scattered as follows: Jas. S. Smith, Maple Lodge, takes the young bull Conqueror, which if he continues to improve as he has of late, will prove he has been rightly named. Luminary goes to grace the stables of Richard Golden, Amherstburg. The three-year-old bull Patriot, heads the fine herd of Joseph Robinson, of Romney. William Rufus takes the same place in the herd of L. Burnett, Greenbank. Mr. F. Roach, of Cherrywood, has selected the smart, growthy bull Surprise, a rich roan of much promise. A visit from Mr. Frank Shore resulted in the purchase of one of the favorites at Maple Lodge. He takes Aberdeen Hero, which any one will dub a perfect beauty. He is only ten months old, but gives promise to be a winner. There are others left of equal merit and usefulness. First come, first served.

Mr. Jas. Smith, of Maple Lodge P. O., has decided on reducing the present number of his herd, by holding a large sale on the 28th of March, when there will be offered at his farm 17 of the members of his prime herd. As Mr. Smith has been breeding Shorthorns for the last thirty years, and as he has been using such bulls as Baron Constance 5th, and Duke of Colonus, it may be expected that he has something of extra merit and breeding to offer. It will be remembered by our readers that in our April No., 1887, a cut of the former bull appeared, and a short outline of his breeding, from which we glean that his sire was Baron Constance 3d, 8 sire 7th Lord Oxford 1738, got by the 12,000 ad Duke of Oneida (3702). The dam of Baron Constance 5th was 2d Constance of the Manor, by 2d Duke of Rutland 2904, by the 3d Duke of Ardie 10695, sold by Messrs. Gibson at London for \$4000, and from the dam of Ursaline 3d, that sold for \$1500. His 8 dam was that grand old cow, Cherry Constance, sold at the New York Mills sale to Col. King for \$1000, and got by 4th Duke of Geneva (30958), sold to the late Abr. Renick, Kentucky, for \$6000, to use for his famous Rose of Sharon cows. It is the intention to offer several fine heifers sired by Baron Constance, as well as some by their present stock bull the Duke of Colonus—9582, calved 1884, and bred by Mr. Wm. Murray, Chesterfield, Ont. He will also be sold, he by the 4th Duke of Clarence (33597), that sold for \$13,500, and sired by Clarence Kirklingworth, who took the sweepstakes at Chicago on foot and on the block. The dam of Duke of Colonus was sired by the \$15,000 3d Duke of Undely. Cows with calves at foot and also a choice lot of young bulls will be sold. Send for their catalogue.

Ayrshires.

Mr. E. W. Ware, of Burlington, Ont., offers for sale, on March 19th, Ayrshire and Jersey cattle, also implements, etc. See advertisement.

Mr. Jos. Youill, Carleton Place P. O., Lanark Co., reports that the demand for Ayrshires during the last year has been far beyond that of any of the other twenty years during which he has been breeding them. He has lately made the following sales: Yearling bull, Frank Ramsey, to T. W. Kennedy, Bil-

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. No advertisement inserted for less than 75 cents. Contracts broken by bankruptcy or otherwise, shall revert to the regular rate of 18c. per line.

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

HOLSTEIN BULL FOR SALE

Two-year-old, beautifully marked and sure stock getter. Registered in the American Holstein-Friesian Association, No. 3293, vol. 2. JOHN LYLE, St. Thomas, Ont.

STALLION FOR SALE.

The undersigned have two Canadian-bred Clyde stallions—Prince Imperial 11, rising 4 years, The Macgregor, rising 3 years—one of which they will sell Bred in Whitby township. Both famous prize winners. Write for particulars to R. & C. GIBSON, Arthur P. O., Ont.

Superior Durham Bull For Sale.

Two years old, bred by J. & W. B. Watt, of Salem, also a few first-class females. For particulars apply to HUGH MITCHELL, Southend P. O., Ont.

FOR SALE—YOUNG BULLS

Fit for service, representing the Duchess, Filigree and Seraphinas, all good milking families, will be sold. Worth the money. Pedigrees right. J. F. DAVIS, Glanworth, Ont.

SHORTHORN BULL FOR SALE

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

Durham Bull For Sale IMPORTED OXFORD

Four years old, bred by S. Campbell, Aberdeenshire, Scotland, has been our stock bull for three years, and is now for sale. Oxford is a grand bull, of great substance and good qualities. Warranted to be a sure stock-getter or no sale. Was never beaten in the show ring. Also four of his gets, from 13 to 22 months old. All registered in the D. H. book. They are a good lot of calves; all red in color. For further particulars apply to SIDNEY BARCLAY & SON, Dale P. O., Ont. feb-3

Shorthorn Bulls

1 bull, aged 5 years; 1 bull, aged 19 months; 1 bull, aged 14 months; 1 bull, aged 12 months. All of Dom. S. H. H. B. registry, except the bull aged 19 mos., which is eligible to N. S. H. B. A. C. BELL, Troutbrook Farm, New Glasgow, N. S.

FOR SALE

Shorthorns and Southdowns

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

FOR SALE.

TWO IMPORTED HORSES.

ONE Cleveland Bay, 3 years old, weighs 1470 lbs., 16 hands high; winner of 1st prize and 1 silver medal. One Clydesdale, 2 years old, weighs 1,580 lbs., 16½ hands high, and registered in 10th vol. C. S. B. of G. B., also C. S. B. of Canada, winner of 1st prize; also 12 varieties of pure-bred Poultry, at low prices. Bronze Turkeys a specialty. Correspondence answered by sending 3 cent stamps. Address, MAJOR THOS. HODGSON, Port Perry, Ont. 17-3

FOR SALE—The stock bull, **BRITISH SOVEREIGN**, a pure Mantilini Booth, 4 years old, for three years at the head of the Riverside herd, Woodburn. He is a grandson of the great Sir Simon, red in color, and has proved himself an exceedingly fine stock getter. Will be sold cheap. THOMAS SHAW, GUELPH, Ont.

lings Bridge, Ont.; 1 bull calf to J. Halpenny, Lanark, Ont.; 1 bull calf to J. Callander, North Gower, Ont.; 1 bull calf to R. Leach, Newboro, Ont.; 1 yearling heifer to J. C. Graham, Smith's Falls, Ont.; 2 heifer calves to H. E. Eyre, Harlem, Ont.; 2 heifer calves to Wm. Bass, Newboro, Ont. The following sales of Shorthorns have been made: to ewes to W. E. Edwards, Rockland, Ont.; 1 ram to John Dawson, Bell's Corners; 1 ram lamb to H. Caper, Gananoque, Ont.; 1 ram lamb to T. Foley, Almonte, Ont.; 3 ewes to John Cuthbertson, Perth, Ont. Pigs: Berkshire boar and sow to J. A. Carson, North Natic Mills, Que.; 2 sows to R. R. McFarlane, Bristol, Que.; boar to John Hay, Lachute, Que.; sow to Wm. Bass Newboro, Ont. He has also added to his stock Clyde mare Lady McConachie (3331), from J. C. Clark, Ottawa; 1 Shrop ewe from John Dawson, Bell's Corners, Ont.; 1 ewe lamb from R. Blair, Almonte, Ont., and 1 Berkshire boar from N. McNish, Lynn, Ont.

We are proud to note that one of our most enterprising and energetic firms, Messrs. D. Morton & Sons, Hamilton, have decided on championing the cause of the Ayrshire. How they intend to do this, and how well they may do it may be gleaned from the following notice taken from the *North British Agriculturist*: Mr. Caldwell, Bogside, Dundonald, has lately sold to Messrs. D. Morton & Sons, Hamilton, Ontario, a very choice lot of 11 females and one bull. They are all registered in the Ayrshire Herd Book, and the females, all rising three years old, are in calf to registered sires. Mr. D. Morton, the founder and senior of the firm, is a distinguished son of the county of Ayr, and having recently purchased a farm in the vicinity of their works at Hamilton, he naturally wishes to stock it from the breed with which he was so closely associated in his younger days. The cattle have been most carefully selected by Mr. Caldwell. All of them are very fine specimens of the breed, and not a few have a goodly list of showyard honors to their credit. The females are descended from such well known sires as Auchindenan (1), Prince (47), Bruce of Drumlanrig (713), Stanley (1181), and Black Prince of Lessnessock (2-2). The bull which has been selected to head the herd is rising 2 years old and is bred from the Black Prince of Lessnessock strain. He is possessed of all the good points necessary to a successful sire, having both strength and quality, and appearances indicate that he will realize to the full the expectations formed of him. There has recently been a very active demand for high-class Ayrshire stock, and in the present instance very high prices have been paid for some of the animals.

Holsteins.

Messrs. J. E. Page & Sons write under date of Feb. 9th: "On the 13th ult. our famous cow Carlotta 1866 A. R., 164, gave birth to a very handsome heifer calf by Clothilde 2nd's Artiz. We find that the average butter record for seven days of the dam, g.-dam and g.-dam of this calf is 25 lbs., 4½ ozs., and by adding a great aunt we have an average record for the four of 24 lbs., 1½ ozs. From the breeding of this calf, which, so far as we can learn, is not excelled by any living, we cannot but expect a wonderful performer. The demand for 'first-class' Holsteins was never better than it seems to be now in this vicinity."

A. C. Hallman & Co., New Dundee, write: "We again take pleasure in announcing that our Holsteins are in good heart, and are wintering well. We never had prospects for a finer lot of calves than this year. We have now eight calves dropped, four males and four females, and have fifteen more to expect. These calves are all sired by bulls that it is a credit for anybody to get stock from. Parties wanting first-class should not fail to inspect our stock before buying. We are satisfied that the quality we have, backed with great strength of pedigree, based on actual performance, cannot fail to suit the most particular, and a visit to our herd will insure sale."

Smith Bros., of Churchville, Ont., write us: "Our stock of Holsteins are looking well, and inquiries for first-class stock seems to be on the increase. We have been keeping a record of our pure-bred Holstein cow, Onetta, and she has given us 532 lbs. of milk, in 120 days, or an average of more than 4 gallons and 1 quart per day for 4 months, and is still doing very well. Cornelia Tenen has been tested only 11 days, and has averaged over 70 lbs., or 7 gallons per day, and gave on the 18th of this month, 77 lbs. of milk. Mik's Mercedes Baron is developing very well and is being considered the finest butter bull in this country. Six of his half sisters have averaged over 16 lbs. of butter in a week. One of his half-sisters, Jinkies Mercedes, gave 25 lbs. 15½ ozs. of butter in 7 days. This speaks well for the Mercedes strain."

We desire to draw the attention of all intending purchasers of pure-bred Holsteins to the advertisement in this issue of the fourth auction sale of the Wyton Stock Breeders' Association, to be held on the 10th of April. Having one of the largest, if not the largest herd in Canada, it may be surmised that many superior animals will be offered. It is the expressed intention of this Association to sell all their cattle almost entirely by auction sale and endeavor to win a reputation by offering only first-class individuals, and conducting the sales fair and above board. They, recognising that injury results from high feeding, no matter how much it may improve present appearances, endeavor to keep their stock in a vigorous state of health. So far success has met their efforts as the many unsolicited testimonials of past purchasers will testify. Some 25 to 30 head will be offered, besides the liberal offer on their part of being willing to put up any animal that any person attending the sale may desire, leaving out, of course, those kept as a foundation herd. Those interested should not forget the date nor neglect to write this firm for particulars.

Jerseys.

We wish to direct the attention of our readers to the advertisement appearing in this issue of the sale of the world-famous Jersey herd of Valancey E. & H. H. Fuller, of Hamilton, to be held on 3d of April, 1889, at Oaklands. To extol the merits of this herd and the ability with which they were handled requires a better pen than we can command. It is only necessary to say that the fame of the St. Lamberts that went abroad to the dairy world emanated from this centre and was first brought to the attention of the dairy fraternity by the wonderful performance of the illustrious Mary Anne of St. Lambert. We feel assured

IMPORTED AND CANADIAN-BRED SHROPSHIRE SHEEP
For sale, registered pedigrees. Agent for Dana's Sheep and Cattle Labels. **INO DUNKIN**, Brucefield, Ont. mar-1

For Sale—Young Shorthorn Bulls and Heifers
Good colors, good pedigrees. Got by Lord Lovell = 2030 =. Prices reasonable. **E. GAUNT & SONS**, St. Helens, Ont. Lucknow Station, three miles. fe-27f.

Two Ayrshire Bulls For Sale.

Registered in Canada Herd Book.
MICHAEL BALLANTYNE, St. Marys P. O.

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

SHORTHORNS FOR SALE.

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

SHORTHORN BULLS FOR SALE

12 and 14 mos. old, one red, the other roan; sired by (imp.) **BARON** (52434). For further particulars apply to **JOHN CURRIE & SONS**, Everton, Ont. ja-31f

For Sale—A Roadster Stallion

Rising five years old; color, dark bay, with black points. Winner of the first prize at the Industrial in Toronto for two years in succession. He has proved himself a sure foot getter; is well broken to harness, and sired by **Belmont Star No. 1980** Wallace's American Stud Book, vol. iv. For further particulars apply to **F. A. GARDNER**, Britannia P. O., Peel Co., Ont. mar-1

SHORTHORNS FOR SALE.

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

FOR SALE

6 CHOICE YOUNG SHORTHORN BULLS and a fine lot of **Berkshires**, very, very **CHEAP**. Send for prices.
EDWARD JEFFS, Bond Head, Ont. ja-3

SHORTHORNS FOR SALE

Four Bulls, 6 to 10 mos. old, also a number of **Young Heifers**. All registered in the Dominion Herd Book.

W. C. EDWARDS & CO.,
ROCKLAND, ONT. an-3

Shorthorns For Sale.

Two dark roan bulls, 12 and 9 months old. Sired by imp. **Cruickshank bull** **Endymion**. For particulars apply to **W. M. WILSON**, Hadden Hill Farm, Brampton, Ont. Box 192. fe-2

CHOICE YOUNG HOLSTEIN BULLS

AT OAKDALE STOCK FARM.

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

FOR SALE.

THE IMPORTED COACH STALLION, LORD SUDLEY,

Has taken the following prizes: 1st at London, 1856, 1st at Toronto, 1857, 1st at Kingston, 1858, besides eight firsts at central and local shows. He has never yet been offered anything but a first. For terms and particulars address
fe-3 **SAMUEL STAPLES**, IDA, ONT

PONIES FOR SALE.

One dark brown, 13.3 hands, 700 lbs., from T. B. mare and half Arab stallion. One light brown, 13 hands, 600 lbs., from a 4 minute trotting Exmoor pony mare, and a 143 hands, Phil Sheridan stallion, 240. Both very kind and nicely broken to saddle. Address
JAMES MOODIE, Eschol Grove Stock Farm, CHESTERVILLE P. O., Dundas Co., Ont. Dec. 31f.

SHORTHORN BULL

FOR SALE.

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

H. & W. D. SMITH, Hay P. O., Ont.
Exeter Station, on G. T. R., 1/2 mile.

that we can bespeak for this sale the patronage of all who are aware of the nature of the breeding of the herd and their performances while under the skillful guidance of their esteemed owners, who through force of circumstances relinquish what has been an unqualified success under their guidance.

Ayrshires.

Henderson Bros., of Petite Cote, have an extensive dairy establishment, with a herd of Ayrshires and Shorthorns consisting of 35 cows and the proper complement of pure-bred bulls. They report their stock in fine condition, having wintered well.

Kerr Bros., of Ferris Point, send us word that their stock is doing nicely. These gentlemen have a farm of 1,200 acres, and handle dairy stock principally. Ayrshires form the bases of their herds. A Shorthorn cross is being experimented with, as they believe in securing milking powers as well as good feeding qualities.

Horses.

Red Bank Farm, on Upper Lachine, is owned by T. H. Love, of Montreal, who has taken up the cudgels for the Clydesdales and trotters. He is an extensive breeder of heavy draughts, and also keeps none but the best of trotting blood. It is this gentleman's intention to visit Kentucky next spring, to make a further draft on some of their most famous performers.

W. H. Millman, of Woodstock, reports his horses having wintered well. He has at present a strapping two-year-old, **Pride of Gates** 5248, that he purchased from the Clydesdale Horse Society. Two span of Shire Fillies, weighing each over 1400, won many prizes at the fall exhibitions, taking first prizes at no less than 14 leading fairs, including Toronto, Hamilton, London, etc. They also have a beautiful thoroughbred stallion, **Dandy Dimont** 452, sired by **Sylvan**, dam by **Murdess**. Lord Mar 2162 is another member of this excellent stud; he is a pony, standing about 12 1/2, and weighing in the neighborhood of 650 lbs. He is a model of symmetry and compactness.

Sheep and Pigs.

We desire to draw the attention of our readers to the advertisement appearing in this issue of Little's sheep dip, and cattle wash. The many testimonials of those who have used it and still continue to do so warrants us in saying that it is worthy of a place in the medicine chest of all stockmen. We feel sure it will be met with a hearty reception and liberal patronage, as it supplies a long felt want cheaply and effectively.

J. G. Snell & Bros., of Edmonton, inform us that their sheep are doing fine this winter, and that a good demand still continues for Cotswolds. They claim to have a grand lot of yearlings yet on hand. Their best sales have been as follows: 40 rams to C. W. Cook, White Sulphur Springs, Montana; 2 rams and 6 ewes to Frank Wilson, Jackson, Mich.; 2 rams and 5 ewes to C. Dodge & Son, Dodgeville, Ohio; 4 rams to J. Runciman, Orwell, Ohio; 1 ram to Wm. Grogan, Manitou, Man. They have also made a large number of sales to parties in Ontario.

R. Delbridge, Winchelsea P. O., Ont., has made the following sales of pure-bred Berkshire pigs of late: **W. Rouchliffe**, Theford, 1 boar; **R. Seldon**, Ingersoll, 1 sow; **T. Carbert**, Clinton, 1 boar; **H. Muir**, St. Marys, 2 boars; **T. Hazelwood**, Winchelsea, 1 sow; **J. McKellar**, Avonorton, 1 boar; **J. Hooper**, Blanshard, 1 sow; **G. Farner**, Crediton, 1 boar; **Geo. Green**, Fairview, 5 sows. **R. Delbridge** was very successful as an exhibitor in 1885, having taken 21 firsts and 11 seconds on five pigs; also diploma for best pen. He has a few choice pigs of above breed on hand for sale, and expects a good supply for the spring trade. His herks are of a large strain, and registered. Prices to suit the times.

Messrs. H. George & Sons, of Putnam, write us that they have made the following sales of Chester White pigs up to date: **H. Percy**, Copenhagen, 1 boar and 1 sow; **E. Fairbrother**, Aylmer, 1 sow; **W. B. Martyn**, Springfield, 1 sow; **E. Marsh**, Gladstone, 1 boar; **W. White**, Mitchell, 1 sow; **Jos. Baldson**, Shedden, 1 boar; **B. Michael**, Brussels, 1 boar; **A. McBrayne**, Thamesville, 1 boar; **J. Rowcliffe**, Exeter, 1 boar; **H. O'Brien**, Paris, 1 sow; **Frank Davis**, Wardville, 1 sow; **A. Ste. Marie**, Laprairie, P. Q., 1 boar; **W. Row**, Avon, 1 sow; **C. Lickman**, Comber, 1 boar and 1 sow; **Wm. Proulx**, Mount Albert, 1 boar; **Wright**, Oxley, 3 sows; **J. W. Kester**, Mount Albert, 1 boar; **T. Baylis**, Lisson, 1 boar and 1 sow; **C. Her**, Essex Centre, 1 boar; **Hewer & Olds**, Springfield, 1 boar; **R. Reed**, London, 2 sows. Inquiries for Cheaters are good. I have ten imported and Home-bred sows bred to 3 imported boars for spring trade, and expect something fine.

J. G. Snell & Co., of Edmonton, Ont., have made the following sales of Berkshires since Sept. 1st, 1885: **W. C. Edwards**, Rockland, Ont., 1 boar and 1 sow; **J. R. Martin**, Cayuga, Ont., 1 boar; **Richd. Vines**, Molesworth, Ont., 1 boar and 1 sow; **J. S. Williams**, Knowlton, Que., 1 boar; **Francis Learmonth**, Flying Harbor, 1 boar; **A. J. Lovejoy**, Roscoe, Ill., 1 boar and 1 sow; **W. Shields**, Milton, Ont., 1 boar; **Robt. Marsh**, Richmond Hill, Ont., 1 sow; **G. C. Keays**, London, Ont., 1 boar; **John C. Gibson**, Moosomin, Man., 1 boar; **A. Woodward**, West Montrose, Ont., 1 boar and 1 sow; **A. H. Bivins**, Bedford, Ont., 1 boar; **H. Snell & Sons**, Clinton, Ont., 1 boar; **W. C. Binion**, Iroquois, Ont., 1 boar and 2 sows; **Levi E. Bess**, Arkona, Ont., 1 boar; **John T. Threndyle**, Walkerton, Ont., 1 sow; **Angus McBean**, Galt, Ont., 1 boar; **H. Parker**, Westabach, Ont., 1 boar; **Robt. Ramsey**, Nottawa, Ont., 1 boar; **A. McEachern**, The Grange, Ont., 1 boar; **J. C. McDougald**, Walnut, Ont., 1 boar; **J. J. Irwin**, Romney, Ont., 1 sow; **E. F. Field**, Waterville, Ont., 1 boar; **W. J. Tucker**, Manitowaning, Ont., 1 boar and 1 sow; **W. Spencer**, Morpeth, Ont., 1 sow; **John Adams**, Port Perry, Ont., 1 boar; **W. C. Shearer**, Bright, Ont., 1 sow; **J. H. Burnet**, Poole, Ont., 1 boar.

SHORTHORN BULLS.

FOR SALE—Seven Shorthorn Bulls (Bates) from seven to eighteen months old, sired either by 3rd Duke of Holker (imp.) = 1242 = (4467), or Duke of Salisbury (imp.) = 1230 = (5870). Excellent animals of good pedigree and chiefly red. Apply to **JOHN IDINGTON**, Stratford, Ont.

Unreserved Sale of Shorthorns

As the Executors of my father's estate have decided to sell a large portion of the farm, I shall be obliged to offer for sale at

PUBLIC AUCTION On WEDNESDAY, MAY 1st

The whole of the

Point Cardinal Herd of Shorthorns

Consisting at present of 25 cows and heifers and 10 young bulls, also the imported stock bull **Cicero** = 8817 = (52618). Catalogues on application.

G. F. BENSON, Cardinal, Ont.
CARDINAL is a station on the main line of the Grand Trunk Railway, 9 miles below Prescott, on the St. Lawrence.

MAPLE LODGE STOCK FARM

IF YOU WANT A YOUNG BULL

FIRST-CLASS

YOUNG COW OR HEIFER

of good color and choice breeding, or a of similar stamp,

COME TO OUR SALE

On Thursday, 28th March.

See our advertisement on page 79.
JAS. S. SMITH,
MAPLE LODGE P. O., ONT.

PLYMOUTH ROCKS and LIGHT BRAHMAS, first prize winners at the S. S. S. at 13. A pair of each for sale at \$22 a pair. Address: **G. H. RICHMOND**, 47 King Wm St., Hamilton, Ont.

AWAY AHEAD AGAIN.

PRIZE-WINNING BIRDS FOR SALE.

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

EGGS FOR HATCHING IN SEASON.

From the highest scoring birds in the Dominion. Send three cents for circulars. Birds and prices right.
WM. HODGSON, BOX 12, BROOKLIN, ONT.

PEKIN DUCKS.

EGGS FOR SALE—\$1.50 per setting of eleven—prize winners at Toronto, Hamilton and Dunnville. Drake scored 68 points; ducks 95 1/2 to 97 points. Average weight, 20 lbs. per pair. Also a few settings from my prize-winning **Light Brahmas**, **Brown** and **Black Leghorns**, **Langhans** and **Black Hamburgs**.
mar-1 **P. H. HAMILTON**, Hamilton P. O.

THE THIRD

Clydesdale Spring Stallion Show

Will take place in the
DRILL SHED, TORONTO,

On Thursday, 14th March, '89

LARGE PREMIUMS WILL BE GIVEN.

Prize Lists and certificates for 1/4 fare can be had by applying to the Secretary, **HENRY WADE**, Toronto.
WM. SMITH, M. P., President, Columbia.

FOR SALE.

JERSEY and GUERNSEY BULLS

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

THOS. BALLANTYNE & SON,
Neidpath Farm, Stratford, Ont.

MANITOBA STOCK FARM

The undersigned would like to communicate with a practical dairyman who would be willing to stock a large dairy farm on shares. It is a fine improved farm, with every convenience for a cheese factory or creamery, and situated about 11 miles from Winnipeg. He would also be glad to hear from any party who would exchange some stock for Manitoba property.
Address, **J. DRYDEN**, Box 1257,
mar-2 WINNIPEG, MAN.

ATTRACTIVE PUBLIC SALE

OF HIGH-CLASS



On THURSDAY, MARCH 28th, '89

COMMENCING PROMPTLY AT 1:30 O'CLOCK, AT

MAPLE LODGE STOCK FARM

One mile west of LUCAN CROSSING, on the Grand Trunk (main line), and London, Huron and Bruce Railways;
28 miles west of Stratford, and 16 miles north of London.

At the above time and place, we will sell **17 CHOICE SHORTHORN CATTLE**, of the best breeding and individual merit. They are chiefly of Bates' blood, and some are of Scotch families topped out with Bates sires. 5 of the number will be extra good **YOUNG BULLS**. The females will consist of 2 cows, with calf at foot, the balance, heifers, one, two and three years old, sired by such magnificent bulls as Baron Constance 5th =1378= and our present stock bull Duke of Colonus =9282=. All old enough to breed will be served before the sale. We claim first class milking qualities for our herd, combined with those of the best feeders. They are all in good breeding condition, and will be sold without reserve.

Morning and evening trains from east and west on G. T. R'y and from north and south on L. H. and B. R'y stop at Lucan Crossing, and the mail train from the east arriving at one o'clock p. m. will stop at the farm on day of sale to let passengers off.

TERMS—Nine months' credit on approved joint notes, or 6 per cent. per annum off for cash.

We will extend a hearty welcome to all who come, whether they buy or not. Send for a catalogue.

A. BROWN, Avonton, Auctioneer.

JAS. S. SMITH,

MAPLE LODGE P. O., ONT.

THE WYTON STOCK - BREEDERS' ASSOCIATION

WILL HOLD THEIR FOURTH

AUCTION SALE

—OF—

PURE-BRED HOLSTEINS

AT WYTON STATION, ONT.,

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

There will be offered for sale to the highest bidder

THIRTY HEAD OF HOLSTEINS

from calves to four-year-olds, heifers and bulls.

WYTON STATION IS ON THE G. T. R., BETWEEN ST. MARYS
AND LONDON.

TERMS—25 per cent. down at time of sale, balance three and
six months, good paper.

For further particulars, address

W. B. SCATCHERD, Wyton, Ont.

GRAND'S REPOSITORY



ADELAIDE ST., TORONTO

LARGE SPECIAL AUCTION SALE

March 19, 20, 21, 22 and 23,

—OF—

250 STREET CAR HORSES

The property of the Toronto Street Railway Co. This stock will work on the busses until the sleighing goes, when they will be taken off and placed in our hands for sale to the highest bidder. Parties attending may rely upon every lot being sold. Nothing will be withdrawn nor bought in. Manitoba men and farmers throughout Ontario should give this sale special attention, as out of so large an offering there certainly will be found many good Mares and Geldings, requiring only short rest with little care to freshen them up, and make very profitable investments upon the prices they will doubtless realize at auction. The last two days of this sale we shall sell about 100 Mares and Geldings of all classes, the property of farmers and others. Sale will commence each day promptly at 11 o'clock.

OUR GREAT

ANNUAL SPRING SALE

—OF—

400 HORSES

of ALL CLASSES, will take place this year

April 16, 17, 18, 19 and 20.

W. D. GRAND,

Manager and Auctioneer.

AUCTION SALE OF Shorthorn Cattle

On WEDNESDAY, MARCH 27th

I will sell on the

MARKET SQUARE, WOODSTOCK,

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

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

JOHN HART, Proprietor.

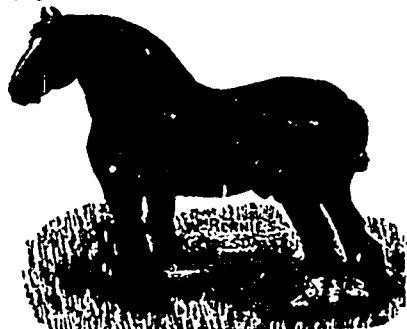
STRICKLAND BROS., Auctioneers.

fe-2

AUCTION SALE

Of High Class Pedigree

IMPORTED CLYDESCALE HORSES



The undersigned has received instructions from Wm. Rennie Toronto, to sell his entire stock of imported Clydesdales, viz. fifteen stallions and seven mares, on TUESDAY, MARCH 27th, 1889, at the stables, 52 Duchess St., Toronto. As Mr. Rennie is retiring from business, all will be sold without reserve. This will be a rare opportunity for farmers to secure first-class imported Clydesdales for breeding purposes, at reasonable prices. Six Shetland Ponies will also be sold. For Catalogue address WM. RENNIE, Toronto. ja-3 GEO. ANDREW, Auctioneer.

PUBLIC AUCTION

OF 40 HEAD OF

PURE-BRED

AYRSHIRE and JERSEY CATTLE

by MR. E. W. WARE, on the owner's farm, 3 miles east of Burlington,

On TUESDAY, MARCH 19th, 1889, AT 12 O'CLOCK NOON,

Also a number of HORSES, PIGS and FARMING IMPLEMENTS, ETC., will be sold at the same sale.

TERMS—Eight months' credit on approved joint notes. GEO. ANDREWS, Auctioneer. mar-2

AUCTION SALE.

HERD OF PURE-BRED DURHAMS

12 in all, headed by the imported bull The Provost, eligible for entry in Don. S. H. B. (he was bred by Mr. Sylvester Campbell, of Kinellar, Aberdeenshire, Scot.), consisting of 4 bulls (1 bull calf, 12 mos.; 1 two-year-old, 1 three-year-old, and The Provost), and 8 cows and heifers. The cows are all in calf. This herd has won the County of Haldon Herd Prize for three years in succession.

6 High-Graded Durhams; 8 Head General Purpose Horses, and also Colts; 7 Leicester Ewes.

Also a number of FARM IMPLEMENTS, to be held On WEDNESDAY, 13th MARCH, 1889 at the owner's farm, 5 miles south of Milton station, G. T. R. and C. P. R., Wentworth Co. Parties will be met at the above station on the morning of sale.

TERMS—\$10 and under, cash; over that amount 7 months' credit by furnishing approved joint notes.

mar-1 R. ELLIS, Milton.

Important Auction Sale

—AT—

BEVERLEY, YORKSHIRE, ENGLAND.

JOSEPH CRUST will hold his Annual Spring Sale of

—SHORTHORNS—

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

WHITTLEBURY, TOWCESTER, ENGLAND.

DISPERSION OF THE CELEBRATED WHITTLEBURY HERD OF PURE BRED SHORTHORN CATTLE.

Mr. John Thornton will sell by auction on Wednesday, May 15th, at Whittlebury, three miles from Towcester, the very celebrated herd of pure bred Shorthorn cattle, bred by the late Sir Robert Loder, Bart., comprising about 70 head of bulls, cows and heifers, among which will be found some of the very best and highest bred specimens of Bates blood, including a large number of the Duchess, Red Rose and Winsome tribes as well as several fine young bulls. Catalogues may be had at the office of this paper, or from the undersigned, who will execute commissions.

JOHN THORNTON,

7 Princess St., Hanover Square, London, Eng.

AUCTION SALE

AT LOGAN'S FARM, MONTREAL.

WEDNESDAY, APRIL 3d, 1889.

30 Head of Pure-bred Ayrshire Cattle.

3 Ayrshire Bulls fit for service. 1 three-year-old Clyde filly. 1 1st prize young Clyde Stallion, 2 years old this spring. 1 one-year-old Clyde filly.

2 Harry B. trotting horses; 1 horse and 1 mare, 3 and 4 years old.

Some Pure-bred Leicester Sheep in lamb. A variety of Farm Implements and Dairy Utensils. Pure-bred Dorking Fowls and Embdon Geese.

P. S.—The proprietor is selling off on account of the farm being taken into the city, and too much taxes to pay for breeding horses and cattle, also the farm is greatly reduced by streets and buildings. mar-2

MAPLE LANE

Herd of Jerseys For Sale

1st—King Hugo of St. Anne's No. (16396), 3 years old. Pure St. Lambert.

2nd—Clover Smith No. (29523). She is a pure Rex cow, out of Governor Lorne and Lady Lorne.

3rd—Violet of Glen Rouge No. (20755), a granddaughter of Stoke Pogis 3rd, and due to calve April 1st.

4th—St. Lambert's Beauty No. (41069), a pure St. Lambert.

5th—Daisy of Maple Lane No. (44546). Just dropped a beautiful heifer calf.

6th—Darling of Maple Lane No. (52582), 50 per cent. St. Lambert, and due to calve March 1st.

7th—Flower of Maple Lane No. (52581) 25 per cent. St. Lambert, and due to calve March 1st.

8th—Lady Hugo of Maple Lane No. (52583), 75 per cent. St. Lambert, and due to calve 24th May.

9th—Mary Ann of Maple Lane No. (52584), 75 per cent. St. Lambert. Heifer, one year old.

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

SAMUEL SMOKE, Canning, Ont.

SHORTHORN BULLS FOR SALE

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

MARQUIS OF NEIDPATH, roan, calved Sept. 11th, 1857, sired by the Dutch bred bull MERTON HERRO (imp.), a son of the \$1000 cow purchased for the Exp. Farm; dam, Marchioness 4th (imp.) by Cayhurst (47560); 2nd dam, Marchioness of Derby by the great show bull Earl of Derby 2nd (31061), etc. Also

2nd MARQUIS OF NEIDPATH, red, with little white, calved April 1st, 1858, sired by Lord Stratford, a son of Methlick Hero; dam, Marchioness 6th by Furbelow Duke (imp.); 2nd dam, Marchioness 4th, as above.

They are first-class bulls and fit to head any herd.

THOS. BALLANTYNE & SON,

Neidpath Farm, Stratford, Ont.

100 POPULAR SONGS and illus. catalogue, only rec. 3 books 25c. Truett & Co., Bay Shore, N. Y.

Extensive Sale

THE HERD OF

JERSEY CATTLE

THE PROPERTY OF

Valancey E. & H. H. Fuller,

WILL BE SOLD

By Auction

AT OAKLANDS FARM

Near Waterdown Station (G. T. R., Toronto Branch)

On Wednesday, the 3rd Day of April, A. D., 1889, at 10 a. m.

NO RESERVE.

Conveyances to and from Waterdown Station, at which all trains will stop on day of sale.

Catalogues and full particulars can be obtained post free on application to

WALTER ANDERSON,

Victoria Hall, 35 King St. East,

HAMILTON, ONT.

Assignee, Estate of V. E. & H. H. Fuller.

R. & J. GURNETT, ANCASTER, ONT.

Importers and Breeders of OHIO IMPROVED CHESTER WHITE PIGS, registered pedigree. Booking orders for spring pigs. Satisfaction guaranteed. Write for prices. mar-3



Daniel DeCourcy BORNHOLM, ONT.

IMPORTER AND BREEDER

OF

OHIO IMPROVED

CHESTER

WHITE SWINE.

Stock for Sale. Registered pedigree.



E. D. GEORGE,

PUTNAM, ONT.,

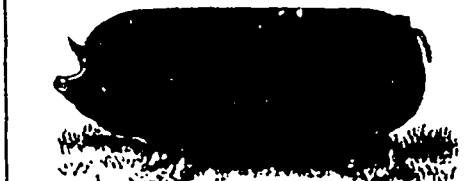
IMPORTER AND BREEDER OF

Improved Chester White Swine

Breeding and Individual Merit

Unsurpassed. fe-y

Registered Berkshires For Sale



3 Choice Young Sows, 7 mos. old, for sale, bred to Royal Hero (891), also some young boars from autumn litters. Young pigs for sale at all times, from such sows as Bonny Jeanie 2d (706), Julia (884), Lady Bright (1071) and Lady Hopeton (1072). Write for prices.

S. COXWORTH, Whitevale P. O., Ont.

A. FRANK & SONS

THE GRANGE P. O., ONT.

Cheltenham Station, C. P. R. and G. T. Railways.

The Centennial Sweepstakes herd of

SUFFOLK PIGS, greatly improved. All registered.

Thoroughbred Horses

Shorthorns, of Cruickshank blood, and Southdown Sheep from Webb's stock. Young stock of all the above for sale. All orders promptly attended to.

HILLHURST HERD'S

HEREFORD,

Aberdeen-Angus and Jersey

HEIFERS, COWS AND YOUNG BULLS FOR SALE

At reasonable prices, Send for new catalogues.

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



ORMSBY & CHAPMAN have Removed
from OAKVILLE to "SPRINGFIELD-ON-THE-CREDIT."

ADDRESS, Letters—Springfield-on-the-Credit P. O.
Station, Telegrams and Telephone—Streetsville, on the C.P.R.

THE GLEN STOCK FARM,

Innerkip, Oxford Co., Ont.

SCOTCH SHORTHORNS,
SHIRE HORSES,
BERKSHIRE PIGS.



Herd headed by imported Earl of Mar (47815), winner of the gold medal at the Grand Dominion and 35th Provincial Show, and numerous other prizes. P. O. and Telegraph Office at Innerkip. Farm is one mile from Innerkip station on the C. P. R. (Ont. div.), and a short distance from Woodstock station on the Canada Pacific and Grand Trunk R. R.

GREEN BROS., THE GLEN, INNERKIP.

CREDIT VALLEY STOCK FARM.

SMITH BROS.

CHURCHVILLE, (PEEL CO.) ONTARIO,

**THE GREAT BUTTER MILK HERD**

OF PURE-BRED REGISTERED

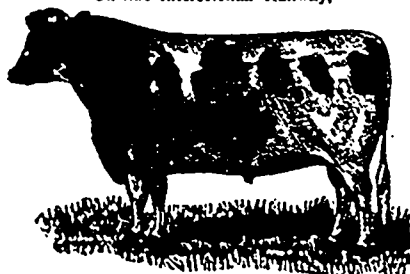
HOLSTEIN-FRIESIAN CATTLE

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

J. E. PAGE & SONS,

AMHERST, NOVA SCOTIA,

On line Intercolonial Railway,



Importers and Breeders of

HOLSTEIN-FRIESIAN CATTLE

Including strains of the best milk and butter families living. Herd headed by CLOTHILDE and's ARTIS, whose dam Clothilde 2nd, gave at 4 years old 23,602 lbs. of milk, and made 23 lbs. 4 oz. of unsalted butter in seven days when six years old. G. dam, Clothilde, winner sweepstake prize at New York Dairy Show, has milk record of 25,080 lbs. of milk and 28 lbs. of unsalted butter in seven days. Sire, Artis, winner first prize at New York Dairy Show.

Young stock, all ages, for sale, including Carlotta's Netherland Prince, dam Carlotta, with butter record of 22 lbs. 2 oz. unsalted butter; sire, Netherland Prince. Prices low for quality of stock.

A. C. HALLMAN & CO.,

NEW DUNDEE, WATERLOO CO., ONT.



Importers and Breeders of Thorough-bred

HOLSTEIN-FRIESIAN CATTLE.

Herd headed by the noted prize-winner Prairie Aaggie Prince H. F. H. B. No. 3, first prize at the Industrial and Provincial in 1886; dam, Prairie Flower, 5 yr. old butter record of 20 lbs. 1 oz. unsalted butter per week. This herd has been crowned with more honors in the show-ring than any other herd in Canada. Selections made from the finest herds and most noted milk and butter producing families in America. Every animal selected for its individual merit—symmetry, size and weight a special object. Our motto, "QUALITY." Stock for sale. Visitors welcome. Correspondence solicited.

JAMES DRUMMOND,

Petite Cote, Montreal.

Importer and Breeder of

PURE-BRED

AYRSHIRE

CATTLE

Of Large Size, and from Choice Milking Strains.

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

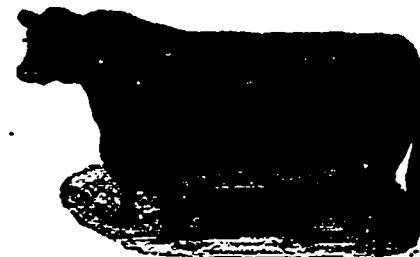
Young Stock on hand at all times for sale. fe-17

**LORRIDGE FARM**
SOUTHDOWN SHEEP.

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

Imported Rams used only. Stock for sale.

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

**ABERDEEN-ANGUS POLLS**

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

HAY & PATON, Proprietors,
New Lowell, Co. Simcoe, Ont., Canada.

THE TUSHINGHAM HEREFORDS

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

J. W. M. VERNON,
Waterville, P. Q.
WATERVILLE is on the main line of G. T. R., not far from the United States boundary.

JAMES HUNTER, ALMA, ONT.

Importer and Breeder of

SHORTHORN CATTLE,
CLYDESDALE HORSES,
AND SHROPSHIRE DOWN SHEEP.

Stock of both sexes for sale. mar-y

**FOR SALE IN THE SPRING**

A FINE LOT OF

SUFFOLK and BERKSHIRE PIGS

from imported stock, eligible to register. \$5 each, or \$9 a pair. I have 11 sows due to farrow in March and April. Parties wishing a pair had better have their orders booked now.

SHORTHORN HEIFERS, COWS AND YOUNG BULLS FOR SALE

Address, F. J. RAMSEY,

MOULTONDALE STOCK FARM.

DUNNVILLE, ONT.

CRUICKSHANK SHORTHORNS,

CLYDESDALES

AND

Shropshire Sheep



IMPORTED AND BRED BY

JOHN DRYDEN,

BROOKLIN, ONT.

FOR SALE—SEVEN IMPORTED BULLS

of superior excellence and extra individual merit, also

ONE IMPORTED TWO-YEAR-OLD STALLION.

PRICES MODERATE.

Inspection invited. Catalogues on application.

CLYDESDALES, SHORTHORNS AND SHROPSHIRE.

JOHN MILLER,
Brougham, Ont.,



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

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

For Sale or Exchange.

The Dapple Gray Percheron Stallion
VOL AU VENT 1233,
Foaled 1877. Imported from France by M. W. Durham, Illinois, 1881. Recorded in the Percheron Norman Stud Book (Vol. 2), at present owned by the Lansdowne Percheron



Horse Association. The above stallion is for sale, or exchange for a pure-bred Percheron Stallion. This is a good stallion, sound and gentle, and a sure foal getter. Apply to

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

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



Importers and Breeders of

**CLYDESDALES
AND
Canadian Draft Horses**

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

FOR SALE. PRICES REASONABLE.

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

Residence, Huron Co., Ont., six miles from Seaford, and eight miles from Clinton stations.

Correspondence solicited, and visitors always welcome. nov-17

D. ALEXANDER,

Brigden, Lambton, Co., Ont



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

THE BRIARS FARM
Sutton West, Ont.



Choice of 60 head of
SHORTHORNS

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

FATTENING. "Rapid fattening is the one secret of financial success."
Foods that have been proved!!!

MANITOBA LINSEED CAKE,
UNRIVALLED FOR COWS, CALVES, HORSES AND SHEEP.
'Crushed,' 'Nuttet,' Meal. COTTON Seed Meal, Palm Nut Meal, Locust Beans, Calf Meal (milk substitute), Large Lump Rock Salt—the most economical and only safe way to salt horses and cattle.

Don't feed these alone, add to ordinary food produced on the farm. You improve your live-stock and enrich your land by feeding them.

FERTILIZERS, ETC., ETC.

BOYD, 27 Front Street West, TORONTO, ONT.

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



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

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

JOSEPH REDMOND.

J. Y. REID, HILLSIDE FARM,

2½ miles south from Paris on the G. T. R.



WE have on hand and for sale a superior lot of show cows, heifers and young bulls. This season's calves being mostly from the imported Scotch bull Earl of Roseberry.

Intending purchasers will be met at Paris station. Apply to **James Geddie, Manager, PARIS, ONT.**

The Park Herd of Herefords.



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

P. A. FLEMING,

Weston, Co. York, Ont.

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

The Manor Stock and Dairy Farm



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

Parties wishing to secure bull calves or yearlings from such a grand individual, and out of nothing but imported Holstein-Friesian cows, will find it to their advantage to write to

E. N. RITCHIE,

Ste. Anne la Perade, Co. Champlain, or line C. P. R., near Quebec. No Reserve. All stock for sale, and in A1 condition.

BOW PARK HERD
OF



PURE-BRED SHORTHORNS

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

ADDRESS, **JOHN HOPE, Manager,**
Bow Park, Brantford, Ont.

FRANK R. SHORE & BROS.

R. R. STATION, LONDON. P. O., WHITE OAK.



**—BREEDERS OF—
SHORTHORNS AND SHROPSHIRE**

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

CLAREVILLE STOCK FARM

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

I breed and have

FOR SALE

A-1 Shorthorns.

Baron Constance 10th heads the herd.

Leicester and Cotswold Sheep, Berkshire Pigs,

THOROUGHbred AND HEAVY HORSES OF ALL KINDS.

Young Bull's specialty. Supply always on hand. Come and See.

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

ARTHUR JOHNSTON.

Greenwood, Ont., Can.



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

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

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

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

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

PERCHERON HORSES!

SAVAGE & FARNUM,

ISLAND HOME STOCK FARM, Grosse Ile, Wayne County, Michigan.

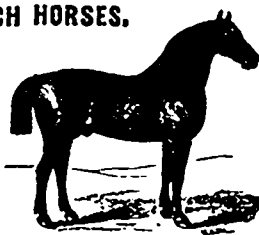
About 200 pure-bred animals on hand. Prices reasonable; terms easy. Horses guaranteed breeders. Large catalogue with history of the breed free by mail at 27 reas SAVAGE & FARNUM, Detroit, Mich.



FRENCH COACH HORSES.

Beautifully formed high-stepping Stallions and Mares, superb action, bred under the patronage of the French Government. For catalogue and history of the breed address

Savage & Farnum, Detroit, Mich.



COLDSTREAM STOCK FARM, Whitby, Ontario.

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

Clydesdale Stallions

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



ALSO A FEW CHOICE SHETLANDS.

Prices to suit the times.

Address,

JEFFREY BROS., Whitby, Ont.

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



OFFERS
On Reasonable Terms
Choice

STALLIONS AND FILLIES

Registered in the British Clydesdale Horse Society.

One of his present importation, Duncan Bruce, was first prize winner at the Stormont Union Show, Scotland, and is half-brother to the famous Pickwick; another, Lord Rollo, was first prize winner last fall at Huntingdon, P. of Que., (both now rising three years).

Correspondence solicited, and visitors welcome.

Clydesdales

FOR SALE

Importation of 1887.

Not long arrived, a superior lot of



CLYDESDALE STALLIONS & MARES

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

ROBERT BEITH & CO., Bowmanville, Ont.

Bowmanville is on the main line of the G. T. R., 40 miles east of Toronto and 294 west of Montreal.

D. & O. SORBY,

GUELPH, ONT.

Breeders and Importers of

Clydesdales.



35 PURE-BREDS on hand and for sale, including gets of the following sires: Lord Lyon (489), What-Care-I (912), Belted Knight (1395), Goldenberry (2828), Corsewall (1420), Prince Charlie (629), Sir Michael (1530), Scots-Wha-Hae (4006), Macpherson (3825), Good Hope (1679), Lord Erskine (1744), Macneilage (2999), Golden Treasure (4472), Gallant Lad (2781); of which 23 are Stallions and Colts. Several of our mares are supposed to be in foal to our well-known Boydston Boy (121), sire of the celebrated Lord Erskine (1744).

JAMES GARDHOUSE & SONS,
MALTON, ONTARIO, CAN.

Breeders and importers of
CLYDESDALE & SHIRE
HORSES,

Shorthorn Cattle and Berkshire Pigs. Young Stock for sale. Terms reasonable.

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



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Imported Clydesdales For Sale.

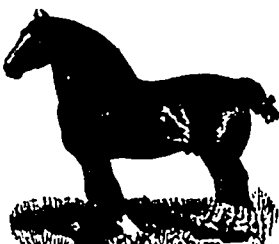
FROM one to four years old, stallions and fillies from the best studs in Scotland, including gets from Macgregor, Harold, Knight of Snowdon, Sovereign, Crown Jewel, McMaster, What-Care-I, Clyde, Scotts, Laird Craford, etc., etc.

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

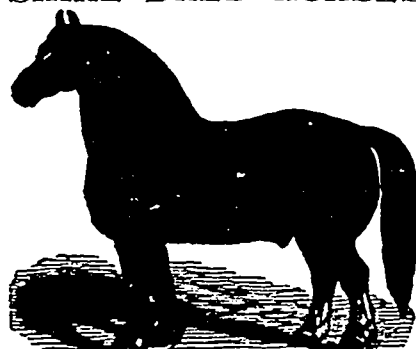
Also a few Shetland Ponies.

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

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



SHIRE BRED HORSES



MORRIS, STONE & WELLINGTON

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

MORRIS, STONE & WELLINGTON, Welland, Ont.

GRAHAM BROS., CLAREMONT, ONT.

RESIDENCE ONE MILE FROM CLAREMONT STATION.

IMPORTERS OF

REGISTERED
Clydesdales

—AND—
Hackneys

STALLIONS AND
MARES

constantly on hand

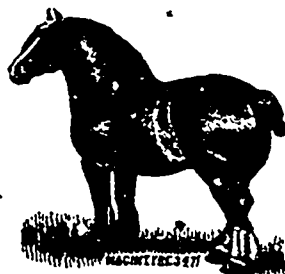
and

FOR SALE

on reasonable terms.

The importations of 1888 comprise a large number of one, two, three and four-year-old registered stallions and mares, the gets of such sires as Macgregor (1482), Darnley (222), Harold (6316), Crown Jewel (2708), Lord Marston 2620, St. Lawrence (3220), and others of like merit. Also a few choice SHETLAND PONIES.

Correspondence solicited. New catalogues just out. Visitors are always heartily welcome.



Imported Clydesdales For Sale IMPORTATION OF 1888.

At prices moderate and terms to suit purchasers we offer a

SUPERIOR LOT OF CLYDESDALE Stallions and Fillies



ranging from one to four years old. Several prize-winners in the leading shows of Scotland and Canada, securing three 1st prizes and two 2nd and a third at the Provincial Exhibition, Kingston; also first and third at the Canadian Clydesdale Association Show, Toronto, 1888. Including gets of such celebrated horses as Darnley, Macgregor, Lord Erskine, Lord Hopetown, St. Lawrence, Sir Hildebrand, Doncaster and Old Times. Our horses are all selected with the greatest care by one of the firm from the best studs in Scotland. Parties wishing to purchase richly-bred animals of superior individual merit should inspect our stock. Catalogues furnished on application.

DUNDAS & GRANDY, Springville P. O.

Residence about 1/2 mile from Cavanville station, C. P. R. By telegraphing us visitors will be met at Cavanville.



OVER 150 TYPICAL PERCHERONS AND JERSEYS.

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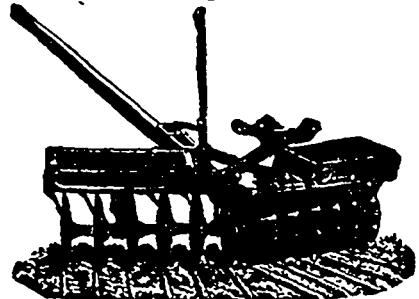
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- A. GERRARD**, Hamilton, Ont., breeder of pure Ayrshires. Bull calves sold young and cheap. 72
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- NICOL & SONS**, Cataraugus, Ont., breeders and importers of Ayrshire cattle, Southdown sheep and Berkshire pigs. 63
- W. M. & J. C. SMITH**, Fairfield Plains, Ont., breeders of Ayrshire cattle, American Merino sheep, Poland China pigs, and all the leading varieties of land and water fowls. 72
- E. W. WARE**, Hamilton, Ont., breeder of pure Ayrshires and Jerseys. Stock for sale. 66
- JOSEPH YULLI**, Carleton Place, Ont., breeder of Ayrshire cattle, Shropshire Doves and Berkshire swine. 72

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- GEO. GREEN**, breeder of pure Berkshire pigs. Young Fairview, Ont. Stock for sale, reg. pedigrees. 66
- R. & J. GURNEILL**, Ancaster, Ont., importers and breeders of Ohio Improved Chester Whites. Pigs for sale. 62
- W. H. McNISH**, Elm Grove Farm, Lyn, Ont., Berkshire Pigs, Shropshire Sheep and Ayrshire Cattle for sale. 72
- John Snell's Sons**, P. O., Edmonton, Ont., importers and breeders of Short-horn cattle, Berkshire Hogs and Cots-wold Sheep. Stock for sale; shipped to G.T.R. and C.V.R. order; satisfaction guaranteed. Write Edmonton C. V. R. for prices or come and see our stock. 72
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- R. DORSEY & SON**, Summerville, Ont., breeders and importers of pure Suffolk, Yorkshire and Poland China pigs. Stock at all times on hand for sale. 72
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- PETER ARKELL**, Teeswater, Ont., importer and breeder of Oxford Down sheep, Short-horn cattle, and improved Berkshire pigs. Stock yards, 2 1/2 miles from Teeswater, C. P. R.; 8 miles from Mildmay, G. T. R.; 1 1/2 from Wingham, G. T. R. 72
- ROCK BAILLY**, Oak Grove Farm, Union, Ont., importer and breeder of pure American Merino sheep. Largest flock in Canada. Stock for sale. 72
- W. H. BEATTIE**, Wilton Grove P. O., Ont., importer and breeder of Shropshire sheep. Stock for sale. 72
- JOHN CAMPBELL, Jr.**, Woodville, Ont., breeder of Short-horns and Shropshires. Stock for sale. 72
- G. & B. DEO**, Evergreen Stock Farm, New Sarum, Ont., breeders of pure American Merino sheep. Stock for sale. 72
- ANDREW EASTON**, Bright P. O., Ont., importer and breeder of Shropshire sheep. A few splendid rams for sale. 72
- SMITH EVANS**, Gormack P. O. (near Guelph) Ont., importer and breeder of pure Oxford Down sheep and Berkshire Pigs. 72
- D. G. HANMER & SONS**, Mount Vernon P. O., Ont., breeders of pure-bred Shropshire sheep. Stock for sale. 72
- D. HARVEY**, West M. Gillingray, Ont., breeder of Yorkshire pigs, Leicester sheep and Short-horn cattle. 72
- JOHN JACKSON & SONS**, Abingdon, Ont., importers and breeders of reg. Southdowns. Over 1000 prizes in ten years. 72
- KAINS BROS.**, Byron, Ont., breeders of Ayrshire cattle, Shropshire sheep and Colored Dorking fowls. 72
- LADLAW & JACKSON**, Wilton Grove P. O., Ont., breeders and importers of pure Cotswold sheep. Stock for sale. 72
- T. C. PATTERSON**, Cassatt House, Eastwood, Ontario, breeder of Shropshire and Shropshire sheep. Young bulls and rams always on hand. Nothing fattened for show purposes. Stock sold at farmers' prices. 72

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- JAMES T. SMITH**, Mt. Vernon, Ont., breeder of Southdown Sheep. Ewes, rams and lambs for sale. 72
- J. & J. SMITH**, Canville P. O., near Brantford, Ont., importers and breeders of Shropshires. A few splendid imported shearing show ewes for sale. 72
- W. M. SOMERS**, St. Marys, Ont., breeder of pure Leicester sheep. 15 years established. Stock for sale. 72
- D. & G. SWAYZE**, Winger, Co. Monk, Ont., breeders of pure-bred Cotswold sheep, Plymouth Rock, Light Brahma and Brown Leghorn fowls, and Toulouse geese. 72
- A. TELLER & SONS**, Springfield Farm, Paris, Ont., importers and breeders of Southdown and Shropshire sheep. 72
- W. WALKER**, Hilderton, Ont., importer and breeder of pure Lincoln sheep. Winner of flock prize at the Toronto Industrial, 1888. Stock for sale. 72
- JOHN YOUNG**, Abingdon, Ont., breeder of Leicester and Southdown sheep and Berkshire pigs. Stock for sale. 72

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- W. B. COCKBURN**, Aberfoyle, Ont., near Guelph, breeder of Plymouth Rocks, Black Jaws and S. C. B. Leghorns. 72
- BLACK MINORCAS**, Wyandottes, Plymouth Rocks and Cochins. Eggs, 2 per setting. Satisfaction guaranteed. **WM. COLLINS**, Union, Ont. 72
- R. J. GRACEY**, Welland, Ont., imp. and breeder of pure-bred poultry, including Toulouse geese and Pekin Ducks. 72
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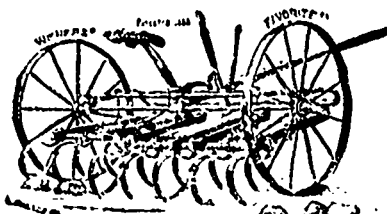
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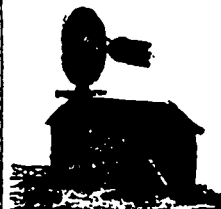
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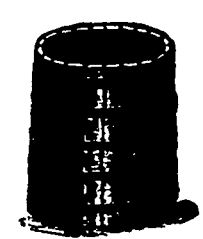
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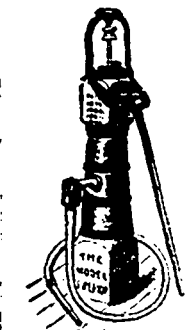
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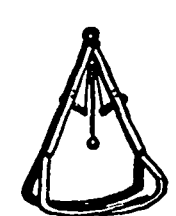
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