

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Cover title missing/
Le titre de couverture manque

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/
Transparence

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/
Comprend un (des) index

Title on header taken from:/
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

Additional comments:/
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

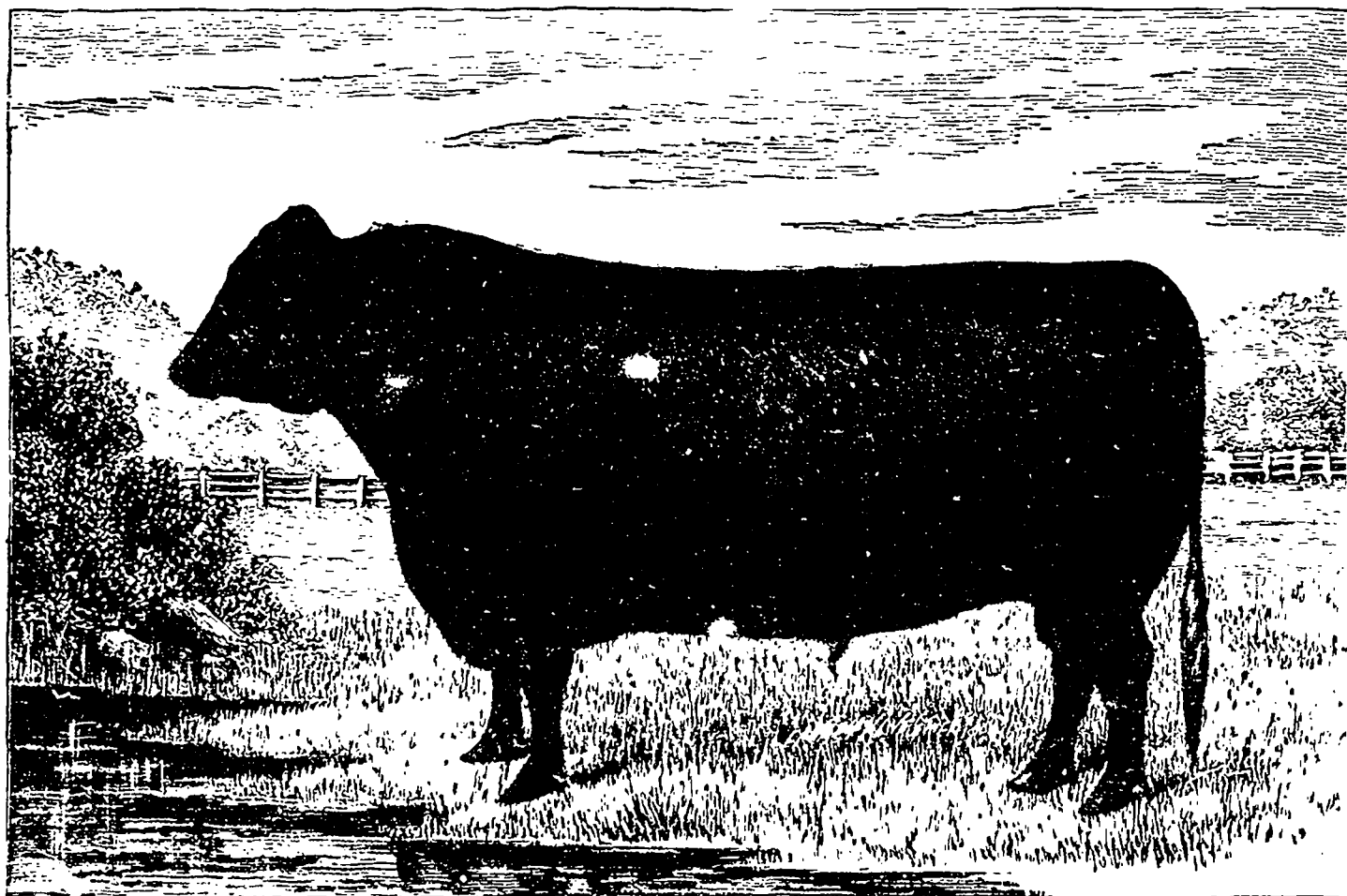
THE CANADIAN LIVE-STOCK AND FARM JOURNAL

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

VOL. IV.

HAMILTON, CANADA, JULY, 1887.

No. 45



THE ABERDEEN-ANGUS POLLED BULL (3990) AS A TWO-YEAR-OLD.

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

Lord Hillhurst (3990).

This most beautiful specimen of an Aberdeen-Angus Polled bull was bred at Hillhurst by his owner, the Hon. M. H. Cochrane, Hillhurst, P. Q., in the year 1884. In the notice of him in this JOURNAL as he appeared a sweepstakes prize-winner at the Dominion Exhibition, held at Sherbrooke, October, 1886, he is described as being "of the cubical sort, and even ahead of his sire in perfection of development." While in the preceding paragraph his sire, Paris 3d (1163), is described as "one of the most perfect bulls of his kind that can be found in any country. His even, symmetrical development goes on with his growth, so that we may truthfully say that he has but few, if any equals on the American continent. As a stock-getter he is, if anything, ahead of his great sire, his calves being uniformly good. His daughter, Lady Eda 2d, won first prize for best heifer calf (Aberdeen-Angus) at the Dominion Exhibition, Sherbrooke, 1886. In addition to the first prize and diploma for best bull calf of the breed, any age, won by him as a two-year-old at the Dominion Exhibition referred to above. As a yearling he carried similar prizes at the Eastern Township exhibition at Sherbrooke, 1886. His dam, Lady Eva 2d, was a first prize winner in Scotland in 1874 and 1881, and cost 305 guineas at the Montbletton sale, September 28th, 1882, when she was bought for Hillhurst. A large

portion of the young stock at Hillhurst of this breed are the get of Lord Hillhurst.

The Dominion Shorthorn Herd Book.

The first volume of the Dominion Shorthorn Herd Book has come to hand. We fully believe that its advent will form a landmark in Canadian Shorthorn history to which the generations yet to be who are interested in the breeding of Shorthorns will look back with feelings of pride, inasmuch as it draws the dividing line between the chaos of the past and the order of the present.

The work, which is neatly and substantially bound, contains a list of the officers of the association, rules of entry, rules of office, constitution and by-laws of the association, a preface marking the various steps that led to the amalgamation of the herd-books, a list of errata, of breeders and owners, and of members of the association. It gives the pedigrees of bulls from =1= to =1209=, and of cows from =1= to =2080=, with an appendix to American bred cows, some eighteen in number. The list of breeders referred to contains some 1266 names, many of whom are breeders of Britain. The list of cattle imported by Mr. F. W. Stone, Guelph, is the longest amongst importers to the importations of which reference is made in this volume. The membership list numbers 443, which gives us a very favorable idea of the magnitude of the Shorthorn interest in the Dominion, as it may be there is a still larger number, with a few animals each, who are not members.

The book also contains a history of Shorthorn cattle imported into the present Dominion of Canada from Britain and the United States, chronologically arranged. This sketch, penned by the editor, Mr. H. Wade, throws so much light upon the earlier transactions in Shorthorns, that we shall try and give it to our readers in full in future issues.

The general plan adopted in this volume and which will be carried out until the registrations of 1885 are reached, is "to print in each volume the imported bulls first, then the American bred ones alphabetically; then the imported cows that were in the pedigrees of the American bred ones in this volume, and to number the cows as well as the bulls, so that a concise history of the animal as well as the breeder will be found for every animal published." When the registrations of 1885 are reached, the females will be entered alphabetically under the breeders' names, and the bulls numerically as their pedigrees come into the office.

In the list of errata subscribers are reminded of the wisdom of correcting the errors with pen and pencil on the margin of the pages where found, and of the duty of writing names and figures plainly. Most of these errors were in the pedigrees in other herd-books.

When we think of the completeness of the work and its great value to the Shorthorn interest in all time, we are not surprised to learn that congratulations are rapidly coming in from leading Shorthorn breeders in other lands.

This book forms a pillow on which the head of every Shorthorn breeder in the Dominion may find serene repose, after the tumults of the years that have passed away.

The price to non-members is \$4, and may be got on application to the editor, H. Wade, Toronto, 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.

THOMAS SHAW, RIVERSIDE FARM, EDITOR.

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

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

To Advertisers.—Advertisements of an appropriate nature will be inserted in the JOURNAL at the following rates: For a single insertion, 18c. per line, nonpareil (12 lines makes one inch); for three months, 15 cents per line each insertion; for six months, 13c. per line each insertion; for one year, 10c. per line each insertion. Cards in Breeders' Directory, not exceeding five lines \$1.50 per line per annum. Copy of advertisements should reach us not later than the 25th of each month (earlier, if possible). If later, it may be in time for insertion, but often too late for proper classification. Transient advertisements payable in advance. No advertisement inserted for less than 75c.

To Correspondents.—All communications intended for publication in the JOURNAL should reach us by the 15th of each month—sooner if possible. We do not hold ourselves responsible for the opinions of correspondents.

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

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

HAMILTON, CANADA, JULY, 1887.

It is to the editor of this paper a matter of deep regret that he has been obliged to decline more than one half the invitations to attend farmers' institutes and farmers' picnics, held during the month of June. He hopes yet to see every farmer in the province face to face, and to be able to say to him to resist by means of organization the combined oppressions under which he is laboring.

MR. D. M. MCPHERSON, of Lancaster, Ont., and president of the Eastern Dairyman's Association, in a paper read at one of our dairy conventions, states that he had asked of several prominent farmers the important question, "What is the real starting point of 'all true farming?'" In no instance had he received what he believed to be a true answer. Some had said underdraining, some, dairying, others, producing beef; but he looked upon each of these answers as wide of the mark. He believed that the true answer was, *take due care of the manure pile*. Mr. McPherson has the right idea, and we would like to emphasize it. The answer might be given in various ways, but the principle is the same. *Feed the land properly* is another version of the same truth, for no man can do this rightly who does not take care of the manure pile. It is just amazing that so many farmers ignore this principle, but they cannot but ignore it, if they have failed to recognize it. Look at it, farmers. It is a principle that you cannot look at long without in citing you to action.

"DECENT men read in the character of the live-stock a farmer keeps the real secrets of his character." The above, penned by "Fairplay" in the *Breeders' Gazette*, is a trite sentence. We were a little startled at first on reading it, but there is a great deal in it. Indeed it is "much in little." It is certainly true that if one keeps scrub cattle, which have been shown over and over again to be less profitable than the improved, he is either an ignorant or a non-enterprising man, or both. If he keep them in an impoverished condition it proves him lacking in foresight, industry and calculation. If they are allowed

to shiver in the cold and to go but half fed, it proves him hard hearted, if not inhuman, and if he continue to live thus year after year with all the light of improvement that is being shed around him, it proves him a bigot to his blind prejudices. It will not be so bad if we can only get hold of his sons; but there is this difficulty, he guards the citadel of their ignorance so well that there is often neither crack nor cranny for the admittance of one ray of light.

WE heard a gentleman remark not long ago that professors of agriculture were looked upon by many of our farmers as "monumental humbugs," and we fear there is too much truth in the statement, not that they are monumental humbugs, but that they are too often looked upon as such. This state of affairs is simply too bad. Farmers must put away this jaundiced glass and learn to look upon them through the lens not of charity but of approval and even admiration. The professor who tells us that as salt is contained in considerable quantities in mangolds, it will be advantageous to sow salt on the land, is even more worthy of honor than the man who confirms this statement by actual test, for the former reaches his conclusion by a way that is far shorter and no less certain than the latter, and thus it is with a thousand other things. We can no more do without agricultural professors, men who can teach our sons more of the scientific side of farming in a day than they can learn in a month without such aid. The man who to day looks upon agricultural professors rightly equipped for their work as monumental humbugs, is making a monumental mistake in his conclusions.

THE earnestness with which the friends of the different breeds advocate the cause of each respectively, is full of hope. This earnestness is evidence of the conviction that they have faith themselves in the worth of what they are advocating. Men cannot be in earnest where conviction is lacking. This manifestation carries home to us the clear conviction that they have strong faith in the real worth of the animals which they have chosen as their favorite breed, which is in keeping with what we have said all along, that there is real merit in each of the improved breeds, and that each has its place. In choosing the line of breeding which the beginner will take up, he should therefore in the first place have a clearly defined idea as to his object, and next he should select that breed which he has reason to believe will best secure this object. It would not be wise in one who purposes making butter to select the Herefords for this purpose, nor in him who is seeking stall fed beef to choose the Jerseys. So long as the champions of the different breeds are fully convinced of their utility for the purpose for which they are kept, the interest in them will not wane. While each of the improved breeds is so well championed as at present, it must go forth conquering and to conquer; but if one becomes convinced that some other breed will subserve his purpose better, it is his duty to take up that breed instead.

What Class of Horses shall we Breed?

This question is surely not unimportant, however difficult it may be to deal with, and however much of delicacy may encircle it. Horse-breeding is not the greatest live-stock industry in the land, if we view these in the light of present monetary values, but if we view it in the light of utility, it stands second to none.

It must be conceded, too, that at the present time, there is a better demand relatively, and higher prices are paid proportionately for good horses than for any other class of stock, and with the demand which as

yet has shown no signs of diminution from the United States for heavy horses, and the new demand that has come to us from England for cavalry horses, the outlook for those engaged in breeding good horses was never more promising. Those breeding inferior horses do not deserve to have any better outlook. Although these are still in the majority, like the breeders of scrub cattle, it is perhaps to them an unmingled blessing that the outlook for them as to a paying market is like the face of a misanthrope, always gloomy.

We want different classes of horses for home work, and for which there will always be a more or less limited demand. These are carriage horses for the gentleman and for the farmer whose means will admit of this; road-horses for those who live remote from market, agricultural horses to till our fields, and dray horses for purposes of cartage in our towns and cities. But unless in the two last mentioned classes, it would be very easy to glut the market, and indeed the breeding of those might soon be overdone in the absence of any foreign demand, if a large percentage of our farmers were to devote their attention exclusively to the production of any one class.

We can only look, then, to foreign demand to furnish for us a market that shall be always equal to the supply; and if in any of the lines of horse-breeding we can perceive indications of this, it is in that direction that the efforts of horse-breeders should be centered.

Now there are but two classes of Canada-bred horses at the present time for which there is a large foreign demand. We have already referred to these horses that will serve as remounts for the English army, and heavy draught horses so largely sought by our American neighbors. It is to the breeding of these, then, that our efforts are to bend, not to the neglect of the breeding of other classes of horses in limited number, but with a view to an open market.

Now it is well that those looking in the direction of horse-breeding as a means of making a livelihood, and that all who are already engaged in it and about to extend it, should weigh well the comparative profits of breeding the two classes of horses for which we have a foreign demand. Nor should it be forgotten that the demand in the case of cavalry horses is limited in a sense, while that for heavy horses is practically without limit.

It is pretty generally conceded that the risk of raising the class of horses intended for the army is much more than in producing the heavy draughts. They are more likely to go wrong, it may be, owing to that overflow of spirit not so necessary to the usefulness of the other class. They must be kept to the age of four or five years before they can be accepted for the army. The examination which they undergo is a most rigid one, and the slightest defect in any one particular is tantamount to rejection. And for those accepted the standing figure is about \$175. This is not a large sum to wait four or five years for, in the production of one animal. Better results will be obtained from beef production, or the manufacture of butter and cheese. The rejected horses, and a large percentage of them are rejected, at once drop down to the normal value of a little better than a hundred dollars, and they are then only fit for certain classes of work on the farm, by no means the most important.

In the case of the heavy draughts there is usually a ready sale when rising three years; there is less risk in having them go wrong, the examination is very much less rigid, there being no definite standard of qualification other than in the mind of the buyer, and the price paid is from \$200 and upwards for horses bred from a pedigreed sire. The service fee is no

higher than in the case of the other, nor is the care greater, if indeed so great. In the case of the army horses the breeders must all conform to a certain standard, which may be a good schooling for them, but in the meantime is not very comforting to the pocket. In the case of the draught horse individuality of type is allowable, providing the great requisites, strength, weight, and compactness of build, are forthcoming. Those of them that may be blemished, though of course impaired in value, may still be very useful on the farm, and in this way they may prove substitutes for others that may be sold in lieu of them. The odds, then, to the breeder who is about to establish a stud, is a good deal in favor of the heavy draughts.

Far be it from us to discourage the breeding of army horses. There are those already engaged in this work, and we say to them, go on, and produce a class of horses that will command the admiration of the world. Some breeders could not be hired to handle heavy horses, their tastes running altogether in another groove.

Articles have appeared from time to time in the JOURNAL favoring the breeding of these horses, and for the benefit of those who have taken up the work we published a paper in our last issue from a government document hailing from Ottawa, describing exactly the kind of troop horse required, and in the present issue will be found a description of the artillery horse that is wanted, etc. But a calm review of the whole subject has led to the publication of this paper, lest a number should be led to build in the line of horse-breeding, without first having counted the cost. The wise man views an important question from every reasonable standpoint. It is only the unwise who look only at the side they desire most to see, shutting their eyes to everything else.

Those engaging in the breeding of draught horses should not do so on the penny wise and pound foolish plan: that is, invest in inferior mares because they may be bought cheaply, and employ sires for a similar reason. The returns from investing at first in a suitable breeding stud as compared with an unsuitable one, are out of all proportion in favor of the former, other things being equal. Pedigreed sires should be used where this is at all practicable, and only those of a good type. We have many such in the country now, and those who have poor ones should be taught a lesson through being *let alone*, that will prevent their making a second investment of the kind.

Breeders should at the same time have an eye to registration. What a grand country of horses we would have if they were so bred that nearly all of them were good individually, each of its kind, and full one half of them registered. All this is attainable in the near future, and we ask every horse-breeder who may read this paper to do his utmost to bring it about.

The Auxiliary Herd Book.

We are indebted to some one, we know not whom, for a copy of the auxiliary herd book, vol. ii. It may be that it came from some friendly Hans whose home is on the Zuyder Zee, who may chance to be a reader of the JOURNAL. We thank him all the same, whoever he may be, but we do hope that when the next volume comes, and we hope it will come, that there will be more of self-explanation in it to gratify the curiosity of a Canadian editor, and it may be a goodly number of his readers, who frankly acknowledge that he does not know all about the methods of brother Hans over there in Dykeland in the management of his famous breed.

The book hails from Lanwarden, in Holland, gives us the names of a managing board, we know not what board, and superintendents, but we know not what they superintended. It furnishes a plan of dimensions in measuring the cattle and a table of the abbreviated terms used in the register, and reminds us that numbers marked with asterisks belong to a herd of one huc.

From Nos. 114 to 163 is taken up with bulls black and white, and from Nos. 114 to 444 with cows of the same color. Then follows a small number of bulls and cows, red and white, and we are reminded that "persons whose names are printed in *big types* in the list of names, keep a breeder's book and regular records of the milk yielded by their stock, after the model published by the association." We only notice seventeen names in the "big types" out of a total of 167 names. Then follows a list of "dwelling places." It is what we would call a "taciturn book." Hans doesn't say one word more in it than he has to, a national characteristic of Hans, even when walking with his affianced Kroontje, we had almost said by "the running brook," but will have to substitute, strong built dyke.

We subjoin one pedigree to show our readers the method uniformly followed throughout the registry:

No. 443

Akke II.—

Dam No. 459.

According to owner's statement.

Owned and bred by *WISAGU* MINDEKI F. & P. E. M. A. IDAARD. Clayey soil.

Black and White,

fine skin; point of left hock black; born March, 1883. MILK AND FLESH FIRM. General appearance very favorable, fore and hind parts in best proportion. Forepart proportionate and well built, head very well formed, straight shoulders; middlepart rounded and deep, straight back; hind part very well built, udder very well developed, teats well placed, escutcheon good.

H (height)—S (shoulder) 132, h (hip) 133, l (length) 157; g (girth) 190; w (width) 52½ c. m. June 1st, 1886.

It seems curious to us that a statement of the soil is kept where the animal is bred, and many things in Hans' method seems strange. Will Mr. Dudley Miller, of Oswego, kindly come to the rescue with a well summarized article on Holstein Friesian herd books on both sides of the sea, for publication in the columns of the JOURNAL?

Breeding and Care of Horses.

This note contains the substance of a letter by G. M., Brantford.

"In breeding horses, whatever is done, the start should be rightly made. The law of like from like is inexorable. Old and broken down mares should not be bred from at all, nor should those with any defect that is at all transmissible. An instance has come under my notice recently of a mare with a spavin breeding two without, but one of those had produced two colts and both had spavins. Great care should be taken with the mares near the time of foaling, especially those which are liable to abort. This habit might be formed in the mare as in the cow, and is apparently infectious. Such mares should therefore be kept isolated from other brood mares after half the term of her pregnancy is gone. Although many favor shutting up the foal when the dam is worked, I do not favor such a course, as the foal will frequently draw their milk. I do not now refer to cases in which the mare is severely worked, but brood mares suckling foals should not be so worked. When the foal is weaned it had better be kept in and fed liberally. If not so fed its growth will be impaired, and this will never again be fully made up. A good winter ration for a colt is three quarts of bran and six quarts of oats

fed in three feeds. I do not favor crossing the pure breeds of the draught classes with one another, as no beneficial results seem to flow therefrom. Since the days of staling the size of coach horses has lessened, and justly so. Strong horses of this class are not used now. Whatever class of horses are bred, nothing but well bred stallions should be used, as the results from a mongrel are not very satisfactory."

Rambling.

We spent two or three days of this loveliest month of all the year in visiting the farmers and stockmen of South Bruce, where, during the last thirty years the wilderness of all this substantial country has been turned into a fruitful farming region, through the persistent efforts of its sturdy yeomanry. The delightful showers of June 2d spoiled the farmers' picnic at Walkerton, but they put so much of new life into their crops that nobody was sorry; nor was the effort fruitless, for one result thereof will be the formation of a farmers' institute, the harbinger, we fully believe, of much material good to the farmers of this riding, another link in that great chain of deliverance for the farmers which is soon to draw every form of oppression under which they have labored to the border of the lakes, where they can easily dump these all in.

HILL VIEW FARM.

Leaving Walkerton in the company of Mr. William Dickison, warden of the county, and for sixteen years uninterruptedly representing his own township in the council, taking the Carrick road, which for a portion of the way is lined with maple shades, which will one day turn our highways into a sort of leafy paradise, we found the country at first roughly undulating, the big swells all constantly descending to the deep valley of the Saugeen. The Otter Creek is crossed two or three times with its swift current seeking its course through the dead old logs that in our young country so often find a grave in the bed of some stream. There are roller flour mills, cheese factories and creameries in this section, and evidences of agricultural progress on every hand. Hill View Farm, the 200 acre homestead of Mr. Dickison, is situated six miles southeast of Walkerton and four miles southeast of Mildmay, which is his (Mr. Dickison's) P. O. He purchased here in 1851, but did not locate till some years later. The farm, each half of which is on opposite sides of the highway, is traversed longitudinally with a wide swaying valley through its entire length, with graceful swells on its sides, on one of which the steading is located. This long valley, once a cedar swamp, sustains a most luxuriant growth of cereals and grasses, growing over the buried channels of stone under-drains. Though we could well imagine the dreary picture which it presented in its wilderness state, it is now pre-eminently adapted to sustain the uniform herd of Shorthorns gathered at Hill View. It has produced as high as 52 bushels of spring wheat to the acre and enormous crops of other cereals. The transformations of this section are simply wonderful. It is only between thirty to forty years since the axe of the woodman first resounded in the woods of Carrick, and the firebrand of the logger turned its fallen timbers into ashes, and now what do we behold? On every hand stone and brick houses and basement barns, and roads that are being lined with gravel from the pits. We have a high opinion indeed of the capabilities of this whole country, to produce such products as are most prized by the farmer. All this speaks well for the enterprise of that section of the community which have so effectually subdued the wilderness, and in so short a time.

Shorthorns first came to Hill View in 1871, when Mr. Dickison bought a bull and a heifer calf from

Mr. Jos. Thompson, Salem, Ont., which were out of stock owned by the Messrs. J. & W. Watt. The whole herd are descended from this heifer Maggie, and in addition twenty-three head have been sold for \$2080. She was calved June 12th, 1871, was red in color, got by Martin [2566], dam Adda by Kinfans [381], g. d. Alma by Victor (12268).

Four bulls have been used in the herd previous to the introduction of the present one, and each one has been a first prize county winner. The first, Marquis of Lorne, referred to above, was sired by the Messrs. Watt's Conrad, and kept at Hill View until four years old; the second, Briton, bought of Mr. James Tolton, Walkerton, 1874, by Duke of Ashton [1224], a roan; the third, Red Prince, bred by Henry Larton, Ponsoby, was got by the Sheriff—955—, and the fourth, Charlie, a red of 1881, sired by Constance Duke—239— dam Rosa, by Marquis of Lorne—141—, a bull with a fashionable Bates pedigree, came from the Cloch mohr herd of Mr. James Cowan, Galt. The present stock bull is British Duke 3d, calved 11th December, 1884, bred by Mr. A. Armstrong, Speedside, Ont., got by Butterfly's Duke—233—, and out of the dam English Lady 2d, whose dam was imp. English Lady. His great grandsire was the famous Sittyton bull Heir of Englishman (24122). This bull, bought as a calf in 1885, carried first and diploma at Walkerton over aged bulls, and the same in 1886, and the young stock from him are fine. The herd now consists of seven cows, two one-year-old heifers and six calves, of which four are bulls. Of these the cow Lady Ann, calved 1882, is a wonderful milker. Her heifer calf of this year has all the great depth and breadth of her sire, and will puzzle rivals in the coming shows, and Blanche, one of the first individually in the herd, has been a great producer of prize-winning bull calves.

The Hill View herd have taken every herd prize yet given in Carrick for Shorthorns, also the herd prize at the Northern, held in Walkerton, 1875 and 1876, and four diplomas for bulls; and Mr. Dickison informs us that he has never hitherto met with difficulty in disposing of his surplus stock at good paying prices. A careful choice of foundation, the good bulls continually used, and the liberal but not forced feeding, are amongst the essentials that have led to Mr. Dickison's success. And while he has bred good cattle he has not overlooked the improvement of horses and sheep, having a beautiful young stallion on hand of the Clyde type, and some Oxford Down sheep and their crosses, and Berkshire pigs, the two latter of which first came from Mr. Arkell's "Summer Hill" farm.

SHORTHORN BREEDERS IN CARRICK.

This township promises soon to be a flourishing Shorthorn centre, and we regret that we had no time to visit more of the herds. Mr. James Thompson, Mildmay, has a number of cattle of this breed, indeed a good, fair, useful herd. S. Oberly, Carlsrue, has a Hill View bred bull, and F. Reinhart, Neustadt, a number of Shorthorn cows. John Bates, Molky, owns a bull and some females, also on a Hill View foundation. Gilbert Taylor, Mildmay, owns a pure bull; M. Labort, Mildmay, has a good nucleus of a herd, say a dozen head, founded on the Clochmohr herd, and J. Smith, Mildmay, has at least half a dozen. J. Johnston, Mildmay; Mr. Weaver, same place; H. Holheiser, Formosa; J. Fisher, same place; J. Wilton, Walkerton, and A. Gactz, Carlsrue, have each one or more animals, and all this in a township much given to dairying.

SPRING BANK FARM.

This prettily lying farm, which gathers all the waters that fall on it into a broad depression sloping

to the north, is owned by Mr. James Tolton, Walkerton, for eight years Reeve of Greenock, and returned during seven of these by acclamation. It consists of 300 acres in the townships of Brant and Culross, and is situated five miles w. s. west of Walkerton.

It is one of the oldest Shorthorn centers in the township, and also produces pure Oxford and Leicester sheep, and Berkshire pigs. It possesses good buildings, the white brick two storey house being doubly attractive in its design.

Mr. Tolton's Shorthorn herd rests upon the triple foundation, Maid of Ontario, Elycrysium, and Florinda 5th. Maid of Ontario, bought in 1868, a one-year, of Mr. P. Arkell's breeding, was got by Yeoman—471—, and the dam Flora 3d. Five cows and two heifers out of 17 females are descended from the Maid of Ontario, two of them by Sentinel—398—, two by Sir Andrew—688—, and the others by the Duke of Guelph—1641—, and British Duke 2d—3203—, the present stock bull.

Elycrysium was bought in 1873 from the late J. Parkinson, Eramosa, and was then carrying her second calf. She was got by Duke of Arkell—139—, dam Helena, going back to imported Lady Jane by Sir Walter (2639). Of her descendants at Spring Bank there remain a good useful four-year cow by Bredalbane—1621—, 2 three-year cows by Duke of Guelph—1641—, and Bredalbane—1621—, and a heifer calf.

Florinda 5th, a red cow, was calved September, 1873, and was bred at Bow Park, sired by Oxford Chief 15071, [1911], and out of Florinda 4th. She traces to an imported cow named Har, bred by F. Hollis, Yorkshire, England. Her progeny were numerous, but taking the market readily, many of them have been sold, but there yet remain Florinda 6th, an aged cow; Florinda 11th, by Duke of Guelph—1641—, and Florinda 12th and 13th by British Duke 2d—3203—, and a heifer calf. These 2 one-year heifers and a third, a roan, by the same sire, are worthy of a special mention. They are smooth, neat, pretty and stylish, and furnish another instance of the leveling up process that is certain to follow the introduction of a good bull into the herd.

Eight stock bulls have been used successively in the herd: (1) Duke of Ontario, bred by the late James Parkinson, Eramosa, bought 1869, was used two seasons; (2) Duke of Ashton—1080—, bred by the late Henry Reid, Glanford, was used three years; (3) Sentinel—398—, bought 1874—a Sanspariel bull got by Sheriff (29964) imported by F. W. Stone, Guelph, a bull red in color, which did much good in the herd; (4) 3d Grand Duke of York—470—, a Bates bull, also bred by Mr. F. W. Stone, sire Baron Berkeley (36158); (5) Sir Andrew—688—, bred by J. & R. Hunter, Alma, got by Knight of Warlaby (29014), dam Lady Syme of the Queen of the May family; (6) Bredalbane—1621—, bred by James Thompson, Masonville, Ont., by Duke of Moundale—533—, a very useful bull to the neighborhood; (7) Duke of Guelph—1641—, bred by R. Kirby, Guelph; and (8) the Stock bull Bristol Duke 2d, bred by J. S. Armstrong, Speedside, and elder brother to Mr. Dickison's Hill View stock bull. When this bull comes into the market, which will be ere very long, he will be found a safe investment on which to hazard a fair sum.

The whole herd numbers some 25 head, of which two are one year bulls, and some are bull calves, and Mr. Tolton has also with the others come in for a share of the prizes, including the herd prize at the Northern exhibition.

The township of Brant has a number of other good

breeders of Shorthorns, but our limited time prevented visiting them. Of these we may mention Archibald Tolton, with an increasing herd, similarly bred to those of his brother James; Thomas Turner, of Eden Grove, who has a well established herd; Mr. Craik, Walkerton, and J. C. Eckford, who has had good cattle for a number of years.

SPRINGHILL FARM,

owned by the Messrs. R. Rivers & Son, Walkerton, from which it is about 9 miles distant in a south-westerly direction, comprises about 300 acres, some in Brant and some in Carrick, and faces the Elora and Saugreen road, which angles across these townships almost in a bee line, filling them with gores so distasteful to the ploughman. The homestead lies near the base of a swaying half encircling highland, which quite breaks the force of the angry west winds of winter, and gathers filtered waters perpetual in their flow, to supply the basement stables. The elevation is so high that a double basement, as it were, is afforded, the lower one being a covered receptacle for the manure, which is undoubtedly an excellent arrangement.

Mr. Rivers located here in the year 1855, and founded his Shorthorn herd in 1871. Singularly enough the first purchase of the triple foundation was made in our own township at the sale of J. T. Nottle, Binbrook. There he bought the roan cow Jemima (vol. ii, p. 518 C. H. B.), calved April, 1866, bred by Mr. E. Harland, Guelph, got by Earl of Gloster [217], dam Jemima by Ethelbert [254], 1516, and tracing to Beauty by Snowball (2647). Of the descendants of this useful cow there are still left in the herd, 9 cows, 3 heifers and four bull calves. Of the cows, 1st Duchess of Springhill, now 12 years old, and a heavy milker, has done noble service as a breeder. Princess, her daughter by Sir Andrew—688—, a large roan, a county first prize-winner, is suckling a beautiful heifer calf named Autumn Blossom. Brilliant, 3 years old, by the Duke of Hamilton—773—, and Matchless of Springhill, same age, have both a fair share of good points, and are county prize-winners. Blanche, the roan calf of the latter, by Mr. Tolton's British Duke 2d—3203—, does credit to her breeder, her sire and her dam. Bashful, also three years, bred same as Brilliant, is suckling a fine rangy, broad-backed bull calf that will make a capital stock bull.

The second foundation cow Cherry 7th, a roan, came from the herd of Mr. F. W. Stone, Guelph, having been bought at the Moreton Lodge sale of 1881. She was got by Baron Berkeley (36158), and out of the dam Daisy by Grand Duke of Cambridge 8250. Three of her descendants are now at Springhill.

The third wing of the herd rests upon the cow Lady Strathallan 2d, bred by George Keith, Toronto, 1880, and bought for Springhill, 1883. She was got by Lord Buchan [7321], dam Lady Strathallan by Lord Strathallan [1713]—1309—. She traces to Catharine by Emperor (1974). Her red three-year-old daughter, Lady Mortimer, a pretty cow, by Duke of Hamilton—773—, has been a first prize winner at the Northern, and, like the mother, suckles a bull calf.

The pure herd numbers about 25 head, in addition to which there is a herd of lovely Shorthorn grades, which three years in succession have carried the herd prize at the Northern exhibition. The whole herd is well cared for and does credit to its owners.

We can only look for a good herd here, when we are told that the first cow brought to Springhill, a grade, has been taken as far as twenty miles for service, a standing rebuke that we must put on record to that indifference which cannot be defended, that allows good,

first-class bulls to live and die, it may be, on an adjoining farm, without trying to profit by their contiguity.

The first bulls used on the herd were Duke of Ashton—1080—, and Sentinel—398—, owned by Mr. James Tolton. The first bulls kept in the herd was Seraphina's Duke, bred by the Messrs. A. & C. Stewart, of Lobo, got by Udora's Oxford [4183], of Sanspariel ancestry, and was used two years. The second was Duke of Hamilton, —775—, a roan, compactly built, bred by J. Russell, Richmond Hill, sire British Statesman (42847), and tracing through Kinellar blood. He was a sweepstakes bull when one year old at the Northern, and in the opinion of his owners has produced more prize-winning calves than any other bull ever brought to the neighborhood. The first crop of calves of his get won for Springhill at the Northern exhibition, 1st, 2d and 3d as calves, as yearlings and as two-year-olds.

The present stock bull, Victory, a good, strong, deep, stylish red one-year-old, with a mellow skin, was bred by W. Laing, St. Mary's, and bought of H. Thompson of the same. He was got by Baron Bravith (46385), of the class of cattle that Mr. James I. Davidson, of Balsam, loves so well, dam Pearllette Butterfly 3d, by Bredalbane (23073), both bred at Sittiton.

Pure Berkshire pigs also find a home at Springhill, and a good flock of Southdown sheep, for long prize-winners at the Northern, and also a flock of Leicesters on a foundation from Mr. W. Whitelaw's (Guelph) flock.

The cleanness and neatness of the farming here are both worthy of note. We saw five different experimental plots of spring wheat growing side by side to test the value of the manures. At present the order of goodness stands thus: (1) Barnyard manure (quite ahead); (2) mineral super-phosphate; (3) apelite; (4) unmanured; (5) salt. The care bestowed upon the culture has enabled Mr. Rivers to become a constant prize-winner on seed grains, which are also sold for this purpose.

SUMMERHILL FARM.

Leaving Springhill in the company of its proprietor, on the morning of June 4th, we drove to Summerhill Farm, owned by Mr. Peter Arkell, of Teeswater, from which it is but $2\frac{1}{2}$ miles to the north-east, in the township of Culross. It was one of those loveliest days of June with a southerly wind and a cloudless sky that leads one in spite of himself to think of that "blessed clime where life is not a breath." The late rains had filled the brooks with cheerful merriment, and the low sweet hum of their thanksgiving might be distinctly heard; and the showers that fell on the 2d June were already largely in the tree tops, producing a foliage deep and dense and strong, while every green thing growing out of the ground was quickened into new life. Undulations, wide valleys, bank barns, and running waters were the order of the journey, and must we say it, a good many thistles.

The German village of Formosa with its massive stone church, a magnificent monumental pile for a country village, and its wide open jaws of limestone, within which the hamlets are built, is on the way.

Summerhill is a pleasant farm of 400 acres. A spacious valley to the north and east, the view of which is comfortably taken in by the steading, with its strong and varied soil, its abundance of water, and its commanding view, it is certainly admirably adapted for the rearing of the grand Oxford Downs, the large herd of Shorthorns, and what is infinitely better, the rich heritage of boys that are bravely helping to till it.

Mr. Arkell came to Summerhill in January, 1865, when there was but little clearing, the drive at that

time all the way to Mildmay being beneath the boughs of the forest. He brought with him what he considered the greatest treasure that the township of Puslinch could give him, one who has always stood by him in the hour of need, and from the first he hung out the flag of stock improvement in the wilderness.

The house and barns are excellent, the latter supporting a 16 feet geared mill, made by the Ontario Pump Company, Toronto. The flock of sheep numbers about 80 head, the Shorthorns about 60 head, and 12 head of 1,400 pound steers are being fitted on the grass for summer shipment, getting their modicum of four quarts of meal once a day, fed in boxes.

Although the herd of Shorthorns is large, it is as an importer and breeder of Oxford Down sheep that Mr. Arkell has chiefly won his fame. In this respect he is the king of Ontario, we may say of the Dominion, as his Oxford Downs have taken the pen prizes at the Toronto and Provincial Exhibitions, and other leading shows uninterruptedly since he first showed them in 1881. The first lot was imported in 1881, when some twenty head of Oxfords and Cotswolds were purchased from their breeders, Daniel and William Arkell, Gloucestershire, England, the rams being bred by Mr. Hobbs, of the same place. A lot of some 20 head of Oxfords followed in 1882, and in 1883 about 50 head, and in 1886 some 20 head more. The flock, therefore, all imported or directly from imported, comprise some 80 head, of which a number are good strong shearing rams. From this flock the various other flocks of Oxfords in the province are largely sprung.

The Shorthorn herd, of which some 40 head are cows and heifers—half a dozen are large, strong yearling bulls, and 17 head are calves—is headed by two imported one-year bulls, the bulls all but one being held for sale. It was founded in 1869 and rests upon a dual foundation. The one branch sprung from the cow Favorite, bred at Little Farnham Farm, county Wellington, by the late Thomas Arkell, his father. The other branch is from Cherry 2d, brought to Summerhill in 1876 and was also bred at the above farm, tracing, like Favorite, to Beauty by Snowball (2647), which virtually reduces the foundation of the herd to a unit. These cows were both descended from the Adam Ferguson stock.

The first bull used from which stock now in the herd is descended was Sentinel—398—, bought from Mr. Jas. Tolton, Baron Sidonia—396—, by Duke of Springwood 16296, bred at Bow Park, came to Summerhill in 1877. Major, bred by Mr. Wilson, Ashgrove, followed in 1882, and was here three years. His sire was Corporal Trim—225—, and dam imported Duchess of Kent. Knight of Waterloo, bred at Willow Lodge, and out of Mr. Snell's imported Waterloo Warder—1055— (47222), dam Knightly Blanche by Knightly Duke (23633), came next, and is now supplanted by imported Red Prince, a smooth, neat, compact bull, brought out last year by Mr. Arkell, and bred by Daniel Arkell, Butters Court, Lechlade, Gloucestershire, England. He was got by Habis, dam Frosty (vol. xxxi. E. H. B.), by Prince of Geneva 16th, and tracing to the 15th dam Queen, bought of a Mr. Thompson. His full brother shown at Birmingham, 1885, took third in a ring of 131 bulls, and his half brother first at the same show, 1887. The other imported yearling bull Councillor, very similarly bred, is a strong, well built, rangy, vigorous and stylish animal.

Mr. Henry Arkell, the first neighbor eastward, has added field unto field until he has now 300 broad acres. At present 40 head of nice summer shippers are on the

pastures, a good deal of this being done in the county of Bruce.

VIEWFIELD,

situated on the upward slope and crest of the high, receding right-hand bank of the Saugeen, and overlooking the whole town of Walkerton, with some 3,000 inhabitants, and the pleasant country for miles beyond, and also taking in the wide sweep of the valley of the river, both above and below, till it disappears amid the high hills clad in luxuriant summer robes of densest shade, is one of the most beautiful locations that we have yet seen in the province of Ontario. It is owned and farmed by Mr. A. Shaw, Q. C., one of the most prominent and active residents of the county.

The farm is not large, but admirably tilled, its neatness, its cleanliness and the luxuriance of its crops reflecting creditably on the proprietor and his farm manager, Mr. Corbett. Its stock, high grade Shorthorn cattle and Oxford Down sheep, resting on Mr. P. Arkell's imported foundation, are, though few in number, of the first order. Its centre is crossed by a deep, irregular ravine, with water and shade in plenty, and amid the grotesque beauties of it the weary may find rest and relaxation, and the studious may dream of coming good. The lower portion of the farm rests upon a stratum of the famous lithograph stone, and may some day be filled with caverns where this has been extracted.

A prominent feature is the flourishing young apple orchard on the gentle slope of the westward central portion, consisting of 17 acres, and is one of the handsomest and best cared for in the province. Along the same border from the road to the bush in the rear is a double row of walnut trees, from four to six years old, with a row of maple nearer the outer rim, and still nearer one of spruce. These are most carefully cultivated and are making a rapid growth. The walnuts were raised from the nut. This quadruple row, which any farmer might have in time, furnishes protection, beauty and utility in a marked degree.

The dwelling, large, chaste neat, imposing, built of white brick, not imprisoned in close surroundings, nor its beauties buried amid encumbering shades, resting on one wide terrace, looks out upon a spacious lawn, beautiful in its simplicity, and is approached from the Walkerton direction by a winding way bordered on either side by closely shaven grassy fringes, beyond which are broad cultivated rims where almost every species of flower and shrub and tree furnished by the flora of this northern continent, grow in contented beauty, along with many specimens from other lands.

Money buried in the dark vaults of a bank in large quantity, although it may increase in volume, somehow corrodes the heart of its owner, and too often so contracts him that he shrinks inside of his former self, a skeleton of a dying generosity, but when it is discreetly put into the form of trees and flowers and other home attractions, its influences on all the dwellers of that home is humanizing, and as the young people thereof unfold daily in the advance of their upward onward journey, their sympathies are broadened, they drink in summer views of life, and a truer ideal of home and heaven is the almost certain outcome of such attractions surrounding a dwelling.

Our opinion of the riding of South Bruce as a producing district is very high, and in the wonderful material progress it has made, it puts many of the older sections to the blush. There is one serious problem, however, with which it must soon grapple—that is, the eradication of Canada thistles, or it will soon become a vast foraging field for

the honey bee. In its deep, porous subsoils they seem to find a most congenial harbor. The farmers with one mind should give no quarter to the intruder during any part of the growing season until the last of the race shall have died. Although the accomplishment of such a feat is very difficult, it is not impossible.

Stock Raising in Ontario.

BY W. J. STOVER, NORWICH, ONT.

This paper was read by Mr. Stover, who is a graduate of the Ontario Agricultural College, at the experimental union held there, February 24th and 25th. It is a valuable production, and will be completed in the two following numbers of the JOURNAL.

Whole volumes have been written on the various branches of this theme. "Best breeds of cattle," "Best means of improving stock," "Scientific feeding," etc., have been much discussed, and with valuable results, but the more practical questions of detailed management have been in a measure overlooked. Ontario adapts itself more safely to mixed husbandry than to specialties; consequently it involves us in more complications and makes our pursuit more indefinite. We find it necessary to direct our attention to such productions as may be best adapted to the locality and size of the farm, while at the same time we are often obliged to vary our system of management to suit unforeseen changes of circumstances. In stock-raising one of the most difficult problems is to keep stocked to just the right number that can be managed to the best possible advantage. In this age of close competition we cannot allow much margin. It is necessary to manage with the closest economy, and to determine what will give the best result, is often a serious question.

With the opportunity of purchasing their stock for feeding, from the ranges farther south and west, the farmers of the western States have at the present day advantages over us. They are not put to the expense of providing room for so much young stock, and those which they do raise from breeding are kept through the first two years at much less expense. Within the last few years the surplus of ranch cattle has increased to such an extent as to more than fill the demand in western markets, and they are now looking to the east for outlet; consequently we have the wholesale western production to compete with, and so long as they can raise such vast numbers at but little more expense than the cost of herding, they can undersell us and still realize a decided profit.

But with all its disadvantages, stock raising is an essential and important branch of industry to the Ontario farmer, and by no means unprofitable under thorough and scientific management, even though the returns may be largely indirect.

A practical and comparatively minute experience in stock-raising and management, having recently come under my own personal observation, I have thought it might be of value to stock-raisers in general; and therefore endeavor to give here some ideas gleaned both from observation and experience.

In beginning our preparations—for stock raising, the first necessary arrangement the providing of buildings and stable room—was the most expensive, and proved to be one of the most important items of consideration connected with farming. Buildings must by all means be convenient, and stables must be warm, well ventilated, and comfortable. The convenience of management in our own buildings is such that one man can attend to sixty head of cattle, do all the stable-cleaning and preparing of food, with help only to do the straw-cutting.

On the barn there is a wind engine—a wheel of 16 feet diameter—with which all the power work except threshing is done. The first cost of this machine is the only cost, and it stands in readiness to be used at any time when the wind is blowing. The greatest importance of this is that the straw-cutting, grain-grinding, etc., can be done in weather unfit for work outside; no fuel, no time in preparing to start, and no horses being required. Horses, of course, have little else to do in winter, as a rule, and can work on the power, but in the winter when it is muddy, and in early spring when the horses and hands should be at other work, the wind-power is invaluable.

The stable is cleaned by means of a dump-car, working on a track similar to that of a pitching machine, and the manure is piled under a shed, where it

is saved and thoroughly decomposed. The food is all prepared, and dry fodder and uncut hay are used for a change only, which is very necessary. When depending on hay as the principal coarse food for cattle, I consider it only a useless expense to cut it; for the object in cutting fodder is not so much to improve the quality, as to make it more palatable, and when mixed, much rough food is eaten, which would otherwise be wasted.

But the most important feature in our feeding experiment is this. Three years ago we commenced a system of cooking the food with cold water, that is, we made it soft and moist by simply wetting it, and allowing it to heat and soften, by partial fermentation. This experiment was carefully managed and noted through the first winter, until we learned how much water to use, and the length of time it should be allowed to lie before feeding; and now we practice the system altogether, being fully convinced of the success and value of our experiment.

The food is prepared in different lots and in quantities to suit the number of cattle, so that some is being prepared while another lot is being used. The food must be fed as soon as it begins to get warm, and used up before it gets old or sour. Stock will eat the driest of straw when prepared in this way; they relish it and thrive on it, and we find that it is much cheaper to use such food and add small quantities of grain, bran, etc., to give a nutritive ratio equivalent to that of a whole food, than to feed so much hay and more expensive food.

I consider roots well worth raising and a valuable food when used with coarse and rough fodder; and prefer them freshly cut and thrown upon the food in the manger immediately after it is put in. The meal seems to give better results when fed with other food, as it takes the animal longer to eat it and it is more thoroughly masticated and better digested. As convincing evidence that this system of wintering is more profitable than the ordinary plan of feeding uncut dry food, we are now keeping a large number of cattle; have sold from thirty to sixty tons of hay annually, while previous to this we sold none; and are raising as much of other kinds of grain as before.

(To be continued.)

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Sheep Husbandry.

BY JOHN JACKSON, "WOODSIDE," ABINGDON, ONT.

That sheep husbandry was one of the first occupations that man engaged in as a special calling, we have abundant proof, inasmuch as one of the sons of Adam was a keeper of sheep. And from many accounts given in ancient history of the shepherds and their flocks, we have reason to believe that it was amongst the most honorable and profitable callings of ancient times.

It is also a well-known fact that on this continent, in South America, Australia, France, Spain, Great Britain, and many other countries, sheep husbandry has been a great source of wealth to those engaged in the business. In England at the present time farmers are put to their very wits-end to realize any profit, owing to the keen competition from all parts of the world in everything.

Yet sheep-farmers feel comparatively secure, and in Scotland it has long been proverbial that sheep farmers are about the most prosperous and independent of the agricultural community, although the sheep farms comprise the poorer and more barren portions of the country, where the sheep climb and graze those rugged hills and bring wealth and prosperity to their owners, utilizing land that would otherwise be almost useless: there they have the hill-sheep, light and active, well adapted to the situation.

ITS PROFITS.

But the question that more especially interests us here is, can sheep husbandry be made profitable in Canada, and particularly in Ontario, as compared with other farm products. Our own opinion is that it can. We might here enumerate a few of the reasons why we think so.

In the first place the products of sheep-farming are mutton and wool, and those are commercial commodities, the price of which compare more favorably with that of a bushel of wheat than they did thirty years ago. Our mutton finds a ready market in the old country, and there is always a demand at home and in the States for our wool. Our soil and climate are admirably adapted to sheep-farming. Our climate is one of the most healthy for sheep to be found in the world.

In England the fly and foot-rot are great annoyances to flock-masters, but owing to our dry, clear atmosphere we scarcely know what these are. And although England is the headquarters of the world for prime mutton sheep, that we can breed and raise as good here has been abundantly proved; and that a farm devoted entirely to sheep husbandry here would pay well, I think there is not the slightest doubt. But at the present time it will perhaps be more practical to consider the subject in connection with our more common system of mixed farming.

One of the great advantages in that case is that sheep are the very best scavengers to destroy noxious weeds, eating what other stock won't, allowing nothing to go to waste. Another advantage is that they spread their droppings more evenly over the land, the larger portion going to the knolls and poorer spots, thus increasing the fertility of the soil to a greater extent than other stock, and would be profitable on the poor and more worn-out lands of this country. Now the number that can be profitably kept on a farm depends on circumstances—the quality of the soil, the value per acre, convenience to market, what other crops are to form a part of the mixture, etc. If the soil be a valuable sandy soil, and fruit is to be largely cultivated, it would not be advisable to keep so many sheep, for they don't agree well with young fruit trees.

I think a clay soil the best for sheep; the pasture is richer, produces more bone, and sheep on such land will increase in size. It may be rough or hilly, but not necessarily so; and if a good quality of clay or clay loam, and more especially if somewhat distant from market, I think about one sheep to the acre may be profitably kept in a good system of mixed farming; of course something would depend on the kind of breed. If they were of the larger coarse breeds, such as Cotswold or Lincoln, that number might be too much; but if we take some of the finer Down breeds, I think one to the acre is not too many; and if we say Southdown I know whereof I speak, and am quite within bounds.

SHEEP BREEDING.

But that sheep husbandry may be made more profitable in any country, it is necessary to have two distinct classes of sheep-farmers, the success of each depending on the other. Belonging to the first class, which is perhaps the most important, although the smallest in numbers, are those who breed the pure-bred, the fancy sheep, or what may more properly be termed the ram-breeding flock. This branch of the business requires the greatest amount of skill and knowledge to make it a success; in fact, only a few are, either by nature, or could be by practice, well adapted to succeed in this important branch of the sheep industry. This not only requires a man with good natural judgment, and a taste for the business, but who must be well trained by practice in all the finer points that go to constitute a perfect animal of the kind he is breeding; also a knowledge of how to mate to produce certain results, as well as a thorough knowledge of their care and management.

Our agricultural societies have done much to foster and stimulate this branch of sheep husbandry in this

country by giving rewards of merit to the successful competitors at their exhibitions. But I think very much more might be done if our agricultural societies, instead of making special classes for imported stock or for stock owned in a certain district, would award prizes to animals bred by the exhibitors. It would be a recognition of their skill and ability as breeders; it would give more prestige to the character of their herds and flocks; it would also show what could be accomplished in our own country.

Now the next, and by far the largest class of sheep-husbandmen, includes those who breed and feed for mutton and for wool. This requires less capital, is attended with less risk, makes quicker returns, and the ordinary farmer in this branch of the business is more certain of success. This only requires a limited knowledge that may soon be picked up by observation and experience, although a certain amount of knowledge is necessary to insure success; and much will depend on the quality and character of the flock to begin with. Some sheep, like some land, are so poor, it would be impossible to make a profit on breeding and feeding them. It is not necessary they should be of any pure breed but might be such as the best of the common sheep of our country, no better, perhaps, than may be seen in many sections grazing on the public highways. Such sheep can be got at a reasonable figure, and with such a flock of breeding ewes to start with there need be no fear of the result, if properly managed.

The next and most important step is to make sure of a first-class ram, for the ram is one half the flock as regards breeding, and should possess superior individual merit. And that there may be no mistake on this point, the safer way is to go direct to some well-established, reliable breeder of pure-bred sheep; for a few dollars extra spent for a good ram is soon returned.

And I would say, by all means get one of the Down type. Some would favor the Shropshire, others the Hampshire, and another the Southdown. Well, either of these will do, provided he is a good sheep of his kind. But I would certainly take the latter, and continue from year to year with the same breed, and there need be no fear of the result, which would be the best quality of wool and mutton that could be produced from cross-bred sheep, and the time has now come, even in this country, when a higher price is being paid for a fine quality of mutton than for the coarser sorts.

SUPERIORITY OF THE SOUTHDOWNS.

As a proof that the Southdown will give the best results, we may mention in a carefully conducted experiment at the Government Farm, Guelph, extending over a period of five years, with the grades of all the leading breeds of sheep, all being fed and managed alike, the Southdown grade gave the largest profit per head, the Shropshire coming next. The Southdown gave a profit of \$6.60 per head at one year old, or 110 per cent. profit on the outlay. The Shropshire gave a net profit at the same age of \$6.32 per head, or 91 per cent. on the outlay. And as all of our sheep are of the English breeds and our mutton market is regulated by the price paid in that country, we would do well to look to Britain for lessons on the subject. And from the official reports of the Smithfield Club Fat Stock Shows for a number of years, we find the Southdowns keeping to the front, and when put in competition with all other breeds have won more champion prizes than all the rest put together; and the London market reports at the present time quotes Southdown mutton 1½ cents per lb. higher than any other.

MANAGEMENT.

The next important matter to consider is their management. There is an erroneous idea entertained by some that sheep will run out; that is, the same flock cannot be kept on the same farm for any great length of time, but must be renewed or changed every few years. Abundant proof can be produced showing the absurdity of such a theory. The flock can not only be kept up, but may be improved from year to year by weeding out the poorer and older sheep, and filling their places with the choicest of the ewe lambs each year.

It is necessary in this country to provide sufficient shelter for the flock, although it need not be an expensive structure; must be well ventilated. A dry ground floor is all that is needed below.

I would recommend the system of numbering sheep in the ear, also with paint on the wool after shearing; this enables a shepherd to become familiar with the individual character of each sheep and to make notes of the same, for without some knowledge of this kind a great mistake may be made when it comes to the weeding out process. It often happens that ewes raising the best lambs will not look as well as those that raised the poorest, or perhaps none at all.

A good plan for weeding the flock is to commence a year in advance, taking out the older and faulty ewes, and perhaps a number of others, and couple them with the ram as early as possible. There is always a good demand for extra good early lambs. The balance of the flock could be served so as to drop their lambs in April or May, but would prefer April, while they are still housed; they can be better attended to and are less liable to losses.

To insure a good crop of lambs, ewes should have at least two weeks good fresh pasture before being coupled with the ram, and should not be forced to pick their living to late in the fall, but as soon as pasture is scant or in cold storms, they should be allowed shelter and a feed of good clover hay; and when taken into winter quarters, should have a roomy yard to run into at will, with a constant supply of good water.

WINTER FEED.

Sheep may be fed once a day with any kind of good straw, pea-straw being the best; but the principal food should be well-cured green-cut clover hay; and if fed in properly constructed racks, and only in such quantities as they will eat up clean before the next feed, there need be no waste. To feed twice a day in the short winter days is better than oftener, and good clover hay is all that breeding ewes require until near lambing season, when a little grain, oats, peas, or barley, mixed with bran, should be given, increasing the feed as the lambs grow older, either having a separate place for the lambs to go into and feed or by giving them plenty of room to feed with the ewes, and in this way the draught ewes and their lambs can be disposed of to good advantage. Lambs that are being fed through the winter for the spring market, should be either ewe or wether lambs; there can be no profit in feeding ram lambs. And in addition to good hay and straw, should have a daily allowance of say, half a pound, and may be increased to a pound, of grain and bran; and if supplemented with a few roots of any kind, all the better, and should make a gain of from 8 to 10 lbs. per month, and may be sold off to make room for the young lambs in spring. Ewes and lambs should be fed inside until grass gets a good start. It is a mistake to think sheep won't do well on long pasture, although they may do well on short, if thick and fresh; but if let on when too short it is likely to be too short all summer. They should only be let

out part of the day at first, and the grain feed continued for a short time after the hay is stopped, that the change from dry to green feed may be gradual.

All ram lambs not sold for the early spring market should be made wethers of. The annual loss to Canadian sheep-farmers from neglect of this matter alone is very considerable, and would more than supply them with first-class rams.

SUMMER MANAGEMENT.

As to their care and management in summer, they require comparatively little attention in this country, and farmers usually have plenty of other things to look after; but the flock should be seen daily to see that all is right; neglect in this often entails loss, by one getting cast or otherwise. What they want now is a good run of pasture with plenty of shade, salt, and water to go to at will.

A small piece of corn or other crop may be sown for green feed, if pasture fails from drouth or other causes, and if not required, may be cut and cured for winter use. About the first of August the lambs should be weaned, care being taken to milk the ewes a few times and see that their udders are all right, taking stock of any found defective in that respect.

One thing particularly in favor of sheep-farming is, that the labor of attending to them is light, no small consideration in this country where labor is high and land comparatively cheap. The only time they require very close attention is during the lambing season, and neglect then often means serious loss. But with proper care the crop is more certain, and the market value thereof varies less than that of wheat, fruit, and other agricultural products.

Another consideration in their favor is, that they can be fenced against, either by stationary fence or movable hurdles, at less cost than other stock. And last, if not least, they produce two crops a year, and some even three in this northern latitude.

Our Scotch Letter.

ABORTION, FARMERS' DIFFICULTIES, WAGES, SALES.

(From our Aberdeenshire Correspondent.)

Scotch breeders have had too much reason, unfortunately, of late, to take an interest in the discussion of the question of abortion in cows. It was so prevalent in Scotland that the Highland and Agricultural Society have entered upon an investigation of the subject. In the recently issued volume of the Society's "transactions," appears the first report of the committee to whom the subject was remitted, and though the report is of a negative character, it contains not a little that is of importance to breeders, and I will give a short summary for your readers' benefit. The reporters are Dr. G. Sims, Prof. McFadyean and Dr. A. P. Aitken. The answers they have received to a string of some twenty-five queries, approved by the Veterinary committee of the Society, disclose the fact that the disease is not only of a wide-spread, but of an aggravated nature, and not confined to any particular breed of cattle, or any particular district of the country. Where herds have been attacked the number of cows that have aborted have been from 30 per cent. to as much as 80 per cent.

The facts negative any theory that would ascribe abortion to geological or climatic conditions. The animals are liable to abortion at all ages and at all stages, but they most frequently "slip" from the sixth to the eighth month. There is a belief that is probably well founded, that a cow that has once aborted is more liable than others to abort in future years but still in many cases such cows are found to carry their calves to the full term in after years.

Among the theories advanced to account for the prevalence of abortion (leaving out of account such causes as mechanical injury and fright,) are, 1, constitutional taint; 2, errors of diet; 3, ergoted grasses; 4, sympathy; 5, contagion (a specific germ). That abortion is ascribable to any such general, or widely acting influence, as domestication, or to the existence of tuberculosis, has not been borne out by

the evidence forthcoming. Errors of diet, or in short anything that causes derangement of the digestive functions, might excite abortion, but the reporters do not recognise this as a very tenable theory, for the reason that in most outbreaks the digestive functions are performed up to the very day of abortion, without the slightest trace of disturbance. They have not been able to discover evidence to support the opinion that improper feeding is the common cause of abortion. The third theory, which has been held to account for numerous cases of abortion, namely, the effect of ergot grasses, is not altogether discredited in the report, but the authors think it is a hasty assumption to regard ergot as the cause of abortion. They hold that before this theory is admitted, it must be shown that cows taken from an unaffected farm can be made to abort at will by the administration of ergot in such quantities as computation shows must have been consumed by the animal whose abortion was ascribed to ergot hay or pasture.

This is a very important point in these investigations, and the evidence which has been submitted, if not convincing to a committee of experts, has been sufficiently weighty to make them feel the necessity of instituting experiments in order to test the effect of ergot upon breeding stock.

The "sympathy" theory finds no credence, and is not supported by any facts that can be accepted; but the investigators consider that the theory that the disease is spread by contagion, harmonises better than any of the others with the bulk of the information they have gathered concerning the disease. This theory, which is the one that is at present gaining most ground, supposes that abortion is the result of a disease which is transmissible from an affected to a healthy cow, by means of a particular germ, or in other words, it explains the act of abortion as the result of some specific micro-organism in the body of the cow, the most probable seat of multiplication being the womb or other part of the genital passages. A point that appears in conflict with the theory is, that it is not generally observed that successive cases in a herd occur among cows standing in immediate proximity. Again instances have occurred where there was no discoverable source of infection to account for the first outbreak of the disease; but after all, such negatives do not break down the theory, for they can also be proved in connection even with such diseases as foot and mouth, and pleuro-pneumonia. It is of the utmost importance that the theory should either be proved or disproved. It lends itself easily to investigations, and should these prove that the germ theory is correct, they will be continued with the view of discovering the specific organism itself, and its life history.

The number of changes among the farmers of Scotland this year has been very remarkable. These changes have been caused in some cases by the inability of farmers to pay present rents longer, and the desire to get out of a losing concern as soon as possible. Bankruptcy has forced many from their homes and it is said that the financial condition of the tenantry is even worse than yet appears. Financial straitsness has obliged them to come together for mutual support, one man becoming responsible for the debts of his neighbor and *vice versa*, so that the system by which they hang together may be compared to a house of cards that will topple down when any of the supports are removed. It is not pleasant to think of so many men being compelled to cut themselves adrift from home connections and ties of the dearest character, not to speak of their pecuniary losses. These, of course, have been very heavy, and the depreciation in prices has caused them further loss on their out-going or displeasable sales. It has been calculated that in one or two farms in Aberdeenshire alone, there has been a drop of £1,000 on the price of the farm "cover" or stock, as compared with the sum that would have been required to buy the "cover" when the farmer entered on his lease.

The cry has very often been heard that farm servants' wages were too high, but fees have been so much lowered at the feeing market just concluded, that farmers have now no room to complain on this score. There was abundance of labor, and as compared with the corresponding half year of 1886 men's wages have fallen from £1 to £1 10/-, the current rate for ploughmen being from £11 to £13, and besides they get, of course, house accommodation and food gratis. Servants' wages have fallen since 1879-80 about 30 per cent., showing that they are now sharing equally with their masters in the depression. If landlords would volun-

tarily assume their proportion of the burden, it would stimulate the flagging energies of the farmers and might help them to surmount their difficulties.

There have been a few unimportant sales of pedigree stock within the past two months, the polled herds at Ballentoni (Mr. Mann's,) and at Auchlossan (Mr. Barclay, M. P.,) having come under the hammer. The stocks were fair, but there was not much to draw out competition and the sales presented no noteworthy feature.

Aberdeen, May 29.

QUIDAM.

Horses for the Army.

(Continued from June)

Horses in general fall naturally into two great divisions—riding and draught—according to the particular way in which their physical formation and breeding enables them most advantageously to apply their force. A man who has a knowledge and appreciation of horses can tell to which of these divisions any given animal belongs; but it may be laid down as a general rule that a riding horse should be better bred and should have a more sloping shoulder, a longer forehead, with more flexible and lighter action than a draught horse.

Of course it is not as easy to judge of the future make and shape of a young horse as it is to judge of an aged one, whose conformation is fully developed. Still there are certain defects which are as easily seen in young horses as older horses; and these faults, at least, may be avoided by a fair amount of care, practice, and judgment.

Especial care, indeed suspicion, is also needed, when a good looking horse of five or six years old is offered at the troop price. The chances are that there is some fault, which others have already found out.

A horse should be rejected for any one really bad fault. The greatest strength of a horse is limited by his worst point. Horses are often bought because they possess one or more very good points. This is a wrong principle in buying. The selection of horses should begin by rejection for bad points. Bad points are, of course, in a great measure a question of degree. Discretion is needed in rejecting as well as buying.

1. Size. Four-year-olds, *i. e.*, three off after October 1st, should not be less than 15 hands $\frac{1}{2}$ inch, nor exceed 15 $\frac{1}{2}$ for light cavalry.

For medium they should not be less than 15.1 nor over 15.2.

For heavy cavalry, not less than 15.2 or over 15.3 $\frac{1}{2}$.

N. B.—In measuring a horse or judging of his height and size by sight, take care that he stands on a level with yourself. Dealers generally stand a horse if undersized, on higher ground, or if over size, on lower ground than the intending purchaser.

2. Want of a fair amount of breeding should be an absolute bar.

3. Reject a horse with a big coarse head.

4. Reject a horse with a small sunken eye. They are generally obstinate and sulky.

5. Reject a horse of a color light of the sort.

6. Reject a horse with a long slack back. It will not carry weight.

7. Reject a horse with a hollow back. The formation is weak.

8. Reject a horse with flat sides. They will not do work or look well.

9. Reject a horse with a slack loin, *i. e.*, undue length between the last ribs and hind quarters (sacrum). They are often bad feeders, and will run up light with work.

10. Reject a horse with a light loin, *i. e.*, want of breadth over the loins. They run up light with work.

11. Reject a horse with scraggy hips. They never do credit to feeding, particularly if also slack in the loins.

12. Reject a horse with a bad girth, *i. e.*, "light through the heart." This formation will always cause trouble in saddling.

13. Reject a horse with a thick or short neck.

14. Reject a horse unless it has a good rein. With a clumsy neck the head is in consequence badly set on. Without a good rein a horse will never break well.

15. Reject a horse with very low withers. The saddle will be apt to work forwards, and the "rein" will probably be deficient, and the leverage for the muscles of the forehead is defective.

16. Reject a horse if very short. There is not room enough for the kit.

N. B.—To see the above points (1-16) stand on the side and form your opinion before the horse moves off.

17. Reject a horse with a narrow or shallow chest. There is not sufficient capacity for the lungs.

18. Reject a horse with fore legs very close together. This and the former defect generally go together. To see these points, stand in front.

19. Reject a horse whose fore legs are not straight. They will not stand wear. Stand behind the horse as he walks away from you, and you will be able to notice these defects, if they exist.

20. Reject a horse which is light below the knee, especially if immediately below the knee. The conformation is essentially weak.

21. Reject a horse with long, or with short, or with upright pasterns. Long pasterns are subject to strains. Short or upright pasterns make a horse unpleasant to ride, and, on account of extra concussion, are apt to cause ossific deposits.

22. Reject a horse with toes turned in or out. The twist generally occurs at the fetlock. Toes turned "out" are more objectionable than toes turned "in." When toes are turned out the fetlocks are generally turned in, and the animals so formed are apt to cut or brush. Both, however, are weak formations.

23. Reject a horse whose hind legs are too far behind. Good propelling power will be wanting, and disease as a result may be expected in the hocks.

24. Reject a horse which goes either very wide or very close behind.

25. Reject a horse with very straight or very bent hocks. The former cause undue concussion, the latter are apt to give way.

26. Reject a horse which is "split up," *i. e.*, shows much daylight between his thigh. Propelling power comes from behind, and must be deficient in horses without due muscular development between the thighs.

27. Reject a horse with flat feet, or over large feet, also with very small feet. Medium size are the best.

28. Reject a horse with one foot smaller than another.

Action must be light, easy, free, and straight. Reject a horse that crosses his legs in walking or trotting. He will be unsafe. Freedom, power to move easily along, is the great point in a young horse. Knee-action is not essential; it will come with the bit and breaking.

A good walk is absolutely essential. Reject a horse that does not walk well; he is never pleasant to ride. If a horse walks well he will probably trot well; but a horse may trot well without walking well.

To ascertain whether the action is true and straight, stand behind the horse as he walks and trots away from you. You cannot ascertain this important point by standing on the side.

Never omit to stand behind a horse as he walks away.

A good sloping shoulder is an important item in a riding horse, but bad action may co-exist with a good; and *vice versa*, good, free action may co-exist with a somewhat straight shoulder.

Reject a horse which is straight in the shoulder and long from the point of the shoulder to the upper part of the forearm. This formation places the fore legs too much under the horse, and makes him unsafe to ride.

You may have a plain horse, even if all the above very apparent defects are absent, but you will, at least, have a serviceable one.

Having first of all kept clear of all absolute defects, such as the above, then select your horse for the presence of good, serviceable, and handsome points, and easy, free, graceful carriage.

But, I repeat, begin by rejection for any one positively bad defect. The greatest strength of a chain is limited by the strength of its weakest link.

Food Ration for young Trotters.

The *Country Gentleman* of the 9th June gives the following as a suitable ration for young trotters, by the time their training is to commence, at say two years old:

"Let the grain ration be compounded thus: 200 lbs. of oats, 200 lbs. of peas, and 25 lbs. of flaxseed, well mixed together and ground fine. In making a

daily ration for colts from two to three years old, take 12 lbs. of the peas and oats and flaxseed mixture, and 1 lb. of new process linseed meal, mix these 13 lbs. with 6 lbs. of cut and moistened timothy hay. Let this ration be given in three feeds, smallest at noon. Then the nutriment will be in such small bulk that the muscles will have free play, and the nutriment will contain all the elements required to supply the waste of muscle and bone and to continue the growth of the colts to maturity. I have given a definite ration, but do not mean to be understood that this is the precise amount to be fed to each colt, for the feeder must have judgment to meet the individual wants of each colt. The proportions of grain and hay are right, and the ration is sufficient in quantity for most colts of trotting blood at two years old. The proportions mean weight and never bulk. The flaxseed is necessary to correct the constipating effect of the peas. For colts from three to four years old, it may be well to add another pound of linseed meal, and then feed according to the needs of each."

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

The Clydesdale Horse.

BY D. M'CRAB, GUELPH, ONT.

(Fifth Paper.)

THE GALLOWAY CLYDES.

In ancient times the district of Galloway, in the southwest of Scotland, was celebrated for a breed of horses termed Galloways. Lighter than the pack-horses of the period and much larger and stouter than the ponies of the Highlands, they formed an intermediate breed. They were distinguished for elegance of figure, for activity and for "bottom," a very serviceable quality. They were from 14 to 14½ hands, strong, hardy, chunky animals, with broad and deep chests and considerable muscular development. Had clean bone with some feather; neat, clean heads; good legs and feet; were sure footed, specially safe on boggy ground, and made valuable saddle animals. They took their part in many a midnight raid and in many a border foray. But times changed; the days of the mossroopers passed away, and as the circumstances and the requirements of the district changed, so did the horses. A writer in the *Edinburgh Encyclopedia*, 1830, says, "The Galloway breed of horses, long famed for their superior spirit and for their fitness to endure fatigues, is now nearly extinct. The excellent roads that traverse every part of the country admitting the employment of heavy carriages, and the demand for draught horses, occasioned by the extension of agriculture, have contributed to diminish this hardy race. Such of the ordinary breed of horses as have a considerable portion of the old blood, are easily distinguished by a smallness of head and neck and a cleanness of bone. They are generally of light bay or brown, with their legs black."

Mr. Dykes, in the introduction to the first volume of the Scotch Clydesdale Stud Book, says: "These Galloways were unquestionably the ancient indigenous breed, which had for a long time remained true to their ancient type and character." Again, speaking of the modern breed in Galloway, he says: "In recent years the Clydesdales of Kirkcudbright and Wigton have attained an enviable reputation. Many have been of opinion that the Galloway breed of Clydesdales formed a distinct branch from that of Lanarkshire; but this is a mistake. About the commencement of this century Galloway farmers purchased largely at Lanarkshire; and their soil being equally favorable, if not superior, for breeding horses to the rich haughs on the Clydesdale, several of them acquired a reputation for the strength and quality of their stock." How much of the blood of the old Galloway breed still runs in the veins of the modern Clyde of that district is not known, and may never be ascertained. That there may be some is very probable, and that it

will be a benefit is not denied. That it would modify to some extent the stock of that district is probable; but now the difference is not very apparent. Stallions of the very best Clyde strains have been for a very long time used in Galloway. In the early days of Clyde breeding, the Earl of Galloway and other gentlemen brought in imported stallions, and the quality of the horses of the district has been improved by careful and judicious selection.

Mr. Muir, Sornfallow, near Biggar, moved into Galloway and took with him several very good specimens of the Lanark Clydes. His descendants were leading farmers in the neighborhood of Kirkcudbright and Wigton, and were all more or less noted for their good Clyde horses. The late Mr. Robert Anderson, of Drumore, in Wigtonshire, was a very prominent breeder. About 1834, in company with Mr. Fulton, of Spraulston, he selected a stallion, Old Farmer, (576), and two mares, the best he could get in the land. One of these was a granddaughter of the dam of Glancer (335), and the other a black mare, afterwards known as "Old Tibbie," bred by Mr. Brown, Gledstane, Biggar. This mare won first prize at the Highland Society show in Ayr, 1835, and she was the progenitor of the very celebrated horse Victor (892). The writer well remembers in 1866 seeing at Gillespie, Wigtonshire, a two-year-old stallion, the property of Mr. Peter Anderson, off this stock, which a note made at the time states was the best stallion of the age the writer had ever seen. From this stock were bred many animals of great merit. For a number of years the Galloway breeders preferred stallions of large, heavy bone, with abundance of hair, and often defects of short pasterns and weak feet were overlooked. The mistake has been felt by experience, and opinion has changed so much that now legs and feet are chiefly considered, and the formation and appearance of the body is made too much a secondary consideration. Just as essential are the hardy constitution and powers of endurance often left altogether out of the calculation. These latter have in former years distinguished the Galloway Clydes, and still need to be carefully considered. From this Drumore stock came Salmon's Champion (737), and his celebrated son Lochfergus Champion (449), while the Farmers (284) and (286) did good service. Latterly the farmers of Galloway have gone into the selection of sires of the best class with a courage and enthusiasm which has not been equalled by the breeders of any other district in Scotland. With a good class of mares to start with the result has been the attainment of a very high grade of excellence. Such celebrated sires as Macgregor (1487), and many other good ones selected by Mr. A. Montgomery, of Netherhall, Sankuhar, Belted Knight, Sir Michael, Topgallant, and others, also famous, have found a home in Galloway. The most noted, perhaps, has been Darnley (222), engaged for several seasons by the farmers of the Stranraer district at \$4,000 for each season. The plan of farmers of a district clubbing together to select the best stallion available is a good one, and might with great benefit be adopted on this side of the water. It has done a great deal to give the Galloway men the very best sires.

Very Well Put.

A copy of the *Farmer and Breeder of Elkader*, Iowa, reached us lately with a paragraph marked, for which we freely make room for the advantage of the lovers of scrub stock. We take it for granted that we have none of those among the readers of the JOURNAL, but our reproducing this precious little item will give them the opportunity of showing it to their neighbors who

may be wedded to the system of a dying age, which we trust they will not fail to do. It reads thus:

"Are you raising scrub stock? If you are, and it is paying you well, keep right at it? Don't let go of a good thing when you have it. If there is more profit in raising a \$60 horse than a \$160 one, then raise the first. If there is more profit in a three-year-old steer, weighing 900 lbs., at three cents per pound, than in a two-year-old weighing 1,100 lbs. at 5 cents per pound, then by all means keep right on raising the three-year-old. Look at your most prosperous neighbors, and if they made their money by feeding scrub stock, then there is a chance for you. If most of the men who have gone west to grow up on a *homestead* after losing the farm they lived on for 25 years in your neighborhood, have been obliged to do so on account of raising or trying to raise the best horses, cattle, hogs and sheep they possibly could, then if I were in your place I would steer clear of all such things, and do exactly the opposite. Investigate these matters for yourself carefully, and act as your judgment tells you is right."

The Holstein-Friesian Interest in Canada.

AN ADDRESS FROM THE PRESIDENT OF THE D. H. B. ASSOCIATION.

(Too late for June.)

FELLOW BREEDERS:

Owing to the extremely busy season of the year, I have, after consultation with Mr. Gifford, our secretary, and others, concluded that it would be inadvisable to convene a meeting of breeders to take united action in condemning the course of the Industrial Exhibition Association regarding the adoption of a standard of purity for Holsteins at their coming exhibition, but instead, have taken this means of placing my views before you, which I trust will meet with your approval.

The Holstein breeders in Canada have already shown by their tact and perseverance in pushing their favorites to the front, what honest energy will do. Only a few years ago they could easily have been numbered on the palm of one hand, now they can be counted by hundreds spread over every province of the Dominion. Indeed, there is no breed in existence that has made more rapid strides in numbers and popularity than has the Holstein since her advent into Canada, and in my humble opinion there is no breed having a more brilliant and successful future in store. This, however, can only be realized by a united and harmonious action on our part, as you will presently see.

At last year's Industrial Exhibition unregistered stock (ineligible for registry in any herd book) competed alongside of thoroughbreds in the ring against the protests of both the judge and the breeders. It was pointed out by members of the cattle committee that the rules permitted this, and that either they or the judge had no power to rule out unregistered stock. The rule then read, "The pedigrees of others" (than Shorthorns) "must be as full and correct as possible," and according to their own interpretation was framed for the very purpose of admitting unregistered stock. A meeting of exhibitors was then and there held. Among other resolutions the following was passed:

"Resolved, That we, the Holstein breeders here assembled, bind ourselves not to exhibit at any future exhibition of the Industrial Exhibition Association unless the rules are amended so as to distinctly specify that Holsteins must be registered in the Holstein-Friesian herd book, to be eligible for exhibition."

This resolution, among others, was signed by the following: A. C. Hallman & Co., New Dundee; H. S. W. T. Bollert, Cassell; Simon Shunk, jr., Edgely; Wyton Stock Breeders' Association, Wyton; Smith Bros., Dundas; M. Cook & Sons, Aultsville; E. Macklem & Sons, Fennella; H. M. Williams, Picton; Wm. Shunk, Sherwood, and others, and presented to the officials of the Association, who admitted the reasonableness of the demand, and gave a distinct pledge that the rule would be amended to meet the views of the breeders next year. Has that pledge been redeemed? Let us see. The rule has this year been slightly amended, apparently with no other intention than to create another cunningly-devised loop hole for the admission of grades and unregistered stock. It now reads: "The pedigrees of others (than Shorthorns) must be full and correct; exhibitors must produce pedigrees or certificates if required." Who

is to make the pedigree? The breeder or who? Certificates of what? and from whom? Who is to judge of its genuineness when it has no official source?

The Holstein breeders will agree with me when I say we do not propose to have the wool pulled over our eyes any longer. That an association of the standing of the Toronto Industrial should permit unregistered and grade stock to enter the ring and compete with thoroughbreds, is simply a disgrace and shame, and should meet with the condemnation of every honest stockman throughout the country. The Holstein-Friesian herd-book is the only recognised herd-book of the breed on this continent. Ninety-eight per cent. of the Holsteins in Canada are registered in that herd book, and on these grounds we have asked nothing unreasonable of the Industrial and other associations when we ask them to make it the standard of purity.

The time for talk has passed, we must now take action. The resolution of the breeders passed at last year's exhibition, which I have quoted, is on record. You will agree with me when I say that that resolution must now be acted on to the very letter. We do not intend to be again duped and gulled by vague and meaningless rules which admit of a dozen interpretations. We want no repetition of last year's experience, when after being to a heavy expense and loss of valuable time, in protesting against the admission of cattle ineligible for registry in any herd-book, we were told to "come into the ring under the rules or go home."

The Shorthorn breeders have been allowed a uniform standard; why not place the Holsteins on the same footing, when they have time and again requested it? It is only by unitedly declining to patronize any exhibition refusing to adopt a uniform standard, that we can hope to succeed. The leading American exhibitions adopted the same policy as the Toronto Industrial is now pursuing, but by a systematic and united "letting alone," were forced to succumb. We have right on our side, and in the end will win. Our secretary, Mr. A. Gifford, Meaford, has forwarded a circular to each breeder, accompanied with the following form for signature, which I hope will meet with your unanimous approval:

To Sec'y D. H. B. A.,

This is to certify that until a Canadian herd-book for the registration of Holstein-Friesian cattle has been established, I will only accept the herd-book of the Holstein-Friesian Association of America, as the standard of purity for Holstein cattle, and will decline to patronize any exhibition accepting any other standard.

(Signed.)

Breeders who have not received the above form will send their name to Mr. Gifford, who will supply them with one. I hope it will meet with hearty and unanimous response. If the Holstein stalls at the Industrial are deserted this year, as seems likely to be the case, the cause and responsibility for such will rest entirely with the officials themselves.

I am, gentlemen, your obedient servant,

M. COOK.

Aultsville, Ont., May 26, 1887.

Inquiries and Answers.

ELIGIBILITY FOR REGISTRATION—HOW DETERMINED?

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Having some time ago purchased the Shorthorn bull Stamford Duke, registered in the B. A. S. H. No. —2296—, and being fully satisfied that he was eligible to register in the Dominion S. H. H. B., I felt quite easy in the matter. I am since told that my bull is not eligible for such registration in consequence of the bull Butterfly's Duke —233— not being eligible for registration in the new Dominion herd book.

By looking up the facts in connection with the above and giving them place in your valuable JOURNAL, you will greatly oblige

JOSEPH GILMOKE.

Arthur, Ont., May 27, 1887.

While the herd books are under revision it is quite impossible for us to give an opinion that would be certain to be correct, without subjecting the pedigree of every animal in their ancestry to a most rigid scrutiny, up to the period of the importation of its progenitors, and sometimes beyond that period. In this time of searching pedigree investigation it requires all

the combined wisdom of a revising committee composed of breeders best skilled in pedigree lore, to determine as to the place that should be assigned to certain pedigrees. The best plan where there is any doubt is to submit the pedigree with \$1 enclosed for registration to H. Wade, Toronto, editor of herd-book. If the application is rejected the money will be refunded.

REGISTERING CLYDES.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Would you oblige by informing me how many crosses are required for mares or studs to be eligible for registry in the Clydesdale stud-book, and where one should apply to get the blank forms of registry?

A. ANNIS.

Oshawa, Ont.

The following are the rules and conditions governing entries of Clydes into the Clydesdale stud-book of Canada:

1. Clydesdale stallion or mare, by sire and out of dam, both recorded in the Clydesdale stud-book of Canada.
2. Clydesdale stallions having top crosses with their dams on record, and Clydesdale mares having four top crosses, in each case by sires recorded in the Clydesdale stud-book of Canada.
3. Imported Clydesdale stallion or mare, recorded in the Clydesdale stud-book of Great Britain.
4. Imported Clydesdale stallion or mare, by sire and out of dam, both recorded in the Clydesdale stud-book of Great Britain.
5. Also imported Clydesdale stallion or mare eligible for registration in the Clydesdale stud-book of Great Britain.

Blanks will be furnished on application to H. Wade, secretary of the Agricultural and Arts Association and editor of the Clydesdale stud book.

The Secret Out.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I have been shown the May number of your JOURNAL, in which I see you have been criticising rather minutely and in your own peculiar roundabout way, on the following letter which appeared in the May number of the JOURNAL:

"As my finances have been considerably crippled by the action of some of my neighbors, and you in particular, I will have to curtail expenses, so you can discontinue the JOURNAL."

Now, Mr. Editor, you try to make that letter not true, whereas I know that it is only too true. You enter at some length on the herd-book question, and try to justify one class of breeders in what I consider swindling the others. I would ask you, Who gave us the British American herd book standard? Was it not almost the very same men that are running the D. H. B.? Did not you, sir, in the JOURNAL, eulogize the B. A. H. B. as the pink of perfection? Did you not tell us that it had got through the rocks and shallows into still smooth waters? Were we not told in the preface to the first volume that this was the standard that our cattle were in future to be judged by? Did not this standard give us reciprocity with the United States? Then who was the standard of the D. H. B. made for? Evidently for the importer. As an illustration of the unfairness of the standard, those imported previous to 1865 do not require to be registered in the E. H. B. whereas those with six or seven crosses in 1865, bred in this country or the United States, are thrown out.

Another illustration. Take the Clydesdale Association. There are a good few of the D. H. B. men interested in it. What is the standard? Four crosses with the commonest mare makes an animal fit for registration. But then that suits their purpose. You say, "To show how completely foreign to everyone was the idea of injuring his neighbor, we mention that several voted for the adoption of this standard whose cattle have since been nearly all excluded." Now I consider that statement very misleading. You know perfectly well that these men did not understand the vote, and have done all in their power to have the standard changed, and would have had it changed without much trouble had there only been some prominent man to have taken the lead at the annual meeting.

With regard to the amalgamation, that may have

been all right, but I consider that no animal in either book, that was up to the standard when registered, should have been interfered with.

You say, "The day of the amalgamation was the brightest day that ever dawned on the Shorthorn interest." I think quite different. Are there not hundreds of farmers hesitating to enter into a business where they see men that have spent the best part of their lives thrown back to nearly where they began?

You say, "Wherein have we harmed any person?" You have harmed every person whose cattle are thrown out of the herd book (ten head of my own are thrown out.—Ed.), by upholding and voting for a standard that discriminates in favor of inferior imported stock against better Canadian bred cattle.

In conclusion, you say that it is very comforting to know that mine is the only name you have lost in connection with the affair. If that is true, then I have been misinformed. There need be no secrets about that letter. I have no desire to revise it in the least. You may make whatever comments on this letter you may see fit. I will make no further reply, as I do not intend to enter into a newspaper controversy with a prize essayist.

ROBT. MCQUEEN.

Salem, Ont.

Veterinary.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Horse Shoeing.

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

All horse owners are interested in horse shoeing, for the manner in which it is performed has a very important influence, in either destroying or maintaining the normal forces of the various portions of the foot; also in keeping it in a state of health, and enabling a horse to travel soundly and with comfort.

To one who observes the conditions of horses' feet it is a striking fact that nine-tenths of the horses of this country that have been worked and shod for any length of time present an unnatural form of hoof, there being some deviation from what is found in the healthy hoof of a developed colt.

The question forces itself upon the mind, is this a result which must unavoidably follow shoeing? Fortunately we can answer in the negative. Farmers' horses can stand much greater liberties being taken with their feet, on account of the work being as a rule slower and performed on softer ground, than that of town horses.

It is estimated by those in a position to judge, that fully fifty per cent. of the cases of lameness that occur amongst horses are due to improper shoeing. From a casual glance at this fact one would be apt to infer that shoeing-smiths are bad mechanics as a rule. This is not really the case, but the explanation is to be found in the fact that very few of them understand the structure or formation of the various parts of which the foot is made up, and consequently have no correct understanding of the principles that should be observed in a rational method of shoeing. The error chiefly fallen into is trying to improve on nature to too great an extent. There is no doubt that the effect of the artificial roads to which horses' feet are subjected have to be met by an artificial appliance; but this should be arranged so as to depart as little from nature as possible, or in other words, to simply assist nature in standing extraordinary conditions. The object of shoes is to prevent undue wear and tear of the hoof, and to brace it in order to prevent too much expansion and contraction from taking place, which results from the hoof coming in abrupt contact with a hard surface, such as the ordinary roads, and being as hurriedly raised. This alternate contraction and expansion, if experienced to a marked extent, has an injurious influence upon the blood vessels of the foot, deranging the circulation, and causing more or

less inflammatory action, which results in tenderness. It is not sought to convey the impression that the wall of the foot is elastic, for nature has so constructed it as to render it as stiff and unyielding as possible, but when it comes with force in contact with an inelastic surface like a macadamized road, more or less stretching is inevitable, so that a stay, as afforded by a well-formed shoe, is a great aid. At times of the year when the roads are icy, shoes perform the additional office of giving grip or preventing slipping.

It may be thought that information with regard to shoeing should be reserved for shoeing-smiths; but the writer has found that horse owners object to any change from the old traditional but irrational method usually practised, thinking that the smith is experimenting on their horses' feet, and shoers often urge this as an excuse for not pursuing the plan that admits of rational expansion; hence the necessity for a more general diffusion of knowledge on this subject.

The principles that should be observed in shoeing are simple and easily understood, and it is the effort on the part of many shoers to convert what is a simple process into a complicated one, from which the chief harm arises. A knowledge of the structure and function of the parts of which a horse's foot is composed is essential to the correct understanding of the principles of shoeing.

We will give a brief outline of the structures making up the foot. Those who desire a more accurate knowledge of its anatomy, will find the various parts pretty clearly shown, by sawing the portion of a limb from the fetlock downwards, in two, lengthwise. The three last bones of the limb or those entering into the formation of the coffin-joint, viz., the small pastern, navicular, and bone of the foot, form the foundation upon which the other structures are built. The bone of the foot resembles very much in form the outline of the hoof when planted on the ground. One of the tendons, commonly known as the back tendon, passes under the coffin-joint, and is attached to the lower and back part of the bone just alluded to. Lying under the coffin-joint and within the hoof is a considerable structure called the fatty frog. It is elastic, and aids in preventing jar, and supporting this joint, when the foot comes to the ground. The bones spoken of and fatty frog are invested by the quick, as perfectly as a sock surrounds the human foot. The quick is composed of a fibrous structure, in which are many blood-vessels and nerves. This sensitive membrane forms a close medium of connection between the structures it encloses and the hoof, and it also performs the very important office of secreting or producing the horny matter, that makes up the various portions of the hoof. If the hoof is separated from the underlying structures and soaked in water for a length of time, it divides into three parts, viz., the wall, sole and frog. The wall is that portion which is visible when the foot is planted on the ground, and which at the heels are bent inwards towards the centre of the sole, and forming which are called the bars, which arrangement gives firmness to the hoof. The lower margin of the wall is that which more especially comes in contact with the ground, and on which the shoe rests, and through which the nails are driven. On its upper margin is a well-marked groove, in which is situated a portion of the quick, which is much thickened when compared to the rest of it. This thick portion of the quick produces the wall, which is clearly demonstrated in observing an injury to the coronet grow out. The horny matter of the wall is composed of hair-like tubes held together by a sort of gluing material. The wall tissue is very tough, and inelastic, and will grow out to an indefinite length un-

less worn off by attrition with the ground, or removed with an instrument.

The sole is that portion of the hoof included within the lower margin of the wall, the bars and the point of the frog. It sustains weight and protects most of the lower surface of the foot. The quick immediately underlying it secretes it. Although composed of fibres glued together like the wall, still it differs considerably in its properties, for when it attains a certain thickness it crumbles or falls off in the form of flakes, thus it never grows beyond a certain thickness, and will regulate its own dimensions without the intervention of man. That triangular mass of horn in the middle and back part of the hoof known as the frog, has also a similar structure, but it is tougher than the sole, and possesses the quality of elasticity in an eminent degree, in which particular it differs from either wall or sole. It is also capable of looking after its own dimensions as it falls off in the form of shreds. In addition to protecting, and bearing weight, by virtue of its elasticity, it is intended by nature to come in contact with the ground, acting as a buffer in preventing concussion or jarring.

(To be continued)

The Farm.

The Way Some People Farm.

Birds which live in flocks are very much alike in their habits. Where one goes the other goes, what one does the other does, and they all seem intent on one pursuit, simply getting a living. In this we have a type of the way some neighborhoods get along. Living in sections as the people do, they get along in much the same old-fashioned way, non-ambitious, non-progressive, non-attempting. Indeed, the advance side of their lives is made up of negatives.

To put it in another way, "it reminds one of a person lifting up a sledge hammer and letting it fall down again," as we heard a gentleman remark not very long ago; or, to use the older comparison, there is very much of the treadmill about it. The old landmarks with this class of people are very sacred indeed. They never want to have them removed.

The causes are not far to seek. They do not read much, they reflect less, and travel less still, working at the same time so hard that there is not much inclination for reflection. When one reads what is going on in the great world around him, it is like taking a film from his eyes, but the results of ocular demonstration are more striking still. Hence the great utility of shows, which carry the elements of possibility right up to the gaze of the visitor.

The remedy consists solely of education in one or other of its forms. In part, it may be done by the spread of agricultural literature, by the spirited sustenance of exhibitions, and in part by the planting of farmers' institutes in such localities. If more on agriculture were taught in our schools, the gain would be greater and far more rapid.

The future, however, is full of hope. The elements of progress are permeating the very atmosphere and coming down in showers in some localities more grateful than the rains of June. There is of late a great shaking amid the dry bones and they have assumed already more than the skeleton form. The good ship of progress is more than launched. She has got a good way out to sea. The Canada that we all love so much is running in the neck to neck race with the agricultural peoples of every clime, and no one of us shall rest satisfied unless she comes out and we have a great work to do within our own

borders, where still so many are only half awake, or slumbering profoundly. Every lover of progress should for their sakes take upon him the office of porter, and wake them up lest they miss the train.

Mission work is always a noble work when the motive prompting it is pure, and all who love humanity must rejoice in its success, more especially in its recent years. Yet we should not forget that there are various kinds of this. We have a great home mission work to do amongst the class of farmers to which we refer above, and every lover of progress should in this sense become a missionary.

Agricultural College, Guelph; Bulletin IX.

DRAINAGE WATER.

BY C. C. JAMES, M.A., PROFESSOR OF CHEMISTRY.

In estimating the worth of a fertilizer, commercial values are set only upon the nitrogen, phosphoric acid and potash; sometimes the lime is considered. The three first mentioned are of the most importance, since nearly all soils contain sufficient of the other plant foods to sustain ordinary crops. To grow crops it is necessary, therefore, to supply nitrogen, otherwise the land will become exhausted. The ordinary crops annually remove from the soil the following quantities of nitrogen per acre:

Wheat (30 bush.)	Grain 33 lbs	Straw.... 12 lbs	Total.
Barley....(40 "	Grain 35 "	Straw.... 12 "	45 "
Oats.... (45 "	Grain 38 "	Straw.... 14 "	52 "
Hay.... (1 1/2 tons)	" "	" "	45 "
Red Clover (27 "	" "	" "	70 "
Turnips....(57 "	Roots 63 lbs	Tops.... 45 "	108 "
Mangolds....(22 "	Roots 85 "	Tops.... 46 1/2 "	131 1/2 "
Potatoes.... (6 "	Roots 42 "	Tops, etc 18 "	60 "

The rain carries into the soil from the atmosphere every year from five to ten pounds; other sources of supply besides that of direct applications of a nitrogenous fertilizer are, as yet, somewhat uncertain.

The nitrogen, however, before it is in form available for the plant must be converted into a nitrate, a compound resulting from the union of nitric acid with some such substance as lime. This formation of nitrates in the soil is called *nitrification*, and every farmer should be thoroughly familiar with the condition under which it proceeds.

The process is one of fermentation in the soil. The work is done by a very minute organism or vegetable cell (called *bacterium*), similar to the yeast cell and other vegetable organized bodies producing the various fermentations. It is found in all fertile soils, and for its development and work demands a supply of air and water. Tillage, therefore, assists in the process. The presence of too much water excludes the air and hinders the work, even undoing it. Drainage therefore increases the range of nitrification and deepens the fertility. A proper degree of heat is also most important. Nitrification ceases below and near the freezing point. As the temperature rises to 98° Fah. (37°C) activity increases. From that point it again diminishes to about 131° (55°C) when it ceases. Under these conditions nitrification proceeds most actively during the summer, and continues even into the autumn. The nitric acid thus formed unites with lime principally, forming nitrate of lime, or *calcium nitrate*.

In the spring there are few, if any, nitrates to be washed out of the soil; in the summer there is but little, if any, drainage to wash out the nitrates; in the autumn, therefore, when nitrates have accumulated and drainage is also abundant, we may expect the greatest loss.

In the experimental department of our farm we have a set of drainage measures, or lysimeters; also a large rain gauge. The area of each drain gauge is 1/100 of an acre, and that of the rain gauge 1/100 of an acre. The former are 36 inches deep, and contain the soil preserved in its natural condition and position. The soil in three of them is eight inches sandy loam, ten inches reddish clay, fourteen inches of gravelly loam, and four inches of pure building sand.

One has been covered with permanent pasture, manured in 1884 with farmyard manure, 14 tons to the acre. A two year's rotation, bare fallow and fall wheat, has been kept up on two of the others, con-

taining similar soil. These two are manured every other fall, before seeding, at the rate of 14 tons per acre. Thus the same soil is treated each year as pasture, fallow and fall wheat, and we can compare results.

In this table are given the total rainfall for seven months (May to December), the drainage from each, the soluble matter washed out from each, and the quantity of nitrogen, principally in the form of nitrates.

Month.	Crop or Fallow	Rainfall, lbs. per acre	Drainage, lbs. per acre	Solids, lbs. per acre	Nitrogen, lbs. per acre
May.....	Permanent pasture.	29.08	12.1220	1922	.6340
May	Bare fallow.	17.1600	2705	945	
May	Fall wheat	6.9020	1011	1534	
June.....		53.6172			
July.....		17.7061			
August	Bare fallow	27.4872	31700	571	.588
September	Bare fallow.	41.0751	44420	214	.1745
October	Bare fallow.	61.5028	141360	2866	.6028
November..	Bare fallow..	58.1781	19.0300	1030	2.4300
December	Fall wheat	4.2554	205		.3505
May to Dec	Permanent pasture.	152.5533	12.1220	1922	.6340
May to Dec.	Bare fallow..	58.0380	10376	4.0854	
May to Dec.	Fall wheat	7.554	1256	.5039	

The above rainfall represents a fall of 15.574 inches. The drainage from the permanent pasture was 3.4 per cent. of the total rainfall, that from the bare fallow 16.4 per cent., and from the fall wheat 2.1 per cent.

In England for ten years the rainfall amounted to an average of 31.451 inches, and the drainage to about 45 per cent. Under such conditions there is much greater loss of nitrates by drainage, since the period of nitrification is much longer and the washing continues summer and winter. From a wheat field, unmanured, the average annual loss was ten to twelve pounds; from unmanured and uncropped land as high as 41.81 pounds per annum (Lawes and Gilbert).

From a glance at our table we can draw conclusions similar to those elsewhere obtained, viz:

The loss of soluble ingredients from a bare fallow exceeds that from a field under crop.

There is loss from a wheat field after maturity.

The advantages gained by fallowing may be greatly modified by loss in drainage water.

A growing crop tends to hold the nitrogen in the soil.

The fall washings are greater than those of summer.

The following may be practiced either to clean dirty land or to rest exhausted land: In the former case, to avoid excessive loss by drainage, recourse may be had to roots *thoroughly cultivated*. To improve an exhausted land, instead of allowing the land to lie fallow a whole year, a green crop might be plowed under, thus keeping all the nourishment in the soil, increasing it by drawing on the air and sub-soil, and by decreasing the drainage. For green manuring, red clover, rye and buckwheat are specially recommended; other crops, such as rape, white mustard, scarlet clover, etc., are also used. These should be plowed under just before full blossom.

On the whole most soils will improve best under a combined treatment of green manuring and fallowing, where resort is necessary to such treatment.

A Scheme of Organization for Farmers.

BY H. GLAZEBROOK, SIMCOE, ONT.

(Concluded.)

By the managing committee making arrangements for the purchasing of all the plaster, salt, commercial fertilizers, etc., required by the whole county, in the following manner: Whenever the managing committee deem it expedient to purchase plaster, salt or commercial fertilizers, the president of the managing committee should instruct the central secretary to write to the secretary of each club in the county and request him to make a report before a certain day of the quantity of plaster, salt, or commercial fertilizers required by the members of his club. On receipt of such letter the secretary of each club should immediately call a meeting of the club and ask the members what quantities they require, and at once report the quantities on a post-card to the central secretary. As soon as the reports from all the clubs have been received, and it is known what quantities are required for the county, the president of the managing

committee should instruct the central secretary to insert advertisements in the leading papers in the Dominion, asking for tenders with samples for the quantities required. He should submit such tenders and samples as he may receive to the managing committee, who should decide which to accept. The central secretary should then write to the secretary of each club, informing him of the price of the plaster, salt, or commercial fertilizers, and requesting him to collect from the members of his club the amounts which the quantities required by them come to at that price, and to deposit it in the bank to the joint credit of the president and treasurer of the managing committee. As soon as the money from all the clubs is deposited in the bank the central secretary should write to the person whose tender the managing committee have decided to accept, and request him to deliver the amount to the order of the bank in such quantities to the various railway stations in the county as may be most convenient for the different clubs.

In fruit trees and seeds the same system may be adopted, except that in these articles, of course samples could not be asked for, and all the managing committee could do would be to obtain the best tender they could, consistently with making sure of the respectability and good business standing of whoever they decided to deal with.

No doubt other means of promoting the object of the organization in the counties would be suggested as time went on.

8th. That the object of the organization should be promoted in the Dominion, by any means which the Farmers' Convention may deem expedient. The expenses of such an organization as suggested would be of two kinds—general and local. The general expenses would consist of those incurred in each county, which would be, 1st, The furnishing of the central office, which should consist of a good map of the county to enable the central secretary to point out the way to the house of any member to any one wishing to know it. A large number, say 200 or 300 glass fruit jars to hold samples of grain sent by members, each being labelled with the name and address of the owner of the sample. A large number, say 200 or 300 small wooden boxes holding about a peck each, to hold samples of corn in the ear, potatoes or other roots sent by members, each being labeled with the name and address of the owner of the sample. A number of shelves all round the room to hold the sample jars and boxes, on which shelves they should be kept arranged in proper order—that is, all of one kind together. A large common table to hold samples of manufactures, models, etc., sent by manufacturers. A large table to hold files of the principal agricultural and other papers. A large black board for the central secretary to post the prices of all kinds of grain and other produce in the principal markets, and a large blank book for the central secretary to keep a register in of articles wanted, arranged under the headings of farms, horses, cattle, sheep, pigs, hay, straw, grain, and sundries, in each case giving a description of the article wanted and the name and address of the person wanting it. A large blank book for the central secretary to keep a register in of articles for sale, arranged under the headings of farms, horses, cattle, sheep, pigs, hay, straw, grain, and sundries, in each case giving a description of the article for sale, and the name and address and the location of the house of the person having it for sale. A large blank book for the central secretary to keep a register in of farm hands and domestic servants wanting employment, in each case giving the names and addresses, qualifications and references. A large blank book for the central secretary to keep a register in of employers wanting help, in each case giving the description of help wanted and the names, addresses and location of the houses. A large blank book for the central secretary to keep a register in of the daily prices of all kinds of grain and other produce in all the principal markets. A desk and stool for the central secretary to use to write at. A stock of stationery for the central secretary to use in the correspondence of the office, and a number of chairs or benches for the general council and the managing committee to use at meetings. 2d. The rent and taxes of the central office. 3d. The salary of the central secretary. 4th. The paying for advertising in the papers when necessary to do so, and for printing membership tickets and service tickets for all the members in the county. 5th. The expenses of the president of the managing committee to and from the farmers' convention.

A subscription of 50 cents a year from each of the farmers in the county would be amply sufficient to meet these expenses in each county.

The local expenses would consist of those in each club, which would be the paying for fire and lights and what stationery and postage were necessary for the secretary to use in the correspondence for the club.

A subscription of fifty cents a year from each of the members of the club would be amply sufficient to meet the expenses in each club.

Therefore the annual membership fee should be one dollar, which each member should pay to the treasurer of his club at the commencement of the year, and for which he should receive a membership ticket as a receipt, and to show the central secretary in case of wishing to claim his assistance in any way, to which he would always be entitled on producing such ticket.

The treasurer of each club should deposit one-half of such membership fees, or 50 cents for each member in the bank nearest to the central office, to the joint credit of the president and treasurer of the managing committee, so that none of the general fund could be withdrawn from the bank except by a cheque signed by the treasurer and countersigned by the president of the managing committee. The central secretary would of course have no control of the funds, but would have to apply to the president of the managing committee for any sums required for expenses of the central office or anything else.

In order to establish the organization suggested above in any county, it would be necessary in the first place that a few of the most prominent and energetic farmers in the county should form themselves into a provisional managing committee for the county, with a president and secretary, merely to hold office until a proper managing committee could be elected, as suggested, and to let it be known by means of the local papers that the secretary of the provisional managing committee was prepared to receive and register the names and addresses of the presidents, vice-presidents, secretaries and treasurers of all clubs formed in the school sections in the county; in the second place, that a few of the most prominent and energetic farmers in each school section in the county should induce all the farmers living in the section to meet at the school-house and elect a president, vice-president, secretary and treasurer and that the secretary in each case should at once send the names and addresses of those elected, with the name of the township and the number of the school section to the secretary of the provisional managing committee, who should register in a book the names and addresses in the order received, and as soon as clubs were established in all the school sections in the county, should write all the presidents to meet wherever the provisional managing committee deemed expedient, which would end their functions, as when the presidents of the clubs met they could proceed to carry out the arrangements suggested.

Report of the Judges on Prize Farms for 1886.

(Continued from June.)

On the morning of June 24 a slow ride of 32½ miles through the "pine stub" country on the Georgian Bay & Lake Erie Division of the G.T.R., brought Woodstock, so highly favored by rich agricultural surroundings, and 22¼ miles more on the same line landed in Stratford, on our own Avon, and noted amongst other things for the home of the Canadian Shakespear of the cheese interest. Twenty-four and one-half miles on the Buffalo & Goderich branch, running through a country of much fertility and strong soils, brought Seaford, where we were met by the junior Mr. Dickson, to be told that their farm had been withdrawn from the competition. We had just time to catch the return train to Guelph, on which for a few hours we had ample time to chew the cud of reflection, and to say angrily, mentally, that things in this world might often be managed better, which is very likely true. Like the old Roman, that evening we felt like writing we had "lost a day." The 25th was spent at Mosborough, while grateful June showers were watering the thirsty ground.

WOODLANDS.

On the 26th we drove to the "Woodlands," owned by Mr. Walter Sorby, Guelph. Only a part of the farm, to the extent of 153 acres, was entered, of which 133 acres are in Puslinch and 20 acres in Guelph townships. This farm is peculiar in its situation, sit-

up in the upland depression of the basin of the Speed, and some distance from the traffic of the Waterloo road, in its quiet retirement. The wooded heights of Puslinch from beyond the Speed watch its seclusion with unflinching constancy. Its shape is, in the main, triangular and its surface very level, save where the gravel ridge lies upon its bosom, as shown in the diagram.

On this ridge are all the buildings of the farm, which gives them a site of pleasant dryness all the seasons round. Some lordly elms guard its approach from the Guelphward side, and a massive iron gate, with strong approaches on either side of masonry, with a glimpse of the shaded avenue within, begot within a lover of the beautiful in nature an uncontrollable desire to enter.

The definition of a straight line is "that which lies evenly between its extreme points," or "the shortest distance between two extreme points." Fidelity to this definition guides most persons in constructing an approach to their farm dwellings. Not so Mr. Sorby. The way is gracefully curved like the meanderings of a river, the drooping limbs of the bordering shades, with uncommon friendliness, swaying welcome to the visitor. It seems a pity that in life so many make lines so straight of the journey. Like a bullet from a rifle they rush toward the end. How much better to diverge a little and make the journey *placenter*, though it take a little longer. This avenue diverges as you approach the chaste stone dwelling, one branch leading past its front and another past its rear, meeting again at the barns. The enclosure widens in front of the dwelling, and the grounds rise somewhat, and then form a broad table-land covered with the glories of the forest and the garden, both indigenous and exotic. All the zones have been drawn from in filling up this wilderness of beauties, and yet it is not a wilderness, for in its every part it is tended with the most scrupulous care. The cactus of the tropics and the mosses of the northland grow side by side in harmony, and the shrubs of other continents dwell in agreement with those of our own. Our native evergreen trees are intermingled with nut bearing and other varieties. Our forests and fields have been ransacked to lend variety to the scene, and the flora of other climes has furnished many a contingent. The powerful Austrian pine is the companion of the oak, and the cowslip and the lily of the valley are communists with the grasses. Most luxuriant portulacae blossom beneath the cut-leaved weeping birch, and the borders of mignonette encircle lilies of spotless purity with foxgloves of richer bloom. Here some rare little plant lifts its tiny head beside the root of some tree, creepers climb the limbs of others, a rockery, itself a wonder in its variety, and a hundred things unnamed add to the charm of this quiet Canadian homestead. Although there is so much of elaboration, there is no confusion or crowding in the arrangement that is jarring to the taste.

But what has all this to do with successful farming? Ask of the 10,000 of our youths, the noblest and the best, that are driven away annually from the farm because of the unattractiveness of their homes.

The dwelling is of chastely polished stone 40 x 40—two stories in height above the basement, kitchen and cellar, the rear being on a side hill. It is not only arranged with an eye to comfort and convenience, but the same taste that adorned the surroundings lends a charm to all that is within. The out-buildings are better shown in the plan than they could be by any written description.

We need only add that the barement stable for horses with its cyclopean walls we consider one of the best in Canada. The stalls are so large and so much provision has been made for ventilation, that we do not fear any evil result from dampness. The completeness of the provision that has been made for carrying on every detail of the work is simply wonderful, but whether in some instances at a greater expense than was absolutely necessary, is an undetermined question in the minds of your judges. We do not mean expense on the execution, for a very large part of the work is done by two sons on the farm, but expense in the design.

The stock of the farm, 244 acres in all, of which 225 are cleared, is 1 driving horse, 10 brood mares, and 15 colts and unbroken horses, 1 yoke working oxen, 3 milch cows and a few swine and fowls, and the labor employed is two men the year round, and an additional man and boy in summer. These horses are mostly imported Clydes; by these (the brood mares) most of the work is done on the farm. It is

the aim of the sons to make the Woodlands a breeding home of the Clydes. They have certainly made a magnificent selection on which to build, and so far have been very successful in saving their foals in this year of great mortality in the country generally with this class of stock.

The grains grown correspond to the requirements of a horse-breeding farm, having an eye at the same time to the nature of the soil, which is between a clay and sandy loam, on a gravelly and sandy sub-soil, which does not require under-draining. The obstacles in the way of cultivation have all been removed. The crop this year is:—oats, 48 acres; pasture, 20 acres; hay and clover, 46 acres; permanent pasture, 8 acres; $\frac{1}{2}$ acre mangolds; $2\frac{1}{2}$ carrots, and 3 turnips. The average product for the last ten years is:—fall wheat, 25 bushels per acre; spring wheat, 20 bushels; peas, 20 bushels; oats, 60 bushels; turnips, 900 bushels; mangolds, 800 bushels; carrots, 700 bushels; and hay, $1\frac{1}{2}$ tons. An extraordinary cut was taken off a field $17\frac{1}{2}$ acres several years ago—90 tons—and sold for \$20 per ton. This is certainly good farming, as we deem the soil not over fertile naturally. The crops were looking very well and were kept very clean.

Rotation.—Sod broken every second or third year, except with the permanent pastures; peas are sown (though this will be modified now), followed by oats or wheat, on the soil deeply turned up and seed on this. The fields for roots alternate, which is also the cleaning crop, going over the whole farm with this alternation; the manure is applied on roots put in the open drill, which is then closed.

The hay is fed to the horses uncut; the oats crushed. The young horses get all they will eat up clean—say $\frac{1}{4}$ gal. of bran, and 1 gal. oats; brood mares, $\frac{1}{2}$ gal. of bran to 1 gal. oats. After foaling, for a few days, they get warm bran mashes, when, after a time, their feed is increased to nearly a peck of oats. The stallions get about $1\frac{1}{2}$ gals. oats, and a little bran. In the winter they all get a moderate amount of roots, mostly carrots.

The whole farm is very well fenced, mostly board and cedar post, and the forest is in good shape, the garden and orchard sufficient, and the water supply ample, the windmill rendering a very useful service, and the machinery is more than ordinarily complete, the engine doing all the grinding, chopping and threshing, etc.

The farm scored well in almost every particular, but, as the horse-breeding venture was a new one and had not time yet to show results, we did not feel justified in giving it a place with farms, where these results, the great end of all farming, have been demonstrated during successive years.

Yet we cannot leave the Woodlands without paying a tribute to the industry that has been shown and the good taste manifested in making it the beautiful spot which it is. Within the last two decades this charming rural home has grown out of the soils of Puslinch. Indeed, within that time it could never have become what it is, had there not been the most perfect *onesty* of aim in those who occupy it, to render it attractive, and in every sense worthy of the name of home, so far as it lay in their power.

THE FARM OF MR. DAVID SMELLIE.

On the morning of Monday, June 28th, while the sun was waking up the sturdy farmers of Wellington, we left Mosborough, caught the G. T. R. at Guelph, and sped along through the stiffer clay of Peel, where the "mournful" yellow of the mustard was dwelling in discordant harmony with the thistle, at once the blessing and the curse of Canada, and both were making common cause against the thirsting grain.

The programme for the day was three farms—Mr. Smellie's, Mr. Wm. Rennie's and Mr. Simpson Rennie's, lying in as many different townships; so, in company with the secretary, Mr. Wade, we left the metropolitan city at 9 a. m. by way of Yonge street, with all its historic associations, passing the beautiful place of unbroken sleep on the right, then unimproved lots of the speculator, fertile fields, fattening at the expense of those remote from the city and down into the historic valley of the Don, where rebels fell or martyrs died, according to the lens through which you view them and their deeds, in the stirring times of 1837. Ten miles of a drive through a country which responds liberally to the labors of the husbandman brought Thornhill, in the valley where the Vaughan road diverges to the left. One hour more and we reached the farm of Mr. Smellie, Concord P. O.,

comprising 200 acres in lot 8, 2d concession Vaughan. This farm is two fields wide and $1\frac{1}{4}$ miles long, extending from one concession road to the other, and having a private road the entire length from front to rear. The 24 acres of Lu: h are on one corner in the rear.

The buildings of this farm, very attractive in the distance, do not lose their charm on a nearer inspection. They are situated a suitable distance from the west front of the farm, which is lined with beautiful soft maples, as is also the way to the homestead, which crosses a clean cut channel of a living stream, winding its way in a pretty course of its own with smooth grassy banks across the farm. Directly in front of the approach to the steading stands a large attractive-looking barn with horse and cow stable included, which is approached only after we crossed the best lawn on which we ever trod in a farmer's yard. This barn is 85 x 60 feet, but is without basement. To the right, in a square by itself, is another barn 60 x 45 feet, with sheep pen in connection 36 x 18 feet, with hay loft. Two sheds extend from each end of the large barn to the south, 18 x 60 feet each, and across the south front 12 x 120 feet, forming a square and providing shelter for cattle while in the yard, and a driving shed and pig-pen are attached. The dwelling-house of red brick is very suitable and attractive, the main part being 46 x 32 feet, and the kitchen and scullery 32 x 22 feet, with a wood shed and wash-room 30 x 50 feet, connected by an arched way, and smoke-house, 12 x 48 feet. The grounds around all the buildings were beautifully kept, everything about them evincing taste of a high order, and an unceasing vigilance in keeping them attractive. There are two gardens—one vegetable to the left front of the main barn and creditably kept, and the other containing fruits and vegetables to the north of the dwelling-house. Southward is the orchard, an acre, and surrounded with board fence and hedge of evergreens, strong, vigorous and beautiful. Indeed the evergreen hedges about the buildings are so pretty, that they would furnish handsome models to those looking in the direction of similar adornments.

The soil of this farm is a strong clay loam, and a good deal has been done upon it by way of under-draining. The obstacles to cultivation are well removed. The fences mostly stake and rider are fairly good, and on the whole the farm shows good care, but the cultivation was not so perfect as that of some farmers, as a sprinkling of thistles showed itself occasionally in the grain and grass fields.

The system of cultivation is mixed farming, giving considerable attention to the dairy aspect of it; hence Mr. Smellie has a good lot of dairy cows on the farm, and his aim in food production is to provide what these and a good sized flock of sheep require. In winter the excellent practice is adopted of feeding a large lot of cattle, from 15 to 20 head, and for feeding cows, etc., a large lot of potatoes is purchased when they can be got reasonably in autumn.

The rotation practised by Mr. Smellie is much the same as that of some of the farms already given, with the difference that the hay fields are not always broken up so soon, as in the case of some others, and a much larger proportionate amount is kept in hay. There is a yearly summer fallow, and the manure goes largely upon that. Farm implements were up to the standard, and the water for the buildings was obtained from wells.

The crops on this farm, though very good, were not equal to those of some of the others. The averages for the last three years are, fall wheat, 35 bushels; spring wheat, 25 bushels; barley, 35 bushels, and oats, 50 bushels. This fact, in connection with its being free from thistles, the absence of basement protection for stock, and a few other items, left it out in the race.

But we cannot leave our sketch of it without paying a high tribute to the exquisite taste manifested by the owner in the unparalleled neatness of the grounds around the buildings, the whole being accomplished with so moderate an outlay as to encourage imitation on the part of other farmers. The principal cost would be the leveling of the grounds, the drawing of some gravel, the sowing of lawn grasses, and the planting and nurturing of a few trees. This is a very different matter from the elaborate adorning of a steading by the construction of costly fences, and large outlay in other directions, which bring in but little return—the very cheapest adornment on any farm, and we may add the most effective, is the practice of neatness in every thing that is done. This beautifies every

part of it at a cost so trifling that the doer is scarcely sensible of the outlay.

(To be continued.)

The Organization of Farmers' Institutes.

We are frequently asked for directions that may be of service in the organization of farmers' institutes. In the hope of helping on the good work, we publish the following, which we trust may be of some service on such occasions, but which of course may be altered to suit the wants of the particular locality:

CONDITIONS AND REGULATIONS.

The Government grant to Farmers' Institutes of \$25 per annum is payable subject to the following conditions and regulations

(1). That one Institute may be organized in each Electoral District of the Province, exclusive of cities
(2). That each Institute shall be composed of not less than fifty members, who shall pay a fee of not less than twenty five cents annually.

(3). That there shall be an Executive, or Board of Management, consisting of a President, a Vice-President, a Secretary and Treasurer, and five other Directors, and the majority of the Board shall be practical farmers

(4). That the Institute shall hold at least two meetings each year, in different parts of the Electoral District, for the discussion of agricultural subjects.

(5). That a sum not less than the Government grant shall be voted to each Institute by the Council of the County in which the Electoral District is situated.

FORM OF MOTION

Moved by ———, seconded by ———, and resolved, that the farmers of (naming of county), or organize themselves into an association, to be known as The Farmers' Institute of ———

ITS OBJECTS ARE:

1. To further the material interests of the farmers, by encouraging and fostering education in relation to their calling.

(2). To afford protection to the farmer from all encroachments that may come from other interests of the commonwealth, more especially through co-operation with the Permanent Central Farmers' Institute of Ontario.

(3). To encourage the growth of an improved class of stock; to encourage a better system of tillage, and to further every branch of agriculture in which our country is interested.

(4). To conserve and secure the just rights of farmers in relation to legislators, corporations and individual industries.

(5). To secure better facilities for the transportation of farmers' produce, and by this means to extend our markets and open up fresh ones.

BY LAWS.

(1). That the membership of this organization shall consist of all persons who pay an annual fee of ———, payable at the first meeting of each year

(2). The officers shall consist of a President, Vice-President, Secretary-Treasurer and a committee of management, consisting of (one or two members from each township), all of whom must be members of the Institute, and not in arrears for dues at the time of their election.

(3). DUTIES OF OFFICERS. It shall be the duty of the President to preside at all meetings when present. In his absence, his place shall be filled by the Vice-President.

It shall be the duty of the Sec.-Treas. to convene all meetings on the order of the committee of management; he shall keep the minutes of all meetings; he shall be responsible for the custody of the books, papers, and other property of the Institute, shall pay out the same on the order of the President, and render a proper financial statement yearly at the first regular meeting held in each year, and he shall also keep a list of members and attend to all duties properly pertaining to his office.

It shall be the duty of the committee of management to supervise the practical work of the Institute in all its details.

(4). The election of officers shall take place immediately after the adoption of these by-laws, and thereafter at the first regular meeting of the Institute held

in each year, which shall be the annual meeting, which shall be held (here state the time); and any vacancies occurring may be filled by election at the next ordinary meeting.

(5). No person shall be entitled to vote at any meeting except members not in arrears.

(6). The meetings shall be held at such place as the committee of management shall designate from time to time.

(7). These by-laws may be added to, amended, or rescinded in part or in whole at any meeting of the Institute, by a vote of two-thirds of the members present at such meeting.

NOTE.—When any Institute is formed, a notice of the same with the designation thereof and the name and post-office address of the President and Secretary should be forwarded at once to A. Blue Esq., Deputy Minister of Agriculture, Toronto, and to Thos. Shaw, Secretary Permanent Central Farmers' Institute of Ontario, 48 John St. south, Hamilton.

Wheat vs. Chess.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—I mailed you to-day a sample of chess grown upon a reddish clayey slope, which always produces early plump wheat without chess or winter killing. The field was wheat last year and is sown with timothy and clover now. Until the chess appeared I had thought it was all timothy. Now I should say it was impossible for so much chess seed to get deposited there by what would shell out of a good clean crop of wheat that grew there last year, for I should think there must have been nearly a bushel of seed to the acre to produce so many plants.

Now by the naked eye I thought I could distinguish chess hulls at the root of those plants I sent you. If they are chess hulls, it proves that chess does come in the soil in a most unaccountable manner. If they are wheat hulls, then wheat does produce chess, which was my impression when I first saw so many plants of chess where no doubt there was lots of wheat shelled out last harvest at that particular part. I may say that my wheat was unusually full of chess last year, but not on that particular part, and this year it is particularly free from it from the same wheat.

Another point worthy of note is the extreme smallness of the plants, so that they might grow and produce seed and escape notice. If by a magnifying-glass you can determine what seed produced the plants which I have sent you, the question will be satisfactorily settled to my mind at least. Does wheat turn to chess? I believe it is far more probable that it is timothy turns to chess, if there is any change about it at all.

My attention has been drawn to this subject from the fact that at a farmers' institute meeting at Burford last spring, composed of about thirty or forty of the most enlightened farmers in the county of Brant, only three or four of them believed that wheat would not turn to chess, and many affirm that chess will not produce seed.

GEORGE BALLACHEY, JR.

Edgemount Stock Farm, }
Brantford, Ont. }

The sample received from Mr. Ballachey was forwarded to Prof. J. Hoyes Pantan, of the Ontario Agricultural College, Guelph, who has very kindly sent us the following in reference to it:

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Specimens sent have been received. They are plants belonging to the genus Bromus, but not the true chess. The species sent is Bromus mollis; true chess is Bromus scalinus. Both are comparatively worthless plants, being coarse-growing grasses; they are annuals and the seed will remain a long time in the ground, ready to germinate when the conditions for growth are favorable. The seed of this species is sometimes in grass seed and may have found its way into the fields some time ago. The genus Bromus will produce seed on plants two inches high and thus escape notice. However, if conditions are favorable, the plant grows to quite a size before producing seed.

You may rest assured that this plant developed fewer seeds of similar plants and neither from wheat nor timothy. I know many maintain that chess is deteriorated wheat. If so, why does it not return to wheat when surrounded by good conditions? We always find plants growing under adverse conditions, though very inferior, will at once improve and reach

their normal appearance when things are favorable—not so with chess, it invariably produces chess.

I have noticed this species of Bromus before, and I fear it is getting common. The well-known chess has much more spreading branches than this, and the spikelets are larger. I hope the inquirer will not change his mind on the origin of chess, viz., that it comes from chess.

J. HOYES PANTON.

The Dairy.

Cheating Cows.

Mr. John Sprague, of Ameliasburg, Ont., made a remark at the annual meeting of the Ontario Creamery Association, held in Toronto, February 24th and 25th, which has come again and again into our mind since. He said, "You can't cheat a cow. If you take off 100 lbs. of flesh in winter she will with-hold an equivalent in summer milk." And yet this is just what is done in thousands and tens of thousands of instances every winter. The farmer withholds suitable food for his cow under the impression that his only loss is the present one, never stopping to reflect that his loss will continue from day to day until his cow comes in again. Loss in the form of dribblets is virtually the most serious form of loss, for it is apt to be unnoticed and therefore allowed to continue from year to year. In these stringent times this form of loss will soon place the annual balance on the wrong sheet. It seems to be a law of animal life, that every form of deprivation is followed by withholding in one form or another. No beast can be allowed to suffer in any way without the owner having to pay the exact penalty in the form of material loss. The very thought of it should lead to a careful survey of all our practices. We may allow our beasts to go hungry and cold and filthy, and think nothing of it at the time, but depend upon it they will have their revenge when we balance our books at the end of the year.

Animals may be "cheated" in a sense without injury, but never in the sense of deprivation. A hen may be persuaded to rear young ducklings and be none the worse, and it may be none the wiser, until they arouse her concern by taking to the water, but a hen will not be deprived of flesh, food, gravel and dust in winter, without making the owner pay for his neglect.

There may be extenuating circumstances that justify the farmer in treating his cow in that way. He may be short of feed and short of money to buy more. He works on the principle that it is better to feed the cow sparingly and be content with lean returns, rather than have a full supply of milk for a time and then a period when the cow will die from absolute starvation. His tactics are those of the mariner who, when out at sea, knows that he is out of provisions. Whether forethought would not have prevented his getting into this condition is an open question, but when once thus situated his policy is a wise one.

But it is different with the man who brings himself into this condition, by selling fodder or coarse grains, because they bring him immediate cash returns. He is like the little boy who pours water into a vessel, unconcerned about the leak that is taking it away as fast as he puts it in. It would take the boy a long time to fill that vessel, and yet this is the very way that many persons practice dairying. Some may do this of necessity for one season. They may be short of cash for the time being, which must be raised. But there is a large number who systematically cheat their cows every winter for no other reason than they have got into the habit of doing this, and it has become chronic.

The most fruitful source of loss to farmers in Canada in the past has arisen from the starvation of their lands, and without a doubt this practice originated in the exigencies of each individual situation, which eventually became habit. Keeping cows on short allowance is just on a par with this, in so far as the loss is concerned, but the latter practice has an element of cruelty in it that is not in the former. We are all familiar with the words of the beautiful hymn, "Kind words never die," and we all know that kind deeds live, if possible, even longer; but the application of the words is by no means exhausted from its primary reference to the human race. Kindness to the brute creation is one of the best investments a farmer can make, for he draws from it an approving conscience, the satisfaction of knowing that his work is prospering and increased returns for his outlay. Certain mistaken metaphysicians have thought that it is a clever thing to cheat a lawyer, but it is no sign of cleverness to cheat a cow. It is neither just, nor generous, nor wise, but on the contrary, it is unkind, unfair, shortsighted and cruel.

Mr. W. H. Lynch's Book — "Scientific Dairy Practice."

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

DEAR SIR,—Really instructive and useful dairy literature is scarce. There are a number of compilations of commonplaces—too often misleading—which pass under the general title of "works on dairying." Of these I have nothing now to say; my only sincere utterance would have to contain an expression of great sympathy for their authors and readers. But as a book full of sound information for progressive dairymen I have not seen the equal of "Scientific Dairy Practice." The title is perhaps a bit too pretentious, unless the author goes on and binds in the same volume as much terse and valuable advice for cheesemakers as he has already put up in well chosen words for the guidance of those who make butter. The preface is concise, and like the rest of the book, goes straight to the point to be presented. The treatise is written in two parts. Part I deals with "increasing the market value of the product;" Part II with "lessening the cost of production."

It is evident to every calculating dairyman—and all others might as well go out of the business before losing any more money and peace—that the line of profit lies directly between these two points—market value and cost. The higher the former and the lower the latter, the more profit is there left. The apparent purpose of "Scientific Dairy Practice" is to help to bring about that to-be-worked-for and welcomed state of affairs in butter making. If those who read it—and every man or woman who owns or milks a cow should read it—will take as much pains to faithfully and systematically carry out its teachings as I judge the author must have taken to make them trustworthy and practical, "bosh" butter will become enjoyably rare. It may then fetch even a fancy price, as an old-fashioned curiosity sometimes does. Thus our Canadian dairy writer will be a benefactor to even those who fail to read or neglect to adopt his recommendations. Let me quote a few paragraphs:

"IMPROVE THE QUALITY."

"Quality is the first necessity of every marketable product, but it is more than ever a necessity in butter and cheese. Compare one of these products with another farm product, say one of the cereals; compare, for instance, butter with wheat. Wheat is an ordinary necessity. Butter is mainly a luxury, it is only as a luxury that it becomes a necessary at all. When it ceases to be a luxury, it soon ceases to be a necessary. Butter remains a luxury only so long as its quality is good; when the quality depreciates to a certain degree, the created appetite for it is not satisfied, and demands a substitute or nothing. The demand for butter, therefore, in a far different sense than that for wheat, depends upon the character of the article supplied.' Again, there is a difference in the value of different samples of wheat; but the difference is slight compared to that of the different lots of butter, which varies in its quality not ten, or even fifty, but several hundred per cent. The value of wheat may be decided easily at sight, almost by mere weight; the

quality of Lutter can be determined only by careful examination and test, and even then only to a degree. The keeping quality of a sample of butter cannot always be known even by an expert. Butter cannot, like wheat, be stored or transported, and with little risk of depreciation; it requires special precautions and is liable to serious depreciation in value." All of which is terse and true.

"Quality is so much dependent upon the manufacture of milk products that the process of manufacture will be described in this connection.

"MILK."

"Too much stress cannot be laid upon the fact that milk *must be pure*. Impurities in milk affect unfavorably not only the value of its products as articles of diet, but the very processes which give the products. For instance, the drinking by the cows of impure water, the dropping of impurities into the milk itself, not only render the milk an improper diet, but make more difficult and unsatisfactory the manufacture of milk products therefrom. While milk is extremely sensitive to odors or taints of any kind, the animal source of milk makes it especially subject to chances of contamination. The health of the cow, what she eats or drinks, the kind of treatment to which she is subjected, will affect the milk for good or ill, even before it is drawn from the udder. The surroundings of the milk while it is being drawn are always more or less unfavorable to purity and cleanliness. Even while milk is being secreted it is liable to taint. Instances are many where milk has been known to take in impure odors through the breath of the cow."

The gist of conclusions from general experience is well set forth thus.

"*Bad food* will produce impure milk. *Food and water* are the raw material from which milk is directly manufactured. If the raw material be poor the product will be faulty. *Wholesome food and pure water* are absolutely essential to the production of good milk. In the *pasture*, swamp weeds, wild onions, and other sorts of wild weeds, injure the quality of the milk; and in the *stables*, turnip tops, cabbages, and even half-ripe potatoes, in any considerable quantities, do likewise."

Here is a sentence clean cut and clear.

"When a cow is worried by a dog, or abused by any brute, be he quadruped or biped, the milk is at once affected."

"MILK AS AN ABSORBENT."

"All liquids are ready absorbents of odors or impurities of the atmosphere. Milk is 87 per cent. liquid. The readiness with which milk will absorb impurities and the evil effect upon it of such absorption, is not fully appreciated. The time when milk is most absorbent is when it is *colder* than the *surrounding medium*. The greater the degree of difference, the more rapid the absorption. When milk is *warmer than the air surrounding*, and consequently cooling down, it is less absorbent, for then it gives out, rather than takes in, impure odors. This is fortunate, for it saves, partially at least, the milk which is drawn in ill-odored stables. The odors found in milk that is quickly removed from stables, come, doubtless, not by direct absorption but *through the breathing of the cow*, or from something falling into the milk. But when the milk cools down near to, or below, the temperature of the air or liquid which surrounds it, it becomes an absorbent."

Every phrase of which is sensible, therefore scientific, therefore useful.

This on "Washing Milk-Vessels" might be double-leaded and a copy hung in every dairy.

"WASHING MILK-VESSELS."

"The cleansing of milk-vessels must follow not alone the same day nor the same hour, but immediately after their use. It is not possible to cleanse milk-vessels so easily or so well after the dirt has dried on and in them, as when they are still fresh and damp after use. If sometimes a slight delay be necessary, let the vessels in the meantime be filled with, or plunged into cold water. If water be not abundant, let the vessels be rinsed immediately, and a little of the rinsing water left in each. This, on the whole, will not be extra labor. For the first washing of milk-vessels hot water should never be used. The first water should be either cold or only slightly warm. Scrub the vessels well in the first washing, to free them from most of the solid matter which adheres to their surface. Where the vessels are oily or greasy, which they will be when cream has adhered to the

sides, they should be washed with water not scalding, but warm enough to melt the oil. The vessels should now be scalded and rinsed, using a mop cloth, a swab, or any suitable brush, to rub the vessels and save the hands. The vessels may then be quickly emptied and drained in a warm place.

If the rinsing water be as hot as it should be, and abundant, and the draining done quickly, no wiping is required. Where a towel is used however, a clean one is required for every washing. Air the vessel outside, whenever practicable, in the free air and sunshine. When milk has soured in the vessels, or the washing has been delayed, greater care is needed in washing. It is the practice of some good dairy people to give an occasional sweetening wash to the milk-vessels, using soda, or soap, or lime, or lime and ashes, or nettles, etc. It is well, however, to remember that when any chemical is used in cleansing of milk-vessels, the rinsing of the vessel should be thorough, so as to wholly *remove all trace* of such chemical, for its presence may give trouble in the cream-rising, and the churning."

Let me add that the rinsing water should be not merely hot, but boiling hot.

"A *thermometer* begins now to be a dairy necessity. Temperature is one of the most important factors in scientific butter-making, and the thermometer is the instrument by which temperature is determined. The sense of feeling cannot be depended upon to tell the temperature accurately for dairy purposes, any more than one's inner consciousness may be depended upon to tell the hour of day or night. There should be a thermometer in the dairy of everyone in whose house there is a clock. The writer has been accustomed to represent the thermometer as the key to scientific butter-making, it being a symbol of definite rules of working."

May I counsel every reader to buy a good one first day he goes to town, unless he already has one?

On "the theory of cream-rising," the author is less accurate, concise and exhaustive than usual, but his practical advice is sound and logically put under the head of "conditions favorable for cream-rising."

After some sentences on the aeration of milk with the "theories" of which the present writer does not agree, Mr. Lynch puts up further good advice thus:

"The time when aeration is specially advantageous is when milk is *defective at the start*, as, for instance, in the heated days of summer, or when it has to be cooled down for transportation in closed cans. Care should be taken to aerate the milk while it is still warm.

"The time when aeration is to be avoided is when the milk is colder than the atmosphere, or when the atmosphere is at all impure. Aeration when employed must be carried on quickly, otherwise the loss of time before setting will offset partially the advantages.

"There is no question as to the advantage of aeration and cooling of milk intended for transportation to any distance from the farm; but there is some question as to the advantage of aerating milk in ordinary butter-making. In some experiments made by the writer, the aeration of milk seemed not to be advantageous; whether due to the agitation or to something else it is yet difficult to say. All things considered, one of which is the labor and delay involved, it is doubtless, better to set milk at once, for cream-rising, at least if the milk itself be in good condition. Whether agitation would be advantageous under the peculiar conditions of imperfect milk, it will be better for each one interested to determine, according to the special circumstances of the case."

I have taken these eight quotations from the first 10 pages of a 100 page pamphlet. Every page is well worth reading, and has much worth remembering. I heartily commend it to Canadian farmers and butter-makers. Its price is only 25 cents. I presume any bookseller can supply it. The publisher's name on the title page is, A. S. Woodburn, Ottawa.

Yours truly,

JAS. W. ROBERTSON.

Montreal, 13 June, 1887.

"I had intended dropping the JOURNAL first of Jan., but the more I became interested in valuable stock breeding and a better system of agriculture, the more I appreciate the advice and instruction your paper contains, and would cheerfully recommend it to all farmers who desire to increase their knowledge, and advance in agriculture."—M. Bogart, Napanee, Ont.

Poultry.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL
Management of Poultry.

BY W. B. COCKBURN, ABERFOYLE, ONT.

Those sceptical about the profitableness of poultry have never bestowed upon them the same amount of care and consideration which they devote to cattle and sheep. They have regarded them as an inferior race of stock not worthy of much care. We have known some farmers who have been induced to purchase poultry, in a moment of irritation express the wish that the whole flock should suddenly run down a steep place into the sea. In such cases we are inclined to think the owners are more to blame than the poor poultry. They never gave much attention to the comfort of the latter or their food, allowing them to shift for themselves and scratch for food in the cattle courts, and for such treatment what other reward than loss could be expected?

The first consideration is to secure poultry of a good breed. Unless this is done the chances are that the balance will be on the wrong side of the ledger. But a good breed without comfortable houses will do very little better than the common scrub, at least in the winter season. The exterior is a matter of taste, but internally the comfort and well-doing of the fowls must be the only consideration.

The higher the house is, the less likelihood there is of disease and taint. Another advantage of having it lofty is, that the current of air through the building, being far above the fowls, purifies the air without interfering with their comfort. They do not agree with draughts, and if, while they are perching, an opening is made, admitting one, they will be seen to rouse up and seek some other place to avoid it. The best guide in all these things is nature, and an observer will always find that poultry choose a sheltered spot. They also carefully avoid being exposed to cold winds. The house should not open to the north or east. The perches should not be more than twenty-four inches from the ground. None are better than two by four scantlings rounded on the top and planed quite smooth, and supported on ledges fastened to each side of the house. This affords every facility for removing them for the purpose of cleaning, and is at the same time very simple.

In the marketing of poultry there is very much room for improvement. Farmers often do themselves and the interest much injury by the careless and slovenly mode in which they handle this important staple. When poultry are killed for market the better and more neatly they are drawn the higher the prices that will be obtained. Who likes to see fowls half picked, and who cares to buy them in this state? It should be the ambition of all to prepare their fowls for market in a manner which would ensure to them the very highest price.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Poultry Keeping.

BY ARTHUR HARRINGTON, RUTHVEN, ONT.

(Continued from June.)

Ted in this manner we have no trouble in making them average 1½ pounds at ten weeks old, and as they are plump and fat, market men eagerly take them at highest prices. Too much trouble, we hear you say, for me. Just so, my friend, but what do we get without trouble? And extra care means here as it does in every thing else—*clear profit.*

Right here, though, in connection with the feeding of chicks, we would caution the would be raiser that all chicks cannot stand forcing. No doubt most birds will stand better care than they usually receive, but

the point we desire to impress is, that common fowls (or fowls that have not had the capacity to digest large quantities of concentrated food bred into their bone and muscle, so to speak) will not usually bear up under the strain. Indigestion begins, carrying them off at an early age, and you notice with mixed feelings your flock grow smaller and beautifully less day after day. We do not except pure bred fowls either altogether from this disadvantage.

In our early poultry keeping days we thought the breed everything. We thought that Plymouth Rocks were all alike, Leghorns were all alike, and so on. Strains never entered our head; but it was not long before our eyes began to be opened. We saw that two pens of the same breed (but of different strains) would give conflicting results; one was all outgo and the other *income*, and so thoroughly have we become imbued with this fact, that now, in introducing fresh blood to our flocks we insist on knowing exactly where it comes from. Allowance must be made, however, for birds that have been bred solely for egg production.

(To be Continued.)

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

Poultry on a Large Scale.

(Continued from May Number.)

BY J. W. BARTLETT, LAMBETH, ONT.

MARKETING.

After having produced a first-class article in any line, placing it on the market comes next in order, and circumstances have much to do with the best manner of doing this. If the poultry man is doing a large business, it will pay him to procure a small soft rubber stamp and stamp every egg, marked with his name or initials, or the name of his farm, if such it has; if not, give it one by all means. But by the way, he *must* do business in such a manner that these eggs will reach the consumer perfectly fresh, or he will be only advertising his carelessness and lack of business knowledge, which his customers will likely call dishonesty. By all means, let this trade mark be a positive guarantee that the egg that bears it is fresh, as one bad egg will shake the confidence of the consumer for all time to come. Any person using eggs for any purpose whatever, can afford to pay more for those known to be fresh, and for all ordinary purposes there is a vast difference in the actual value. In some cities poultrymen have a regular route bi-weekly or semi-weekly, as circumstances may dictate. This is most satisfactory where it is practicable, and it is astonishing how much more fresh eggs, when known as such, will bring than those picked up here and there on the market. We have had people come to our house after the hatching season was over and offer us thirty per cent. more than market prices, if we would sell them our eggs. Hence, again we say, let every egg be fresh; do not think repairing a bad one with two good ones will atone for the mischief done. It is worth very much, financially, to be able to truthfully say to purchasers, that you never sold a bad egg. But, like liberty, eternal vigilance is the price of this, and if you have eggs which you think are good, but are not positively sure, let them go on the market (if sell them you will) at slaughter prices, rather than use your trade mark on them. As to dressed fowls we find prices usually much better on the other side of the lines, and in fact you will generally realize more for fowls alive, after deducting all expenses of shipping, than you could realize in home markets, if dressed and sold at retail on the city markets. But doubtless a better class of dressed poultry in our markets would command better prices, as the supply has always been of a decidedly low order.

In offering dressed poultry for market, it should be nicely cleaned, but not drawn, unless some local by-law compels it, as is the case in one city we know, whose aldermen must have been stalfed on mess pork, judging from their knowledge of poultry. The younger the cockerels can be placed on the market the better, as they generally bring as much, if ready early in June, as the same birds kept until October, and if they can be got ready even earlier than this so much the better, and the pullets of the early hatches lay younger than those hatched in June or July.

What Ailed the Turkeys?

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Your correspondent, Edward Phoenix, asks, "what ailed his turkeys," which took a swelling below their eyes on both sides of their head? A bit of experience enables me to satisfy his enquiry. He will find, if he opens their mouth and looks in, that his turkeys, having been fed with soft batter, some of it has located and stuck between the cheek and the jaw, and this set up an irritation, which produced the growth he complains of. The big jaw in the ox or cow is produced in like manner by a defective tooth. I have had repeated and ocular demonstration of both facts in my short experience with both turkeys and neat cattle.

JAS. FINDLAY.

Beachburg, Ont., June 18, 1887.

ANOTHER OPINION.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Replying to the question asked by Ed. Phoenix in your last number, I would suggest rousp as the probable cause, and as this complaint is far easier prevented than cured, I would turn his attention more particularly to this side of the question. Turkeys cannot stand a draft or damp quarters, and I feel almost sure that Mr. Phoenix's birds have had either one or both. Taken in time a small dose of Thomas' Electric Oil is good, bathing also with the same just above the nostrils.

ARTHUR HARRINGTON.

Kingsville, Ont., June 22, 1887.

The Apiary.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Honey or Increase.

BY R. T. HOLTERMANN, BRANTFORD, ONT.

Another question of the day is, shall we secure honey or increase, and to what extent shall each be secured? Although the above question is a difficult one to answer for each individual and locally, there is much that can be said which will throw light upon the path to be pursued.

Years ago when in Canada the movable frame hive, the honey extractor, comb foundation, and the big profits in bee-keeping were first hinted abroad, the prices which could be secured for a colony of bees was good: ten to fifteen dollars for a colony of Italian bees in a movable frame hive in the spring was an average price. In those days it paid to secure increase, if only a measure of success was realized in wintering, and many secured greater profits from selling bees than from honey. There were fewer bee-keepers and colonies in the country, and a greater price could be paid for bees, as honey was more expensive and the purchaser expected a large increase in dollars and cents per colony. But the situation is changed to-day. The public begin to realize in bee-keeping there is only a fair remuneration for capital invested, and intelligent attention to business, fewer are anxious to rush into bee-keeping, because; they find, like all other business, to pursue it to any extent it must be understood. There are more bees for sale, and, all through, the returns less. Therefore, after counting the price of hives, the honey consumed during winter, and the

general percentage of loss, there is but a small margin of profit, if any, in selling bees. What is here meant is, say five colonies are wintered; the hives cost, say \$7.50, without upper stories; the combs are worth 15 cts. each, 8 combs to a hive, \$6 in all. Thirty pounds of honey for each to winter on—less is risky, 150 lbs. honey, say at 10 cents, \$15, in all \$28.50. The honey required per colony is 30 lbs, or \$3. Any colonies perishing would lose this amount of honey, as for market purposes it has become valueless, hence by selling colonies at \$7, often as low as \$6, one cannot afford to lose many bees. Of course, in this as in everything else, there are exceptions. Some do still secure \$8 and \$10 per colony for bees, but \$7 per colony is all that can be secured on an average for bees throughout Canada.

From the above it will readily be seen there is but little money in increase of colonies, and I would advocate to keep down the swarming impulse all in our power. I would not advocate compelling the bees to remain in the old hive when they desired to swarm, by breaking down queen cells, returning swarms, etc., because they appear to lose energy and gather less honey after such treatment, but I would advocate strongly to do all in our power to prevent a desire in them to swarm and bend their energies in the direction of gathering honey. How shall this be effected? By giving them ample room for storing and brooding, by ventilation and by shade. Now do not get the bees, from lack of store room, brood rearing room and want of shade and ventilation, to thinking of swarming, and then think you will always succeed in checking it by giving them these requisites. You may succeed in bending their energies to storing honey; you may, however, fail. Then give room early; put your upper stories on early, and let them increase in numbers below and have store room above.

To-day, June 13th, I have several grand colonies with two full upper stories on, and the bees have gathered from forty to fifty pounds in these upper stories already, and they do not indicate any desire to swarm. I give them ventilation to the best of my ability from below, and also from above by raising the lid slightly at the back, and allowing the air to pass between the quilt and lid. Shade I cannot give; my time is too fully occupied to give the bees all the care I should like, but much can be done to prevent swarming by shade. The best shade is such as will allow the morning and evening sun to reach them and yet shelter them from the heat of the day. Avoid shade that will cause dampness. The ground should be sweet and dry. Ventilation can best be secured by an opening in the bottom board; 8 x 12 inches is not too large. Have two slides, one solid the other wire cloth; these can be used to regulate the ventilation. Then by giving lots of room increase can effectually be kept within a proper limit. When a swarm does come it will be very large, and if the new hive is placed upon the old stand there will be the very best results obtainable in the way of a honey harvest. This honey can be sold for cash, and there are no wintering risks to run.

The colony placed upon a new stand will have nothing but young bees, and they will rarely swarm the second time. Of course a bee-keeper may be so situated that he finds it to his advantage to secure increase. In such cases keep upper stories off until after swarming, but even when aiming at increase of colonies one should be prudent. Five good colonies in the fall are better than ten poor ones, and the results both for spring and summer results are likely to prove more satisfactory.

An Ideal Beehive.

The following is the Rev. W. F. Clarke's ideal of a bee-hive, as given in the *Canada Bee Journal*:

- (1) One in which it is necessary to disturb the brood nest little or none.
- (2) One light to handle.
- (3) One large enough to give off rousing by swarms, and yet not so large as to store a needless quantity of winter supplies.
- (4) One in which a colony must store surplus honey when it is to be had in the fields.
- (5) One equally good for summer and winter.
- (6) One requiring the least possible attention at the change of the season.

A Living Monster.

A person with the semblance of a man, at Granby, Quebec, is charged in the *Canadian Bee Journal* of June 8th, with setting traps baited with full combs of honey for the purpose of catching and destroying his neighbor's bees. His object is to destroy them all, and thus to get entire possession of the field. The *Bee Journal* advises the bee-keepers of the neighborhood to combine and restrain the (beast) by law. Would it not be better to send him on to Barnum for exhibition, labelled on the forehead, *the living monster*?

Horticultural.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Some Notes on Fruit Topics.

BY E. D. SMITH, WINONA, ONT.

By present prospects, 1887 will be long remembered as the big fruit year, although it is rather early to reckon of fall fruits yet.

Strawberries, that promised to be a failure on account of drouth, which lasted from April until June 18th, have picked extremely well since the delightful showers immediately after that date. This crop has become so popular that the money to be made out of it is remarkable only by its absence, except to those having extra early land. However, the profitable years always come around once in a while to refresh one. Eight thousand boxes can be grown upon an acre. A profit of one cent a box pays better than 20 bushels of wheat per acre at 75 cents, for there is no profit in that at all. However, 3,000 boxes, an average crop, would leave a loss of about \$30 per acre at same price. We must be content to raise heavy crops, unless we can get in early berries.

A note of warning to those having gooseberry and currant bushes at this season might not be out of place. The second brood of worms hatch about the first week of July, and will be found at the centre of the bush. Hellebore cures them; an ounce to six gallons of water; or, better still, dust the hellebore on the bush when dew is on. This saves the labor of carrying water.

The aphid does not seem so bad this year as last. The best cure is the kerosene emulsion, made as follows: To two gallons of kerosene add one gallon of boiling water in which $\frac{1}{2}$ lb. soap has been dissolved. Thoroughly mix, and add when wanted, 27 gallons of water. This mixture needs to touch the aphids.

The curculio seems to have let go its hold. They did little damage this year. But black knot grows worse. The knots should be cut off when first formed and burnt, and not left, as usual, until spring.

Dig out all rusty black raspberry plants and blackberry as well, and burn them. Best way is to plant only such kinds of blackberry plants as do not rust, such as Snyder, Taylor, or Western Triumph. This last is a magnificent berry, hardy as a burr oak,

good strong grower, does not succor much, and berries good size. Stone's Hardy does not rust either. Red raspberries killed out badly with the winter. Turner is too tough, however; it would not kill.

Grapes are making a luxuriant growth. It seems a pity so few housekeepers know how to do up this delightful fruit. At even five cents per pound they are much cheaper than peaches at \$1 per basket, and any one having tasted Roger grapes done up according to the recipes sent out by the Fruit Growers' Association would not prefer any fruit to the grapes; they are simply unapproachable in flavor. Concord is very nice, but Niagaras or Rogers are richer. Grapes will soon become a staple of Canada. The product of 1887 will reach about ten million pounds, if nothing unforeseen happens, and this will be trebled in ten years. At two cents per pound this would be worth more than the wheat and barley crop of the Dominion, about which so much is being said by commercial unionists at present. The truth is, southern Ontario and the portion north of Lake Ontario, is destined to be largely devoted to fruit and vegetables, to supply the northern portions of the Dominion.

Jottings.

Crops in Lambton.—“Crop good; fruit badly stung; bugs very plentiful; hay crop more than average; peas some scalded out.—Jacob Rogers, Wyoming.”

Important Notice.—No subscriber's name is removed from our subscription list until all arrears are paid in full, as prescribed by law. Any readers in arrears will please forward the amount of their indebtedness to the *Stock Journal Co.*, 48 John Street South, Hamilton, Ont.

Breeding of Horses in Canada.—A pamphlet has just reached us, with the above title, by Mr. H. Quetton St. George, Oakridges (near Toronto), Ont. It contains much useful information on the subject of which it treats. So late in the month (June 25th) we cannot quote from it, but may again.

Loss by Fire.—We regret very much to learn of the loss by fire of all the outbuildings of Mr. James Anderson, Springfield Farm, Guelph, put up by himself 26 years ago. Though partially insured, the loss is heavy. Fire-crackers in the hands of a boy, got at one of the homes in Hamilton, worked the ruin.

Prices of Red Felled Cattle.—At the dispersion sale of the Norfolk Polled herd of Lord Suffield, Gunton, Eng., 61 head were sold for £585 5s. 6d. Seven cows with calves averaged £17 3s. 6d.; the highest price paid being 20 gs. Seventeen cows in calf averaged £12 8s., and the three-year-old bul Pygmalion (915), brought 22 gs.

Books.—The demand for the books, “Feeding Animals,” by Stewart, “Allan's Shorthorn History,” “Horse Breeding” and “The Breeds of Live-Stock,” by Sanders, being so great early in the season, our supply became exhausted, but we have recently replenished our stock, and are now prepared to forward any of these by return mail. For further particulars see advertising pages.

Fruits of Advertising Stock.—Mr. Robert McCulloch, of Edmonton, Ont., writes: “By means of the advertisement in your paper, I was informed that Mr. E. W. Ware, of Burlington, Ont., was the owner of a Jersey bull calf, sired by Canada's John Bull. I have purchased the calf from him, and consider that your *JOURNAL* has been the medium of conferring on me quite a favor.”

Animals Lost in Transportation.—During 1886, 5,907 head of live stock were thrown into the sea on the passage to Great Britain, 287 head landed dead and 270 head so injured that they were slaughtered at the place of landing, making a total of 6,467 animals. We agree with the *London Live-Stock Journal* in its statement, which reads: “A trade that is carried on with the positive cruelty which these figures imply is disgraceful.”

The Sparrow.—From the *North British Agriculturist* we learn that at a meeting of the East Lothian Farmers' Club, a motion was passed resolving to offer a bounty of 1d per

dozen for the eggs destroyed, and 3d per doz. for sparrows captured. It is being agitated in Britain to have the sparrow removed from the list of protected birds, which has been done in some of the American States in consequence of their enormous depredations.

The Four Cross Standard.—Some have argued of late in the JOURNAL that because the four cross standard has been adopted by the Clydesdale stud book a similar standard or at least a low one will suffice for cattle. This argument seems to rest on the strange assumption that a horse is a cattle beast, and a cattle beast a horse, or the other assumption that the standard of purity for all classes of animals should consist of an equal number of crosses.

Revision of Ayrshire Herd Book.—Some of the Ayrshire breeders in the West have expressed themselves as being dissatisfied with some of the committee appointed to revise the herd books. Mr. James McCormick, of Rockton, Vice-President for Ontario, has called our attention to this matter, and we quite agree with him in the expression of the opinion that the revisers have been well chosen, and that they will do to others as they would like to be done by. At the same time it is true that like other men they may err in judgment, but in this, as in every other court, there is the opportunity given of appeal.

A Feather for the Early Maturity Cause.—At the approaching fat stock show in Kansas City premiums are no. to be offered for three or four year old steers. The argument is, that to feed for profit when animals are pushed well along, they should not be kept until they reach the above ages. The show authorities do not wish to identify themselves with the encouragement of a practice that is a bane and a snare to the producer of meat for the butcher.

Feeding for Marbled Meat.—Professor Sanborn has confirmed by experiments in calf rearing that when the calves are fed on a nitrogenous ration as skim-milk, clover hay, bran and linseed meal, the meat was much more streaked and marbled than when fed on a carbonaceous diet, as timothy hay, flaxseed, corn meal and new milk. The former, of course, was much the cheaper diet of the two, while the gain in weight in each case did not materially differ.

Sittyton and Warlaby.—The fight for show-yard honors of late in the leading shows in Britain is setting down more and more between those two great foundation houses of two distinct types of Shorthorn cattle, Warlaby and Sittyton. The champion prize at the Dublin Royal Show, for bulls under three years, as many of our readers will have noticed, went to Scotland Yet (53640), a Sittyton bred bull. The great Sir Arthur Ingram himself has in his pedigree a Sittyton sire. Scotland Yet was purchased by the Messrs. Green Bros., of the Glen, Innerkip, last year to head their herd, but the purchase was relinquished on account of quarantine troubles.

Bonuses on Importations.—In the annual report of the Secretary of Agriculture for Nova Scotia for 1885, page 32, we notice that bonuses, to the extent of ten per cent. on the original cost, have been paid by the government to parties importing stock of the improved breeds not plentiful in the country. Some in our midst are saying to us that we should prohibit all further importations, that we have enough of imported blood. We are very glad to see that the people of Nova Scotia do not take this non-progressive view.

Indian Wheat Growing.—This may be expected to increase, with the development of railway communication in the country. Every new district opened up but swells the export, which in time will assume very large proportions. Be it so. Our Eastern Provinces must be concluding by this time that they are out in the race in the world's market for wheat. Why then persist in growing it for export? It is surely high time that we turned our attention to other branches of agriculture, meat, milk, butter, cheese, fruit and other items, for which there will always be a good home demand, and also more or less of a foreign demand at paying prices. In this way our manual resources are better conserved, and that fleecing of the soil so universal in a wheat exporting country is in a great measure stayed.

A Model Shropshire Ram.—From the *Farmers' Gazette*, Dublin, we learn Mr. A. Mansell's idea of a model Shropshire ram. He says. It should have a well developed head, (not coarse,) well covered and no horns, with clear and striking expression of countenance, a prominent eye, a body deep and symmetrical, placed as squarely as possible on short legs; good leg of mutton, straight spine, deep, well sprung ribs, massive chest, a muscular neck well set on good shoulders, nice style and carriage, no inclination to peel or drop wool round the jaw or on the belly, no incise skin, face and legs a nice soft black, not sooty nor a rusty brown, no white specks; ears thin and blood-

like, not heavy nor drooping, moderate bone; wool of the finest staple, and as close and merino like as possible with no admixture of grey.

Distilleries and Distillation.—The *Farmers' Gazette*, an excellent agricultural publication, issued in Dublin, Ireland, is surely forgetting its high mission. In the issue of April 9th, it is out with a leader on "Distilleries and Distillation," and says more is to follow. It says. "The vast importance of the distilling industry to the agriculture of Ireland is plainly shown by the fact that the output of Irish whiskey during one season—that of 1885-6—was 10,620,584 gallons, these figures representing an annual consumption of grain approaching to 9,000,000 stones." The story is only half told. The editor says not a word about the "lamentation and mourning and woe," which this accursed business brings to Ireland. Far better that our grain should perish in an unpropitious earth, if we are to depend on distillation for its consumption.

Holstein-Friesians at the New York Dairy Show.—The Holstein-Friesian cattle at the New York Dairy and Cattle Show, held some time since in New York, acquitted themselves very creditably, as was observed by numerous admirers of the breed at the time. There were some 400 to 500 cattle shown of the various dairy breeds. The sweepstakes for the best milk cow of any breed went to Lady Fay, of the Lakeside herd of Smith, Powell & Lamb, Syracuse. The sweepstakes for the best butter cow of any breed, the one producing the largest quantity of butter in 24 hours went to Clothilde, owned by the same firm, although 5 Jerseys and 1 Guernsey competed, her 3-year-old daughter, Clothilde 4th, stood second. In a competition of 38 entries, a Holstein-Friesian won first prize on a 5 pound package and second and third prizes on a 30 pound package.

An Old Parasite.—"EDITOR LIVE-STOCK JOURNAL: Sir,—I observe that the *Farmers' Advocate* is imputing selfish motives to you and Mr. Fuller in connection with the Central Institute and advocacy of Commercial Union. Of course I cannot even guess what either of you feel upon the point, or what you propose doing. If you knew as much of the character of the man who owns and edits the paper in question as some others do, you would, I think, keep quiet. This world now and again seems to allow of the existence, and even the prosperity, of such vile agents as are so well portrayed in Paradise Lost; indeed some men look upon the infiction as one intended for good, because the present life is one of much necessary discipline—destined for good. So be it; and so long as you and Fuller keep the highly honorable and patriotic course you are doing, your country will rejoice and enable you to spurn the low venom. Don't reply, is the advice of AN OLD FARMER.

Agricultural Societies.—For years past, several agricultural societies have given a year's subscription to the JOURNAL as a premium, thinking this would do more real good than the small cash prizes usually offered. This plan has proved so satisfactory that in some societies the number has been increased to fifty copies, which has been the means of increasing the demand for a better class of stock. Few men will read the JOURNAL for a year without becoming convinced that it is to their advantage to make live stock-raising and the dairy interests prominent features of their farming operations; or, if they have already given some attention to these matters, improve the stock they have. It is now the season of year when premium lists for fall fairs are made up. Will not our friends in those societies where the plan has not already been adopted use their influence to have the JOURNAL included among their premiums? Special rates will be given where a number of JOURNALS are offered in this way.

Cattle and Their Diseases.—This is the title of a neatly bound volume of 269 pages, issued by the J. H. Sanders Publishing Co., Chicago. A. J. Murray, M. R. C., V. S. late special Veterinary Inspector for the British and American Government and editor Veterinary department of the *Breeders' Gazette*, is the author. Part I, which treats of the breeding and management of cattle, contains much information that will prove very useful to the cattle grower; but we cannot agree with the writer in his estimate of bank barns. He says in speaking of these. "The bank barn is an expensive structure, the basement story costing very much more than the same amount of room above ground, while it seems difficult to understand why it is in any respect more valuable. The last part of this sentence is unfortunate. The bank barn, rightly constructed, is as far ahead of the ordinary barn as travelling by the express is ahead of travelling by the accommodation train, as those will know who have tried the two. The second part of the book, it will be observed, treats only of cattle and their diseases, and is, therefore, neither voluminous nor ponderous. The author appears studiously to have avoided the introduction of unneces-

sary complications and references, and speaks of the disease in hand in a manner at once concise and clear, and the remedies prescribed are usually those which, of a number, were deemed the simplest and the best. We fail to see why it would not prove a most useful book to the ordinary farmer. For sale at office. Price, \$2.50.

The Provincial Exhibition.—This exhibition will be held in Ottawa, Sept. 19th to 24th (see advertisement). The prize list is a good one, and it will afford an excellent opportunity for stockmen, especially those of Central and Eastern Ontario and Quebec, to bring out their champions in competition. If there is truth in the statement, and perhaps there is, that Eastern Ontario is to some extent behind the West in improved stock, we hope they will rally around this oldest of our exhibitions which has done so much for the advancement of the stock interest in the West, and that it will be the means of stimulating them in the effort to get even with their western competitors. The officers of the Western Exhibition have fixed upon the same week for holding their exhibition in London, although the Provincial Board had chosen their time as early as December last. This does not seem kind to the old Provincial, nor to the stockmen who might wish to exhibit at both places, which, no doubt, many of them would like to do. It is not the first time in the world's history that a venerable old man has been so treated by the various members of a large family nourished by him, so soon as they are able to do for themselves. The scenery of the Ottawa is very beautiful, and apart from the exhibition will well repay a visit to this Dominion capital.

Imported Sussex Cattle.—We have been favored, of late, with an inspection of the imported-Sussex cattle, owned by Mr. Stanford, Markham, Ont., of the firm of Messrs. E. & A. Stanford, Steyning, Sussex, England. The lot consists of 5 bulls, 2 and 3 years old, a three-year-old fat steer, 4 cows and 6 calves. They were detained in quarantine all winter, and have not been in Markham more than two months. They are neat, smooth, fine limbed, low, level cattle, of a deep red color, which should readily find a home in this Province, so pre-eminently adapted to the rearing of a variety of breeds, and they carry a lot of flesh in comparison to the bone. They have smooth skin, are well filled on the crops, and all roughness of build is notably absent. The bulls have very strong horns, extending outwards from the head, and possess only a small amount of curve. They have but little crest, and are nearly level along the back. The cows are decidedly pretty, clean cut in the head, have good, even shaped bodies, with nice, well proportioned udders. A large herd of them feeding in a pasture must make a very pretty sight. The horns are long, smooth, and neatly curved outwards and a little forwards, and the half toward the tips are dark. The eye is bright and mellow. Each one has a light nose and white switch, with that exception all else about them is red. The steer is well packed all over, carrying a large, heavy load of flesh. This breed will evidently flourish on a moderate amount of food, as there is about them evidence of the lack of all grossness in their make-up. We hail their advent to this Province with much satisfaction, and as they are for sale, we hope that they will find permanent quarters on Canadian homes.

Progress in Ayrshire Herd Book Revision.—"James McCormick, Esq., Vice-President, Ontario, Dear sir: In reply to your enquiry about the work of revising the Ayrshire herd book, published in Toronto, I may say: Full reports have been made to Mr. Wade of the revision of one half of the bulls and about one half of the cows, in which is pointed out the errors discovered. As soon as the errors are corrected and returned to me, they will be properly recorded and given correct numbers for the next volume. I regret to say, we meet with much delay in tracing some of the animals to satisfactory breeding. This, I suppose, arises from the fact that the book of record kept in Toronto was first opened with the permit to enter animals of a certain number of crosses, which produced a complication now difficult to overcome, and causing much trouble to separate from pure breeds; and on the other hand, some were entered that cannot now easily be shown to be pure bred, owing to the death of owners and loss of papers. I am pleased to say I have obtained information enabling me to correct errors and omissions and make good many I feared would be lost, and yet hope to get answers to correspondence that will add to the good list. I did not think it prudent, as yet, to reject any as bad; we write to say they are withheld for further information. Many answers have not yet come to hand that I have written to, Mr. Wade, to yourself and to others, but I hope owners will hasten replies and assist all they can to get all possible information. You may rest assured every possible pains is taken to help on the honest and proper revision. I will send you a list of all that are right as soon as it is possible to do so with fairness and safety to all parties. I am, dear sir, yours very truly, WM. RUDDEN, President Ayrshire Breeders Association. Plantagenet, June 18th, 1887."

A Unique Work on Canadian Topics.—Mr.

Erastus Wiman, President of the Canadian Club, writes to the editor of this paper as follows: "It is the intention of certain members of the Canadian Club, in New York, to issue, in the form of a beautiful book, the papers which have been delivered before the Club during the past winter by prominent parties, together with those which are to be delivered during the remainder of the season. These papers will include a speech on 'Commercial Union, by the Hon. Benjamin Butterworth, member of Congress, who is said to be one of the most eloquent men of that body. A remarkable production by Prof. Goldwin Smith on 'The Schism in the Anglo-Saxon Race'; a paper by Dr. Grant, of the Queen's University on 'Canada First'; one by J. W. Bengough, editor of Toronto Grip; by Mr. Le Moine, of Quebec, on 'The Heroines of New France'; by J. A. Fraser, 'An Artist's Experience in the Canadian Rockies'; by Edmund Collins, on 'The Future of Canada'; by Prof. G. D. Roberts, of Kings College; by Geo. Stewart, jr., of Quebec; by the Rev. Dr. Eccleston, on 'The Canadian North-West'; by John McDougall, on 'The Minerals of Canada,' and by the editor, G. M. Fairchild, jr., on 'The History of the Canadian Club.' The work will also include extracts from the speeches and letters of the President. The book is to be issued in beautiful style, at \$1 per copy, which contains 300 pages. A great many Canadians will doubtless desire to possess themselves of this rare compilation, and, by purchasing copies, indicate the interest which is manifested throughout Canada in the attempt of the Canadian Club to lay before the Americans the resources, advantages, and attractions of their native country. Parties desirous of obtaining copies can do so by enclosing the price of the book to James Ross, Canadian Club, 12 East 29th Street New York.

The Toronto Industrial Exhibition.—The ninth annual exhibition of this association, which is this year also to be the Dominion Exhibition, will be held in Toronto, Sept. 5th to 17th, and is to be on a grander and more enlarged scale than ever before. No less than \$30,000 are to be offered in prizes. The ordinary prizes for horses are \$60 and under, for Shorthorn and Hereford cattle \$40 and under, for Polled-Angus, Galloways, Devons, Ayrshires, Jerseys, Holsteins and grade cattle \$25 and under, for sheep and swine \$16 and under, while the prizes for fowls, all kinds of field, orchard and garden crops are very liberal and comprehensive. Indeed, no natural product or article of manufacture seems to be overlooked. There is a large list of specials. The American Clydesdale Association offers a silver medal for the best recorded Clydesdale stallion, and for the best recorded Clydesdale mare bred in the Dominion, and a special of \$60 and \$30, 1st and 2d, is offered for the best thoroughbred, the best roadster and the best carriage stallion respectively, with four of his progeny, any sex or age, and for the best imported heavy draught stallion under similar conditions. Very large prizes are offered for speeding in the horse-ring. Special prizes of \$50, \$30, and \$20, are offered for best herd of Durhams, one bull and four females, \$40, \$25, and \$15, for Herefords and Polled Angus, Ayrshires Holsteins, gold and silver medals for Galloways and Devons, and the American Jersey Cattle Club offers \$100 for the best herd of Jerseys. Special prizes of \$25, \$15, and \$10, are offered on pens of coarse and fine woolled sheep, and of large and small breeds of pigs, and all these are in addition to regular prizes and must be judged on the 8th Sep., a requirement that should not be overlooked by the intending competitors. All entries of live-stock must be made by Aug. 13th, and of field products by 24th Aug. Stock intended for the special exhibits must be on the grounds by Sept. 8th (12 a.m.), and for the regular exhibit, by noon of the 12th Sept. The Government of Manitoba will make a large exhibit, and collective exhibits are also expected from the Provinces of Nova Scotia and New Brunswick. A number of special attractions will be provided, the programme for which will be published about the 1st of August. The programme will be so arranged that the exhibition will be fully as attractive the first week as the second, as all the horses and cattle for the sweepstake and special herd prizes have to be shown the first week. We trust that the manager will adhere firmly to the regulations regarding the time of entries, as unless our stockmen are schooled to this, we can never get the system of printing catalogues for the information of visitors introduced. All particulars can be got from Mr. J. H. Hill, manager and secretary, Toronto.

Table of Contents.

STOCK DEPARTMENT. PAGE
Breeding and Care of Horses 537
Editorial Notes..... 536
Food Rations for Young Trotters 542
Horses for the Army..... 532
Inquiries and Answers..... 544
Lord Hillhurst (1990)..... 535
Our Scotch Letter..... 541
Rambling..... 537

Sheep Husbandry 540
Stock Notes 538
Stock Raising in Ontario..... 538
The Auxiliary Herd Book 537
The Clydesdale Horse..... 537
The Dominion Shorthorn Herd Book..... 536
The Holstein-Friesian Interest in Canada 543
The Secret Out..... 544
Very Well Put..... 543
What Class of Horses Shall we Breed?..... 536
VETERINARY DEPARTMENT.
Horse Shoeing..... 544
FARM DEPARTMENT:
A Scheme of Organization for Farmers.—Concluded..... 546
Bulletin IX; Agricultural College, Guelph..... 545
Report of the Judges on Prize Farms—Continued..... 546
The Organization of Farmer's Institutes..... 546
The Way Some People Farm..... 545
Wheat vs. Chess..... 547
DAIRY DEPARTMENT:
Cheating Cows..... 548
Mr. Lynch's Book, "Scientific Dairy Practice."..... 549
POULTRY DEPARTMENT:
Management of Poultry..... 550
Poultry Keeping..... 550
Poultry on a Large Scale..... 550
What Ailed the Turkeys—Another Opinion..... 550
APIARY DEPARTMENT:
A Living Monster..... 551
An Ideal Beehive..... 551
Honey or Increase..... 556
HORTICULTURAL DEPARTMENT:
Some Notes on Fruit Topics..... 551
MISCELLANEOUS:
Advertisements..... 554-558
Jottings..... 551

Stock Notes.

Horses.

Mr. John Clark, Ottawa, township of Nepean, reports that Windsor, the Clydesdale stallion, purchased from the late H. Jeffrey, Whitby, has done remarkably well. He has proved himself a sure getter, and the young stock left by him are of much promise.

The Messrs. Galbraith Bros., Janesville, Wisconsin, U. S.; have just received another shipment of Clydesdale and English Shire horses, consisting of 40 head, all of which arrived in splendid shape. This makes over 100 head imported by this firm since the first of January last. Another lot of 50 head is to follow in two weeks, and a car load of Shetland ponies, said to be a very fine lot.

Mr. W. H. Millman, Woodstock, Ont., is the owner of the three-year-old Clydesdale stallion Prince of Haddock, sired by the famous Prince of Wales (673), and out of the dam Jean of Midcroft (4584), by Garibaldi (4795). This horse, a bay of good parts, is well made up, and the season patronage has been all that could be desired. He was imported by Mr. Millman along with a number of others the autumn of 1886, and Mr. M. contemplates making another importation this present season.

Messrs. Ormsby & Chapman, of Oakville, Ont., report the sale of the imp. Shire stallion, Chance (4952), to W. Baldock, of Mount Charles, Ont. Chance is by old Waxwork, out of a Robin Hood mare. He is a colt of great promise, having immense bone and substance. He will, we think, be heard of again. To Ald. Mangham, Toronto, one boar and sow; to Thos. Post, Postville, one boar; to W. Baldock, Mount Charles, one boar. All improved Yorkshires with pedigrees, as we make a speciality of them, and handle no other breed of pigs.

Mr. Jas. Noble, Royal Hotel, Meaford, is the owner of the fine imported Clydesdale stallion, Knight of the Thistle (3742), bred in 1885 by Mr. Jas. Blythe, Leckiebank, Auchtermouchty, Scotland. He was sired by Young Baronet (919); g. s., Baronet (30); and g. g. s., Rob Roy (714). Dam, Lovely (1018), by Brown Glander (115), and possessing a great deal of the blood of a line of famous Glander ancestry as far back as Glander (335). In his pedigree is a long line of famous prize-winners, some of them at the Highland Society's show. This horse is quite a favorite in Meaford and the adjoining country.

Mr. Geo. Ballahey, of Edgemount Stock Farm, Brantford, Ont., writes: "My sales considering the times have been fairly satisfactory. Among the late sales, besides local ones, were two entire Percherons and two Broncho mares, to Messrs. Savage & Farnum, Detroit; one bull to Mr. Hardey, Brant; one bull to Mr. Rathbun, Deseronto; one bull to Mr. Stoddart, Paisley; my old bull, Britannia's Baron, who so long and well filled the position as head of my herd, is on his way to England. He is succeeded by the beautiful old bull, Deference, by Barmpton Hero, from the herd of Messrs. Watt, of Salem. I have a few choice bull calves on hand and a beautiful yearling from the imp. cow, bred by Mr. Duthie, of Collynie, Scotland. I have now a choice herd of pedigree Berkshire pigs, headed by the boar General Buller, from the herd of J. G. Snell & Bro., Edmonton."

Shorthorns.

Mr. Wm. Lindsay, Caledon East, Ont., writes: "My Shorthorns are doing well, and I have four fine draught colts from Silent James."

We are pleased to note that Mr. Wm. Murray, of the Colonus Stock Farm, Chesterfield, Ont., has got home his imported bull, quarantined at Halifax. He is a pure Airdrie Duke, bred by Mr. Holford, Dorsetshire, Eng. He is a great, massive animal, thick fleshed, of good quality and of grand appearance. A rich red in color, he promises to fill the bill in every respect.

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. 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.

FOR SALE—A SUFF LK PUNCH STALLION, 4 years old. Address, JUDSON ROSEBRUGH, Brantford, Ont. jne-6

FOR SALE—A number of Pure Shorthorn Bulls, with splendid pedigrees and good individually; two of them old enough for service; also, Young Berkshire Pig, both sexes, with twelve crosses of the very best English blood. Prices positively cheap. THOS. SHAW, Woodburn P. O., Wentworth Co., Ont.

CHESTER WHITE PIGS

Bred from imported stock, FOR SALE by DANIEL DECURCY, Bornholm, Perth Co., Ont.

FOR SALE

TWO YOUNG SHORTHORN BULLS, fit for service, and some Cows and Heifers, all registered in D. S. H. H. Book. Address, R. R. SANGSTER, Lancaster, Ont. jnc-1

PURE-BRED JERSEY BULL

REGISTERED—4 YEARS OLD, FOR SALE OR EXCHANGE for a Shorthorn Bull or Heifer, must be pure-bred. Address, W. C. B. RATHBUN, Deseronto, Ont. jnc-2

DORSET HORNED SHEEP.

Dorset Horned Sheep, the most prolific, producing lambs twice within the year, the most hardy, and the earliest to attain maturity. Full particulars of DUKE & SON, Dorchester, England. my-1f OR, STANFORD & ROLPH, Markham, Ont.

ENGLISH PEDIGREE STOCK.

Shire Horses, Hereford Cattle, Shropshire Sheep, Berkshire Pigs and Cooley Dogs are bred and can be supplied by T. S. MINTON, Montford, Shropshire R. S. O., England. fe-5

FOR SALE

A Fine Young Shorthorn Bull—Took first prizes both at the Clinton Spring Show and also at the South Huron Show at Brucefield in a good ring. First-class color and pedigree. Will be sold on reasonable terms. Apply to W. J. BIGGINS, Elmhurst Farm, Clinton P. O., Ont. my-3

SHORTHORNS FOR SALE

SEVEN BULLS—From ten to seventeen months old, and a number of COWS AND HEIFERS, all registered in D. S. H. H. Book. Address, J. & W. B. WATT, SALEM, ONT.

ARTHUR TOPHAM,

78 Wood Street, Bold Street, Liverpool. Exporter of every description of English pedigree Horses, Cattle, and Sheep. Buyers visiting England offered every assistance. Lowest rates for freight. jy-6

BERKSHIRE FIGS.

Your choice of 40 BERKSHIRE Boars and Sows of different ages. Good pedigrees and individual excellence, at reasonable prices. J. E. BRETHER, Burford, Ont.

FOR SALE.

A choice lot of Shropshire Rams. All sired by the Imported Ram, York Royal 1668 and Earl 2673. There is a number of good show animals amongst them. Address, jy-1 H. H. SPENCER, Brooklin, Ont.

FOR SALE.

A few good SHORTHORN females, some of them show animals and prize winners, in calf to an imported bull; can furnish a splendid young herd. Michigan parties can visit me cheaply and quickly, just eight miles from river St. Clair; reasonable figures. Address or see D. ALEXANDER, Brigiden, Ont.

FOR SALE. Two litters, Poland China Pigs, farrowed May 18 and 26. Pedigrees eligible for A.P.C.R. guaranteed; g. dam, Beauty, one of A. C. Moore & Sons', Illinois, best. Also Tecumseh, sire of above, farrowed July 24, 1884. Write for prices. jy-3 JOHN MORRISON & SON, Mandaamin, Ont.



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

Pure SHORTHORN CATTLE

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

Four bull calves for sale, sired by Crown Prince (12366) and Lord Byron (8821), and a few heifers, all registered in the new Dominion Herd Book.

2 Miles from Chatham on the G. T. R.
Visitors met at station.

NOV-12

SHORTHORNS and SOUTHDOWN SHEEP FOR SALE.



A CHOICE LOT of young Cows and Heifers, in calf by the young Cruikshank bull Crimson Lavender—3493—, bred by Arthur Johnston, Greenwood, Ont., and some heifers and bull calves also from above bull and No. 1. All the above cattle eligible in the new herd book. Also a fine lot of yearling ewes and ewe lambs and yearling rams and ram lambs, and some older ewes, all bred from imported stock. Do not miss the chance if you want a ram, some ewes or some Shorthorns. Come and see us or write. Visitors welcome.

SETH HEACOCK, Oakland Farm, Kettleby P. O.
Aurora Station, N. & N. W. R., 30 miles north of Toronto,
shipping station.

WYTON

Stock-Breeders' Association

BREEDING OF PURE

HOLSTEIN AND FRIESIAN CATTLE A SPECIALTY.

We have the only pure breed of Aaggie Stock in the Dominion, the head of our herd being Sir James of Aaggie, No. 1457, H. H. B., Vol. 6. Also Aaggie Ida, No. 2600, H. H. B., Vol. 6. This family is noted for its exceptionally fine milk producers.

We have also for sale six bull calves, from 4 to 8 months old, in good condition. Prices reasonable. Correspondence solicited. We would be pleased to have you call and examine our stock at any time. Address

WM. B. SOATON, Secretary, Wyton, Ont.

POULTRY.

P. C. KEYES, Ottawa, Ont., breeder of STANDARD P. WYANDOTTES. Average score of breeding pen, 92 3/5 points. Eggs, \$2 per 13. Stock for sale. Write. mr-5

WESTMINSTER POULTRY FARM

J. W. BARTLETT, Proprietor, Lambeth P. O., near London, Ont.,
EGGS FOR HATCHING from Choice PLYMOUTH ROCKS, WYANDOTTES, and DARK BRAHMAS.

This season I bred the highest scoring P. Rock Cockerel ever shown in Canada, with one exception, scoring 95 points. Eggs, \$2 per 13 from same yard.

In Wyandottes and Dark Brahmas my birds made the highest score ever made in Canada. Wyandottes, 94; Brahmas, 95 points. The breeding birds in both these yards score from 90 to 94 points, proving them the best in Canada. Eggs, \$3 per 13.

THE NEW BOOK, by J. H. SANDERS, on "HORSE BREEDING," in which the general laws of heredity are exhaustively discussed and applied to the practical business of breeding horses, especially with reference to the selection of breeding stock, and the management of stallions, brood mares and young foals, will be sent to any address, post-paid, on receipt of publisher's price, \$2.00, or will be sent to any person forwarding us four new subscribers to the JOURNAL for 1887. Address, STOCK JOURNAL CO., Hamilton, Ont.

BACK VOLUMES OF THE JOURNAL.

WE HAVE A FEW BOUND AND UNBOUND VOLUMES OF THE JOURNAL for the years 1884 and 1885. Price per volume, unbound, \$1; bound, \$1.60, post-paid. Address, STOCK JOURNAL CO., Hamilton, Ont.

For Sale at this Office.

Large cuts of Stallions suitable for posters. Small cuts of Horses, Cattle, Sheep, and Swine. Send for Specimen Sheet. Address, STOCK JOURNAL CO., HAMILTON, ONT.

We are authorized to announce the sale of the entire "Belvoir" herd of Shorthorns, owned by Mr. Richard Gibson, of Delaware, Ont., sometime next September, full particulars of which will be given in the columns of the JOURNAL in succeeding issues. This is one of the best bred dates herds of Shorthorns in Ontario, the foundation stock having been selected from time to time by Mr. Gibson himself from the best herds in England.

Mr. John B. Wilson, of Wiltstead, Ont., is the owner of 74 head of Shorthorns, of which a good proportion are eligible for the new Dominion herd book, although a number have been rejected since the amalgamation. Mr. W. bought principally from J. C. Snell, Edmonton, and J. Second, Co. Lincoln. Mr. Jos. G. Haig has also some five or six head and a large herd of grades. Mr. B. MacNamee, Sand Bay; John Stacey, Warburton, and David Johnstone, Lansdowne, have each small herds.

Mr. John Connolly, Lindsay, Ont., has been breeding Shorthorns for three years past. The herd rests upon a foundation of five cows bought from Mr. Collacott, Tyrore. One of these cows, Emerald, was bred at Mertoun Lodge, by Lord Polwarth, and has performed the wonderful feat of producing five calves in one year, 10 months and 14 days, all living and doing well, of these two pairs were twins. Mr. Connolly has sold nine head during that time, and has still in the herd 17 head. Oxford, the bull used, owned by Sidney Bartley & Son, and imp. by A. Johnston, Greenwood, is of Kinellar breeding and topped with Cruikshank blood. Mr. C. also breeds pure Berkshire pigs.

At the sale of Mr. T. R. Stone & Son, on the 7th June, the following were the prices made: Cows and heifers—Clementina 2d, Jno. Hand, Aughrim, \$205; Mina C., Brown Bros., Iona, \$125; Bracelet 6th and calf, D McKay, Kippen, \$115; Buchan Lassie 3d, Mr. Carruthers, Derwent, \$195; Louisa Languish, J. Ferguson, St. Thomas, \$145; Lulu Languish, Geo. Weekes, Glanworth, \$100; Canadian Duchess of Gloster 7th and calf, Mr. Rolston, Florence, \$250; Canadian Duchess of Gloster 11th, Brown Bros., Iona, \$180; Mary Booth 4th and calf, Caleb Flawn, \$165; Countess 5th, John Hand, Aughrim, \$65; Countess 7th, George Weekes, Glanworth, \$60; Carlotta 2nd, Mr. Sharman, Stratford, \$150; Scottish Rose 3rd, Brown Bros., Iona, \$250; Scottish Jess 4th and calf, Alex. Norrie, Paisley, \$215; Scottish Rose 2nd, Caleb Flawn, White Oak, \$130; Minnie May (calf), J. B. Gorwill, Ballymote, \$60; Blithesome, G. Hill, Delaware, \$120; Burntine, Robt. Miller, Pickering, \$110; Blithe Butterfly, Robt. Miller, Pickering, \$300. Bulls—Lord Buchan (1 year), Mr. Lachlin, Ivan, \$155. Twenty animals sold, not including calves at foot referred to in this list, averaged \$149.75. A good deal better than wheat at 75 cts. per bushel.

Aberdeen-Angus

Mr. Jas. McFarlane, Clinton, Ont., is the breeder of some choice Aberdeen-Angus Filled cattle, and the owner of an imp. Clydesdale stallion, which is a very good specimen. We need scarcely add that Mr. McFarlane expresses his opinion of the JOURNAL in the highest terms. We are gratified to see the affinity between the JOURNAL and good stock-keeping, as thus expressed so frequently.

Holsteins.

Mr. A. D. McNeil, Gananoque, is building up a pure herd of Holsteins, founded on stock from the herd of the Messrs. Cook, of Aultsville, Ont. He finds them very suitable for dairying purposes.

Messrs. H. & W. F. Bollert, Cassel, Ont., write that their Holstein-Friesians are doing very nicely, and are proving themselves very superior milkers. During thirty days they have delivered to Mr. Morton's cheese factory 3 575 lbs of milk, from their 5-year-old cow Cornelia F., and the 3-year old heifer Bonnie Queen. The cow has been four months and over in milk and the heifer unfortunately took very sick after calving, which greatly decreased the flow of milk. The owners are confident that under more favorable circumstances they are capable of producing still greater results. The half-breeds also are a great improvement under the same treatment. They grow better than grades from most of the other breeds, and those that have come to milk are proving very superior.

Jerseys.

We call the attention of our readers to the announcement of Mr. V. E. Fuller, of Hamilton, of the sale of a large contingent of his famous Oaklands Jersey herd. Full particulars will appear in next issue.

Mr. B. C. Williams, Nixon, Ont., writes: "The JOURNAL is the most welcome of all the papers that come in my mail. There is no doubt that it stands in the highest rank of farm papers in Canada. Since reading its pages it has inspired a fresh desire in me to try and keep a better class of stock. We have purchased the fine pure bred Jersey bull Prince Napoleon, whose grand dam is Victory, of Oaklands Jersey fame. We now have some nice grade heifers from this bull. You have the backing of all lovers of good stock in your efforts to root out the scrubs."

Sheep and Pigs.

The Southdown flock of Mr. Jas. T. Smith, of Mt. Vernon, Ont., is looking very fine this season. It is composed at present of some 35 head, old and young. Mr. Smith has been a very successful prize-winner at the fairs during recent years, and evidently bestows much attention on this branch of the stock industry.

Mr. Rock Bailey, of Oak Grove, Union, Ont., writes: "I have been looking over the accounts of the shearing of Merino sheep in Vermont and Michigan. This led me to try what my own sheep would do. I clipped two two-year-old Merino ewes, bred by Joyer Bros., Michigan. One gave 21 lbs., the other 20 lbs. Who can beat this?"

The following is the record of the Lorrige farm flock of Southdowns, owned by Robt. Marsh, Richmond Hill, for the past year. At Richmond Hill fair they took 11 prizes, including sweepstakes against all other breeds of sheep. At Toronto Industrial, 5 prizes, all of them firsts. At the Provincial at

Guelph, 6 prizes, at the Great Western at London, 10, including sweepstakes against all other breeds of sheep. At Stayner, 6 prizes; at Collingwood, 5 prizes, all of them firsts, including sweepstakes against all kinds of medium woolled sheep. At Barrie, 9 prizes, 7 of them firsts; at New Market, 6 prizes, all firsts; at Markham, 5 prizes; at Woodbridge, 6 prizes; and at Bradford, 6 prizes. In all 91 prizes, 56 of which were firsts. Sales have also been very satisfactory, having sold over 50. Berkshire swine have also been in good demand. Not a little of this success, Mr. Marsh assures us, has been through his advertisement in the JOURNAL.

FOR SALE.

The subscriber has for sale a few choice young "Berkshires," "Chester Whites" and "S. E. Yorkshire" pigs. Write for prices, etc.

JY-1 C. EDGAR WHIDDEN, Antigonish, N. S.

JAMES DEANS, Spruce Farm, Box 9, Paris Station P. O., Co. Brant, Ont., BREEDER OF SHORTHORN CATTLE

Two young bulls for sale, sired by Brigade Major—509—
Two miles west from Paris Station,
on two lines of the G.T.R.
Visitors met at the station.



FOR SALE.



VAUGHAN,

Imported from Aberdeenshire, Scotland, two years old; solid; color, dark red; has proved himself a sure sire, and considered by competent judges a model Shorthorn in every point.

THISBE.

Bred by William Magor & Son, Whitevale, Ont., three years old; color, roan; will calve in October, to Imported bull, Vaughan. A very large cow, suitable for raising heavy stock.

LADY MAY,

Bred by J. D. McAvoy, Ontario, two years old; color, dark red; will calve in August, of a celebrated milking strain. The heifer has a fine appearance. All animals are registered in the Dominion Shorthorn Herd Book. Address, JY-3 JOHN MCINTOSH, Stellarton, Pictou Co., N. S.

BROOKSIDE FARM

New Glasgow, Pictou County, N. S.,

H. J. TOWNSEND, Proprietor,

BREEDER OF

STANDARD-BRED TROTTERS

American Cattle-Club Jerseys,

Shropshire Down Sheep, Collie Dogs, Black-Red Games
Pekin Ducks, Toulouse Geese.
Correspondence solicited.

Colonus Stock Farm.

Shorthorn Cattle

of the highest breeding and individual
ment, and

OXFORD DOWN SHEEP.

Young stock for sale of both
sexes.

WM. MURRAY,

CHESTERFIELD, ONT.

ONTARIO VETERINARY COLLEGE,

TEMPERANCE ST., TORONTO, CAN.

Patrons, Governor-General of Canada and Lieutenant Governor of Ontario. The most successful Veterinary Institution in America. All experienced teachers. Classes begin in October. Fees, \$50 per session. Apply to the Principal,

PROFESSOR SMITH, V.S. EDIN.,
TORONTO, CANADA.

We have a large assortment of large and small cuts, suitable for posters, letter heads, billheads, envelopes, etc., engraved in a superior manner. Send for specimen sheet. Cash must always accompany order.

Address the STOCK JOURNAL CO.,
HAMILTON, ONT.

FIRST ANNUAL
AUCTION
SALE
AT
'OAKLANDS'
OF
JERSEYS
HORSES
SHEEP

WE purpose holding an annual sale at Oaklands Jersey Stock Farm of Jerseys of our own breeding, as well as those bred by others; consisting of yearling heifers, two-year-old heifers, and cows in milk, as well as bulls and bull calves, all registered in the American Jersey Cattle Club; numbering in all about forty head.

OUR FIRST SALE

will take place at our farm towards the

END OF AUGUST

The date and fuller particulars will be announced in the August issue. At this sale we will offer the imported

CLYDE STALLION

'STAR OF CARNOCK,'

4 years old; registered; imported by JOHN HOPE, Esq., of Bow Park Farm.

A CANADIAN BRED

CLYDE MARE

in foal to "Star of Carnock."

THE STANDARD BRED

TROTting STALLION

'ISAAC W'

Purchased from I. S. WISER, Esq.
Also a draft of

DORSET HORNED SHEEP

Catalogues furnished free on application on and after August 1st.

VALANCEY E. & H. H. FULLER

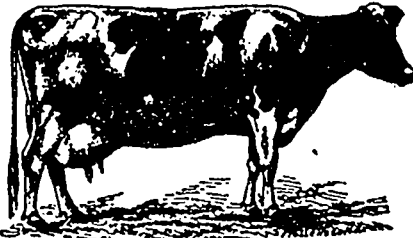
Oaklands Jersey Stock Farm,
HAMILTON P. O.

SMITH BROS.
MOUNTAIN VIEW STOCK FARM



DUNDAS, ONT.
Breeders and Importers of pure-bred
HOLSTEIN-FRIESIAN CATTLE
Stock always on hand for sale. Send for catalogue. Visitors always welcome. June-6

The Manor Stock and Dairy Farm



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

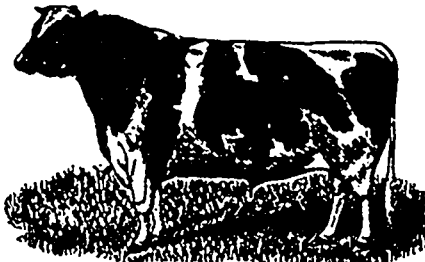
Parties wishing to secure bull calves or yearlings from such a grand individual, and out of nothing but imported Holstein-Friesian cows, will find it to their advantage to write to

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

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

M. COOK & SONS, Aultville, Ont.

Importers and breeders of
SUPERIOR STRAINS OF HOLSTEIN-FRIESIANS



Herd headed by the famous bulls: Sir Archibald, whose dam, Kronje, has a record of 963 lbs. of milk in a single day, and 18 lbs. 12 oz. unsalted butter in seven days, and who has won more medals and first prizes at the leading fairs during the last two years, both individually and as head of herd, than any other Holstein bull in Canada. Jennie B 3d's Barrington 4207, out of Jennie B, who has a milk record of 823 lbs. at four years of age, and by the famous Barrington out of Hamming, with a record of 99 lbs. milk in a single day. Cows all selected with great care and from the most noted milk and butter strains. Young Bulls for sale at a bargain. Write to us before purchasing. Satisfaction guaranteed.

MAPLE LODGE STOCK FARM

Stables one mile west of Lucan Crossing, of London, Huron and Bruce and Grand Trunk Railways.

We breed and have for sale first-class

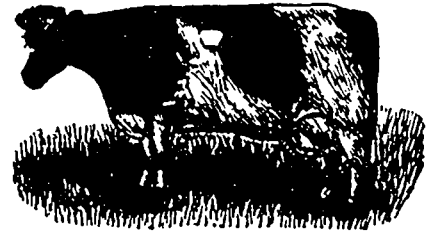
SHORTHORNS,
LEICESTERS and
BERKSHIRES

The choicely bred bulls BARON CONSTANCE 5th and DUKE OF COLONUS head the Shorthorn herd. A few very fine young bulls and a choice lot of young cows and heifers for sale. Prices right.

Come and see us. JAS. S. SMITH, Maple Lodge P. O., Ont.



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 Aggie Prince H. F. H. B. No. 2, first prize at the Industrial and Provincial in 1886; dam, Prairie Flower, 5 yr. old butter record of 20 lbs. 1 oz. unsalted butter per week. This herd has been crowned with more honors in the showing 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-ly

OAKLANDS 'JERSEY' STOCK FARM.

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



Cows with well-authenticated test of from 24 lbs. to 24 lbs. 13 oz. in one week, and from 81 lbs. to 106 lbs. 12 1/2 oz. in 31 days are in this herd. Young bulls (registered in the above herd book) for sale from \$100 to \$500 each.

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

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

ALTON HALL STOCK FARM.

H. SORBY, Proprietor.



IMPORTERS AND BREEDERS OF
GALLOWAY CATTLE
AND PLYMOUTH ROCK FOWLS.

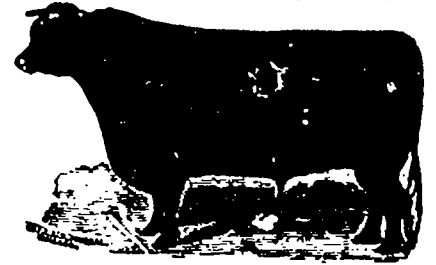
Galloway Bulls, Cows and Heifers for sale,
(near Guelph.) H. SORBY, Proprietor,
Gourlock, Ont.

IMPROVED YORKSHIRE PIGS
SHIRE AND CLYDE HORSES.
 J. Y. ORMSBY, V. S.,
 —MEMBER—
 English Shire Horse Society.
 Dominion Clyde Horse Association.
 English Nat. Pig Breeders' Association.
 American Sheep, Sheep Breeders' Assn.
 All our pigs registered in the English Herd Book.

SHROPSHIRE SHEEP.
 GEO. S. CHAPMAN.
 Imported and home bred stock for sale.
 Every pedigree guaranteed. Prices low.
 Correspondence promptly attended to.
 "Good Stock with Straight Pedigrees," our motto.

ORMSBY & CHAPMAN,
 ONTARIO LODGE,
 OAKVILLE, ONTARIO.

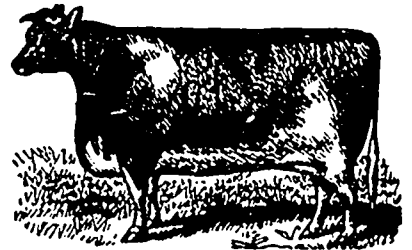
MESSRS. J. & R. HUNTER, ALMA, ONT.



Importers and Breeders of
SHORTHORN CATTLE.
 Clydesdale Horses and Shropshire Down Sheep. A good selection of young bulls, from 4 to 20 months old, including the pure Booth Commander-in-Chief—the others are mostly Booth blood—are now offered for sale.

TERMS REASONABLE.

ARTHUR JOHNSTON,
 Greenwood, Ont., Can.



18 Aberdeenshire Shorthorn Bulls
 (VERY FINE)

and heifers landed at Greenwood on Dec. 18. Twelve imported and six home-bred bulls for sale, besides cows and heifers, imported and home-bred. Send for Catalogues. I have also imported Clydesdale stallions and mares for sale. Claremont Station on the C. P. R., and Pickering, on the G. T. R. Come and see me.

MESSRS. H. & I. GROFF,
 Elmira, Ont., Can.,



Importers and Breeders of
SHORTHORN CATTLE.

The highly-bred Booth bull Lord Monrath—2298—is at the head of the herd. Lord Monrath was bred by Sir Hugh Aylmer, of West Dereham Abbey, Stokeferry, Norfolk, Eng. The Mantilina, Lady Day, Roan Duchess and Princess strain. Young stock always on hand for sale. Correspondence solicited.

100 PURE-BRED ABERDEEN-ANGUS CATTLE.



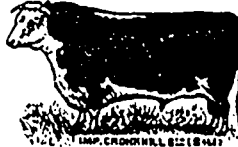
MOSSON BOYD & CO.,
 BIG ISLAND STOCK FARM,
BOBCAYGEON, ONTARIO, CANADA.

Ericas, Prides, Windsors, Victorias, Sybils, Kinnochtry Bluebells, Westortown Roses, Ballindaloch Coquettes, and Lady Fonnys, and animals of other good families, both male and female, for sale.

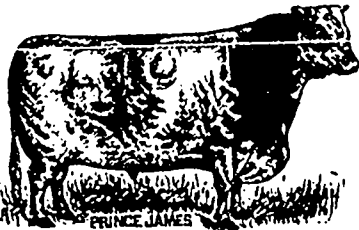
Bobcaygeon is in the County of Victoria, 90 miles east of Toronto and 20 miles east of Lindsay, and is reached from Toronto by the Midland Railway, a branch of the G. T. R., via Lindsay, with which the boat makes close connection. Telegraph and Post Office, Bobcaygeon.

THE GLEN STOCK FARM,
 Innerkip, Oxford Co., Ont.
SCOTCH SHORTHORNS,
HEREFORDS,
ENGLISH SHIRE HORSES,
BERKSHIRE PIGS.

SEVERAL grand BULL CALVES FOR SALE at reasonable prices, out of imported cows by imported Earl of Mar (47851), winner of Gold Medal at the Grand Dominion and 39th Provincial Show and numerous First Prizes, also some very fine Hereford heifers and bull calves, by imported Cronkhill 8th, out of imported cows, for sale. Cronkhill 8th, our Hereford stock bull, was winner of silver medal for best Hereford bull of any age, at the Industrial Exhibition, 1884, and of the silver medal at the Grand Dominion and 40th Provincial Exhibition, 1885. P. O. and telegraph office at Innerkip. Farm is one mile from Innerkip Station, on C. P. R. (Ontario Division), and a short distance from Woodstock Station on the Canada Pacific and Grand Trunk Railways.



JOHN FOTHERGILL & SONS,
 Burlington, Ont.

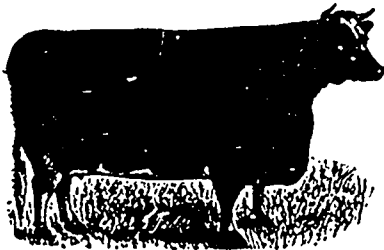


Importers and breeders of Shorthorn Cattle, Lincoln and Leicester sheep.

PRINCE JAMES,

The highly-bred Shorthorn bull, winner of 3 silver medals, 8 diplomas, and 20 first prizes at the leading exhibitions in Ontario, at head of herd. A number of choice young bulls and heifers, sired by Prince James, for sale. Visitors welcome. Correspondence invited.

BOW PARK HERD
 OF



PURE-BRED SHORTHORNS

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

ADDRESS, JOHN HOPE, Manager,
 my-y. Bow Park, Brantford, Ont.

RUGBY FARM



J. S. WILLIAMS, Knowlton, P. Q.,
 —BREEDER OF—

Shorthorn Cattle and Berkshire Hogs
 Herd headed by the Bates bull Duke of Rugby, and bred with strict reference to individual merit and milking qualities. Animals recorded in both American and B. A. herd books.

My Berkshires are of the choicest breeding—large size and grand individuals. For prices and other information, address as above Aug-7

JOHN DRYDEN,



BROOKLIN, ONT.

BREEDER AND IMPORTER OF
Shorthorns, Clydesdales, and Shropshire Sheep.

Last importation of bulls and heifers arrived in Dec., 1885. Send for Catalogue.

J. Y. REID, HILLSIDE, ONT.
 (2½ miles south from Paris.)

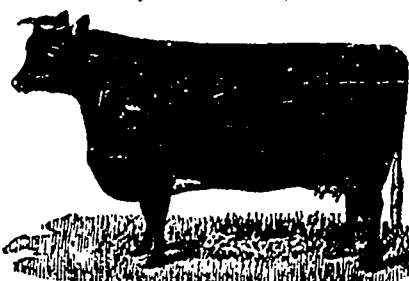


BREEDER of Shorthorn Cattle, all registered in the new Dominion Herd Book. The highly bred Bates bull, 7th Earl of Darlington, bred at Bow Park, at head of herd.

The herd is composed of a choice lot of young cows and heifers, all of the ROAN DUCHESS strain. Young stock at all times for sale. Apply to James Goddle, Manager, PARIS, ONT.

FRANK R. SHORE & BROS.

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



—BREEDERS OF—

SHORTHORNS AND SHROPSHIRE

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

HEREFORDS FOR SALE.



30 Imported Yearling Hereford Heifers

Eligible for entry in American Herd Book, all of which have been bred during the past season. Will be sold from \$250 per head up.

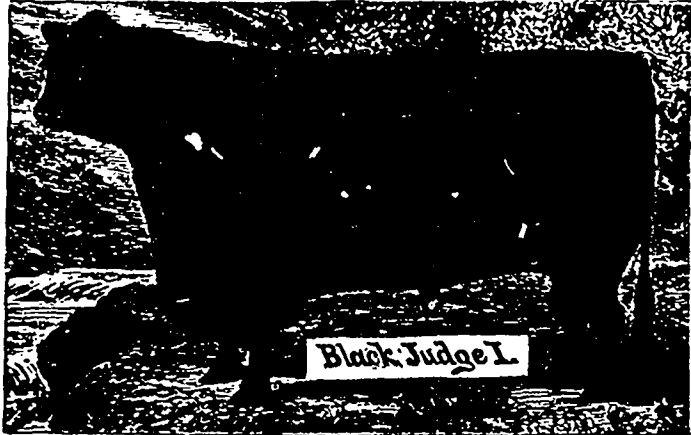
ALSO A FEW CHOICE YEARLING BULLS

R. H. POPE, EASTVIEW, COOKSHIRE, P. Q. sep-6



CANADIAN HOME OF THE ABERDEEN ANGUS-POLL

UNCONQUERABLE



BLACK JUDGE [1]

Black Judge 1.

First Prize Winner Toronto Industrial, 1883-1884-1885-1886. Grand Dominion and Provincial Medal and Diploma 1885. First, Medal and Diploma, best bull any age, Toronto Industrial 1885-1886. Service Fee, \$100.

KINGUL PARK STOCK FARM, NEW LOWELL, ONTARIO, HAY & PATON, Proprietors.

WE beg to call the attention of our patrons and friends to the above splendid cut of our Champion Bull Black Judge (1), with his unapproachable record underneath. We have also much pleasure in saying that we have again taken all the leading Prizes and Honors at CANADA'S GREAT FAIR, of this year. Not once, since 1882, have we missed taking the coveted Medal and Diploma for the best herd of Aberdeen-Angus Polls; and the Medal and Diploma for best bull of any age have gone to Kingul Park no less than FIVE TIMES IN SUCCESSION. For four years running we have secured the first premium for cows; twice being first, second and third; once (in 1884) against a ring of fourteen of the best animals ever shown together in Canada, comprising choice herds from Messrs J. H. Pope, Mossom Boyd, Geary Bros. and H. Walker & Sons. We have confidence in asking intending purchasers to inspect our stock and prices before investing. We have some choicely bred Bulls and Bull calves which we will sell at prices ranging from \$100 to \$500, ACCORDING TO BREEDING AND QUALITY, and we shall have pleasure in sending to any address our illustrated Descriptive Catalogues.

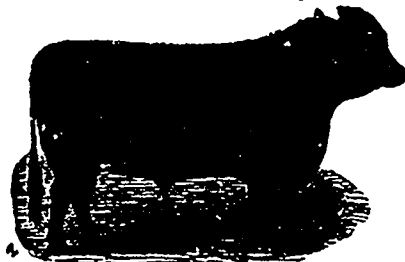
HILLHURST HERDS

HEREFORD,
ABERDEEN-ANGUS,
SHORTHORN
—AND—
JERSEY CATTLE.



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

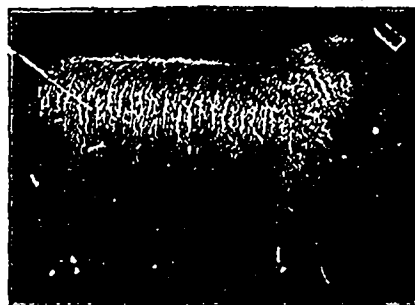
KEILLOR LODGE STOCK FARM, THE GEARY BROS. CO'Y, Proprietors.



IMPORTERS AND BREEDERS OF
POLLED ABERDEEN-ANGUS CATTLE
AND ENGLISH SHIRE HORSES.

Young Stock, Imported and Home-bred, for sale
The Geary Bros. Co'y, Bothwell, Ont.

BLI BRO STOCK FARM, GEARY BROS., PROPRIETORS,



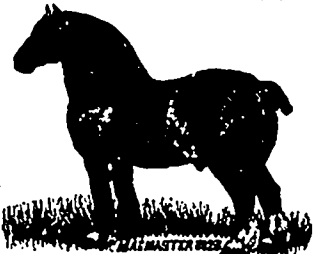
IMPORTERS AND BREEDERS OF
Polled Aberdeen-Angus Cattle, Lincoln and Shropshire Down
Sheep. Young stock, imported & home-bred, for sale.
GEARY BROS., London, Ontario.

GRAHAM BROS., CLAREMONT, ONT.

RESIDENCE ONE MILE FROM CLAREMONT STATION.
Importers of Registered

Clydesdale

STALLIONS AND
MARES.



We have constantly
on hand and

FOR SALE

At reasonable terms, a number of superior Clydesdale stallions and mares, registered, and which have been selected from the most successful prize winners at the leading shows in Scotland. Also a few choice SHETLAND PONIES. Correspondence solicited, and visitors always welcome.

FOR SALE.

>25<
IMPORTED

CLYDESDALE

STALLIONS and MARES



3 Cleveland Bays, Shorthorn Cattle, Shropshire Sheep and Berkshire Pigs for sale at all times

at reasonable prices. Terms easy. Correspondence solicited. Our stations are Claremont, C. P. R., and Pickering, G. T. R., where visitors will be met by writing or telegraphing us a Brougham.

John Miller & Sons,
Brougham, Ont.

COLDSTREAM STOCK FARM, Whitby, Ontario.

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

Clydesdale Stallions

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



ALSO A FEW CHOICE SHETLANDS.

Prices to suit the times.

Address,
JEFFREY BROS., Whitby, Ont.

MOULTONDALE STOCK FARM.

FOR SALE



Pure-bred SUFFOLK and BERKSHIRE PIGS

6 weeks to 6 months old, at reasonable prices. Bred from imported stock. Address,

F. J. RAMSEY, Dunnville, (on G. T. Railway
Breeder Shorthorns, Berkshire and Suffolk Pigs. Imported
Bates bull Statira Duke 50518 at head of herd.
Stock won 143 prizes at three fairs this fall.

A. FRANK & SONS

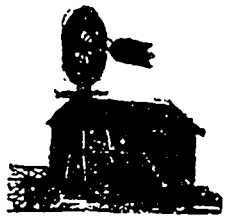
Cheltenham Station, C. P. R. R.,
The Grange P. O., Ont.

BREEDERS OF
Thoroughbred Horses
Shorthorns, Southdown Sheep
of highest strain and pure-bred.

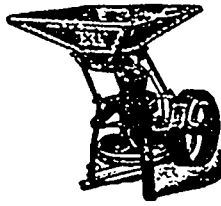


SUFFOLK PIGS, all registered. Young stock of all the above for sale. All orders promptly attended to. A number of young Shorthorn Bulls for sale at moderate prices.

ONTARIO PUMP COMP'Y
TORONTO, ONTARIO.



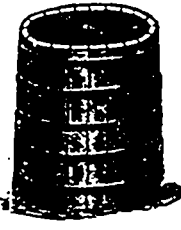
GEAR'D WIND MILLS
For Driving Machinery,
Pumping Water, etc.
From 1 to 40 horse power



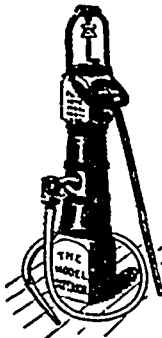
IRON FEED MILL
The Cheapest, Most Durable
and Perfect Iron Feed
Mill ever Invented



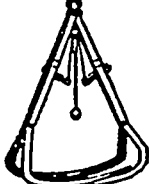
17 Sires
PUMPING WIND MILLS
from 8 to 30 ft. diameter.



TANKS—Round or Square
Capacity from 12 to 2,855
barrels.



PUMPS,
Both Iron and Wood,
Force and Lift. We will
guarantee our Deep
Well Pump to beat
any other pump
in the market.



We manufacture the
most complete line of
HAYING TOOLS, such as
HAY CARRIERS, HORSE
HAY FORKS, PULLEYS,
FLOOR HOOKS, ETC.,
in Canada.

We stand ready to *Guarantee*
our *Standard Haying Tools*
the *best in the market.*

CLYDESDALES

FOR SALE

ON REASONABLE TERMS.



NOT long arrived, a superior lot of Clydesdale
Stallions, ranging from one to four years old,
including gets of the celebrated sires Druid, Lord
Kirkhill, McCammon, Lord Erskine, Newman,
Belted Knight and Garnet Cross.
Catalogues will be published shortly.

ROBERT BEITH & CO.,

Aug. 21, '86. BOWMANVILLE, ONT.

D. & O. SORBY,

GUELPH, ONT.

Breeders and Importers
of Registered

Clydesdales.



Sixteen imported Clydes
on hand, nearly all of them
prize winners in Scotland,
and of which four are stallions.
The above are

FOR SALE,

along with a few Canadian bred. *Visitors welcome.*



CAPE BRETON RAILWAY.

SEC - STRAIT OF CANSO TO GRAND NARROWS.

TENDER FOR THE WORKS OF CONSTRUCTION.

SEALED TENDERS, addressed to the undersigned and
endorsed, "Tender for Cape Breton Railway," will be
received at this office up to noon on Wednesday, the 6th day
of July, 1887, for certain works of construction.

Plans and profiles will be open for inspection at the Office of
the Chief Engineer and General Manager of Government Rail-
ways at Ottawa, and also at the Office of the Cape Breton Rail-
way, at Port Hawkesbury, C. B., on and after the 6th day of
June, 1887, when the general specification and form of tender
may be obtained upon application.

No tender will be entertained unless on one of the printed
forms and all the conditions are complied with.

By Order,

A. P. BRADLEY,
Secretary.

Department of Railways and Canals,
Ottawa, 27th May, 1887.

LOWLANDS HERD



A CHOICE LOT OF

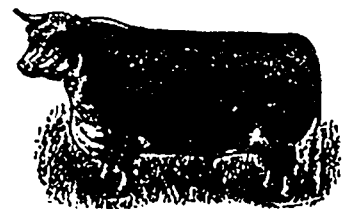
YOUNG HEREFORD BULLS
FOR SALE.

All eligible for or already entered in the "American Hereford
Record." Amongst the sires of my herd are Auctioneer, Care-
ful, Hayden Grove, Downton Boy, King Pippin, and Cassio.

Also a fine lot of imported
Welsh and Shetland Ponies for Sale.
E. W. JUDAH.

"Lowlands," HILLHURST, P. Q.

THE TUSHINGHAM HEREFORDS

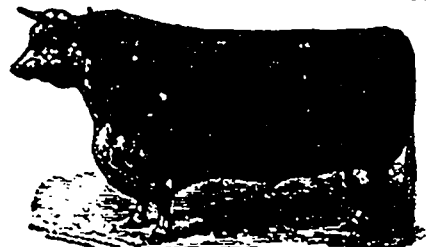


THIS herd, grounded on selections from the best
blood in England, is remarkable for the number
and uniformity of the good calves that it has produced
during the three years of its existence, owing in a
great measure to the excellence of the stock bull
Tushingham (8127), by Charity 3rd (6350), by The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

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

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

POINT CARDINAL HERDS.



HEREFORDS

Selected with great care from the celebrated herds in England.
At the head of the herd stands the imported Marlow bull Ram-
bler 6th (6620) 13514.

SHORTHORNS

Heifers and bulls for sale, mostly sired by imported Duke of
Hazelcote 65th, 65707.

Also a number of fine Hereford grade heifers and young bulls.
G. F. BENSON, Cardinal, Ont.

The Park Herd of Herefords,



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

F. A. FLEMING,
Weston Co. York, Ont.
Farm, half a mile from C. P. R. and G. T. R. Stations, eight
miles from Toronto.

TIMBER AND LAND SALE.

CERTAIN lots and the timber thereon situate in the Town-
ships of Allan, Assinack, Bidwell, Billings, Carnarvon,
Campbell, Howland, Sheguandah, Ichkummah, and Mills on
the Manitowlin Island, in the District of Algoma, in the
Province of Ontario, will be offered for sale at Public Auction
in blocks of 200 acres, more or less, on the first day of September
next, at 10 o'clock, a.m., at the Indian Land Office in the
Village of Manitowaning.

Terms of Sale. Bonus for timber payable in cash, price of
land payable in cash, a license fee also payable in cash and dues to
be paid according to Tarif upon the timber when cut.

The land on which the timber grows to be sold with the tim-
ber without conditions of settlement.

For full particulars please apply to Jas. C. Phipps, Esq., In-
dian Supt. Manitowaning, or to the undersigned.

No other paper to insert this advertisement without authority
through the Queen's Printer.

L. VANKOUGHNET,
Deputy of the Supt. Gen'l.
of Indian Affairs.

Department of Indian Affairs,
Ottawa, 2d June, 1887.

JAMES GARDHOUSE & SONS,
MALTON, ONTARIO, CAN.



se-1f

Breeders and importers of
CLYDESDALE & SHIRE

HORSES,

Shorthorn Catle and Berk
shire Pigs. Young Stock for
sale. Terms reasonable.

JAMES GARDHOUSE & SONS,

MALTON STATION,
Highfield P. O., Ont.

CATTLE AND THEIR DISEASES.

By A. J. MURRAY, M. R. C., V. S.,

Late Professor of Veterinary Medicine, Royal Agricultural
College, of England; late Demonstrator of Anatomy New
Veterinary College, Edinburgh, Scotland. Late Inspector for
British and American Governments; Veterinary Editor *Breeder's*
Gazette, etc. A new book for cattle growers, giving the "Breed-
ing and Management of Cattle," and "Diseases of Cattle and
their Treatment," with several illustrations, invaluable to the
Farmer and Breeder. For sale at this office for \$2.50, the pub-
lisher's price. Address,

THE STOCK JOURNAL CO.,
Hamilton, Ont.

NOTICE TO HORSE OWNERS.

Ridgling Horses castrated with perfect safety. All other
forms of castrating done without causing the animal. Send for
terms and particulars. Address,

J. F. QUIN, V.S., Brampton, Ont., or
R. J. QUIN, V.S., Edmonton, Ont.