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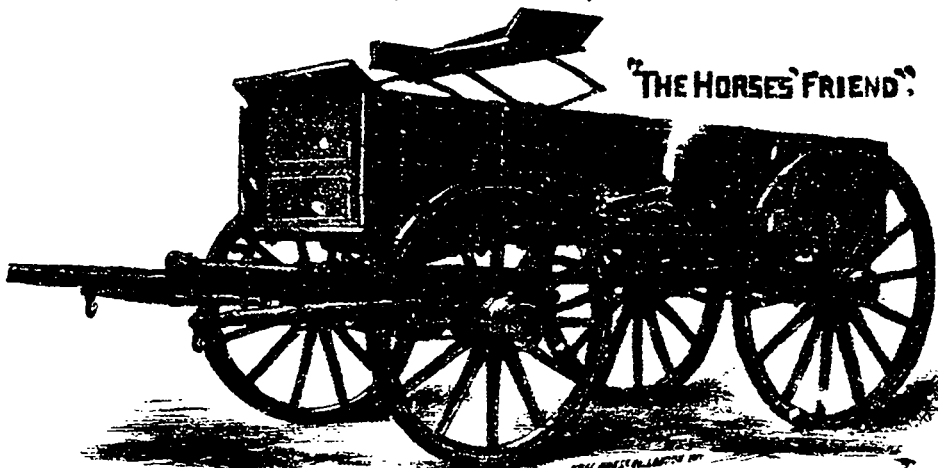
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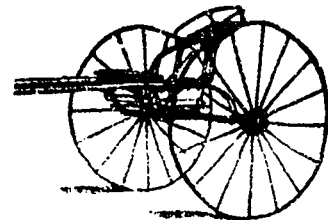
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THE CANADIAN LIVE-STOCK AND FARM JOURNAL

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

VOL. VI.

HAMILTON, CANADA, AUGUST, 1889.

No. 70



A PURE-BRED JERSEY, OLLIE BOY, NO. 16668, A. J. C. C.

Owned by Mr. John Leys, M. P. P., Toronto, Proprietor of Oakdale Stock Farm.

Our Illustration.

The subject of our excellent illustration this month is Ollie Boy, No. 16668, A. J. C. C., that stands at the head of the Jersey herd of Mr. John Leys, M. P. P., Toronto, proprietor of Oakdale Stock Farm. Ollie Boy was sired by St. Helier Boy, 11884, A. J. C. C., and his dam was Orange Ollie, 23762, A. J. C. C. His breeding is vouched for by the fact that he traces nine times to St. Helier, 45, and has 42% per cent. of the blood of that famous sire. He is a very beautiful bull, being a solid dark fawn color, with black tongue and switch.

He is of very strong, impressive power, as all his get resemble him in a marked degree, and a large majority of them are heifers. In prize winning he has not been idle. He won first prize as a two-year-old at the Toronto Industrial last year, was first also at London and first at the Durham and Ontario Fair at Whitby.

The herd of Jerseys at Oakdale are an exceptionally fine lot of dairy animals. It is in this herd that we find the celebrated cows, Lucilla Kent, 8892, A. J. C. C., and Meines 3rd, 7741, A. J. C. C., that has a record of 20 lbs. 1 oz. of butter in seven days. So far all the Jersey cows this season have dropped heifer calves. These are all of good form and very

promising. There are also three two-year heifers sired by Ollie Boy, that are extra fine specimens of the breed. A yearling bull, Bel Boy, is of excellent breeding and merit, and his present appearance promises much for him as a breeder.

The herd of Holsteins at Oakdale is said by its owner to be one of the largest and by all odds the best in the Dominion. Adanac, No. 190, H. F. H. B., 153, American Breeders' N. H. H. B., at the head of the herd, was imported from Holland, and has always carried off first prizes wherever shown. The herd was only exhibited six times in 1887 and 1888, and it is claimed that they have won more money prizes, more gold and silver medals and more diplomas than was ever won at the same number of exhibitions by any herd of any breed in Canada.

The sales of Holsteins this year from Oakdale have been large, the latest being that of seven cows and one bull to Mr. C. G. Geddes, of Canyon Ranch, Pincher Creek, Alberta. As he had to take his cattle 2000 miles by rail, he concluded that it was wise to buy the best, although he had to pay higher prices for them than he could have got cattle for at other places. He took four cows imported from Holland, one cow calved in quarantine at Halifax, and two

bred at the Agricultural College, Guelph. All these cows were in calf to Adanac. He also got the fine young bull, Bismark, a son of the famous prize winning bull, Presto Theise, and made up a grand herd, well worth a good price, and for taking so great a distance.

The horses at Oakdale consist of the thorough-bred stallion, Spanish King by King Alfonso, out of Ann Fief by Lexington; the Hackney stallion King Bob, eight imported Irish mares and the thorough-bred mare Kanatta, by Kennet. Pigs are well represented by a superior lot of the large Yorkshire breed. A visit to Oakdale will well repay the time and expense of any one fond of live stock. Oakdale Stock Farm is situated in the township of Pickering, county of Ontario. It is twenty miles from Toronto, two miles from Pickering village, three miles from Pickering station, on G. T. R., and five miles from Green River station on C. P. R. It contains nearly 500 acres, about 150 of which are flats. Every pasture field on it is supplied with running water, and all have an abundance of shade trees. The nature of the buildings and fences indicate prosperity, and such the owner has surely achieved through the observance of the motto in all matters, "The best at any price."

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HAMILTON, CANADA, AUG., 1889.

A SOUND fleece is not grown by rich feeding just before clipping, but by the use of nutritive food fed regularly and rationally. To secure the best results the condition of the sheep should be that which is most conducive to health. Only by the observance of the laws of hygiene in the fold may it be expected that the secretions of the body may be healthy, and thus give the wool that lustre and elasticity that characterizes a good fleece. Neglect of but a short time never fails to show its results in weak spots occurring in the fibre. Fatness being opposed to wool-growing, the aim should be to keep the sheep in fair condition and as vigorous and healthy as possible.

WITH our issue of this month appears the first of a series of articles on "Horses' Teeth as Age Indicators," from the pen of our well known regular contributor, F. C. Grenside, V. S., lecturer and veterinarian at the Ontario Agricultural College, Guelph, of vast experience in veterinary work, and possessed of recognised literary ability. We feel satisfied we may bespeak for him the close interest and warm appreciation of our readers. The articles, our regular readers will agree with us, are in the hands of one of our most popular contributors, and as they treat of a subject of importance, pregnant with interest, we promise our readers a valuable series. The engravings that shall be freely used to illustrate these articles have been prepared under the supervision of the greatest living authority on such matters, Prof. G. T. Brown, C. B., Principal of the Royal Veterinary College, Edinburgh, Scotland.

UP to the present time the greater demand for pork has come from the laboring classes, with whom it has always found a ready sale, owing to its cheapness and strength-giving properties. With the wealthier classes, however, it has never found favor. It appears to us that there is a dormant demand here, if once the right product is brought forth. With the disclosures of the last few years in respect to feeding pigs, for quality of flesh fresh to mind, it seems that much could be done to

greatly enhance the value of pork as a food. The feeding of garbage of all kinds and the uncleanness usually observed, has beyond question done much to keep pork in ill-repute with those not living by hard manual labor. A change is now on the move, and to supply the market's demands a better admixture of fat and lean is being sought after by our feeders. But this is not all; pure water and clean quarters are sanitary conditions absolutely necessary for the production of the best quality of flesh, and when these are fully observed and the pig is treated more humanely and in accordance with recent developments, then we may hopefully look for a larger consumption of this meat which is so largely abhorred at present.

IF there is one thing more than another that has kept the Shorthorns well to the fore, and made them and their grades so valuable as feeders, it is in the fact that of all our breeds they mature the earliest and possess the ability to transmit this quality to their grades. As stall feeders this same excellency has made them especially valuable. It is a feature that, especially at the present time, is claiming a good deal of attention. Beyond question it is a factor that largely determines the cost of production, and the latter regulates the margin of profit. Though definite facts may not be to hand to prove that it is a strong element in respect to the profits, it is nevertheless well known to all feeders as a very important consideration in the choosing of stores, "baby beef," as some have termed it, is in the end the cheapest produced, and if the animals are kept in conformance with the laws of health it possesses nothing that should shut out its market. Since the days of the earliest feeders early maturity has always come in for its share of consideration. As the veteran Mr. McCombie says: "What I wish to impress on you is that you must keep the cattle always full in flesh; and as a breeder you must be careful to never lose the calf flesh. If you do so by starving the animal at any time of its growth, you lose the cream—the covering of flesh so much prized by all our retail butchers. Where do all the scraggy, bad fleshed beasts come from that we see daily in our fat markets, and what is the cause of their scragginess? It is because they have been stinted and starved at some period of their youth. If the calf flesh is once lost it can never be regained." This is one means of getting the steers early to market, the other being through the use of animals possessing this feature to an eminent degree.

THE little isle of Jersey stands out clearly as an excellent example of what intensive farming may do. The whole island covers an area of but 28,717 acres, of which there are 20,561 acres under cultivation in 1887. With these people a farm of 22 acres is very large, the usual size being, as the agricultural returns show, 7½ acres for each occupier. On their live stock and the potato crop their greatest reliance is placed. In 1887 there were 20,357 head of horses, cattle, sheep and pigs on the island, the cattle of course being in the strongest force, these numbering 12,474. Their potato crop of the same year was valued by the French Consul at £72 per acre. Through their live stock and small farming these people are able to use land with profit that rents for from £7 to £15 per acre, and sells for from £200 to £405 per acre, the latter price being paid for lots in the most favored situations and with many improvements. The system of feeding is by tethering their cattle, and in this way they endeavor to economise as much as possible. A recent traveler through this island, Mr. E. Bear, of

England, was much impressed with the wonderful prosperous aspect of the people, and their contented and independent looks. There are but few cottages, but many granite houses, occupied by many of the smallest farmers, with well kept flower and vegetable gardens attached. The soil, though not possessing great natural richness, has been brought under their system of management to a high state of fertility. Many of our farmers, anxious to extend their farms, should carefully ponder the advisability of scattering their forces over a wide territory, when they could be concentrating them in many cases produce more profit. There are not a few farmers in Canada that are suffering from this cause. This leaflet of history emphasizes the importance of live stock to increase the fertility of the soil, and the value of intensive farming as a means of economically using that fertility.

A MORE general and stable target for eulogiums and derision, praises and taunts, than the general purpose cow does not exist at the present day. Though discussion on the subject has been rife for ages, many have not winnowed the chaff from the wheat. We do not wish to consider the general purpose cow a myth, but a mundane wealth producer. We have seen her, and in the majority of cases for Ontario's conditions she was personified in the Shorthorn grade. As conditions vary, and one feature is of more value under certain conditions than another, so will the scale go up or down with the different breeds and their grades for this purpose. On Ontario farms she is to be found as a rule in the cow that gives a moderate quantity of milk of good quality and her male offspring are of such a form and character as to make profitable feeding steers. We do not think it advisable to choose a cow for the sake of the beef she may make when she is profitless for the dairy, as this reminds us of the Hibernian that bought a pair of boots of number twelve, though he only needed sevens, simply because he thought he was getting better returns for his money, as the larger sizes contained more leather and cost but the same price as the smaller. If she gives a good yield of milk and meets the requirement in regard to steers, she represents our idea of a general purpose cow. Some go to the opposite extreme to say that she may equal the specialist in any of these directions. It is not proper to expect such, for there is no doubt but that those that are selected and trained in one direction will surpass those whose energies are directed into many channels. The matter of getting all possible profit out of his stock is of great import to the ordinary farmer, and the breed that gives him the greatest returns is the one that is going to secure his patronage. As the conditions of all farms differ, so will the cows that suit them and the market conditions differ, which means that there is no best breed for all Canada. The breed that suits the average best will be the most patronized by the ordinary farmer, but that does not imply that the supplying of such cattle shall be the most profitable to our breeders, owing to the rapid progression of specialist ideas.

Our Horse Interests.

We advance the statement freely that there is not another branch of our live-stock interest that is so thoroughly in accord with our natural conditions as that of our horse industry. Analyze as closely as you may our winter and summer conditions, and the closer you do so the clearer it becomes that our surroundings are favorable in every sense for the production of horses that, under proper management, will readily find sale in the markets of the world. Our

summer advantage of freedom in the pasture gives the colt that spirit and bottom that makes our animals prized; while during the winter excessive roughness and fierceness are tempered under the master's guiding hand. A repetition of these fixes the qualities of spirit without wildness, and gentleness without laziness, into our horses. Our soil is largely limestone, furnishing the material for firm bone-building; while our climate is annually purged of most infectious germs. No more striking nor better proof could be advanced than the enduring demand for our horses in other countries. Need we say that the \$2,597,547 worth of horses sent to our American neighbors could easily have been doubled, and the \$36,750 worth shipped across the sea might as easily have been quadrupled had we produced the type of animals desired by these markets. The difficulty has never been the want of a market, but rather the scarcity of the right class and stamp of animals to meet the market demands. Independent of concerted action or extra exertion the demand has gradually grown, and now it only needs these to make it the first factor as a wealth-producer in our husbandry.

If those having the horse interest to heart, that look with envious eyes on the rapid advancement of the dairy industry, would but cast all envy aside and accept emulation as their motto, our horse industry must rapidly advance as a consequence. The dairy workers have shown what whole-souled, heart-stirring enthusiasm may do in a good cause; and it but remains for our horsemen to grasp every opportunity to further the ends of their class. It does not imply that associations should be at once formed, though we have no doubt there is room for a society to father our horse interest; but if every chance is taken to discuss the many phases of the questions arising in horse-breeding and management at our institutes, much good would spring forth as the result. Breed bickerings serve but to disappoint the amateur breeder, and cloy the appetite of the veteran who knows that there is no such piece of mortal mechanism that can fit to perfection in every niche of our broad universe. The idea that only one breed possesses the necessary qualities should be wiped out of existence, and the broader-minded and more liberal view that they all have qualities peculiar to themselves, should take its place. Such discussions as those arising between breed adherents serves but to smother the more important questions relative to supplying our markets and others of more vital concern to our agriculture. As the whole interest advances, so must all come in for a share, and hence the motto should be, "One for all, and all for one." Our districts are hardly ready yet for the premium system of the mother country; but the means we have indicated by way of the institute and enthusiastic work would do much good by making the farmer aware of the portal open to him, and aiding him in deciding the types wanted by the market, and the means of securing these. A broader and more generous spirit, more liberal views in respect to the qualities of all breeds on the part of many of our horsemen would do more than government grants or enactments to advance the growing interest of our commonwealth.

The Aberdeen-Angus Polls.

This vigorous breed of beef-producing cattle, although not spreading rapidly in Ontario, has made rapid increase in the Western States. The American Aberdeen-Angus breeders Association was organized in 1883, at which date the number of breeders was not large. When the first volume was issued in 1886, of the 540 owners with animals registered therein, only

178 of these were American owners. When the second volume appeared in 1888, of the 798 owners recording in it, 608 were American. Of the 5,200 entries in the first volume only 2,398 were owned in America, while of the 4,600 entries in the second volume, 3,987 are the property of Americans.

The increase in the number of owners from 178 in 1886 to 608 in 1888 is phenomenal, and tells its own tale. It demonstrates very clearly that the "Doddy" has come to America to stay, and that the blackskins will henceforth play a very significant part in the meat-production of the United States.

The increase has been made in the face of rigid rules for registration, as, according to these, of every 10 bulls eligible for entry, one must be castrated or two will be excluded from registration. The adoption of this rule indicates very clearly that the breeders are more anxious to breed animals of good types than to multiply these for the sake of numbers alone.

Why this useful breed of cattle have not gained a sure footing more rapidly in Ontario is not altogether easy of explanation. The specimens we have had here have been of the best, and individually and collectively they have done credit to the show-rings. But this they have not done; they have not won prizes for fat to any great extent at our fat stock shows. Indeed, to our recollection only one animal of the breed was ever exhibited at our Ontario fat stock show.

This we regard as a mistake on the part of the owners, as no argument is more convincing to the ordinary farmer as to the merit of a breed than its ability to win prizes in a fat stock show-ring.

The prices at which they have been held is high compared with, say Shorthorn bulls, which have also had the effect of causing people to let them alone, especially a people strongly wedded to Shorthorns, which they have long been accustomed to look upon as the most valuable of the beefing breeds. As the quality of Aberdeen-Angus beef is excellent, as they mature early, make good use of the food given them, attain heavy weights, and as the absence of horns is a point in their favor for both yard feeding and shipping purposes, there cannot but be a prosperous future before them in this Province.

A Leaf of Southdown History.

Recent occurrences in Southdown circles across the water have led us to believe that it would now be a fitting time to give a short history of this breed, that has so well held its own, and so boldly advanced on the territory of some other breeds in the contest for supremacy. The event we refer to is the late dispersion sale of one of England's most noted Southdown flocks—that of Mr. Henry Webb, of Streetly Hall, Cambridgeshire.

The Southdowns by competent authorities are credited with being a native breed of the Downs of Sussex. Some historians refer to them as having existed there before the conquest. However that may be, it was not until a couple of centuries ago that they first claimed public attention when they were nearly exterminated through an attack of a contagious disease. The first extended mention that is made of them comes from the pen of a well-known writer of ancient days, Arthur Young. He, in 1794, directed attention to them, admiring their hardy constitutions and fine mutton qualities. They have been described at the time as being thin in the neck, slack in the girth, flat-ribbed, narrow in front, with a fair, good leg of mutton. Their valuable quality, then, was centred in their fine-flavored flesh.

About the year 1870 Mr. John Ellman of Glynde,

seeing, with a breeder's eye, that a brilliant future was in store for these animals, took some of them under his charge, and it was not long before a better mutton form and more marketable wool became the outcome of his handiwork. To show the vast improvement made and the type which he evolved, almost the very opposite of the antique form, we quote his own description of the qualities and attributes of a good Southdown: "The head should be small and hornless; the face speckled or gray, and neither too long nor too short; the lips thin, and the space between the nose and eyes narrow; the under jaw or chop fine and thin; the ears tolerably wide and well covered with wool, and the forehead also, and the whole space between the ears well protected by it as a defence against the fly; the eyes full and bright; but not prominent; the orbit of the eye (the eye-cap or bone) not too projecting, that it may not form a fatal obstacle in lambing; the neck of a medium length, thin towards the head, but enlarging towards the shoulders, where it should be broad and high, and straight in its whole course above and below; the breast should be wide, deep and projecting forwards between the fore legs, indicating a good constitution and a disposition to thrive. Corresponding with this the shoulders should be on a level with the back and not too wide above; they should bow outwards from the top to the breast, indicating a springing rib beneath, and leaving room for it; the ribs coming out horizontally from the spine and extending far backward, and the last rib projecting more than the others; the back flat from the setting on of the shoulders to the setting on of the tail; the loin broad and flat; the rump long and broad; and the tail set on high and nearly on a level with the spine; the hips wide: the space between them and the last rib on either side as narrow as possible, and the ribs generally presenting a circular form, like a barrel; the bolly as straight as the back; the legs neither too long nor too short; the forelegs straight from the breast to the foot, nor bending in at the knee, and standing far apart both before and behind; the hocks having a direction rather outward, and the twist, or the meeting of the thigh behind, being particularly full; the bones fine yet having no appearance of weakness, and the legs of a dark color; the belly well defended with wool and the wool coming down before and behind to the knee and to the hock; the wool short, close, curled and fine, and free from spiry projecting fibres."

From this it may be gleaned that he aimed high, but the Southdowns of to-day assert that he did not fail of hitting the mark. With the exception of the speckled face, as the pure-bred Southdown is a solid mouse color, and a few other minor points, he has well described the modern type. A movement began in 1856 in favor of the sheep, and their popularity grew gradually as the sphere of action became more extended. In the year 1878 Mr. Ellman sold the first Southdown that brought as high a figure as 10 guineas, and in 1896 the same breeder sold the first ram of this breed that could claim to have been sold for 50 guineas. From this time Mr. Ellman had to labor hard to keep up with the demand. In 1800 he disposed of 200 ewes to the Duke of Bedford for 500 guineas, and in 1802 the same person paid him 300 guineas for the use of a ram for but two seasons.

Mr. James Webb, of Babraham, in Cambridgeshire, was the next person to take them in hand. It has been said that Mr. Ellman established the type, but that Mr. Webb did more than any other man to sound their fame through the show-yard at home and abroad. It is stated that Mr. Webb's choice was the

result of much experimentation with them and other breeds. He fully satisfied himself that on his Cambridgeshire estate the Southdown produced more value per acre than any other breed. It required much self-reliance on his part in his own judgment and confidence in the worth of the breed to take up their cudgels at this time, for at their era all eyes were centered on the Leicester, that had received such an impetus from the hands of Bakwell. As an instance of this strong trend of public opinion in favor of the latter breed, it may be instanced that one Leicester ram was let for 1,000 guineas to the owners of Leicester ewes. But not to be turned aside by the public opinion of the time, Mr. Webb stood firm and true to the Southdowns, and soon, under his masterly hand and intelligent guidance, the nucleus he purchased from the flock of Mr. John Ellman, Glynde, and other Sussex breeders, grew, and it was not very long before they began their series of show yard conquests that have made them known in all domains. The culmination of his efforts was at the Royal at Canterbury in 1860, when he easily captured the six prizes for rams, first, second and third for shearlings; and first, second and third in the class of older sheep. About five years before this he let a two year-old ram for 170 guineas, which clearly shows that his work was making itself appreciated, also vouched for by his sale in 1860 of a yearling for 250 guineas. After showing in Ireland, Scotland, England and France, and in these several countries winning many prizes, he finally, in 1861, disposed of the whole flock by auction for the remunerative sum of £16,646, and in November of the same year their owner passed away, not, however, without some recognition of his earnest efforts, for it was not long before a subscription list was started and soon filled by his many friends and fellow-breeders, and a statue was erected as a memorial of his grand work, in the market hall of his native town.

At the dispersion sale Mr. Henry Webb, the eldest son of Mr. J. Webb, secured eighty ewes and eight rams. As he had been manager of his father's flocks for some time previous, he was able to make a good choice, knowing the breeding qualities and relationship of each member of the flock. He had also, about four years previous to his father's death, been gradually strengthening a flock of his own from selections of those that could be spared from the home estate. Since the above purchase it is said that not a single sheep outside these have been introduced into his flock. He has, it is stated, coupled with in-and-in breeding, sound judgment, and in this way he has maintained their stamina, fecundity and form. At Streetly Hall, his estate, he keeps about 130 to 250 breeding ewes always on hand. The show-yard successes of the Webb flock of Southdowns received no new lustre from the members under his care, as it was their owner's policy to abstain from such display.

Our London namesake says that he has never lost ewes of any season, and has never allowed the pick of the shearling rams to go until they had served some of his ewes, and if the produce of such a sire proved of special excellence, he was recovered, used again and again till eight or nine years old, or even longer.

Under this management great uniformity was the result, and our contemporary before referred to makes the strong statement that it may be doubted if 500 finer specimens of the breed ever were seen together on any farm, fair or show. At the recent sale of July 3rd, the whole lot of 491 head brought £5,739 13s. od., while a two-shear ram sold to the Duke of Rich-

mond for 210 guineas, and the highest priced shearling brought 190 guineas.

In our Dominion this breed does not want for patrons, and among their many breeders we may mention Messrs John Jackson, Abingdon, Ont.; A. Telfer & Sons, Paris, Ont.; F. W. Stone, Guelph, Ont.; T. Guy, Oshawa, Ont.; D. Nicol & Sons, Cataract, Ont.; Isaac M. Cross, Bond Head, Ont.; John Young, Abingdon, Ont.; Mr. Jeffs, Bond Head, Ont.; Richard Rivers & Son, Walkerton, Ont.; Wm. Porter, Lloydtown, Ont.; Hugh Crawford, Canboro, Ont.; Thomas Good, Richmond, Ont.; Robert Marsh, Richmond Hill, Ont.; A. Frank & Sons, The Grange P. O., Ont.; Geo. Thompson, Bright, Ont., and Wm. Dawson & Son, Vittoria, Ont.

The Cleveland Bay.

Where Cleveland's hills in vernal charms are seen,
Clothed in the velvet of unfading green,
The noblest stock of Cleveland's far famed steeds
With lavish care the thriving farmer breeds
By sires for fleetness and for courage known,
From mares for strength and symmetry and bone;
Bred for power, and all unstained with white,
Black-legged and bay, just as the ruby's bright.

— ANONYMOUS.

The Yorkshireman has always been known as an adept in the handling and an enthusiast in the breeding of horses, and as nature bountifully blessed the land of his nativity with rich pasturage and splendid climatic conditions, need we wonder that the outcome of his endeavors has been the production of the majestic Cleveland Bay, and the more compact and equally valuable Yorkshire coach? The love of horses and the sports connected therewith is so strongly bred in the bone of these people that it is said if a bridle is shaken over the grave of a typical Yorkshireman he will restlessly turn in his coffin. We need not, however, go outside of mundane regions to illustrate his enthusiasm and skill, for no better criterion of these could be seen than a Cleveland Bay span, that with imposing appearance, majestic stride, and uplifted head, move before a carriage.

The fact that there has been much discussion over the origin and history of the Cleveland Bay, some even denying the existence of the breed, indicates that there is a haziness bedimning the past records. The Cleveland breeders tenaciously assert that the breed has been bred in absolute purity for ages back. It is altogether probable that there is a slight tincture of thoroughbred blood in their veins, as told by the clean, intelligent head, and high, straight crupper of the modern type. Some even claim that the chariots of Boadicea, that sank terror deep into the hearts of Caesar's legions, were horsed by Cleveland Bays. Doyle, in 1843, writes: "The Cleveland is said to be the true descendant of the war horse. The knight who was encased in ponderous armor, and who disdained the effeminacy of a carriage of any sort, required a powerful and enduring, yet spirited and active horse, to bear his weight in real combat, the tournament or the lengthened journey. His first-rate steed was accordingly of that noble kind which we see in paintings and sculptures of the Roman war horse, and which is presented in its main features in the Cleveland coach horse."

A writer of still earlier days, those of 1800, says: In Cleveland the horses are fuller of bone than those last described (the Yorkshire coach); they are clean, well-made, very strong and active, and are extremely well adapted to the coach and plough. This answers to the description of the breed at present, and if we accept the testimony of those most deeply interested, and hence most likely to be well-informed, we shall grant that the Cleveland Bay is an old-established breed with little extraneous blood. About the mid-

dle of the eighteenth century (1751-1767), there set in a strong demand from Germany and America for these horses, which seriously depleted the home store. This being followed by a boom in draught horses, the Clevelands were neglected, so much so as to give rise to the belief in some minds that they had become extinct. It soon became apparent to a number of their patrons that unless extra steps were at once taken to establish the breed on a firm basis by the formation of a stud book, it would not be very long until this would become an actual fact. It was not until January, 1884, that the stud book was established, thus rescuing from oblivion a breed of horses that are not only popular in their own land, but also in Europe and North and South America.

These horses are tall and rangy, combining strength and symmetry to a remarkable degree. In color the different shades of bay with black points and white star is the standard. A white foot is looked upon as a sure sign of impure breeding. The fact that they are all of one color, and almost invariably with the same markings, is not only a matter of great economic importance in matching teams, but it speaks much for the rigid selection and purity of the breed. They are able to throw their characteristics into their get with few exceptions, and this power of throwing themselves into their progeny proved to be a feature of their excellence that augured well for the extinction of the breed, as they made such good crosses on the common mares. In disposition they have little wanting, being docile and more tractable than the thoroughbred. Many prefer them to the latter, stating as a reason that while they possess nearly all the vigor and quality of the thoroughbred they are of a far better disposition and less liable to vices of all kinds. The typical Cleveland in form is beautiful to look upon. His head, though perhaps inclined to be plain, is distinguished and carried well on a neck of good rein. His shoulder is deep and sloping, with a prominent and full brisket fronting a closely coupled barrel that joins a powerful loin of breadth and depth. The quarter is long, and thigh and fore arm strongly muscled and possessed of plenty of bone of good quality. His disposition is of the best for a horse of utility, while he possesses enough spirit to be spry in his actions. They present a fine appearance, being well off the ground, as they stand about 16 or 16½ hands. The following measurements of Old Cleveland that in 1827 travelled Gloucestershire, is not beyond the average of the present members: height, 16½; girth, 6 feet 10 inches; around the arm, 21 inches; around the knee, 15½ inches; below the knee, 10 inches, and 9½ inches around the pastern. With this as a type it may be surmised that these horses lack nothing in stamina; and this is upborne by many incidents that might be cited in respect to feats of long traveling that they have accomplished under the saddle and in harness. It is stated on good authority that a person of the name of Mills, of Hursley, rode into Yorkshire, a distance of thirty-five miles, each morning and back in the evening with the same animal, and kept this up for a week; thus this one horse traveled in that time, under saddle, 490 miles. Many other instances of cross country riding and traveling show that this single instance represents an average. Their constitution and stamina is shown in other ways: in their impressive power and longevity for example. There are many cases on record of stallions traveling one circuit for twenty and even twenty-five years. Sovereign 285 traveled nineteen years, and Barnaby 18, twenty-five years on one route may be cited; while of mares there are cases without num-

ber of breeding regularly for the same length of time.

There are a number of Cleveland stallions and also their near relative, the Yorkshire Coach, scattered throughout the Dominion, and these are doing good work in advancing our horse interests. Among our breeders and importers we may mention Messrs. W. H. Hutchinson, of Napanee, Ont.; Thos. R. Smith, of New Hamburg, Ont.; Snider & Edmonson, Brantford, Ont.; Thos. Taylor, Harwich, Ont.; Jos. Vance, of New Hamburg, Ont. and Irving & Christie, of West Winchester, Ont.

For the CANADIAN LIVE-STOCK AND FARM JOURNAL

The Royal Show.

(From Our Own Correspondent.)

The great Windsor Royal, the semi-centennial jubilee show of the Royal Agricultural Society, which closed on the 29th June, was indeed a grand effort, worthy of the important era it marks in the history of the society, worthy of the noble associations imparted to it by the fact of its being held in the great park connected with Windsor castle, and under the gracious presidency of Her Majesty the Queen; worthy, we may add, of the wonderful little country which has given to the world the finest breeds of live stock in existence.

The most striking impressions of a Canadian, as he contemplates the show, are its great extent, the admirable arrangement of the grounds, the classification of the exhibits, the excellent discipline, the systematic arrangement of everything, as shown in the promptness with which all the work was begun, and the rapid progress made in the judging. Its magnitude is simply amazing, and it is not extravagant to pronounce it the best show of live stock ever held in the world. The shedding, which is all of a temporary character, covered with canvass, is said to aggregate nine miles in length, and as most of it has a double frontage, the visitor, if he will see it all, has a walk of about twenty miles before him; yet the arrangement and grouping are such as to enable visitors to see the different breeds with the least possible expenditure of time. The printed catalogue of entries is in England considered an indispensable adjunct of a live stock show, and every county show has its carefully prepared catalogue; but in the case of this great show, the catalogue was a wonder, a volume of 450 pages, including a map of the park, and a plan of the show yard, which encloses 127 acres. To make this complete, the time fixed for closing the entries is rigidly adhered to, and a fine is imposed in case the animal entered is not placed, unless a satisfactory reason can be given for its absence. The large number placed over the animal corresponds with the number given to the description and pedigree in the catalogue, and the visitor has before him all the information he requires, except the price, in case he is an intending purchaser. In the poultry classes the price is added, if they are for sale. When will our Canadian fair managers wake up to the necessity of this great improvement? Let us hope soon. The judging is all done on the opening day of the show, so that exhibitors soon know their fate, and are ready for business. Daily parades of the prize animals in the classes of horses and cattle are made in the large show ring at stated hours, and a fine of the herdsman, or a forfeit of the prize, is the penalty if any animal is not in its place in every parade provided for in the programme. These parades include not only all the animals winning money prizes, but also all having received honorable notice or commendation. Each animal wears its catalogue number and prize card or rosette in parade, and the spectators

have the means in hand to get the information they require. These parades are repeated every day after the first, and this is a great show in itself, as in some of the classes there are as many as sixty prize-winning and commended animals, but the residue contains many very meritorious specimens, which in a local show would be considered extraordinary. The total number of entries was only thirty short of 5,000, and the number of breeds was a revelation to a stranger. For instance, there were of cattle 15 distinct breeds; of sheep, 23; for all of which prizes were offered and awarded.

A comparative statement of the entries in the different classes shows the following result: of horses—Hunters 258, Hackney 148, Shire 167, Clyde 93, Coach 57; of cattle—Shorthorns 222, Hereford 121, Jerseys 434, Guernsey 141, other breeds below 100 each; of sheep—Shropshires, 212, Southdown 123, Oxford-down 82, Cotswold 60, Leicester 41, Hampshire 67, etc.; pigs—all white breeds 81, Berkshires 96, other blacks and Tamworth 88. Pigs are classified as follows: Large white, middle white, small white, Berkshires, any other black breed, and Tamworth.

CATTLE.

The cattle were really the greatest feature of the show, and occupied more space than any other. It was a grand sight to see those long ranges of sheds so well filled with the choicest cattle of all the breeds, and the Shorthorns, as one would expect here, made a wonderful showing. Prominent among the bulls in the aged class was the well-known Mario, bred by Mr. Duthie, of Collynie, and sired by the Cruickshank bull Field Marshal, now in service at the Queen's Shaw farm. Easily enough he headed the class, as he did at the last year's Royal, and he is a grand good one. He is said to weigh 2,600 lbs., and he looks it all; yet his flesh is smooth and evenly laid, his back and loin strong and well covered, his fore-ribs and fore flank, as well as his hind flank, deep and full, and his quarters and thighs good though not perfect; a little bareness on his shoulder blades may be called a fault, but taken all in all, a better is not often seen in the show ring. While there were eight others in this ring, and all good ones, there was not a second to come near to the first, and in choosing Royal Ingram for the second place the judges must have pinned their faith to his grand back, for he was light below, and has an awkward, unshowy appearance; but McBeath, Mr. Handley's bull, though a big, fleshy bull, was light in his girth and not smooth. He was rightly placed third.

There were 29 two-year-old bulls in the ring, a good average lot, with not an inferior one, yet nothing standing out in strong contrast as seen by the on-looker, yet the judges found a bull here in Lord Polwarth's Ironclad, a roan by King Alfonso and out of Wave Surf, that they must have seen a large measure of merit in, for they not only placed him first in his class, but later in the day gave him a more enviable mark of distinction.

Mr. Hewitson's Royal Warrior, a good white bull, was rightly placed second, and Mr. Handley's roan Collynie-bred bull, Lord Frederick, by the prize bull Cupbearer, made a real good third. Sixty yearling bulls were filed into the ring, and they were a lot of real good ones in such a number. No one envied the judges their place just then, but one who has had experience in judging knows it is easier to judge a uniformly good lot than a uniformly bad lot, and the judges in this case were not long in making up their minds how many had a chance of being "in it," as the English say. The Queen's "New Year's Gift," a

long yearling, being nearly 19 months old, a handsome, light roan, with good size, a wavy coat of hair, deep and well sprung ribs, and good quarters and thighs, had to be placed first, because there was no other place he fitted so well. Mr. Dean Willis' Sir Douglas, a showy, well-proportioned bull, but one that does not improve by being looked at, taking second place, and a young yearling owned by Mr. Thos. Willis, of Capetby, Yorkshire, a son of the Booth bull Royalist, and from a dam of the same line of breeding, was rightly placed third, but will probably be heard from another day, as he has in him a large share of the material from which show bulls are bred and made, both in pedigree and personal merit. There were no prizes for bull calves, and the contest for the championship for best bull, the same judges officiating, lay between Mario, Ironclad and the Queen's bull. Many would have placed the last first, and probably many more would have placed the former first, but a murmur of surprise and regret was heard around the ring, when the coveted honor was bestowed upon one that we feel sure a majority considered the worst of the three. The verdict was accepted as an honest one, according to the best of their knowledge and belief. Ironclad is a good bull, too, but is plainly deficient in his girth, his shoulders are too prominent, and his tail head is very faulty. It must have been the quality of his flesh and hair which carried him through, qualities which an English judge is apt to value more highly than even symmetry of form.

The cows in this class numbered a lot of good ones, yet not better than we expected to see, and it was a plain case of first for the matronly Molly Millicent, Mr. Thompson's champion of last year's Royal, that appeared in the useful form of a dairy Shorthorn, carrying an udder which, for size and shape, was faultless, and which fully met the objection so often heard that show cows will not breed, as well as the other, that Shorthorns are not milkers. Oh, for a dairy herd of just such cows as this! The same owner was awarded second prize on his Inglewood Gem, which won first prize at the last year's Royal as a three-year-old, and has raised a calf in the interval, and is of the same family as the first-prize cow. Mr. Thompson has had wonderful success in winning prizes at the Royal with his females the two last years, and it is not luck but real merit that has won. His three-year-old cow Belle Madeline, by Beau Benedict, the most perfect Shorthorn in the show, wins first in a strong class of three-year-old cows, and the championship for best female in the show. This would seem to be glory enough for one cow, even in a jubilee show, but there was more than this in store for her, for when the contest for the Queen's gold medal was called for the best Shorthorn in the yard and only Ironclad came out against her, it was a plain case of more glory for Belle Madeline, and she was decked with the red, white and blue rosette as champion over all. These prizes were not all empty baubles either, for we sum up the winnings of this heifer at this one show at £120 or \$600, besides the gold medal. A long line of two-year-old and yearling heifers of fine form and character, most of them carrying flesh and hair of grand quality, completed the display in this class, and argues well for the future of Shorthorns in their native home, the nursery from which they are being transplanted with assured success in all quarters of the globe.

The Herefords make a magnificent show in England, and at the Royal they were grand. Maidstone, so well known to fame as a winner, was allotted the premier place in the ring for aged bulls, but he had to fight for his spurs, as there were three other bulls in

the ring that were good enough to get there without a suspicion of foul play, and if the first was rightly placed, Radnor Boy was entitled to second honors, and Rare Sovereign, though relegated to third place and having seen better days, holds a high place in such competition. Maidstone was also awarded the championship for bulls, but we thought his two-year-old competitor, Favorite, the first prize bull in his own section, taking his useful age as well as his personal merit into account might well have had the honor, and he had a capital compeer in the Earl of Coventry's White Boy, which was placed second in the two-year-old ring. The gem of the class, however, was the regal Rosewater, the first-prize cow and winner of the championship as best Hereford. This cow comes the nearest to absolute perfection for a beef animal of anything we have ever seen. For smoothness and thickness of flesh, for quality, style and constitution, she stands unequalled and unexcelled.

All the other beef breeds were out in strong force. The Devons and Sussex, two classes so nearly similar that a casual observer would not distinguish a difference, both being all red, and having long, well-placed horns, and smooth, plump, well-fed forms, made a beautiful show.

The grand Aberdeen-Angus bull Cash, attracted universal attention and admiration, winning the championship, while the cow, Waterside Matilda, placed first in the cow class, was a model of a beef animal, and the class as a whole was good.

Galioways made a capital showing, both as to numbers and quality, which was good all over, and with the exception of the shows at Carlisle in 1880 and Newcastle in 1887, when they were nearer home, it is said to be the most meritorious display that has ever been made at a Royal of England. The grand bull, Vale Royal of Closeburn, shown by Mr. Villiers, is a model to go by—long, low and level, with smooth, thick flesh, fine hair and lots of it, while Maggie of Tarbrooch in her five-year-old form, who was placed first and was awarded the Queen's gold medal as champion over all, is as near right as they are made. The younger bulls and heifers of this class were uniformly excellent.

Ayrshires made comparatively a weak show, not, we presume, because they are not strong in Britain, but because they were not well represented at Windsor.

Guernseys made lots of friends for themselves at this show. They were not only numerous, but of high average merit, and made a strong impression upon the minds of dairymen, that they are coming to stay as vigorous contestants for supremacy as milk and butter producers. They look just like what we believe they are, honest workers, with the capacity to do big work. Their size, form, handling, color of skin and the form and shape of their udders all indicate this, and they stood the test of the scales well as regards the weight of milk produced. We have not the record of butter made, but will look for it with interest.

The comely Jersey outnumbered all the cattle classes by nearly two to one, and it was not only a muster of numbers by any means, but a grand collection of over 400, with hardly an inferior one in the lot. The bulls were models of beauty and fineness of quality, and the cows were built for work. They were not as large as we have them in Canada, and we like size and capacity, but these evidently mean business, judging by the size and shape of their milk vessels, and those which were awarded the prizes were the poorest of the classes as regards flesh. Skin and bone seemed to be what the judges were looking for,

and no doubt they knew what they were doing. The prize cows gave evidence in their condition and in the results of the milk and butter tests, that they were not idlers, but were here for work, and had been on that line all summer. Holsteins were represented or rather misrepresented by only one cow and two bulls, and they would not win at a county show in Ontario. We were sorry for the reputation of the breed that these were here. Welsh cattle, a horned black breed, were well represented, as also were the little black Kerry cows, and the Dexter Kerry, a smaller class of black cattle, the Highland, the Long Horn, a large, coarse breed, with white line back, and the Red Polled, a good class resembling the Angus.

HORSES.

The most striking feature of the display of horses seemed to us to be the lighter classes, such as Thorough-breds, Hackneys, Coach horses and Cobs. All these were exceedingly fine. The thorough-breds are larger than we are used to seeing in Canada, and would, we think, be very useful to cross upon our cold blooded mares, to produce good carriage and driving horses. The Cleveland Bays made a splendid show, and Mr. Burdett-Coutts' first prize stallion, Sultan, winner of the championship, is a perfect model of a carriage horse, full of style, life and action, with a faultless form. The younger horses and the mares and fillies in this class were a beautiful lot all through. There was a wonderful class of Hackneys. This is a favorite class in England, and they make model drivers, being handsome, well-turned, well-balanced horses, with good knee action, plenty of ambition, good constitution and great endurance. The Shire horses were at home in England and of course made a grand turn out. The class of aged stallions made a majestic muster, showing immense size combined with good quality, style and constitution. Lord Wantage's celebrated Prince William, now in his sixth year, it was apparent was safe for first place, and he was also awarded the championship and the Queen's gold medal. Harold, another champion of the breed, with a great reputation all over the country, came second, and Hitchin Conqueror, a half-brother to the champion, wins third prize, another proof if it were wanted of the prepotent qualities of their noble sire, William the Conqueror.

The class of Clydesdale stallions was disappointing. There were only three aged horses shown. This is accounted for by the fact that the show occurs earlier than usual, and just in the middle of the Scottish season, so that the horses could not be taken from their stands. We were disappointed in the size of the horses shown, though we were prepared to see, as we said, a great improvement in the quality of bone, and the absence of the whin-bloom-like hair, with which the old time Clyde used to sweep the streets. They are themselves large enough yet for all useful purposes, but it is a question whether for the purpose of crossing on our Canadian mares, they may not fail to get as large a type of draught horse as the market demands. The Shire men seem to have maintained the size while improving the quality of bone, and the Clyde men might do well to take a leaf out of their book, but while saying this, we desire to give the latter full credit for their skill as breeders, evidenced by the production of a class of bone much superior to that of the Shire.

Mr. Riddell's Grand National, and the Duke of Portland's Macaulay, two very grand horses, contended for the best place, and it was a close contest, but the former was awarded the first prize. The three-year-old class was larger and better, and the presence in it of Mr. Gilmour's Prince of Albion, the champion

at Glasgow both in 1888 and 1889, made it an interesting ring. He had no real competitor in his class, either for first prize or for the championship over all ages—all the possible trophies of the show thus going to him. In the language of the turf, amongst the Clyde stallions, "he was first, and the rest nowhere." The two-year-old class numbered 17, and a good lot they were. The two judges split upon the two best horses, and the third judge was called in to break the tie, who decided in favor of the Queen's First Choice for first place, and Mr. Peter Crawford's Prince Robert got the second prize.

The mares and fillies of this class were an admirable lot, much better, we think, than those of the Shire class, and far away better than the stallions in their own. The contest for champion female brought out a grand show, and the coveted honor was finally awarded to Mr. Riddell's beautiful three-year-old mare Sunrise, the evenly-balanced mare that got first prize and the silver cup at Paisley, as well as several other first prizes in Scotland this season.

SHEEP.

Surely all the breeds of sheep were out for a holiday. There were 23 breeds represented, and most of them, we should say, well represented. It is surprising that so many breeds should be found necessary or profitable in so small a territory. Yet they all seem to have a place to fill, and they fill it as best they can. The various classes of Downs, Hampshire, Oxford and Shropshire, occupy the bulk of the territory, the former being more used for and adapted to the system of hurdling upon green crops and roots, for the purpose of enriching the land, and also for crossing and being crossed with the long-wooled breeds for the production of early-maturing lambs, are the standard sheep among the farmers. The Shropshires, being not so well adapted for close quarters, are generally kept on pastures. The Oxfords are much of the same character and habits as the Hampshires. All these make a great display at the Royal show. The Shropshires have been greatly improved in the last ten years in regard to quality of flesh and fleece, and covering of head. The boom they have been experiencing in the last few years has led to high prices being demanded, and in some cases paid. There is a much larger entry of these than of any other at the show. The prizes are considerably divided up amongst a number of exhibitors, and a great many disappointments must have been experienced by those who have drawn blanks.

Cotswolds for several years have been slimly shown, but this year have made a very creditable showing, both as regards quality and numbers, in proportion to their comparative numbers in the country. The home demand seems to be increasing, for use upon the Down breeds, to produce early-maturing cross-bred lambs for the market, and prices have advanced very much.

Leicesters and Lincolns make a rather limited display, the former being of the small sort, the latter big, coarse, but heavy sheep.

The Southdowns make a very pretty show. They have been bred to a high degree of fineness and quality, with wonderful legs of mutton and breadth of chest.

SWINE.

The show of swine at Windsor was, on the whole, disappointing. This is especially true of the white varieties, and is accounted for to some extent by the unsatisfactory classification adopted, none of the so-called breeds being recognized as distinct varieties. What are called large Yorkshires in Canada are here classed as large whites; and our Suffolks, so named

in Canada, here are simply classed as small whites, while what we call Essex are classed as small blacks, sometimes black Suffolks, while at the Royal, coming after Berkshires, they are classed as other black breeds. The Berkshires at Windsor numbered more than one-third of all the pigs on exhibition.

The class of Berkshires was unusually strong, and the competition very keen, and the judging on all the pig classes at Windsor, as at Exeter, was severely criticised and censured. The judges seemed to be oblivious of the fact that exhibitors had spent a year of hard work and expense in preparing for the show, and were entitled at least to have their animals brought out of the pens to be seen by the judges and compared, but in many cases they were not accorded that privilege, and some of the best were not even commended. A live "lord" may be useful in his place, in the House of Lords, but when he is asked to "cawst" his pearls before swine, in the capacity of a judge in a class of which he has no practical knowledge, we can only offer our sincere sympathy to the unfortunate exhibitors who are obliged to submit their stock to such a tribunal.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL

Breeds of Pigs.

(Continued from June.)

The *Poland China* is an American breed which originated in the Miami Valley, and is the result of a judicious mingling of several different breeds on the common and unimproved pigs of that district. The first crosses that were used of which there is any record were some hogs known as Russian and the Byfield, both of which have been described as usually white in color and of large size. A cross of the white Chinese was next introduced, and for many years subsequently, the result was as might have been expected from the use of such crosses. The ancestors of the black and white *Poland China* were white. A reaction in favor of colored pigs then appears to have set in, and a cross of the Berkshires was next tried, although it is said that one boar at any rate was a *white* Berkshire; still, whether this boar was white or of the present accepted color, it is certain that considerable attention was directed toward some pigs of the Woburn breed, an importation of which was made about the same time, and there is little doubt that an infusion of this blood was used to a considerable extent.

The Woburn breed was an English variety that was introduced by Francis, Duke of Bedford, who exhibited some of them at Lord Somerville's cattle show in the year 1806. They were described as being of various colors and spotted, well formed, hardy, very prolific and kindly disposed to fatten. They were probably the result of a judicious cross, but what those crosses were little is known for certain at the present time. An importation was made in 1841 of a variety called Irish Graziers, with considerable benefit it is said, although it seems difficult to credit it, for the Irish breeds of pigs at that time were certainly not held in much estimation by writers of that period. At any rate such are stated to be the progenitors of the *Poland China*, and the co-mingling of blood from the different crosses resulted, as may be imagined, in a large proportion of spotted pigs, which has to the present time remained the accepted color, although of later years a strong tendency has developed in favor of a darker color, so much so, that some are of opinion that it has been carried too far, and that softness of skin and hair and mellowness have been sacrificed to the popular craze of color.

The following is a scale of points for *Poland Chinas*:

Color—Dark, spotted or black	3
Head—Small, broad, slightly dished	5
Ears—Fine and drooping	2
Jowl—Neat and full	2
Neck—Short, full and slightly arched	3
Brisket—Full	3
Shoulder—Broad, deep	6
Girth around heart	10
Back—Straight and broad	7
Loin—Broad and strong	7
Sides—Deep and full	6
Ribs—Well sprung	7
Belly—Wide and straight	4
Flank—Well let down	3
Ham—Broad, full and deep	10
Tail—Tapering, not coarse	2
Limbs—Strong, straight and tapering	7
Coat—Thick and soft	3
Action—Prompt, easy and graceful	5
Symmetry—Adaptation of the several parts to each other	5
	100

Chester Whites, another variety of American origin, claiming *Chester County* as its birthplace, are also the result of judicious crosses. The earliest account of the ancestors of the *Chester White* is about the year 1812 or 1813, when a large white coarse hog was brought into *Chester county* and crossed with some pigs of the *Bedfordshire* breed, imported in 1818 by Captain James Jeffreys. What this large white coarse hog, the foundation of the breed, was, is apparently now unknown. About the same time some hogs of the Chinese, probably the *White Chinese*, were imported, and from a combination of these the breed of *Chester Whites* was evolved. Appended is the scale of points for judging *Chester Whites*, prepared by the *Chester White Swine Breeders' Association*.

Head—Nose of medium length and pointed	2
Ear—Small, stiff or drooping	4
Jowl—Heavy	4
Neck—Short and full	4
Shoulders—Wide, and well forward	10
Chest—Full	12
Back—Straight and broad, with ribs well sprung	10
Sides—Long and deep	10
Loin—In line with sides and hams	8
Flank—Low	2
Hams—Broad, full and well down to hock	15
Tail—Large and bushy	3
Limbs—Legs, medium size and keen	5
Feet, standing straight on toes	4
General Appearance—Hair, fine and straight	2
Neatness, style and symmetry	3
Action	2
	100

The face should be slightly dished and of good width between the eyes.

AGRICOLA.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

The History and Breeding of Bates Shorthorns.

BY RICHARD GIBSON, DELEWARE, ONT.

(Fourth Paper.)

THE DUCHESS TRIBE.

The history of the *Duchess* tribe is so well known that but little new of interest can be supplied at this late date. Suffice to say, after stripping it of the romance attached prior to the purchase of the original cow by Mr. C. Colling, in which *Stanwick's Park* figures; likewise a fighting husband in the far distant wilds of America, and a wicked wife making things lively at home; who, to obtain funds to carry on her high jinks, not only cut down all the timber on the estate, but also sold the much-prized herd of cattle which had been kept in its purity for over 200 years, Mr. C. Colling now appears on the scene, and

by the purchase of the last of its race, saves it from an ignominious death at the hands of the butcher, to become the ancestress of the most valuable tribe of this or any other breed. I say stripped of all this doubtful history, the fact still remains, not only on the authority of Mr. Bates, but also of Mr. C. Colling, that it was an extraordinary good sort. Mr. Colling is reported as having said, "The best cow he ever saw, and that he quite failed to breed as good a one."

The first known cow of the tribe was purchased by Mr. Colling in 1784, in *Darlington* market. She was named by him *Duchess*. Mr. Bates bought in 1804 from Mr. Colling, *Duchess*, by *Daisy* bull (in calf to *Favorite* (252), the produce being *Ketton* 1st). In 1809 he sold her to Mr. Donkin, *Sandhoe*, *Northumberland*, and in 1812 no doubt now become fully alive to the worth of the family, he purchased her back, when she bred two more calves and was sold when 17 years old to the butcher "and made a fine carcase of beef." For Colling she bred a bull, *Duke*, and a heifer, *Duchess*, by *Comet*, afterwards purchased at Mr. Colling's sale by Mr. Bates. For Mr. Bates she bred, prior to her sale to Mr. Donkin, three bulls, viz., *Ketton*, *Laird*, and another, and a heifer, *Baroness*, that died without increase. For Mr. Donkin three bulls were produced. The two heifers bred after her return to *Sandhoe* seem to have been lost, as no trace remains except that they were by a son of *Daisy Bull* (186). That Mr. Bates at this time had any definite views as to breeding is very doubtful, or of the tribe which afterwards made for him such a reputation, we judge this from the promiscuous bred sires that he used, and the fact that he sold *Duchess* by *Daisy Bull*.

However, at Mr. C. Colling's sale in 1810, he purchased *Duchess* by *Comet* for 183 guineas, or about \$915. She produced for him one bull and four heifers, and from her the various *Duchesses* of *Airdrie*, *Thornedale*, *Geneva*, *Oneida*, *Gunter*, etc., as well as the *Grand Duchesses* descend.

We have seen that Mr. Bates bought and tried a large number of cattle of various families up to 1830, and that he eventually discarded all but six; but from the time he purchased *Duchess* by *Comet* he never wavered in his allegiance to her and her offspring. He so persistently used bulls of this breeding that in 22 years the females had only numbered up to 31. *Second Hubback* of the *Red Rose*, and *Marske* of the *Bright Eyes* tribes, were the only bulls used outside of the *Duchess*. This persistency in breeding caused the cows to be shy breeders, so much so that it became necessary to introduce an outcross. The selection of *Belvedere* (1706) was most happy, as he proved very successful as a sire, and not only improved the fertility of the herd, but gave to them also that gay, proud and high-bred look, which is retained even now after so many years have elapsed.

The selection of *Belvedere* may be considered an instance where Mr. Bates showed intuitively his skill as a breeder. It may be urged it was quite an accident that he happened to stumble upon him, but we think not, for we find he offered £100 to Mr. R. Colling for service of his white bull to *Duchess* by *Comet*. *Belvedere* was of this same *Princess* family, and on purchasing him, he asserted that the union of the *Duchess* and *Princess* blood would produce such *Shorthorns* as had never appeared before. This was fulfilled in the case of *Duke* of *Northumberland*, who is allowed to have had no equal up to the present time.

Mr. William Torr, certainly no *Bates* partisan, expressed himself to the writer when *Commander-in-Chief* was at his zenith, that the *Duke* was by far the

best bull he had seen, and he believed the best ever bred, and would long remain such. After Belvedere his sons were used, and again an outcross was taken by sending some cows to Mr. Whitaker's "handsome Norfolk," of the Sally by North Star tribe. After this no further foreign blood was infused until the dispersion of the herd in 1850, except that of the Cleveland Lads of the Matchem cow tribe, now known as Oxfords. The introduction of this blood into the herd caused much comment and a good deal of controversy. Many of Mr. Bates' most ardent friends and followers highly condemned its use, and probably the opposition had the better of the argument on paper. That the Oxfords possessed qualities at the time of their use that the Duchesses required, is without doubt, but whether Mr. Bates would have continued using them to the same extent that his followers have done, is an open question. It seems probable that when the Matchem cow was first purchased, it was with no thought of breeding a bull from her to cross his favorite Duchess, but upon seeing how well she responded to that experiment in the Oxford premium cow and the Cleveland Lads, the bold idea of blending the two was conceived, and the result being satisfactory, more use was made of the blood. To reinvigorate a tribe that had been so persistently inbred, stamina and constitution was what was wanted as well as fecundity; these were obtained through that cross. That Mr. Bates had the boldness to take this step shows he was possessed of great moral courage, after reading his brother breeders' so many humilities on purity of breeding, worth of pedigree and old blood; and it also indicates that he found what he was seeking after, or he would not have persisted in its use. May we not say he here showed the genius of the workman, in seizing at the proper time the means that offered to his hand to obtain the end.

That the results of the outcross were as valuable to the herd as were those of Belvedere is very doubtful; certainly they were not so apparent, but probably superior to those of 2d Hubback, who is said to have introduced oad crops and thin skins.

Without the Duchess tribe Mr. Bates' success as a breeder would have been about on a par with his neighbors. But he recognized its worth and devoted his energies towards developing it. Refusing to sell females, sending to the butcher all culls, it early asserted its right to first honors, as a bull-breeding sort, which it has maintained from the time of the Earl to the present time. What tribe of cattle has produced the same number of good bulls? What ten tribes combined has?

(To be continued.)

Rambling.

THE ONTARIO AGRICULTURAL COLLEGE.

Wrested free from the thralls of political influence, and raised out of the quagmire of political subservience, the Ontario Agricultural College, under her present management and by the strenuous exertions of her sturdy adherents, has become a powerful educator of the agricultural mind, and has changed the once strongly flowing current of derision and scorn into one more powerful of praise and approbation. She was once the subject of the jibes of one party and the fawning of the other, but has now happily broken from these fetters and has wrought for herself the thorough appreciation and full approval of the interest she so assiduously labors to advance—that of the Canadian agriculturist. The rapidly with which her influence is widening among our farming communities leads us to cheerily look into the future, and we feel that if the germs of prosperity already planted

in goodly soil are watered with the dews of encouragement and warmed by the sun of approbation her power for good will be augmented with each season's recurrence.

The past year with the college proper has been one of marked prosperity, not gauging this solely by the number of students that have been in attendance, but more by the fact that they were many of the best that Canadian farms could supply. This is a straw that shows the trend of the wind, clearly indicating that the farmers of the Dominion are awakening to the value of her teachings and sending the best of their sons there in preference to colleges of medicine, law or theology. The attendance of over one hundred and thirty energetic and ambitious students, as shown by the roll, makes known the fact that the so-called learned professions are not now exacting as much homage from the farmers as formerly; and what is more pleasing to note, that which by the old classification must be grouped with the unlearned has in their estimation become one of the most profound of all.

Having had the pleasure of a few days' visit to the college, we purpose giving a brief description, mainly as to what is being done in the way of experimenting on the farm. At the time of our visit the crops were on the whole of average promise. The building of the new barn, which is planned much after the preceding one, is being rapidly pushed ahead, and is expected to be ready for the harvest.

There is evidently a great deal of attention being given to experimental work at the farm this season, especially in the line of spring cereals. The plots, fully 400 in number, are neatly laid out and neatly kept, and are all so labelled as to be self-interpreting. There are no less than 102 plots of spring wheat, 92 of oats and 56 of barley, and most of these contain distinct varieties. The winter wheats are all more or less smitten with rust, some of them very badly. In none of them can a fair test be secured this year as they will be so shrunken.

The major portion of the spring wheats are in a similar condition, giving one the impression that this locality is not at all favorable to wheat production. It may possess this advantage, however, that a variety which will stand the test here may be considered rust-proof.

Of all the varieties grown, none will at all compare with the Wild Goose in strength of straw and general vigor, nor is it at all affected with rust. The Kerson, a bearded variety from France, looks well. It has a club head and fair stamina. The same may be said of the red-bearded March, also from France, only that the head is longer and more open. The Poland Russia is a very vigorous, long-headed wheat, also bearded, but is not closely packed in the grain.

The showing of oats is most excellent. Not one of the ninety-two varieties can be called a complete failure, and many of them are most promising.

Amongst the German varieties we may note the American welcome as being most vigorous, and also the Oderbrucker, although it is a shade later. The Daneberg has strong straw and a very heavy head, and the Victoria is an early variety with clean, bright straw.

The characteristic of the Russian varieties is strength of straw and heaviness of head, though most of them are a shade late. The Podolischer is one of the strongest. Of the seven or eight Scotch varieties, the Victoria White is early and vigorous, but most of the Scotch oats are also a little late.

England is represented by some ten varieties, of which the Flying Scotchman and Early Blossom are

quite early, but most of the English varieties are lacking in strength of straw.

France is represented by sixteen sorts, of which the Yellow Gigantic only possesses strong straw. Most of the French varieties are fine in the straw and small in the grain and inclined to grow thickly. The Red Spot, one of the finest, should make an excellent ration for stock when grown for fodder. The Black Hungary, a main oat, also from France, is undoubtedly a good one.

The White Australian takes very kindly to our soil. It has strong straw, huge heads, and is one of the earliest. Carter's Prize Cluster promises well, as does the Early Race Horse, but the latter is weak in the straw. The Egyptian is one of the best, and the same may safely be said of Rennie's Prize White. The Welcome and Early Cluster, or Triumph, both look well.

Many of the barleys also indicate a hopeful future, though none of them look better in the meantime than our six rowed Ontario barley. Several of the German varieties produce a large amount of straw, though a trifle soft. The Oderbrucker six rowed looks well. The three rowed, also from Germany, looks well, and is beardless. It is short in the straw and very early. The Italian Rice, also from Germany, grows prettily. It may be said to be two rowed, with a head flat and a little cone shaped on the thin edges, from which radiate numerous fine braids in the shape of a fan.

The Guyinalaya, from Sweden, six rowed, has heavy, drooping heads, and the Mandshuria, from Russia, is the tallest and one of the most vigorous in the lot.

We look forward very hopefully to most important results from the experimental work of this year. The collection is, undoubtedly, one of the most comprehensive and varied on the continent of America at the present time. It is quite impossible that a collection containing so many varieties will comprise none, the presence of which will prove a boon to the farmers of this country. The appearance of the next report of the college, which will contain the full results, will be looked for with unusual interest.

In the matter of weed extermination, Prof. Shaw is pushing the work with vigor, being determined to cleanse the farm of all troublesome plants. Anyone knowing the constant vigilance and untiring perseverance necessary to keep such a farm clean, where new grains are being continually introduced from other places for the purposes of experiment, will be aware of the magnitude of the task. From the signs of work already done, we have no doubt but that he will succeed in what he pronounces to be his aim—the abolishing of all weed life on the place, and making it as clean as a seed farm.

In the garden we were shown a series of plots that might with propriety be termed a "rogues' gallery." It is a scheme adopted by Prof. Panton for the practical teaching of botany, and it certainly commends itself for this purpose. In the first plot there is a systematic arrangement of plants, embracing forty orders, two hundred and twenty-five genera, and three hundred and twenty-five species. The viewer is often surprised to find such plants as mustard and cabbage close relations, or the common purslane and spring beauty near relatives. Yet here we see them plainly classed as such. Many other points in the family history of plants are also made clear. The second plot is to test the student's knowledge, and to this end the two hundred and twenty-five species of plants in it are not grouped in their respective orders. The third plot beautifully illustrates the various methods of bedding—carpet, ribbon, mass and miscellaneous. The idea is a capital one, and materially aids in making the teaching of botanical science as practical as possible.

Our Manitoba Letter.

From our own Correspondent

THE ROOM CHALLENGED OUT

When I wrote a month ago, the want of rain was being a good deal felt, but there were daily tokens that it would not be long in coming. Those signs have all failed, and in most parts of the Province the protracted drouth has done irreparable damage to the grain crops. Local showers have mitigated the damage, and here and there enough rain has fallen to ensure a very fair average. Portage Plains and a stretch of 40 miles west and east from Portage, will make the best average of the whole Province; in fact there are fields that could not be better in any season than they are now. A few thousand acres on Tobacco Creek, south of Carman, are also in fine condition. Along the Northwestern Railroad there is a considerable proportion of good grain, and a streak about five miles wide and twenty long just north of Brandon is exceptionally good. This patch had good rain on the 17th June, and the soil is clayey, keeping all moisture it gets. Round Manitou are some promising samples, and there are spots all over, where on good backsetting and summer fallow a good yield will be reaped. Oats and barley are in worse plight than wheat. They are usually sown on spring ploughing, which, being loose and dry, is in the worst condition to resist drying winds and sun, and not one tenth of the area so sown will give a fair crop. In the driest districts farmers are now ploughing down much of their crop on stubble ploughing, and will then have a capital chance for a first rate wheat crop next year; but in a new country like this, one year's crop lost has a very paralyzing effect. Our losses will be aggravated by the fact that too many of us have an unfortunate tendency to discount our future chances, and buy reapers, horses and other things, out of a crop that has hardly got above ground. Whether it is "ozone" or a general tendency to wind on the brain, that induces us to buy horses with one-tenth cash and nine-tenths paper, it would be difficult to decide, but it is unfortunate for us just now that the very bright promise two months ago of a first-rate and early crop has induced so many of our farmers to go beyond their depth in buying mostly on credit a good many things that they could in a less sanguine spirit have managed to go very well without.

There is little fear that the eastern farmers, who bought land earlier in the year, will have reason to rue their bargains. One good crop in such land as ours will more than pay for the farms they have bought, and when good breaking has been done this year, it is quite possible that they may have a thirty bushel return from it the very first season. The substance is all there, and though the want of rain may keep back one year's returns, there is a fair certainty of returns over an average of years.

It is curious that an old Dakota man pointed out three months ago that he had never seen a good crop after such a dry fall and early spring as we have had this year. Our present weather, but for the want of rain, is perfect, as it has been all along, but there is never enough of electrical disturbance in the air to bring on a good thunder-storm and its consequent rainfall. The country has been killed this year by too much fine weather. With local exceptions on deep clay lands our neighbors to the south have been as badly or even worse bit than we are. I question if there is in any part of Dakota north of the line of St. Paul any similar area at all equal to the Portage plains in the excellence of its present showing. In the stretch south and east of that where the eastern rains have over-

lapped, there is one of the finest crops seen for years. Our turn will come next.

Except on the very driest of the bare prairie sections stock have done splendidly in spite of the drouth. In a moist year herbage grows too rapidly and is far from nutritious. The animal is filled to bursting, but is not fed, while in such a season as this flesh is laid on rapidly. Even dairy cows on an indifferent pasture are sleek, and but for the scarcity of water would give better returns than in a much better-looking season.

At July, a French settlement, where Prof. Barre is connected with a centrifugal creamery, about 500 lbs. of butter per day is turned out and finds a ready and profitable market in British Columbia. The cows are unmitigated scrubs, at least the majority of them. Cheese-making is being followed at a good few points and the last year's output may be reached, but not much more. In the northwest of the Province a few creameries and cheese-factories have been started. This and the district east of the Red River are especially suited for dairying and stock, and when people have made up their minds to go slow and sure there will be more thorough attention paid to this branch of farming than is now being given. Wheat is a wonderfully profitable crop—when you get it, but something slower and steadier will have to be tried by some of us.

Winter keep for stock will, in a good few places, prove a very serious question. The swamps have been gradually drying out and hay getting scarcer and scarcer, but this year the difficulty has reached a climax. There is not one area in fifty of the old hay meadows fit to cut, and our almost sole reliance this year must be on low out-lying areas where no cutting has yet been done, and on the margins of the larger ponds and lakes. For the first time in our history we will need to husband all the straw we cut and use it for winter feed. Hay on the Winnipeg market has already gone up to \$14 a ton, a downright famine price here. Stock in good condition can be wintered capitally on straw and water, and steers two years old were sold by a farmer in St. Francis Xavier last June that had never been under a roof except as calves. With rain in the fall our cattle will go into winter quarters all right, and live through it on very meagre fare; but the men who depend year after year on big areas of wheat and do superficial work will get a very bad blow.

GOPHERS

are this year a terrible scourge. They breed freely on sandy and gravelly soils, under which they can burrow and sleep all winter. On cold and clay lands they do very little harm. But this year, when everything is dry, they came off the wild lands, cut the green grain, suck the sap from it, and devastate areas in a week. Councils offer bounties for their heads or tails. It is whispered that in one case the heads were bought by one municipality and the tails of the very same gophers by the next. All plans have been tried; the ironmongers are sold out of traps and the chemists out of poisons, and the vermin seem as numerous as ever. One dead gopher in spring is worth ten tails in the fall, and some of us propose to call upon Parliament for a law to help their destruction.

Association Judges.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

It is with feelings of regret that I feel compelled again to write on this question, but I am at the same time pleased that Agricola has taken up cudgels for the opposite side of the controversy. From his past writings in the JOURNAL, I have formed a very favorable

opinion of him, and his last effort has not caused me to change my mind in the least. His side is certainly to be congratulated that the exponent of their views has passed into the hands of so able and gentlemanly a writer. By your permission there are a few things in his letter that I would like to notice.

In the first place, he takes exception to the statement that the leading members of the D. S. H. A. are the chief exhibitors. The statement is correct; almost the only notable exception is the Bow Park Co., which from their position can more than hold their own without having a representative on the combine. He then says, "and if they were desirous of appointing judges favorable to themselves, it would be an almost impossible matter to influence so large a number." This is a worn out and trumpet argument; at the same time a very seductive one. Everyone knows, who has had any experience with meetings of this kind, that actual business is done by a very few, and those few are the interested ones. One or two prominent men will nominate four or five other prominent men as a committee to draw up a list of judges. This list will contain the names of a few more prominent men. It will then be put to the meeting as a matter of form, no one making the least objection, and no one being expected to; indeed, if any one had the courage to breathe a word against the unfitness of any of them, he would be dubbed a pestilent fellow, a destroyer of good feeling amongst gentlemen and be taught to hold the unruly member for the remaining portion of his life.

He then tells us that it is no fault of the D. S. H. A. that two-thirds of the breeders are now members. Certainly not, but is it not a most startling thing to be told that for an exhibitor to secure justice at, say the Provincial Show, he must become a member of the D. S. H. A.? Have these two associations any right to be in collusion? The dictates of common sense and common decency frowns on such miserable sophistry.

He then takes me to task for designating some as jobbers. I did not mean to convey anything dishonorable by the term, still it would have been better to have called them dealers. It is just as honest to deal in Shorthorns as any other commodity; at the same time, these dealers are not proper persons to act as judges on account of the reasons given in my preceding letter.

In his concluding paragraph he descends to make statements that one would not expect from the general tone of his letter. I allude to the assertion that I have "but a poor opinion of the prominent men of the D. S. H. A., as well as their judges." The most uncharitable construction that can be placed on anything I have written will hardly bear out this conclusion. He seems to have forgotten that they are public men, and I have only dealt with them as such, and as public men they must expect their public actions to be criticised, but it seems in this case (at least to Agricola) I have failed to make myself understood. I said in my last, and I repeat it here, that I believe them to be just as honest as any other body of men, but no more so. I do not suppose if you were to ask them individually, that one of them would say that he had entirely shook off the old Adam, but to make myself clearly understood on this point, allow me to cite an illustration or two. Supposing one of our municipal councillors (being a lumber dealer) was to inadvertently sell to the municipality a single plank, it would void his election. Why? Because he is in a position to enrich himself by robbing the ratepayers. A township assessor is not eligible for a councillor the year after he has filled that office, because he is in a position to stuff the voters' list to his own advantage. Are these two classes counted dishonorable men? I believe not. Then why hedge them with such restrictions? It would almost look, according to Agricola's reasoning, that they were rogues of the deepest dye. How if these two classes are counted amongst our most honorable and able men (and I believe they are) from whom it is necessary to remove all temptation, why does Agricola accuse me of imputing dishonest motives because I am opposed to exhibitors appointing judges to judge their own stock.

I have read the opinions of some of our greatest jurors (and who has seen more of human nature than they), and they all agree that mankind are not to be trusted to do right when their own interests are at stake. Who has not, in our courts of justice, seen men in the witness box who were the pillars of society, how their memory would fail them when it

was to their advantage that it should, but how retentive it would be when it was to their advantage.

Now, Agricola, if instead of saying I had a poor opinion of the prominent men, you had said I had a poor opinion of human nature, you would have hit the bull's eye. I wish to say this that I believe that amongst these prominent men there are some real good men. I mean good in the highest and best sense of the word, but a long lease of power coupled with the flatteries of servile fawning creatures, has in a measure marred their usefulness as public men. I will make this admission that if men were what they ought to be, it would be for breeders to appoint their own judges, but, alas, they are not, and we must take them as they are.

This is the sum of the whole matter—the prominent men, their judges, and the chief exhibitors are a unit. They have two trusted ones on the Toronto Industrial Board, and one or two on the Provincial Board. Why it seems that Agricola was right after all—Being a member of the D. S. H. A. he should have gone a step farther, and told them to crowd to the front where their power and influence would be felt, and use it with an unsparing hand. Although I am not in favor of the machine, I cannot but admire the harmony of its working. How nicely one part fits into the other, and with what completeness it is calculated to do its work. Never mind if it does slaughter a few outsiders, it will be kind to the combine.

STEPHEN NICHOLSON.

Sylvan, Ont.

The Duties of Exhibitors at Our Agricultural Exhibitions.

The above is the title of a paper read by Prof. Thos. Shaw, of the Agricultural College, Guelph, at the recent Canadian Convention of Fairs and Exhibitions, held in the city of Toronto.

Men are often loud in their clamors against the management of an exhibition who are themselves measurably and directly responsible for the results they complain of. It is the old story repeating itself of beholding the mote in the eye of another, while a beam is in the eye of the fault-finder. We have heard a good deal in these latter days about the duties of the directorate, when a few sentences on the duties of exhibitors may not be out of place. The three parties affected by the results of an exhibition are the directors or the board of management, the exhibitors and the visitors, and in proportion as any one of these is remiss in duty, the success of the exhibition will be marred. That some exhibitors are a constant source of trouble to the directorate, and especially to the secretary, is an open secret, and oftentimes without the culprits being aware of it, for were it otherwise they could not in conscience suffer themselves to act so unreasonably.

I can easily fancy the secretaries of large exhibitions so pestered with unreasonable demands from exhibitors who consider themselves the most reasonable of men, until they, like the good old man who, in a moment of forgetfulness, cursed the day of his birth, are ready to curse the day of their induction into the duties of their most trying position.

This tendency on the part of exhibitors to ask favors of the secretary is an illustration of the tendency in human nature to look upon self as an object deserving of special consideration. If we admit the correctness of this assumption, then the amount of self in the aggregate deserving of special favors at the hands of the secretary is the sum total of the individual exhibitors, and the application of the principle would then extend to every exhibit made by them, which would include every article on exhibition. Now, a conclusion so completely monstrous is contrary to reason, and yet it only illustrates where the admittance of this principle of granting favors would lead us, were it pressed to its utmost extent.

The disposition to ask favors of this kind is burrowed in selfishness, one of the most hateful excrescences that is constantly rendering character hideous, that, but for its presence, would be an object of admiration. If exhibitors would but consider the unreasonableness of these demands, held up full size in the mirror of honest reflection, they would often, as they view the spectre, wonder what manner of men they were, and shrivel into an infinitely smaller self in their own estimation. If they would but put themselves in imagination in the place of the secretary, they would wonder at the patience and long suffering

of the man whose peace they had (it may be unconsciously on their part) done so much to disturb.

This unreasonableness on the part of exhibitors shows itself in *forwarding entries* after the date of making, these has expired; in asking to be allowed to *remove exhibits* before the time mentioned in the rules; in *non-compliance* with the regulations regarding the exposure of exhibits, and in their *applications* for *passes* and *complimentaries*, and the use they not infrequently make of these when they are obtained. I can imagine no duty of the secretary so hedged in with difficulties as the reception of entries. The number of entries is an indication of the probable success of the show, hence we can fancy the application of late entries finds the secretary more than half inclined to receive them, in his anxiety to secure a good exhibit, and all the more so when some of the directorate, self-impelled by the same feverish anxiety, not only sanction his thus breaking their own rules, but they rather urge him on in this direction. Now this should not be. When the rules of the show read that no entry shall be received after a certain date, so it should be. When that date arrives they should be refused, unless it can be shown that the application, forwarded on time, has failed to reach its destination. It is doing violence to the good old Anglo-Saxon to say that entries must close at a certain date when they do not. It was not on this principle that the framers of that glorious mother tongue built up the greatness of the peerless Empire, whose rulers speak this tongue. But it is not the Anglo-Saxon that sinks in the estimation of truth lovers so much as the men who put it to such a perverted use. Their reputation for veracity is more than hazarded, and they lose in this way more than they usually know. But it may be objected that all exhibition boards sanction the practice—covertly at least—and that it is the outcome of a necessity arising from the competition of the numerous exhibitions. I answer, if they all do it, directors, look ye to that. That it is a necessity to do violence to truth and to the rules of an exhibition by the framers thereof, is a piece of moral philosophy that cannot be sustained by the sanctions of the grand old Book. Directors must first respect their own rules and adhere to them, or it is not very probable that any one else will. When a rule reads that no entries will be received after a certain date it should mean that, and on the expiration of that time entries should not be received; no, not from the Governor-General, nor should the Governor-General even think of asking such a favor. No person should be so unreasonable as to feel aggrieved because his entries are refused after the proper time, unless in possession of evidence that this species of favoritism has been shown to another.

Unless the principle of promptly closing entries is rigidly adhered to, live-stock catalogues, so supremely useful to the interested visitor, are impossible. All exhibitors of stock, who think at all seriously of this matter, cannot but see the value of such a catalogue to themselves, and should therefore be impelled by self-interest, if by no higher motive, to give the secretary every information in their power, and sufficiently early to enable him to prepare a complete catalogue of the live-stock exhibit. All the facts sought by him regarding pedigree should be most cheerfully and promptly furnished, for it is surely unreasonable to expect a secretary, or any of his subordinates, to seek information which it is clearly the duty and the privilege of the intending exhibitor to furnish.

Why should exhibitors be so unreasonable as to ask the privilege of removing goods before the time indicated in the regulations? Do they for a moment stop to reflect as to the nature of their request? Do they not perceive that they are asking the management to commit a dishonest act, to break faith with the public? When the management advertise that exhibits will be in their place and accessible to the public until a certain hour on a certain day, they are in duty bound to carry out their promises to the letter, and it is very unfair and unkind on the part of any exhibitor to ask them to do otherwise. Again, admit the principle that some may be favored thus, and the admission becomes applicable to all, which, carried to its utmost limits, means that the flood gates of a disorder shall be thrown wide open that would be disastrous to the success of succeeding exhibitions. Why should any exhibitor show irritation or annoyance because the management refuse to allow him to remove even a portion of his exhibit, or why should he feel it though he may not show it? Wherein has he been aggrieved? He should rather feel annoyed, and could not but feel

thus if he would reflect, with that moral obtuseness within him that could consent to his asking unreasonable things of the board of management.

(To be continued.)

Jerseys and Standard Bred Trotters.

A SPEAKED LETTER FROM "FARMER JOHN" OF NOVA SCOTIA, DISCUSSING THEIR MERITS.

DEAR JOURNAL. You ask what has become of me, in consequence of not having heard from me for so long. Well, when the Jersey boom dropped, they fell so hard that they about knocked the breath out of me, but I am coming round again, still helping to milk a good dozen of the golden butter-makers, and still continuing to grow potatoes for them, and on the whole, enjoying life, with as great faith in the true value of a good Jersey as the only family cow that I ever had. True, I don't have as much to say about them as I had on the day I was so noisy, for the reason—public opinion, the jade. She is just as often wrong as right to side against me for a time, and from one extreme I went to the other; for if you remember—and of course you do—once in the height of the boom it cost about as much to buy a bang-up Jersey cow of the "upper tandom" family, as it would a paid-up life policy in a good insurance company, of sufficient money value to keep an ordinary granger the balance of his days in clover. Then they took a turn, and if you said "Jersey cow" to any kind of a sour-looking chap, he would knock you down. Why, there was one time during the depression, so far down in the estimation of the public had they sunk, that when I began speaking, I was told, "Stop now; we don't want to hear any more about them"—at the same time I had no idea of speaking of them. But I am glad to be able now to say that people are getting sane again, and are coming back to their postage. True, I don't ever expect to see fortunes paid for Jersey, but I am just as willing to own a really good registered Jersey cow as I would a Bank of England £25 note. We can afford to breed them for that price, and the buyer who wants a luxury in the shape of the richest cream and the choicest butter is not against paying that price or about it for one.

During the interval of depression in my favorite breed of cattle, I had to do something to make the pot boil, and after a long commune with my conscience as to whether I was not catering to the gathering of kindling wood for the devil or not, I started breeding standard-bred trotters, and after a few years, experience I am satisfied it can be done with as little danger in the adding to old Beelzebub's chances of successful effort as can the breeding of any other of the farm stock which comes under the head of farm products. We have now on the farm eleven mares, all bred on standard trotting lines, and the oldest of our produce we have sold as they became three-year-olds, for which we have realized prices ranging from \$300 to \$500, sending some of them into western Ontario, and the business seems to be growing, for there can be no doubt the tribe of horses known as Standard-bred, when true representatives of the breed—and breed they may be called now, for not a few of the more advanced family have arrived at that stage when like begets like—are a most desirable road horse, combining intelligence, speed, and a kind and fearless disposition; and as their good qualities are becoming better known in the old world the men of wealth there sigh for them, and many are being sent over there, not only to England, but Holland, France, Italy and Germany. Just now I have an order from a gentleman in Scotland for a pair, and he adds to his order, "Be sure and don't have the tails banded, for when I was over, what I admired most, next to their fleetness and intelligence, was their grand flowing tails." There is a market on the other side, and a growing one, for this class of our horse product, and we Canadian farmers have within our grasp the very material to produce the kind they want.

Some other time, if you think it would be of interest to your readers, I shall be very glad to let them know, through your valued monthly, how we manage our colts, in the way of breaking and fitting, without professional aid.

So far we have had a glorious season for farm work. Crops are looking splendid; and surely this Nova Scotia of ours is a delightful place to live in—climate, moderate; land, fairly fertile; nearly surrounded as we are by the sea; populated by a people who are not given to killing or any of the outrages that we

hear of being done in other places. I think, Mr. Editor, you will have to come down some time and visit your constituents down by the sea, and give them a hand shake. We will all be glad to see you, and pass you along one to the other, until you can, if you will, take in the sights of our whole province, at a cost to you of but little but that of your valuable time. Make up your mind to do so, and take in a sniff of the pure salt ocean, such as you can only get down here by the sea. By the way, this is the year of our great Halifax carnival, commencing next month, when our capital, Halifax, proposes spreading herself out to her utmost effort in catering to the amusement and instruction of the thousands upon thousands of visitors that purpose calling on her; but come and see us, bring your friends, and go back to your work revived for greater effort of good.

FARMER JOHN

The Necessity of Special Judges for Dairy Stock.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL

SIR,—Judging of stock is a well known theme, and probably will continue to be so. It is really impossible to satisfy all exhibitors, but probably there is large room for improvements.

Breeders of dairy animals naturally have a strong antipathy to have judgment passed upon their stock by those whose interests are centered in the beef industry, either as breeders or butchers. A man may be a good judge of beef breeds and know next to nothing as to what are the requisite points for milk. It is here that the most frequent and glaring mistakes are made, as it is known to every dairyman that there are many points beef and dairy cattle have that are in direct opposition to each other. It may be urged by managers of our exhibitions, especially the smaller ones, that the number of dairy animals exhibited do not, as a rule, justify a special set of judges being appointed; but we answer, in no other way than by having capable judges of dairy stock can even-handed justice be given, and if this is not done, the breeders of stock will soon cease to exhibit under these conditions. We know that prominent breeders will not exhibit under these circumstances, or if they do, it is more to show the public their stock than to secure the prizes, simply because the prize is placed by a man who knows nothing of dairy breeds. It is merely guess work, or favoritism, and his decisions have no value in the estimation of intelligent breeders. We have known judges at a show say they knew nothing about a dairy animal, and simply point out the largest as the best, and so on. We have a very low opinion of a judge that would consent to pass judgment on what he knew nothing about.

The importance of our dairy interest demands that it should receive every encouragement. The products of our cheese factory are away up in the millions of dollars, and steadily increasing, and Canada is destined to be a great dairy country, famous in foreign markets for the extent and excellence of our products. To improve the capacity and quality of the young animals soon to be the future cheese and butter producers, should be the ambition of every far-seeing dairyman. As this is one of our greatest sources of wealth it should receive recognition in proportion, and should be heartily encouraged through the breeders. This can only be accomplished, as far as the fall fairs are concerned, by having competent judges for this department as well as others.

G R.

Curries, Ont.

Veterinary.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Horses' Teeth as Age Indicators.

BY E. C. GRENSEID, V. S., GUELPH.

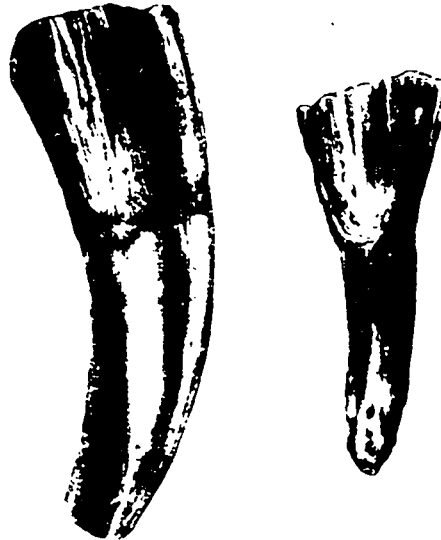
Many farmers take more or less interest in the natural changes that take place in horses' teeth, as they find that there is some practical benefit to be derived from such knowledge, particularly in buying, and also in the judging of horses at shows.

In order to become at all expert in determining a horse's age by his teeth, one requires a certain amount of experience in making observations on the mouths of animals of different and ascertained ages. A good

observer that is industrious and persevering, may become moderately proficient in the art, without any teaching whatever; but the study of the subject is very much facilitated by the instruction that can be gleaned from an explanation of the many points to be noticed in the teeth that are a guide in determining the age.

Access to reliable directions on this subject, the amateur seldom has the opportunity of procuring, so that we think the furnishing of a few notes in the pages of the JOURNAL, illustrated by cuts, may be of some advantage to its readers. Prof. Brown, Principal of the Royal Veterinary College, London, and consulting veterinarian to the Privy Council, was requested by the Royal Agricultural Society of England to make a study of this matter, with the object of gaining the most reliable and definite information on the subject which could be utilized as a check at exhibitions.

As a result, Prof. Brown spent a considerable number of years in observing and confirming observations, and has written his conclusions. The little pamphlet which contains the knowledge arrived at is looked upon as the most practical and reliable production of the kind. This information will be used as the basis for the matter produced on this subject.



A. Permanent. B. Temporary.
Fig. 1. Permanent and temporary incisors of horse.

The horse, like most other animals, has two sets of teeth during his life. The first set are commonly called *colt or milk teeth*, and the second the *horse or permanent teeth*. It is by the cutting and developing of the milk teeth, the shedding of them and the appearance of the horse teeth, in addition to the alterations of form, which occurs in the latter from age and wear, that the age is arrived at from examination of the mouth. The teeth outside, on opening the lips, are called the *nippers or incisors*, there being twelve of them—six in each jaw. In the space that separates the nippers from the grinders, on each side, are isolated teeth, called the *tushes or tusks*. They are only present in males, mares not possessing them, except occasionally, and then in a very rudimentary form.

As a rule only the incisors are examined as age indicators, but during the process of changing the teeth, one possessing the manipulative skill can learn valuable evidence from the grinders.

The colt has twelve *temporary or milk grinders*, arranged three in each branch of each jaw. These are superseded by permanent ones, with the addition of

three more in each branch of each jaw, making in all twenty-four *horse grinders*; so that a horse has altogether forty permanent teeth—a mare thirty-six, and colt only has twenty-four milk teeth.

It is very important that the examiner be able to discriminate between milk teeth and horse teeth, in order to avoid mistakes. Figure 1 shows the difference in form. A little care and attention will soon enable one to tell the difference, if it is remembered that the milk teeth are *smaller, whiter, and narrower at the neck*. In examining a milk tooth it will easily be seen that there is a marked constriction at about the point at which the tooth leaves the gum, which is hardly perceptible in a permanent tooth. A permanent tooth has a most decided yellow tinge, while a colt tooth is quite white. Another point of difference is the grooves that run lengthwise in the permanent incisors which are not to be seen in the milk teeth.

Certain terms are applied to different parts of a tooth in describing it. The part that is free of the gums is called the *crown*, the grinding or cutting surface of which is the *table*. The *neck* is the part invested by the gums, and the *fang* is inserted into the socket formed by the bone. In the table surface of the developed nippers are two rings, somewhat elliptical in shape. They are composed of the hardest tooth-structure, called enamel. The outer one surrounds the crown, and is separated from the inner one by a yellow ring, while the part enclosed by the inner ring is of a brownish black color. This dark-colored portion is usually referred to as the *mark*, and can be seen in fig. 2, A.

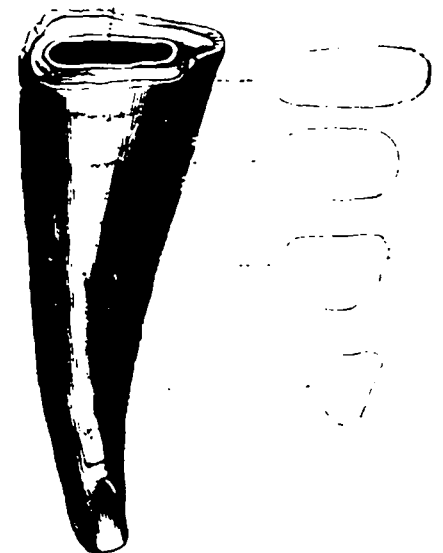


Fig. 2. Permanent incisor of horse.

The shell of enamel which forms the inner ring is conical in shape, the point of the cone being directed into the substance of the tooth. As the tooth wears down the mark ultimately vanishes. It becomes pretty well worn out in three years, in the nippers of the lower jaw, and this gradual wearing out is used as a guide to some extent in determining the age. By consulting fig. 2 a perfectly formed central permanent incisor is shown. As the incisors become worn down the table surface of them keeps changing its form, as depicted in fig. 2. This change of shape of the table surface has to be considered in determining the age, in fact, is one of the most important points, particularly after the mark is worn out. It will also be observed in fig. 2 that there is a complete ring of worn structure all around the work, as this figure be-

trays a perfectly developed tooth. But before the tooth is fully formed the ring of worn structure is incomplete, there being a portion not in wear behind the mark, giving the tooth a shell like appearance. After the tooth is perfectly developed and the table surface begins to wear down, it will be observed that the ring around the mark becomes thicker in front and thinner behind; or in other words, that the mark becomes closer to the posterior than the anterior edge.

(To be continued.)

The Farm.

THE many kind words of encouragement we are continually receiving from our readers and patrons have been an incentive to us, to not only uphold the past reputation of the JOURNAL, but to keep ever progressing with the age. While others in the same field have suffered reverses, the influence of the JOURNAL has widened, and its power increased through the warm sympathy and hearty co-operation of our friends. A proper spirit of emulation spurs us on, and we feel sure, relying on our past experience, that we may look for every encouragement and material aid from our readers.

A GOOD aftermath comes in well for the cows. There is a limit, however, in pasturing on it, beyond which it is not advisable to go, considering the effect on the crop of hay of the next year. The general practice appears to sanction the heavy pasturing of the aftermath until the cows go into winter quarters. The resultant effect of this is to expose the roots of the grasses, and thus lessens their vitality so that they are not prepared to withstand the severe test of winter. Sufficient time should be allowed before the cold comes on to permit the grasses to form a mulch or covering for its own roots and thus materially lessen the dangers of winter killing. A good top dressing of well rotted manure will also tend to decrease the chances of this occurring, and should not be neglected. A number have the idea that pasturing is a rest for land. It is a rest in so far as the cultivation is concerned, but as to its being a resting period in respect to the nutriment of the soil, nothing could be more far from the facts. A milking cow, a maturing steer, or a growing colt materially depletes the pasture soil for the time being, and every precaution should be taken to restore the materials abstracted through well rotted farm manure, bone-dust, superphosphate or wood ashes.

The English Sparrow.

(PASSER DOMESTICUS.)

This bird, once the subject of misplaced kindness and care, has spread with such rapidity and has wrought such damage to garden and field products that now even those who were once its firmest friends are thoughtfully considering the question of its extermination. Even in its native home it finds but few friends among those that have given the matter study, for there as shown by Mr. Omerod, it is fully as much a nuisance as with us. The wonderful fecundity of this bird and its ability to accommodate itself to surrounding conditions has given it a foothold in our land that will require united and persistent effort to overthrow. The first sparrows to be introduced to this country consisted of an importation of eight pairs to Brooklyn in 1850. Many others were brought over in the following years, and now we learn from a report of four hundred and five pages recently issued by the Washington Department of Agriculture that in 1886, when they were established, they occupied in

the United States and in Canada an area of 1,033,006 square miles. It is not necessary, however, to quote figures to emphasize this feature of the question, for the rapidity with which they increase and widen their territory is well known.

Of the damage done by these marauders, direct and indirect, the report to hand gives evidence enough from all parts of the continent of America to lead to their complete destruction. The grain crops, perhaps, suffer more severely from their depredations than any other product of the farm. During the winter months they live in the city, in many cases fed and cared for by mistaken philanthropists, and as soon as spring returns they leave the city in bands for the fields, and when the harvests are ripening the city is almost forsaken. Wheat is a favorite grain with them, and the damage they do this crop is enormous. With us the oat field suffers almost as severely from their attacks, while rye, barley, corn, and millet are by no means exempt. In the garden they injure fruit buds, blossoms, etc., and the collector of the facts given in the Washington report makes the statement that there is not a shadow of evidence for claiming that they only eat buds and blossoms containing insects. They make severe attacks in this way on the peach, pear, grape, plum, cherry and apple; and even fruits are not excepted; and green vegetables, garden seeds, etc., come in for their attention. About 2,500 stomachs were examined and of these only about 14 per cent. contained insect remains. It is a fact that the sparrow does make away with injurious insects, but they only do so as a rule when other food is scarce; and further, they do not kill any but what our insectivorous birds would destroy, nor would they kill as many as the latter. Being courageous, cunning and good fighters, they soon displace many of our prettiest and useful feathered friends. The accusation of filthiness about buildings is a strong one against the sparrow, and on this score alone they have enemies.

Among the processes tried by the department that of white arsenic seems to be the most preferred. It costs about 7 or 8 cents per pound, and four pounds will be sufficient for a bushel of wheat, and this amount, which is much larger than most persons will use, would kill more than twenty-five thousand. It is advised that before putting out poison for sparrows that the birds be baited to a certain locality. At the same hour each day they should be fed with the same kind of grain that subsequently is to be used as the vehicle of the poison. Extra caution is necessary to prevent poisoning of domestic animals. Shooting them proves an effectual means for a time, but they soon become shy, and the other birds also leave the locality. If our sporting clubs, that take such delight in mercilessly shooting pigeons, would substitute the sparrow, they would remove the stigma attached to such sport, and be doing good work for the country.

Value of Kiln-drying Seed Corn.

For some time Dr. Sturtevant, of New York Experimental Station, has been studying the influences that bear on the germination of corn, and his conclusion is that it is a mistaken idea of many that cold always kills seed corn, he believing that the case is really, that at a low temperature corn germinates very slowly, and time is given for mould to grow, which succeeds very well under such conditions; and the mould destroys the vitality of the seed before it germinates. This being so, it follows that if preventative measures against this mould be taken, the seed may be sown earlier and less danger from late frosts. This experimenter has noticed that corn thoroughly

dried at harvest rarely if ever becomes mould-infected, and trials at their station prove that drying of seed corn is promotive of vigor, and if corn in the edible stage is quickly and thoroughly dried at a temperature of 100° or even higher, the important point being to secure warmth and dryness, he claims it will germinate readily. He states it to be a fact based on personal research that seed so treated may be expected to furnish plants of greater vigor than will be produced from the same seed preserved in the ordinary manner.

Value of Leather as a Fertilizer.

THE question is frequently asked regarding the precise value as fertilizers of certain kinds of animal refuse, as horn, hair, leather and the like. Those who gather such substances in large quantities in certain processes of manufacture are naturally anxious to turn them to good account. This is an anxiety which the thoughtful farmer will naturally share, as, owing to the perpetual waste in one form or another of the fertilizing resources at our command, it becomes us to utilize everything that will more than repay the handling to make up for the perpetual drain on the resources of the soil.

The importance of giving due attention to the husbanding of those sources of fertility becomes more apparent when we reflect upon the little use that is made of night soil, especially in Anglo-Saxon speaking countries, where, as a rule, it is all or nearly all drained into water-courses which eventually carry it down to the sea.

It is well first to consider in the application of all artificial fertilizers whether such application will repay the outlay, and of the various substances thus applied which will give the best returns.

Tried by this test the experiments in the application of leather-meal have not been altogether satisfactory, although leather scraps contain considerable quantities of nitrogen, varying from five to eight per cent. The great obstruction to its utility lies in its resistance to decay, and this is not to be wondered at, since in its preparation the processes of manufacture all aim at giving it such powers of resistance. Because of this property powdered leather is practically of no use as a fertilizer. The same, however, cannot be said of leather when subjected to the action of hot steam in a close boiler. When thus treated it becomes dry, hard and brittle, in which condition it may be readily reduced to the form of leather-meal. It has then an appreciable value as a fertilizer, since it enters into a state of putrefaction when moistened and kept in a warm place.

A simpler way of reducing it consists of an application of ashes, though the reduction is tedious and somewhat imperfect, and the value of the product impaired by a loss of ammonia, which also results when the leather is boiled in strong potash lie.

The thoughtful farmer will therefore exercise care as to the amount paid for such preparations. So long as phosphates and super-phosphates, products of dried blood, etc., can be purchased at moderate rates and in a pure form, they are likely to give more satisfactory results.

We can hope, however, that some process will yet be discovered by which even leather scraps can be readily reduced to that condition in which they may soon become available as plant food without first losing the nitrogen they possess, which is their most valuable property.

"Enclosed please find \$1 to renew. We like the JOURNAL very much, in fact it is a part of our stock in trade, and we can not do without it."—James Brown, Kent Bridge, Ont.

Strawberry Island.

This island in Lake Simcoe, and some 10 miles distant from Orillia, is a marvel of fertility. It comprises about 50 acres, and on its outer rim is a hedge of woodland which serves many useful purposes.

It is a delightful summer resort. Captain C. McInnes, of Orillia, its owner, has put up some cottages and built a hotel, where those seeking pleasure or rest may find the object of their desire.

What most drew our attention was the marvellous fertility of the soil. It is a sort of black humus, mixed with sand several feet in depth, and of surpassing fertility. The strawberries we saw growing on the island (June 21st) were of extraordinary size, the vines being the largest that it has ever been my lot to look upon. They were quite untouched with frost while those in localities within a short distance of this city were very much injured.

After looking upon the extraordinary vegetation of the Island we ceased to wonder how Capt. McInnes, living so far to the north, was so successful in competing for prizes on vegetables at the exhibitions of last autumn. We were loth to leave this pleasant spot, where the fresh breezes from the surrounding waters brought with them a feeling of strength renewed.

The daily communication with Orillia adds not a little to the desirability of choosing this island as a resting place after the tiring fight of months of hard work.

Toronto Industrial Exhibition.

Buoyed up by past successes, and stimulated by present encouragement, the authorities of the Toronto Industrial Fair are putting forth all their power to make the coming exhibition, extending from September ninth to the twenty first, surpass all others that have been held under their auspices; and from the many indications of energy and enterprise we already have, we feel we may safely draw the conclusion that they will achieve the object of their desires. Ever since its inception, by close attention to all details relative to the comfort of exhibitor and visitor, and by keeping well abreast of the times, they have won for their exhibition the eulogiums of foreigners, and the hearty co-operation of Canadians, so that they may now closely contest the claim of superiority with any other like institution on our continent, and well represent us as our national show of live-stock, the products of our agriculture, arts and manufacture.

Having secured a new lease from the City of Toronto of the Exhibition Park and buildings, running for ten years, they have decided to spare no labor nor expense that will aid in making the exhibition an unqualified success, and to secure this desired result, many alterations are being made in the old buildings, and a number of new ones are being reared. They have found, owing to the stupendous growth of the exhibition the last few years, that it would be absolutely necessary for them to extend the limit of their grounds, and to permit of their doing this, they have been negotiating with the Ontario Rifle Association, and success has at last crowned their efforts. Among the new buildings being erected is a new poultry house, at a cost of \$4,000, and the city have thoughtfully and liberally decided to erect a new conservatory on the grounds, to be the harbinger of many rare and beautiful plants from all tropics. Several of the other buildings are being refitted and enlarged, including the machinery hall and the natural history building.

Our horsemen may look forward to many new innovations, as the authorities have built at a cost of \$12,000 three new stables in conformance with modern ideas, and provided with many conveniences for the

comfort of the 150 animals which they will shelter. The several show-rings are being improved, and that of the horses especially considerably enlarged.

These few notes will serve to indicate that the officers are not content to rest on their past reputation, but are imbued with a true progressive spirit that promises much, and as a rule accomplishes its desires.

If we were in need of criterions as to the estimation of this exhibition in the minds of our countrymen, no better one could be noted than the fact that everyone that exhibits always prizes highly their winnings. As the judges are men of careful choice, and have always filled the onerous office imposed upon them with integrity and honor, the equal, if not the superior, of any other similar institution on our continent, they no doubt have contributed largely to enhance the honor of obtaining a prize at this show. Then the liberal prizes offered, and the close competition that follows usually as a result, have also contributed in a large measure to increase the honor of securing a prize. This year the prize list is especially good, as fully \$25,000.00 is the sum total of those offered, including many special prizes for stock. A large number of sweepstake prizes are also offered in the several classes, and many new ones added to those of the poultry department. From the value of the prizes, and the consequent honor of securing them at this fair, we feel sure that our stockmen will turn out in such goodly numbers and that the prizes will be closely contested.

Many special attractions for amusement seekers have also been secured, and many special displays are also promised from foreign countries, and from our more distant provinces.

Those desiring any information should apply at once to H. J. Hill, the manager and secretary, Toronto. We desire to impress on those intending to exhibit, the advisability both for their own individual interests, as well as those of all others concerned, that all entries must be in before the 17th of August.

Grouping together the many signs of industry and enterprise on the part of those connected we freely advance the prediction that the citizens of Toronto are destined to view an influx of visitors and exhibitors during the weeks of her fair that will far surpass in numbers that of any former year.

Keeping the Farm Clean.

The magnitude of this subject seems to grow with the passing of the years. A good deal is said and written on the wisdom and necessity of keeping weeds under control, and legislative enactment is sometimes called into existence to promote the end thus sought; and yet in the face of all this even the careless observer may note the alarming increase of weeds from year to year.

Some farms are one large thistle patch throughout the whole extent. Others furnish a mustard garden of enormous dimensions. In some false flax is too firmly entrenched to be easily uprooted, and in many, several other varieties of pestiferous weed life are contending for supremacy.

The most favored propagating ground for many of these is the highway, for the cleanliness of which oftentimes no man seems to care. Even the highways around the Experimental Farm at Guelph are threatening the farm with an invasion of the viper's bugloss, more numerous than the hosts of Tamerlane. When men are commissioned to cut down the blue-robed invaders they do it in an imperfect manner, leaving many of the weaker and more spreading thus uncut, which are joined in seed propagation by seeds from

second growth stems, so that the last state of the highway every autumn is worse than the first.

In view of all this, thoughtful persons cannot but look at the question with a justifiable alarm. Weeds can no more flourish in any soil without extracting nutriment from it than can our most useful cereals. The farm which any year produces but one-fourth as many weeds as grain, wastes one-fourth of its producing energies for that season, plundering the farmer quite as effectively as though one had entered his granary and carried away one-fourth of his grain.

To what purposes, we ask, is this enormous waste of producing power? We have shown that weed-production robs the farmer with a ruthless hand. It adds not to his physical or social comfort, nor does it of necessity minister to his moral or spiritual advancement. It is degrading in all its tendencies. Why then should it be allowed? Why should the good sense of our Canadian people give any place to weed growth when it is possible so to keep it at bay as to render it virtually harmless?

In the first war against weed life a few leading principles underlie the mode of attack which will ultimately succeed. If we were asked to give these in one word, we would choose the word *worry*. By keeping them in a constant tribulation they must be worried out of existence. No one mode of attack will suffice, they must be harassed till no place is found for them by every means within the reach of the farmer.

It is our firm conviction that the farmers of the future who are to have clean farms must go over every acre of them, including fence corners and old pastures once a year, with spud in hand, destroying every form of intrusive weed life with a most careful destruction. Farms that are tolerably clean will require about one day of a trusty man spent upon every ten acres, and the best suitable time for doing this work is the month of June. By pursuing this method the vanguard invaders are discovered, whose presence might not otherwise have been known until they had scattered the seed-germs of a numerous progeny of vagrants of the most audacious types.

We admit that all forms of pestiferous weed life may become so numerous as to preclude the profitability of this weeding or destroying by hand. It is very doubtful indeed if this will pay any farmer when a whole day must be spent upon an acre. Under these circumstances some more rapid mode of destruction must be resorted to, but we repeat it again, that those who are to have clean farms in the future must go over them every year in the month of June, spud in hand, for many forms of weed life will get a footing in our lands without the winds even being capable of furnishing an answer as to whence they came.

When weeds have got possession of the soil it may be necessary to resort to summer fallowing, but usually a hoed-crop will answer the purpose nearly as well if properly cared for—we say, if properly cared for. If a few weeds are left, the trouble that has been nearly mastered, repeats itself, whereas complete extermination would have brought practically years of respite.

In weed extermination, where it has got possession of the whole farm, a regular rotation must be abandoned for a time. Those crops only should be sown which are best capable of favoring weed-destruction. One field may be devoted to roots, another to corn, a third to millet, sown late, the ground in preparation having been ploughed the previous autumn and then run over with the broad share cultivator as often as necessary prior to the sowing. If any thistles appear again the spud may be used.

Strong crops of clover are of much value in choking out weeds. A little assistance by hand-pulling or spudding in the case of thistles, renders the work much more complete. Similar effects but not so effective result from the growth of heavy crops of oats and peas mixed, and cut green. Summer soiling is, in every phase of it, a valuable adjunct in weed extermination.

Autumn cultivation is one of the most potent agents in the destruction of weeds. Where the gang-plough runs over the ground lightly just after harvest, and again later, or in the case of thistle-destruction, the broad share cultivator is used the second time, very many weeds and weed-seeds are thereby destroyed. The ground may then be ploughed deeply in the later autumn, for, though spring ploughing is favorable to weed destruction, the practice is not to be commended, it is so unfavorable to crop-production.

In the case of thistles, autumn spudding in pastures and meadows renders good service when they are not too numerous. It is probably more efficacious at this season than at any other time.

Rape-culture, when followed on the plan of root-culture is favorable to weed-destruction. The ground prior to sowing can be worked on the plan of a summer fallow until well on in June, the after-cultivation rendering it possible to make very thorough work.

Whatever plan or plans are adopted for weed-destruction, it is most important that the execution be thorough. It is on the thoroughness of the obliteration that the value of the work largely depends. It is the remnant that survives that requires the most careful attention. It is just here that so many make a serious mistake. They seem to conclude that they have conquered, when the seeds and roots, of endless trouble in the future, are not wholly subdued. Let the work be most complete, and vigilance in the future will easily hold the fort.

Where these modes of cultivation are adopted in conjunction, it will make short work of weeds on the most infested farms. The difficulty with some is that they cannot adopt them in conjunction, as they must try and grow certain grains for market to enable them to meet liabilities. Let these do the best they can. They can adopt some of them, and when they do, they can make most thorough work. They, too, can clean their farms, but not in so short a time. When the constant aim is to keep clean what has been cleansed, then ultimate triumph is sure.

For the CANADIAN LIVE-STOCK AND FARM JOURNAL.

Bare Fallow Substitution.

BY F. I. SLEIGHTHOLM, HUMBER, ONT.

On pages 127 and 128 of the May number of the JOURNAL I discussed briefly the position of the bare fallow. In that it will be found that I strongly disapprove of the bare fallow as usually carried on in Ontario. Some have disputed my position on this matter, and among other things, wished to know what is to take its place. A pertinent question certainly, and I propose, therefore, as briefly as may be, to present an answer to it. And first it will be necessary to enumerate the objects which it is calculated the bare fallow accomplishes. In short they are these:

- 1st. Weed eradication.
- 2d. Increased excellence in cultivation.
- 3d. Increased soil fertility.

What system of farming can we follow that will accomplish these objects as well, or better, than the bare fallow? The hoed crops will attend to the first and second points in large measure. That root crops, corn, potatoes, etc., do not in many cases do this is

no argument to the contrary. If they be properly attended to, that is, if they receive the cultivation, etc., necessary to ensure a good crop, the desired goal will, with few exceptions, be practically reached. Horse and hoes must be used unsparringly and regularly. The horse hoe or scuffer must pass between the rows at intervals of from five to ten days, depending upon the character of the soil and of the season. The young plants appearing above the surface, sooner if weeds appear, is the signal for increasing warfare. For this reason, among others, corn, rape, and like fodders should not be sown broadcast, but in drills, that they may be properly cultivated.

Much preparatory work is necessary for these crops. Land intended for them should be cultivated in some way. The gang plow is as suitable an implement as any—at least three times during late summer and early fall, after the removal of the harvest of the previous year. This is a double benefit. It results in a marked improvement in the mechanical texture of the soils, especially heavy clays, and also assists materially in the germination and subsequent death of many fall-ripening weeds. By ploughing deeply late in the fall and leaving the land in narrow drills, the frost's action is more beneficial. This, then, is in part the position of hoed crops in bare fallow substitution.

Again, a wholesale system of weed eradication and increase of cultivation should be carried on each fall and late summer by the unsparring use of the gang plow or some implement of similar working principle. Much improvement in the mechanical texture of soils, and weed banishment cannot fail to result, and much more satisfactory is it to attend to this matter in the fall than during the hottest months of the summer.

Another practice which must be attended to in early summer, is the destroying in some way all weed growths. All grain crops should be relieved of the Canada thistle by the unrelenting use of the hand hoe. The farmer who omits this portion of his work either altogether, or endeavors later in the season to make up the deficiency by the use of the scythe, can be marked off at a glance by the traveller on the highway. All mustard (*Brassica*), cockle (*Lycnis goshago*), ragweed (*Ambrosia artemisiifolia*), red root or pigeon weed (*Lithospermum arvense*), wild flax (*Camelina sativa*) erigeron or fleabane (*Erigeron*), etc., etc., should be pulled not later than during early bloom.

Eternal vigilance is the price of safety in the matter of weed destruction, and if the practice here briefly outlined be adhered to, the star of the bare fallow as a weed destroyer will fast grow dim and lustreless. Equally faded will its prospects become to the intelligent farmer in regard to its use relative to soil cultivation. After thoughtful consideration few will be ready or willing to sacrifice a year's crop for the uncertainty of fallow cultivation when it is certain that equally thorough tillage can be accorded the soil by means less irksome and more remunerative.

To secure the best mechanical condition of soil, it is not necessary to resort to midsummer cultivation. Excellence in tillage does not depend on heat or cold, but upon mode and thoroughness. The object of tillage is the production of a first-class seed bed, the bringing of the soil into that mechanical condition most likely to secure perfect aeration and intimate relationship between the various particles of soil, which will also result in the best condition chemically. Let none, therefore, think that the bare fallow is the only means, nor yet the best, of keeping soils in satisfactory mechanical and chemical condition—the bare fallow should never be thought of on light loams or

sandy soils—since the opinion is borne out by neither science nor practice.

But what shall we substitute for the bare fallow, in its power of maintaining or increasing the fertility of the soil? I am not sure that that question savors not of more pristine agricultural doctrine than the supporters of the opinion might be willing to admit. The most reliable agricultural scientists do not, save in very limited extent, support this theory, and it may be looked upon simply as a tenet of an ancestral agricultural creed. I should be very loth to think that anyone ever practiced bare fallowing for the sole purpose of maintaining or increasing the fertility of the soil, as sought but unrealized hopes could possibly result. Not, then, as a substitute for the bare fallow, shall we consider the subject of green fodder, but as an adjunct to the present system of farming, which the bare fallow has been unable to supply.

In the use of green fodders two gains of no ordinary limit are found, which are conspicuous by their absence in the bare fallow. The first is the increased possibility of live stock maintenance; the second, the increased possibility of manure production. The cheapness with which these are accomplished is not the least satisfactory thing regarding them. Grain growing as a specialty, has received its death-blow in Ontario. Stock raising, in one or another of its branches, must and will take its place, and with this change in the order of things will come the necessity of supplying a cheaper and more certain fodder for live stock. The bare fallow will be discarded, and the soiling crop in its multiple form will be adopted. This is not a painted whim, but a perfectly natural sequence of the aforementioned agricultural aphorism. This means a higher grade of farming. In this connection a grave error presents itself in the practice of some—dropping the bare fallow out of farm practice, without proper substitution. In the past times of exclusive grain growing, the bare fallow had its merits. To drop it without any improvement upon its co-existent style of farming, is to show a lack of a true understanding of the change in our rural circumstances of what the bare fallow was intended to accomplish, in short gives evidence that we are no farther advanced than were our forefathers—to say the least, an undesirable condition.

All the fodder, be it roots, corn, potatoes, peas, oats, rye, or any other grain, grown upon the land which it has been customary to fallow, should be fed upon the farm, and the manure carefully saved and returned to the soil. None of the grain should be allowed to mature, but be fed while green, or cut while unmaturing and cured for after use. Two crops should be grown during the season when possible; for example, rape, second or third sowing of corn, or millet may be sown after the removal of fall rye, remembering that the faster growing crops are the best, and to this end high farming commends itself as a matter of course.

Some have objected to discarding the bare fallow, owing to the difficulty which it is alleged would follow in the growing of fall wheat, especially upon the heavier class of soils. It is urged that the soil could not be secured in sufficiently good tilth in many seasons, to assure a good crop of this cereal. Granting this for the sake of argument, is the crop worth the extra labor? Will it fully compensate for the loss of a season's crop? Are the crop results sufficiently certain to warrant all the trouble, expense and hard labor involved? Let us see: The average crop of fall wheat throughout Ontario is 18 bushels, more or less, per acre. Somewhat small to be spread over two years, is it not? Then again, all farmers know

what a slack crop of fall wheat means in the matter of weed growth, and it is not a favorable aspect of affairs to see the weeds encouraged by a shortage in crop, after a hard summer's toil. If such a crop be followed by a poor catch of seeds, clover, timothy, etc., the outlook is still less promising, and really it is an extremely rare occurrence that we cannot get fall wheat fairly well put in upon stubble ground, and as good crops have been grown upon stubble ground, properly handled, as upon the fallow, and this will be a still less rare sight, under the system of bare fallow substitution, which I have outlined.

But can we not do without the wheat crop? Possibly we can, but is it the apex of wisdom? I think not. The low yield and price of wheat during 1886 and 1887 resulted in many giving it up entirely, dropped it out of their practice like a stone drops out of sight in a well. The results obtained from the crop of 1888, and the promise of the 1889 crops, do not seem to say that such a practice was, in all respects or in any, the best. It is not the advice of those who look deepest into these matters, that it is ever wise to jump recklessly from the growth of any one cereal, owing to its temporary depression in the world's markets, into the growth of any other. Be that as it may, it is certainly not advisable to go to an extreme of labor and expense, such as is involved in the bare fallowing system, to endeavor to secure successful fall wheat culture.

The subject then resolves into this: grain growing as a speciality, is declining; stock raising, dairying, etc., as specialties, are on the increase. The price of land is advancing. In order that we keep pace with these changes, it is necessary that we make the least possible amount of land support the stock kept. The bare fallow has certainly no place there. Roots and green fodders fill the requirements on either hand. More stock can be kept and in better condition. One acre of land can be made to do the work of three. The grain area may be decreased, but under the added manure supply and more efficient cultivation, the total product may be increased. Few agriculturists have reached this point, but it should be the goal of all. Resultant axiom: bare fallowing is a nonentity; the use of green fodders, with all the phrase implies, is a necessity.

Wheat After Barley Destroyed by Cut-Worms.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Will you kindly answer the following in your next issue: Would it be advisable to sow fall wheat on barley ground, the latter having been destroyed by cut-worms?

R. R. HUTCHINSON.

Though the wheat may be attacked by the cut-worm the following year, yet we do not know of any cultivated crop that is free from the depredations of the cut-worm (though buckwheat and peas are said to be the least attacked) and hence cannot offer anything in lieu of the fall wheat. Prof. Fletcher, of the Dominion Experimental Farm, has kindly favored us with his views on this question. He says: "I think there would be no particular danger in doing so if your correspondent wished to do it. It is seldom these insects occur in undue numbers in any green field for more than one season. There are so many parasitic insects and fungous diseases which attack insects when they appear in very large numbers, that they are quickly brought down again to their normal occurrence. Cut-worms, of course, are the caterpillars which hatch from eggs laid by moths. As soon as the moths emerge from their chrysalis they fly away

and I do not think the exact locality where they emerge is to any large degree more liable to attack than fields at a distance. With some insects, however, that are not strong fliers, this statement would not be applicable. The remedies I have found most successful have already been given in your paper. I would suggest to your correspondent the advisability of keeping his land clean of all weeds for some time before he sows his wheat."—ED.

Plantain or Rib Grass Seed.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Enclosed please find two stalks and some leaves of a plant that I found in my meadow. It is a stranger to me, and I think I must have got the seed in some timothy seed bought in the spring of 1888. Please give the name of it and state if it is a noxious plant or not, and you will greatly oblige a

SUBSCRIBER.

Aylmer, Ont.

The plant sent us by our correspondent is commonly known as rib-grass, or narrow-leaved plantain, and is technically called *Plantago lanceolata*. It has a tall, grooved stalk surmounted with a short dense spike of colorless flowers. The leaves are lengthy and slender, and three to five ribbed. It very often comes with grass seeds, especially timothy. Though a perennial it is not a hard plant to get rid of, as it is easily killed by cultivation. In England in some cases it is sown on poor, light sandy soils, in elevated situations, such as would not be worthy of seeding down with the best grasses. The plant is said to be nutritious, and is eaten with relish when young by most stock. It is more troublesome to lawns than to meadows, as its long, quick-growing stalks and lengthy leaves mar the beauty of the lawn considerably. It does not spread rapidly, and as it is easily killed when the soil is cultivated it is not a very serious matter for it to appear in the meadow, and can hardly be called a troublesome weed.—ED.

Cutworms.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—While thanking you for space given my letter on "Scientific Agricultural Teaching" in your last number, I will feel obliged if you give me another hearing in the August issue.

While it must be confessed that as yet the invading cut-worm has things very much his own way in our grain fields, we are not altogether at the mercy of the insidious intruder. In my last letter I tried to make it clear that most of the remedies usually given were applicable only to garden plots where cultivation is carried on on a limited scale. But it is remedies that will effectually protect grain fields on a large scale that farmers most require. Although we know but little in this respect as yet, we are not without hope. Let us store up all that has been determined by the experience of the past and wait for more.

I think I am safe in saying that the following has been determined in regard to cut worms:

1. That they do not usually infest lands to any considerable extent that are not allowed to remain in grass or pasture more than two years at one time.
2. That a quantity of salt (about one tablespoonful) sprinkled over each corn hill just after planting, will effectually protect the corn in most instances.
3. That they do not attack peas at all, or if so, not to the extent of seriously injuring the crop.
4. That summer-fallowing has a tendency to starve them out by completely cutting off all sources of supply on which they feed.
5. That the destruction of weeds in autumn conduces to the same end though in a less degree.
6. That the ravages of cut-worms are usually most destructive on old sod lands after the first ploughing.

Reasoning from the data thus presented, we can even now do much to avoid the attacks of the cut-worm.

1. By not allowing our lands to lie in grass more than two years at a time we can keep our fields, to a considerable extent at least, clear of the cut-worm.

We cannot in this way keep them away altogether, for it cannot be denied that they will appear in garden plots that have not been in grass for years. But attention to this matter certainly prevents their rapid increase.

2. If common salt sprinkled over each corn-hill is an effectual remedy, and I. A. Lintner, Ph.D., Entomologist for the State of New York, propounds this view on the testimony of several individuals who have tried the remedy, will not the effects be similar when the salt is applied broadcast to a field sown to barley or oats immediately after the sowing? I cannot give the amount required per acre, but if a tablespoonful is required for one hill of corn, it would require at least 500 lbs. per acre for barley or oats, if not twice this amount. This application would be no great hardship to the farmer, were it not for the *accursed* combine amongst the salt manufacturers at the present time.

3. The immunity of peas from their attacks is a matter of much moment to the agriculturist. These can be sown on old sod when broken up, and for two years in succession when an attack from the cut-worm is feared. Peas are not harmed either, on such land, by the wire worm, the twin brother of the cut-worm, which is an additional reason for sowing them the second season on lands broken from old sod.

4. In summer-fallowing we have an efficacious remedy at hand, though a very expensive one, and usually it will not be resorted to until after a preceding crop has suffered from the ravages of the cut-worm. It has the advantage, however, of enabling the farmer to combine in one effort to destroy both insect and weed life. When it is attempted, therefore, the cultivation should be most thorough, that the starving may be most complete. The more frequent ploughing the more efficacious will be the work, as the cut-worms will thus be exposed from time to time to the tender mercies of the birds, many of which regard the plump, fat cut-worm as a choice delicacy.

5. The destruction of wet life in autumn not only vexes the cut-worm, but is a perpetual menace to almost every form of weed growth. The practice, cannot, therefore, be too highly commended. It is inseparably associated with clean farming. As soon as some grain fields are cleared, and long before the happy farmer can sing the joyous harvest home, the gang-plough should be at work destroying at one and the same time weed growth and food-supplies for the cut-worm.

6. Since the ravages of cutworms are most destructive on old sod lands, try and not have old sod lands, as new sown grass fields in this country almost invariably yield much more heavily than old ones. Where these are found a necessity, be careful not to crop them at first when broken up, with either corn, oats or barley. They may be sown to peas, or, as is the practice with some, to turnips, or planted with potatoes.

Applying these remedies, so far as we may be able, will enable us to hold the cut worm at bay. Using the light that we have to the best advantage, we place ourselves in the best possible attitude for receiving more when fresh remedies shall have been discovered, we mean remedies that will be of some avail, not those of the "lamb's quarter" and "poisoned clover trap," the kind referred to in my previous letter.

Orillia, 12th July, 1889.

FARMER.

Statute re Farmers' Institutes.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Please answer in your JOURNAL where I may find the statute relating to Farmers' Institutes, if there is any? J. S.

Peterboro, Ont.

In 1886 the Order in Council of the Ontario Government was issued providing for the establishment of Farmers' Institutes. The conditions and regulations for the securing the \$25 annual grant from the Government may be stated briefly as follows:

1. That each Institute may be organized in each Electorate 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 president, vice-president, secretary and treasurer, and five or more directors, and a 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.

6. That a summarized report of the meetings held during the year be sent by the secretary to the Minister of Agriculture.

7. That the Institute year shall terminate with June 30th.

The Dairy.

THE matter of drainage is a very important consideration in silo building, and one that should not be overlooked, especially when there is a chance of making a choice between sites unequally favored in this respect. A dry spot does away with the necessity of flowing of any kind, for if the soil is firmly pounded down it answers the purpose admirably, but if wet or spongy it should be drained, and if this does not affect its purpose then a cement floor is the last resource of the silo builder. Under ordinary conditions, however, the silo may be sufficiently well drained for all practical purposes with either stones in a trench around the outside, or with tiles, and thus a great expense that would be entailed in cementing, is reserved.

The Aroma of Butter.

When the product of truly skilful hands, guided by the best and most intelligent practices, butter possesses an aroma and flavor, enticing and peculiar to itself, that tends strongly to greatly enhance its value in the market. As butter must be looked upon largely as a luxury, though it undoubtedly stands high as a food, its appearance, smell and taste are features of very great importance; inasmuch also as there are few other substances that may vary so much in these desirable qualities. When off flavor there are not many products that are more repulsive than it, but when fresh with its own characteristic fragrance, there are yet fewer that are more tempting to the palate and healthy as a food. Owing these desirable features butter finds ready sale, and it is only the rancid, greasy article that gluts and stagnates the market. The production of high-class butter stimulates a healthy demand, through greater consumption, and hence it is that the butter-maker in bringing into play his skill and intelligence, strives, not only for his own immediate benefit, but for the mutual advancement of his fellow-workers through a broader extension of the trade.

The aroma of butter is mostly derived from the volatile oils contained in the fodder fed, though these may be more or less modified by the processes adopted by the maker. The volatile oils are butyric, caproic, and caprylin, and from these are formed the acids—butyric, caproic and caprylic. The butyric acid is the one that gives rancid butter its unpleasant taste and smell. To prevent the change of these to the acidified state is the aim of the butter-maker, through the use of such substances as salt. Every species and variety of herbage has its own peculiar flavor and aroma, and to discriminate between those that are desirable and those that are not so, and their origin, should be one of the dairyman's aims. The peculiar flavor and fragrance given June butter, through the use of fresh pasture grasses, is familiar to all, and, this, coupled with the changes that occur in the nature of the fats themselves, accounts for the high estimation of the butter made at that season. The volatile oils taken into the system are absorbed into the blood, and, transuding into the udder cav-

ities, soon finds its way into the butter through the milk. The volatile oils of such plants as cabbage, onion, and turnips, are said to be heavier than those of such plants as peppermint or horse-radish, and consequently it takes some time for the animal's system to eliminate them from the blood. For this reason such food as turnips should be fed just after milking so as to give the cow's system time to throw these odors off. To rid milk of any peculiar flavor, heating it proves effectual to remove most light odors. Airing by dipping from one vessel to another has somewhat the same effect. It should be apparent to all studying this phase of feeding, that it is impossible to make a cow a filter of all sorts of garbage and impure water without her system becoming steeped with vile matter that must find its way into the butter, much to its detriment.

By allowing the cream to become rancid before churning, these flavors, so desirable in butter, are broken up and dissipated, while the acid flavor takes its place. While it is very desirable to ripen cream, yet such does not by any means imply souring. Ripening, while imparting a slight flavor to the butter, does not materially affect the natural aroma, while at the same time giving the increased yield of butter that would result from souring the cream.

Outside of the influence on the aroma, foods also have a marked effect on the nature of the fats, and in this way more or less act on the flavor. It has been found that such foods as oats and bran produce a soft and easily digestible butter, having much the same characteristics in that respect to summer butter. A soft or summer butter contains about 60 per cent. olein (one of the three principal fats contained in butter), while winter butter contains only about 35 per cent. This partly accounts for the increased difficulty of getting the butter to come in winter. Such foods as linseed cake and peas are credited with the production of a hard fat, not so digestible in its nature. The study of the influences of food on the production of flavor and aroma in butter are surely of enough import to warrant some expenditure of time and observation to obtain definite data, for those qualities strongly affect the sale and price of the butter.

Shall It Be Ensilage or Cured Fodder Corn?

There are some that hold as an objection to the silo, that it is better in many ways to dry and cure the corn fodder than to make ensilage of it. At one time such persons had the best of the argument, but now that the silo has passed the experimental stage and has become a fixed factor in economical farming, especially in regard to dairying, these statements have largely lost their force. We purpose touching on a few points wherein we think differences of opinion exist.

Handling—In the curing, binding and shocking of the fodder much labor and handling is entailed, which is largely surmounted in the case of the fodder intended for ensilage, as the fodder is easily handled from the waggon to cutter and into the silo. Then there is another matter for consideration in this respect, and that is the easiness of the handling when it comes to feeding. The ensilage is easily carried from silo to manger by means of baskets or a truck, and very little waste occurs, but the same cannot be said of the cured corn, for much of the best part of it, the leaves, is apt to be lost, not to mention the difficulty of carrying it.

Storage—It may be safely advanced that a certain quantity of corn cut would take up less silo room than the same quantity uncut would barn-room. The latter cannot be closely packed to economise room, for it would

soon heat. It is within the bounds of reason to say that fully twice as much dry matter can be stored in a given space in the shape of ensilage as in the condition of wilted corn in the mow. The cost of building a silo presents another phase, but if constructed on modern plans, it is but little more expense than the cost of building that part of the barn that surrounds and covers the corn fodder.

Feeding value.—In the curing of the fodder corn losses occur, and these are equally great as compared with those that result from ensiling the corn. From the time of curing until fed out, a loss of 20 to 25 per cent. results, while Prof. Henry, of Wisconsin, has found to be a similar range to the losses occurring in the silage. As the result of an extended and thorough experiment with a number of cows, this authority draws the conclusion that dairy cows readily consume a sufficient quantity of corn ensilage to maintain a flow of milk and yield of butter rather more than that produced by feeding dry fodder corn. In this experiment the dry fodder corn was run through the cutter and fed similarly to the silage. In regard to the succulency of silage, there is no doubt but that it has not only a value in respect to keeping the animal's system in excellent running order, but it also has been found to increase the churnable fat in the milk. When a certain amount of succulent food is given a cow, her bowels are kept loose and her digestive organs are in a condition to make the best of a grain fodder, and as to its effect on the fat of the milk, W. A. Wolf, of Wisconsin, found that on account of its succulence ensilage has a beneficial influence on butter production, causing a larger part of the milk fat to be recovered in the butter, or what he states to be the cause from the dairyman's standpoint, causing less waste of butter to occur in the churning. About 12.60 per cent. more of the fat was churned out from the mixed milk of both cows when they were fed ensilage than when they received the dry fodder.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL

Notes for Cheese-makers for August.

BY PROF. JAS. W. ROBERTSON, GUELPH, ONT.

A cheese factory's reputation is largely determined by the quality of its August, September, and October output. The beginning of August is a fit time for every cheese-maker who has had only partial success during the hot weather to redeem his reputation and that of his factory. A comparison of the prices realized for the summer cheese of Ontario with the figures reported from the United States markets, shows that Canadian cheese are in demand at higher rates than American cheese will sell for. That we have gained in reputation and in market favor with British importers and consumers is evident. That this advance and advantage are the result of the applied skill of less than half of our cheese-makers, is well known to those who visit the factories and handle their products. To reach and to speedily help those who work in cheese factories without any ambition or aspiration for improvement, is well nigh impracticable. However, we desire to make helpful information not only attainable, but unavoidable to such.

In a short time there will be numerous cable orders from England, calling for "cool August cheese." That brief description implies a mild, rich flavor that may be preserved for the winter trade, a firm, solid body, "full of meatiness," a fine outside finish, with clean, bright rinds, free from cracks, and bandages fresh looking and not likely to appear mouldy.

To help the cheese-makers in manufacturing a class of goods that may be satisfactorily shipped on such orders, I call attention to some things, both outside and inside of the factories, which need their immediate and special personal care.

AROUND THE PREMISES

Insufficient or inefficient drainage facilities, if enlarged and remedied, will show their worst effects during this month. At the cost of only a few hours of labor and a few dollars of expense, the immediate vicinity of every factory can be kept free from the noxious odors that arise from stagnant sloop-pools. The frequency and foulness of these about the factories in some sections is not only a menace to the permanent prosperity of our cheese-manufacturing industry, but a disgrace to the men in charge of the factories.

At factories from which whey is drawn back to the patrons' farms in waggons, the leaking and spilling near the whey tank, too often leave its vicinity in almost impassable condition. A few loads of gravel will abate the nuisance and leave the place fit for approach during the succeeding months when the roads become bad.

The shrinkage in the milk supply will leave a shortage in the whey tank. In order that the whey may have more feeding value, the tank should be thoroughly cleaned and washed at least once a week.

At factories where nogs are fed, provision should be made for supplying them with one feed a day of some green fodder, such as clover, oats and vetches, oats and peas, or cornstalks. Salt should be liberally fed during this month.

IN THE MAKING ROOM.

This month seems the one when flies become most numerous and troublesome. Some afternoon, after the cheese are in the hoops, it will be a good plan to close up the making-room's windows and doors, and to burn a small quantity of sulphur for the purpose of fumigating the place. If a tablespoonful of alcohol is mixed with the sulphur, it will burn more freely.

Care must be taken to prevent the fumes from getting into the curing-room. The tins of the milk vats and the inside of the sinks should also be washed afterwards before they are used. All vats, presses, and utensils should get a thorough quarterly cleaning-up early this month. Every cheese-maker should persistently fight untidiness and filth in every form; and he ought to have a woman's passion for cleanliness, and a similar antagonism to dirt.

IN THE CURING ROOM.

There will be difficulty in curing the cheese made during July, at a sufficiently low temperature. Ventilation of the room during the early mornings as well as during the evenings and nights will be of benefit. Floors should be sprinkled with cold water, mornings, noon and evenings. While the cheese are being turned on the shelves there should be an abundant admission of light. August is the month when the "skippers" are apt to do damage. A plentiful shaking of fly powder in the room before it is shut up for the day will destroy the cheese flies.

Cheese boxes should not be stored in the curing-room. The odor from the elm wood penetrates the cheese and affects their flavor.

PATRONS.

Since the milk is richer and less in quantity, there will be an increased temptation to "even up" by the addition of water, or to "even down" by the removal of cream. You will be doing the community moral service as well as the cheese trade some good, by re-

mind the patrons that the Dominion Act of last session is in force and will be enforced against all discovered delinquents.

Patrons are more likely during this month than at any other time to forget to provide salt for their cows, and to neglect to supply an abundance of pure cold water. Cool evenings are no excuse for the neglect of aeration. All milk should be most thoroughly aerea immediately after it is strained.

The making of cheese for exhibitions is usually undertaken during the first two weeks in this month. Send a circular to every patron, making mention of those matters that are referred to in this bulletin and inviting their cooperation, in order to aid you in the manufacture of cheese fine enough for exhibition and prize-taking. If some patrons pay no heed and no improvement results, don't get discouraged. Keep right on insisting on a better state of things in their practice.

MAKING THE CHEESE.

When the evenings are cool and the milk needs ripening, don't fail to leave it in the vat until it reaches the proper state of maturity before the rennet is added. Use enough rennet to coagulate mature milk to a state fit for cutting, in 40 minutes, when not at 83 degrees Fah. Dilute the extract to the extent of one pailful of water for every vatful of milk, and then mix it thoroughly by vigorous rapid stirring.

When you are troubled with grassy curds, allow a development of acid, such as will be indicated by threads from the hot iron test a quarter of an inch long, before the removal of the whey. It is a good plan to run most of the whey off at an earlier stage, and to leave only enough whey on the curd to permit a free stirring of it. After the whey is drawn, air the curd thoroughly and make provision for keeping it warm. When a curd sink is used, if need be to retain the heat, put the curd back into the vat, but let the temperature be kept above 94°. Frequent turning and aeration will facilitate the development of acid, providing the temperature is maintained. After the curd cutter has been used, the curd should be stirred and aired for 15 to 20 minutes before the application of salt. From 2½ to 2¾ pounds of salt per 1,000 lbs. of milk should be added to curds that are fairly well dried by the previous stirring. They should be put in hoops within 20 minutes after the salt has been mixed in.

Pressure should be applied very gradually. The cheese should be bandaged neatly when they are turned in the hoops within two hours after they are put in the presses. They should again be turned in the hoops sometime in the following morning. Where practicable, cheese should be pressed for at least 20 hours.

Endeavor to get every one who sends milk to your factory or who is concerned in its management, to try to bring it to the very front in point of reputation for the excellent quality of its product. Work conscientiously for that end, then talk your factory up always wherever you go, and get your patrons to do likewise. In short, think and work to make your factory and its product worthy of a higher reputation, especially for August cheese.

Bits of Silage from all Fields.

A silo is the gateway to intensive farming, and the latter is the portal to agricultural prosperity.

Do not use sawdust to fill in space between walls, as it holds moisture and will rot the studding. A dead air space is the best.

Corn silage is not a complete food in itself, and, hence, should be fed with bran, chopped oats, oil cake, or some other food richer than it in nitrogenous substances.

Owing to the rapid advances of opinion in favor of winter dairying, the silo has found many new friends, and is now looked upon as a valuable adjunct to dairying in winter.

The silage must be fed off from the top for the reason that opening at the base creates a draft that rises through and spoils all the food.—*Hoar's Dairy-man.*

Two years' experience goes far to convince me that 2½ tons of ensilage, made from sweet corn with roasting ears developed, is fully equal in feeding value to one ton of hay, and is greatly to be preferred for milk cows, calves, brood sows, and shoats.—*Hiram Smith, Wisconsin.*

We have fed our herd of 100 Jerseys on it (morning and night, with hay at noon) for five years, and each year we find the results more encouraging. We find that with one half the quantity of grain we used to feed with hay, if fed with ensilage, gives us two per cent. more cream and a better flow of milk.—*John Mayer, Mahwah, N. J.*

In regard to having the so called sweet ensilage, the main point appears to be to have the corn well ripened ready for early cutting and shocking. Corn ripened so that the grain begins to dent, will make sweet ensilage, even if the silo is filled in a single day.—*Prof. Henry, of Wisconsin Exp. Station.*

Our three years' experience, two of rapid filling, tramping, using weights, resulting in sour ensilage, and the past year's slow filling without packing and weights, high temperature and sweet ensilage, leads us to think so favorably of the latter method of filling that we will adopt it in the present year.—*F. A. Gulley, Superintendent Miss. Agricultural College Farm.*

The great danger in feeding corn ensilage in a practical way is in feeding too great a proportion of it and not enough dry, rough fodder and grain. Corn ensilage should never be fed alone. Our own experiments and those reported by other stations, indicate that corn produces the most digestible feed if cut in the glazing stage or when the ends of the grains are beginning to harden.—*Bulletin, Minnesota University.*

Prof. Alvord found in a test made at Houghton Farm that a greater per cent. of the fats of the milk were converted into butter when the cows were fed grain and corn ensilage than when fed hay and grain. Prof. W. A. Woll, Wisconsin, found that 12.60 per cent. more of the fat was churned out from the mixed milk of two cows when fed on ensilage than when they received corn fodder.—*Mich. College Bulletin.*

As the saving of the ensilage depends on the exclusion of the air, by cutting the material fine it can be thus easier and more perfectly packed and the air excluded, so we have found it best to cut as short as we could get it, from one-fourth to three-fourths of an inch in length. The finer it is cut the better feed it makes, especially for sheep and young stock.—*T. R. Carshadon in Ensilage.*

Ensilage has been tested for sheep and stands approved, especially for the mutton breeds where early lambs are a desideratum. But it is advisable to give a portion of dry feed with the ensilage as it has a tendency, if given alone, to make the animals soft and sensitive to cold weather, and besides that it is quite possible to make the large free milkers of the Cotswold breed give too much milk at the outset.—*Sheep Breeder.*

In my observation, corn put in rapidly and continuously keeps as well, if not better, than where successive layers are allowed to heat a day or two before another is added. While apparently not important, the best results, all things considered, will, I believe, be obtained by fairly, promptly filling. The even distribution of the material, with special pains taken in trampling in the corners and edges, can not be too strongly urged.—*T. F. Hunt, in Orange Judd Farmer.*

The Illinois Experiment Station, among many conclusions drawn from experiment, states the following: "With a silo of stone, brick, and cement, the ensilage rotted at the sides and top to the extent of one-third of the amount. There is evidence for believing that this loss could have been considerably obviated by building the silo of wood. Thirty-seven head of cattle fed forty-five days on a moderate allowance of corn ensilage with other food, ate the ensilage somewhat better than corn fodder, and thrived very satisfactorily. Five yearling Shorthorn heifers averaging 895 lbs. each, were given daily 48 lbs. of corn ensilage, each ate about ¾ of it, and during fifteen days made an average gain of forty-nine lbs. each.

From observation and personal experience I think the preservation of corn fodder in silos will be largely adopted by skillful farmers. It has several advantages, viz.: The comparatively small space required for a given amount; the great ease with which the fodder may be cut short white soft and green; avoiding the labor and risk of curing in shocks in the field; the readiness with which the stalks may be harvested in all weathers except pouring rains; the whole of the stalks being eaten by the cattle and the advantages of green, succulent food through winter; increase in the flow of milk some ten or twelve per cent.—*John J. Thomas, in Mirror and Farmer.*

Green food in a tight silo and in a stomach of a cow, is closely analogous in respect to condition and changes. The paunch of a ruminant is a silo in miniature, or, if you please, a well-built silo is a large rumen for the reception and preparation of food for digestion. In each the food is partly comminuted, and in each exactly the same action is begun, namely, lactic fermentation. It may be carried a little further in the silo if it remain long, but as far as they go the character of the changes in both is alike.—*L. B. Arnold.*

Where there are gas works within reasonable distance it is better to get gas tar than to use coal tar from the kerosene refineries. It, when hot, penetrates the lumber better, dries harder, and smells less, and when one and one-half pounds of pulverised resin is put into each gallon of the hot tar and applied, it makes a remarkably hard and glossy finish. Such tar is very cheap, the barrel costing as much as the tar. The two cost about \$2.50 for 55 gallons and barrel, free on board the cars. Yes, put it on a month or so before you fill the silo.—*Hoard's Unknown.*

I have never regretted that I secured a two-horse tread power for cutting and grinding feed. This works well, is kept housed in a small space, and is very easily and quickly moved from one spot to another, furnishes good exercise for horses and colts in winter, can be worked in cold, stormy, blustering weather as well as at other times, and, best of all, these are now so governed that they are perfectly safe. The sweep horse power cannot be housed, cannot be worked in an ordinary barn, and are useless on stormy days, and with the same number of horses are only half as effective as a good tread power. In case of very large silos holding hundreds of tons I presume it might pay to secure an engine to cut the corn, but for eight or ten acres of corn and silos to hold a hundred tons of silage, I think the tread power will prove entirely satisfactory.—*Prof. A. J. Cook, in Silo and Silage.*

With a large silo I should prefer a partition; it is often more convenient in filling, especially if different crops are to be grown for this purpose. In feeding, so large a surface is not exposed, and, consequently, there is less liability of injury or waste. While we have always cut off a section of the contents near the door of the silo as we began feeding the ensilage, for convenience (as one would cut out a section of a hay mow) and without loss, I am inclined to the opinion that it may be preferable to begin feeding from the top and take from the entire surface if it can be done without too great an outlay of labor.—*Mich. Station Bulletin.*

We have been feeding corn ensilage exclusively to cows from which we make butter—twenty-six in all—of which twenty-three gave milk the whole time, seventeen that came in since October and seven farrow and strippers. The daily rations of these cows have been from 40 to 50 lbs. of ensilage, 12 quarts of wheat bran, and 8 to 10 lbs. of hay, fed in two rations, night and morning, no feeding in the middle of the day. The daily yield of butter has been 27 and 28 lbs., requiring but 18 to 18½ lbs. of milk for a pound of butter. The butter has been sold for 32c. per lb. in Chicago through a commission house. After feeding the smallest compartment, which, being measured, was computed to hold 4½ acres, we found that after paying \$120, the cost of the bran the cows had eaten, and \$80, the estimate value of the hay fed, we had \$460 and the skim milk for 4½ acres of the ensilage and our work. We have been winter dairying for fourteen years, but we think we have never before produced as much butter at so small a cost.—*Chas. R. Beath, Wisconsin.*

"Am very much pleased with your JOURNAL, think it just the thing for a young farmer"—*B. C. Parker, Stodderville, Man.*

"To those who are anxious to secure improvement in breeding a better class of stock, I believe the JOURNAL is an invaluable guide."—*Alex. J. Dolson, Chatham, Ont.*

Milk Decomposing.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR—Would you kindly inform me through the veterinary department of your valuable JOURNAL what is the cause of the following case: A heifer calved last February, two months before her regular time. She was milked regular in April and gave a good flow of milk, but her milk is no good. There cannot be anything wrong detected when it is fresh from the cow, but set it alongside of other milk for fifteen hours, and it will be very musty and smell very bad and the other milk good.

W. G. S.

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

The existence of any constitutional disorder, such as consumption, chronic inflammation of the womb, or retention of a portion of the after-birth, leading to contamination of the blood, may bring about this tendency in the milk to decompose. If any portion of the udder is inflamed and pus formed, this becoming mixed with milk, will have the same effect.

Book on Cheese-Making.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Would you please give me the name of a good book on cheese-making, and oblige

J. W. E.

Nassagaweya, Ont.

Prof. Arnold's book, "American Dairying," though published in 1879, is undoubtedly the best in this respect. Stewart's "Dairyman's Manual," a later work, is also very good. The latest information on this subject will be found in the last two or three annual reports of the Ontario Agricultural College, which we would advise our correspondent to write for.—*ED.*

Poultry.

Rouen Ducks.

The beautiful form and rich coloring of this breed has secured for them many friends, and made them almost universal favorites with those that endeavor to combine, as far as possible, pleasure and profit in the yards. They do not, however, rely solely on their charms of personal beauty to secure patrons, as they have been bred with a far-seeing eye to profit as well.

As to the origin of the breed or their name very little is known. Some have conjectured that it is a contraction of the word "roan," and others that it is derived from the French "Rouen."

For late fall marketing, there are no other breeds that will equal the Rouen in point of weight. The Aylesbury will mature earlier and be ready for market first, but will not be as plump as the Rouen. The standard weight of the latter is given to be 9 lbs. for the drake and 8 lbs. for the duck. The flesh is plentiful, full flavored, and of excellent quality. They are also prolific layers of good sized, pale green eggs.

In general appearance there are few of the domestic birds that look as gay as the typical Rouen with its beautiful markings and brilliant colors. In the summer the drake has much the same appearance of the duck, but as winter draws near, his plumage becomes more striking. The head of the drake should be nicely formed, and rather long, and of a rich metallic green, reflecting different shades with every movement. The bill should be a greenish yellow, narrow near the head but widening towards the extremity. The eyes a dark hazel, almost black; the neck should be carried gracefully, neatly curved, and a beautiful green color, with a distinct band of white not quite meeting at the back, but occupying about two-thirds of the neck; in front and below this, an authority states, the green should not extend, either behind or

in front. The breast should be of a rich, solid claret color, and not running white towards the edges, free from gray feathers, and the claret coloring running back as far as may be towards the legs. Coming next to the body: this should be lengthy with plenty of depth and breadth. A pleasing gray on the under part and sides, growing lighter near the vent, and becoming solid black under the tail. The back should on the upper part be an ashy gray color mixed with green and running into a rich lustrous green on the lower part and rump. The wings should not cross over the back, but should be close and snug and the long feathers should be a deep dark grey, with a clear, broad ribbon of rich purple, with metallic reflections of green and blue, edged with white. The tail is composed of dark ashy brown or black hard, curled feathers. The legs are short and thick, with orange colored shanks, and toes of same color with black toe-nails.

The duck in form very much resembles the drake, but is slightly deeper in keel. The head is a more sombre color, being a deep brown or chocolate, with two dark hues running from the bill behind the eyes. The bill is of a brownish orange, with a spot of black of medium size on the upper part. The principal difference between the necks of the two sexes is the absence of any indication of the white ring on the neck of the duck. The breast is round and prominent, of dark brown and pencilled with a lighter shade. The flank and back are also of same color and similarly pencilled. The body plumage is grayish brown, each feather clearly pencilled with rich dark brown to the point of the tail. The rest of the standard varies but little, if any, from that given for the drake.

Cross-Breeding.

BY SIPPEN BEALE.

There are, we believe, many advantages to be gained by the use of cross-breeding for ordinary purposes, because if care be exercised in the selection of the stock, any given quality can be increased. It is by this means our present exhibition birds have been brought to the state of perfection in which they are found, and as we are seeking for qualities of utility, we must follow on similar lines. The advantages of crossing depend very largely upon the skill of the breeder, but the chief one is the greater strength and hardiness obtained. This of itself is most important, and when feather is not the chief end in view, it overrides mere questions of fancy. For commercial purposes we advocate very strongly cross-bred fowls, and we shall now seek to indicate the most useful of these as layers. But before doing so, we must utter a note of warning, and that is, no cross-breeds must be bred from, or a rapid deterioration will be the result. The best way is to keep a pen or two of the pure-bred birds for stock purposes, breeding from these alone, and renewing as required, but never using their progeny to breed from. By this means a good result will be obtained, the size and stamina of the strain will be kept up, and the birds will always be kept well in hand. It ought to be a rule in every yard where eggs is the object sought for, that the hens shall be fattened and killed off when about nineteen months old, that is, just before the second moult, as they will still be tender at that age; whereas after then they become tough and dry, every moult is harder and more prolonged, and the number of eggs laid becomes fewer and fewer. On the system we have been recommending, about half as many birds (calculating the proportion of cockerels to kill off at three months old) as the stock of layers should be bred each year, and the older hens killed just in time to provide room for the pullets when they commence laying. This is the way to make a poultry yard profitable, and will be found best in practice.

For layers we should recommend one of the following crosses: Game-Houdan; Leghorn-Houdan; Game-Minorca; Leghorn-Minorca; Leghorn-Scotch Grey; Leghorn-Plymouth Rock; Leghorn-Langshan or Game-Langshan. The progeny of any of these will be found capital, both as layers and for the table.

Of course, if there are a number of good birds at present on hand, which, however, do not quite fall in with any of the crosses we have suggested, and it is not thought desirable to part with these, another cross may be substituted, and we shall be pleased to advise as to the best way to use them on hearing from any reader so placed.

There are many farmers who have a large number of good hens, and they do not care to dispose of all these to begin *de novo*, yet would be glad to have some fresh blood, and thus gradually improve their stock. We would in this case purchase a pen of fowls, say, a Leghorn cock and six or eight Houdan or Langshan hens, and during the spring set every egg from them. Then by killing off all the worst hens next July and August at least half the hens will be good, and if the same is done next year the yard will be renewed without appreciable cost. Or another plan can be adopted. Half a dozen Leghorn, Minorca, or Houdan cocks can be purchased and put down with the hens, killing off all the present cocks. By this means the stock will be greatly improved; and if these half-dozen be killed next year, and fresh ones introduced—they must be bought, not the young cocks out of the yard—then in a few years the yard will be a credit. But we believe the former of these two plans to be the best and cheapest. Whatever is done, let it be with care—get to know the value of each breed before it is introduced, and be sure it will tend to what is in view, and never be tempted to use a cock that is related to the hens. Half the battle is fought when the breeding is done in the right way, and all the housing, feeding, and after care can never make up for a mistake in this.—*The Farmer.*

The Apiary.

Fall Flow of Honey.

BY R. F. HOLTERMANN, ROMNEY, ONT.

The uncertainty of a fall flow of honey makes it extremely puzzling for even the expert in bee-keeping to know what to do. Golden rod, boneset, and the like, at times and in certain localities, give an excellent flow of honey. The honey, however, for table use, and as winter stores for the bees, is considered inferior. Many are the accounts given of the loss of entire apiaries, and the cause assigned, *inferior honey for winter stores*. How often the true cause is as given no one knows; it may be the direct cause of winter losses; it may assist in bringing about losses, or it may possibly have nothing to do with it. In the face of so many testifying to fall honey being inferior for winter stores, we may consider it somewhat rash to leave this class of honey with our bees.

Of course there are certain conditions under which it is still more hazardous to winter than others. If wintered on summer stands the stores must be of the very best. If wintered in a first-class cellar it is not quite as important to have the best of stores, although even then it may pay better.

Now where an upper story is used—and it always should be during the honey season, and we have a good, prolific queen, it will be found that the lower story rarely contains sufficient honey for winter. This is particularly the case where extracted honey is taken. Every man should seek to know his own locality. If there is no golden rod, boneset, etc., he knows he will have little or no fall flow, and is safe in making calculations on leaving enough honey in the hive at the close of the basswood flow. Thistle may yield well and give quite a surplus, but the crop is very uncertain.

The system I adopt is to either put a second upper story on putting it between the brood-chamber and first story, or by leaving two or three nicely sealed combs in each upper story. Some hives may need some of these combs, and more than two or three others will require none, and by using proper judg-

ment these surplus combs may be utilized wherever required; and if there are more than enough they may be extracted. By this system all fall honey may be taken from the bees, and any danger of loss from this source avoided. It must, on the other hand, be remembered, if you extract the inferior honey, which will be a little off in color and flavor, you must be prepared to take a lower price for it; and it should never be sent away, as your facilities at home are always greater for disposing of it. Such honey, if sent to cities, is only of use for baking and cooking purposes. The demand for it is limited, very limited, and not infrequently it fetches only 5c. to 6c. per lb., and generally only 7c. With ordinary honey at 13½c. per lb. many at home, if properly understood, will take this at 9c. to 10c. per lb.

WORK IN THE APIARY.

Generally, during August, the work in the apiary should consist in not doing anything which can at all be avoided. Honey flows are not frequent. By opening hives and exposing honey comb the bees get demoralized and rob whenever opportunity offers. They will try to get into the hive of a weak colony or get into the house, and matters are very unpleasant at times, not only to yourself but your neighbors. If you have to do much work in the apiary it is well to either get a bee-tent from a supply dealer or make one yourself.

In making a tent one should aim at cheapness; but bear in mind that the best is the cheapest. Let it be large enough to stand over a hive and give you room to sit inside and do necessary manipulations. It may be covered with mosquito-netting, or better, wire cloth. Upon reflection, it will be seen that when not in use the tent should be under cover, and yet the size of it will make it difficult to get it in anything short of a barn door. Many have been made to fold, or the sides may be taken apart. This is a very convenient arrangement, and a little study will enable any one to make such a tent. If taken care of such a tent will last for years and prevent much unnecessary trouble. The bees, too, are less liable to sting; in fact, for this alone any one who suffers much from the sting of the bee might use such a tent to advantage.

THE SEASON.

Up to date (July 8th) the season has generally been a poor one for honey. Frequent showers, cloudy days, and other causes have prevented the bees from taking advantage of the abundant clover flora. Basswood has in some localities been injured by frost. It is just opening, and we must hope for the best. Small fruits generally are scarce. Sugar is high, bee-keepers, therefore, should not sell their honey too cheaply. It would be a difficult matter, in fact, impossible, to fix a price for all over the country, but every one should cultivate a home market. Remember, if sent away you must pay freight frequently, and when expenses are considered, it will pay you well to make every effort to sell at home.

EDITOR CANADIAN LIVE-STOCK AND FARM JOURNAL.

SIR,—Kindly let me know through the JOURNAL whether it is the old or young bees that leave the hive when they swarm.

Mildmay.

R. M. D.

ANSWER BY R. F. HOLTERMANN, ROMNEY, ONT.

The majority that leave the hive are old bees. Doubtless some young bees leave with it, and an experienced bee-keeper will readily tell the colony a swarm has issued from by the young bees in front of the hive not yet able to fly, but have attempted to leave with the swarm. It is generally admitted that the old bees are in the majority in the swarm, but neither one nor the other make the swarm, strictly speaking.

Horticultural.

Grapes for Market Method of Culture, Etc.

A PAPER READ BEFORE THE SUMMER MEETING OF THE ONTARIO FRUIT GROWERS' ASSOCIATION AT SEAFORTH BY MURRAY PELLET, WINONA.

The vine, besides furnishing such delicious fruit, adds greatly to the attractiveness of home. Even the name "vine-covered cottage," or "vine clad hills," suggests that which once possessed can never be forgotten. The inhabitants of the vine districts of Europe plant vines wherever they go, you can almost pick out their homes here in our country.

The value of the grape and the ease with which it can be propagated, are two points not yet well understood by the farmers of our country. No fruit is more refreshing and more healthful. How much is it worth to have all the grapes one wants for himself, his family and his friends for even three months of the year, and this is within the reach of nearly every man who owns an acre of land in Ontario. Some parts of the country are so favorable to this industry that success comes almost without an effort, but people are slow to learn that it may be carried on successfully almost anywhere.

To profitably grow grapes for market only a few varieties are required, and to name those varieties suitable to all locations is a difficult question, as a slight difference in location, soil, or culture will produce results so widely different.

The culture of no fruit perhaps gives rise to a greater variety of opinions than that of the vine. For this reason it is safer for those who intend planting to find which varieties succeed best in their own locality. However, for market I would select the following varieties in proportion to 1,000 vines: 100 Worden, 200 Concord, 100 Wilder, 200 Lindley, 200 Agawam, and 200 Niagara. Some may say, why are Delaware, Brighton, Salem, Moore's Early or Pocklington, not included? For the following reasons: Lindley will produce more to the acre than Delaware, ripens at the same time and is more saleable; it will produce as much as the Brighton, and improve by hanging when fully ripe, while the Brighton fails in both color and flavor; the Lindley and Agawam fills the place of the Salem in the market, are as productive and not as subject to mildew, or liable to burst with rain; Moore's Early can only be made to produce one-third of as much as Worden and is not as good in flavor; Niagara fills the place of Pocklington in the market, and is more productive.

There is little profit in testing new varieties. Let others do it for you. We frequently hear the remark that grapes can be profitably grown at one cent per lb. This entirely depends on the cost of production, which is a very important question with the grape growers, as we must admit that the days of strong demand and high prices are past, that the market is frequently over-stocked, and prices rule very low. To profitably meet this it is important that we should carefully consider the cost of production. If we get 3c. per lb. for a crop, and it costs 2½c. per lb. to grow and market them, there is little more than amusement in the business, but if we reduce the cost of production 1c. per lb., that would give \$30 per ton clear profit.

Grapes, like all other fruit, can be produced at less expense on soil that is easily cultivated. This makes the selection of a site for a vineyard important, when we consider the fact that the soil will be cultivated constantly for thirty or forty years. Hill sides should be avoided, or any situation that has much descent, as the yearly wash of the continually cultivated land will carry away the surface soil from the high points and deposit it at the bottom where it is least needed.

Cultivation that is generally given to secure a good crop of corn or potatoes will place the soil in a suitable condition for planting grape vines. When preparing to plant, make a trench where each row is to be placed by ploughing two furrows, throwing one each way. In the bottom of this trench make a deep furrow with the subsoil plough, or what will answer as well, take the mould board off of an ordinary plough. Then plant two varieties in the same row, a red and a black, or white and red, or an early and late variety, six or seven feet apart in the row. By so doing at the end of five years, when we will know much more about the market for grapes, you can have the privi-

lege of choosing which variety you will keep, and cut out the other when it has amply repaid you for the very little extra expense, as no more land cultivation or trellising is required.

Do not place any manure or other fertilizer in contact or near the roots. Thousands of vines are killed each season by doing so. After placing a few inches of fine soil about the roots, tread it firmly, then more earth and tread again. This firming the soil in planting is of vital importance.

After planting, give good clean cultivation. For cleaning and mellowing the soil, no implement answers better than a gang plough, with a bar of iron about two feet long bolted on the plough head and braced from each side, filled with holes so the clevis can be set to plough to or from the vines. By using short whitish-trees nearly all the ground can be stirred. Plough well to the vines not later than August, so the earth will become well settled to protect the roots from frost during winter. Allow no brush, rubbish, prunings, or anything of that description to accumulate about or near the vineyard. By burning everything of this kind, you will keep your vineyard free from *thrips* and other injurious insects.

The question of pruning is a very unsatisfactory one to discuss on paper. No rules can be laid down that will profitably apply in all cases. So much depends on the strength of the vine; the age; variety; amount of vitality; whether it has carried a heavy crop the previous season or a light one; strength of soil, etc. As a rule, too much wood is left. It is common to err in this direction. The haste to get fruit quickly, and plenty of it, are the chief causes of many a failure. Vines are allowed to overbear, especially when young. The demands of the fruit exceed the ability of the vine to supply them. The consequence is the fruit is late in ripening and a poor sample. The bearing canes for the next season's crop are not ripened, nor the fruit buds matured, and it requires a year to recuperate.

Whoever attempts to confine the growth to some particular system does so at a loss. Systems may answer for a garden, but in growing grapes for market, prune out the poorest wood and save the best wherever it may be found. The more I look about and see the results of different systems of pruning, the more I become convinced there is no science required but simply to cut away enough of the vine to prevent over-loading, leaving enough well-matured wood to carry a fair crop, which on an average vine at full bearing is from 50 to 60 buds on the wood of the previous season's growth. To do this properly requires some experience, joined with common-sense, to apply it.

The Home.

The Hamlet on the Speed.

The hurrying waters of the Speed are collected in a body by a dam of strong masonry on the higher side of Guelph. Just below this dam is an extensive merchant flour mill, owned by Mr. James Goldie, and opposite is "The Hamlet" and adjoining gardens, where Mr. Goldie, with a perseverance little short of infinite, has brought together one of the rarest and most complete collection of flowers and shrubs in the Dominion, if not in America.

We spent a pleasant hour in this garden one evening of July, but what is an hour amid a collection of over 500 varieties, gathered from the ends of the earth?

Here we find the marigold from its African home, the juniper with its variegated foliage, and the wild clematis and the orchid from our swamps. Foliage spruces in rich variety, and columbines of many hues; poppies dyed as by some skilful painter, and blue-bells and harebells of many shades, almost confused one by their numbers. The toad-glove flourished as in its native home, and monkshood from the precipices of the Alps, took kindly to its new surroundings, growing side by side with bells from the "Banks and braes of Bonny Doon," with some fifty varieties of the narcissus as its next door neighbors. These are but a few of the specimens of this wonderful collection.

The collection of preserved birds and other animals is quite as wonderful as that of the flowers and shrubs, and the wild animals domesticated are numerous and interesting. Egyptian geese feed in the adjoining meadow; white swans float gracefully on the waters of the river; the sand-hill crane seems quite at home in his paddock, and young pheasants follow their foster parent with as much content as though they fed in their thicket of the wild wood.

The Hamlet is a wonderful illustration of what can be accomplished in a single lifetime by the individual who, with a quiet diligence that is always on the alert, embraces every opportunity of adding to a store, whether of material or intellectual things, in unison with the natural bent of the desires. The achievement is all the more laudable when accomplished without interference with the pursuit of a most successful business career. If in a world where attainment is so much circumscribed, the achievements of diligence are so great, what will these not be in the unfettered freedom of all the ages of the yet to be?

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL

A Backwoods Communion.

The bare walls of the log school-house with their plastered seams show distinctly, although the autumn glories brought by childish hands for "teacher" hanging here and there, screen in part its ugliness, and rest the eye. In their fading beauty we may read, if we will, of decay, of death, and of resurrection. The black-board has in the S. S. lesson of the day, a message of a smitten Rock and a fountain ever-flowing to "whosoever" will come and drink.

The spirit has been pleaded for and we feel we have the Presence with us. The communicants are few in number, but there is godly reverence and due solemnity, and a glance around us brings Luke's words forcibly to mind, "Fear not, little flock, it is your Father's good pleasure to give you the kingdom." It is a year since our devoted little band have thus met before. Some faces we long to see are absent to-day, but our hearts go out, and our eyes moisten as the mothers enter with their little ones—so lately offered to God in baptism. They have come miles through many difficulties to commemorate our Lord's last command. Strong manhood, weather-beaten and brown, with broad shoulders and brawny arms, is here, and, as the earnest faces riveted on Christ's ambassador throughout the service tell they are drinking in the words, and even bend forward that none be missed, our heart thrills to know that such men—men indeed—are not ashamed of the Gospel of Christ, but ready to stand firm as members of his flock. All join in singing "The Lord's my Shepherd," and more than one face shows "This is indeed the gate of heaven." In earnest words from an overflowing heart comes the prayer so full of what we long to express but cannot, and we feel we are near His hand. Eyes fill with tears and hearts heave as the speaker, with quivering voice and pathos, approaches his God. That communion paraphrase—the thirty-fifth—is next sung. It is dear to many of us as part of the past we have left behind us, and from Highland glade to Canadian home the memories are drawn, where in other days we worshipped with the worshippers whom on earth we'll meet no more.

This school-room is truly a Bethel, and the Spirit is with us, and with him who breaks for us the bread of life. Simple, plain, earnest, true, straight it comes from the heart, and no part is neglected. The "fool need not err," and the little child has no need to stray. We need it all. Ours is a flock which needs the

Master's word inculcated. The responsibility of each one is impressed, the necessity of being lights is shown and the "drinking unworthily" is fully explained. New communicants are earnestly addressed, and given the right hand with a clasp that means what a hand-clasp should mean. Then side by side, and not without trembling, we touch the sacred emblems. Our eyes may be dim but our hearts are away up in the sunshine, high on the Mount of Transfiguration. The Spirit rests on us, and does abide even as asked for.

O ye, who mourn departed reverence and old-time communions, come in the spirit and hold communion with your God and find the days you regret live still. It is not necessary to come to either backwoods or lumber district, but in your own hearts it lies. Not necessarily in rude simpleness or uncouth surroundings, but in yourselves.

KATE ROBERTSON.

Town or Country.

"I wouldn't live in the country for all the world; nothing could induce me to, at least all the year round. I might like it for a couple of months in the hottest weather, but no country place for me for a hom." This is a declaration that one hears very frequently when the subject is broached, and strange to say, from very different classes of women. I do not remember ever to have heard it from the lips of any man, whatever their sentiments might be if declared. And there are many reasons for this; one is that men go out into the world more, or at any rate, out in the open air, and hence are not so narrow in their views, when educated, and not so dependent on environment as women. Doubtless there are scores, nay, multitudes of men who would not live in the country all the year round by choice any more than the women, because they are of the same type, but their aversion is not so general as that of the other sex. There are good reasons why some women should live in the city; they may be compelled on account of their husbands', fathers' or brothers' business; they may also be obliged to earn their living in a town, or they may be tied down by property interests or other very strong interests, but this does not excuse them for giving utterance to the sentiment alluded to, which seems unwomanly and ungentle from gentle woman's lips. But what shall be said of the woman who, untrammelled by any such ties, elects to live in the city for the city's sake especially the woman who has a young family to rear and chooses to do this in crowded apartments or the not less desirable small flat, where the children must pine and fade for lack of fresh air, or run the streets to get the only substitute for this vital necessity in a crowded, dirty town? And this lack of fresh air is not the only evil that the city-loving mother entails upon her hapless offspring. She subjects them to the horrors of a street education gained from bad companions, and she it is who is responsible for the poisoning of their pure young minds, for this is unavoidable. A child brought up in apartments and small flats must either die if it is kept within doors, if it has not the strongest constitution, or it must grow up if not steeped in depravity, at least so contaminated that it has hardly a trace of innocent childhood. I have heard language on the lips of small children, well dressed and decently kept, that I would not write or repeat, to say nothing of volleys of oaths that in strength equalled anything that could be said by their elders. As for their behaviour at times, it was evidence of actual depravity. I am now alluding to one class of women supposed to be well-meaning, decent women, women who can read and write fairly well, but possess little information of a valuable kind, and who therefore may be termed frivolous and empty-headed, given to gossip and shopping and dearly loving these small excitements; for their sake sacrificing the health and morals of their children, by living in flats or apartments in a crowded city, where these pleasures are procurable. I have seen such women hanging out of an upper window, a child, perhaps, on either side, all three gazing vacantly down in the street at nothing more than the passers-by, spending perhaps an hour in this lazy fashion. I have seen these same women issue from their apartments, decked off in silks, satins and laces, glittering with multitudinous trimmings of

beads and bugles in jet or iridescent glass, leaving their children in the street, or perhaps locking them in the flat while they sallied forth "to look at the stores." Sometimes we hear of children burned to death. It is not always the fault of mothers, far may it be from me to say such a thing, but it very frequently is the fault of a mother who is so frivolous and so disjointed (so to speak), mentally, that she has not foresight enough to prevent the accident, but goes off gadding or shopping, so pleased with the prospect of the ever-new excitement, that she forgets or omits to take any precautions against accident.

There is a second class of women who will not live in the country only when it is fashionable to do so, and those are either the society women, or those who would like to be so and have to sit on the outer edge as it were, and envy their more successful sisters. To these it is the breath of their life to be in the city, not because it offers them more chances in certain ways of acquiring more information and culture than does the country as a rule, but because they can catch something of the excitement of city life by being just in range of its whirl. There they see the fashions, there, too, is the theatre, and there are receptions, and sociables, and meetings, and what not; in fact, what such people denominate "life."

Of course, there are many solid good reasons for living in the city, but then for many of the people who give these reasons for living there, there are still better reasons for their living in the country. Especially is this true in a family where there are young children. I hold that where it is possible to live in the country, or at least away from crowded towns, it is the duty of parents to do so for their children's sake. I will go further and say that parents who live in the city when they can so easily live in the suburbs or in the country, still better the latter, are defrauding their children of one of their best and most beneficent rights, namely, the right to grow up amid the glories of God's works, for "God made the country and man made the town." A child who grows up, and moreover, one who is taught to appreciate the beauties of nature by intelligent parents, has enjoyed the inestimable privilege that is his birthright. If it is not possible, as frequently may be the case, to give the children the benefit of the country as a home the whole year round, then by all means strive to give them a week's pleasure, or a month or two, so that when grown, they can look back to these halcyon days when they tramped the green meadows on daisy hunts, or ranged the woods on chestnut hunts; or fished in the brooks or watched the sunsets in their blaze of glory, and the coming of troops of stars in the dome of night, falling asleep at last to the sound of rustling trees, and the chirp of crickets in the grass.—*The Ladies' World.*

James Russell Lowell's Kindness to a Household of Robins.

I once had a chance to do a kindness to a household of them, which they received with very friendly condescension. I had my eye for some time past upon a nest and was puzzled by a constant fluttering of what seemed full-grown wings in it whenever I drew near. At last I climbed the tree in spite of the angry protests from the old birds against my intrusion. The mystery had a very simple solution. In building the nest, a long piece of pack thread had been somewhat loosely woven in, three of the young had contrived to entangle themselves in it, and had become full grown without being able to launch themselves into the air. One was unharmed; another had so tightly twisted the cord about its shank that one foot was curled up and seemed paralyzed; the third, in his struggles to escape, had sawn through the flesh of the thigh and so much harmed himself that I thought it humane to put an end to its misery.

When I took out my knife to cut their hempen bonds, the heads of the family seemed to divine my friendly interest. Suddenly ceasing their cries and threats, they perched quietly within reach of my hand and watched me in my work of manumission. This, owing to the fluttering terror of the prisoners, was an affair of some delicacy, but ere long I was rewarded by seeing one of them fly away to neighboring tree, while the cripple, making a parachute of his wings, came lightly to the ground and hopped off as well as he could on one leg, obsequiously waited upon by his elders. A week later I had the satisfaction of meeting him in the pine walk in good spirits, and already so far recovered as to be able to balance himself with the lame foot.

Take It Easy.

Now that warm weather is here, the washing getting larger and the work unusually laborious, it seems useless for the housekeeper, who has all her own work to do, to spend her time and strength in ironing all the coarse towels, dish towels, wash cloths, etc., with the same assiduous care that she gives to her table linens. In fact we do not see why it is necessary that they should be ironed at all. If folded neatly and evenly they will lap in the cupboard or drawer equally as well, and after they have been used once no one will ever know whether they have been ironed or not. We will sleep just as sweetly in sheets just folded from the line, and plain underwear needs but slight attention. Now that it is no longer considered improper to wear unstarched dresses, underwear, etc., much labor can be saved by following the fashion. It is hard enough to do what is actually necessary to keep the household in running order when the mercury reaches 100 degrees in the shade and feelings of lassitude almost overcome us, without our exerting ourselves to do that which is as well undone. Better spend the time gained in reading or social intercourse with our neighbors. We will undoubtedly feel better, and it is possible we might save a doctor's bill. One ought also to be provided with a kerosene or gasoline stove. They are more economical than wood, do not heat up the house so badly, save many steps taken to keep the stove filled with wood, and the person ironing feels only the heat from the irons, and, consequently, is not nearly so much fatigued. Every housekeeper should insist, as one of her rights, on having all the conveniences possible to aid in doing her work easily and quickly.

The King's Sabbath.

Once idly in his hall King Olave sat
Pondering, and with his dagger whittled chip,
And one drew near to him with austere lips,
Saying, "To-morrow is Monday." And at that
The King said nothing, but held forth his flat
Broad palm, and, bending on his mighty hips,
Picked up and laid thereon the slips
Of whittled wood, as on a hearth, and gat
From off the embers near a burning brand.
Kindling the pile with this, the lordly Dane
Sat silent with his eyes set, and his bland
Broad mouth tight-woven, smiling, drawn with pain,
Watching the fierce fire flare and wax and wane,
Hiss and burn down upon his shrivelled hand.

A. LAMPMAN.

Stomach "Goneness."

The faintness or empty feeling of the stomach experienced by some in the evening or during the night, is caused by the two walls of the stomach coming in contact. When that organ is empty it collapses, but in a state of health we do not feel this contact any more than we do the shutting of the two eyelids together. But when the stomach is diseased we notice this contact just as we would contact of the eyelids if they were inflamed. The mucous membrane becomes congested and irritated, and causes this "goneness." There are two remedies for this. One is to eat something, and fill the stomach up with some sort of bland substance, when the patient will feel temporarily better. There are some people who always eat something just before going to bed; they think it dangerous to have the stomach empty. A great deal of harm is done in this way, yet some physicians recommend eating because it will give this temporary relief. This eating for relief simply increases the cause of irritation. This trouble is due to congestion of the stomach, caused by overwork. The stomach is always temporarily congested during the act of digestion, and if kept constantly in use, the congestion will become permanent. The second and best remedy for this condition is rest, and the worst of all remedies is work. Food put into the stomach increases the congestion because it makes the stomach work. You will notice that this trouble occurs in the evening or in the night. Persons make no such complaint in the morning. The stomach has had a chance to rest; yet three hours after breakfast they may experience the same all-gone feeling. The proper remedy is rest and careful attention to the diet, that the cause may be relieved. For temporary relief, nothing is so good as a drink of cold water, and it will help to allay the congestion also.

Mrs. Kindheart (to humorist who has had his right arm amputated at the elbow)—How ever will you manage to write now?

Humorist—With my funny bone, I suppose.

Jottings.

Alma Ladies' College.—This college, situated at St. Thomas, Ont., has passed through a year of prosperity, as she had nearly two hundred students in 1888. The efficiency and number of the teachers have materially aided in this, her faculty comprising 16 graduates and certified teachers. The McLachlin Hall, costing \$20,000, erected last year to meet the great demand for rooms, is now open. The total expenses run from \$40 to \$60 per term, or from \$150 to \$250 per year in advance, including music and fine arts. Address Principal Austin, M. A.

Encouraging Science.—The Vermont Microscopical Association has just announced that a prize of \$250, given by the Wells & Richardson Co., the well-known chemists, will be paid to the first discoverer of a new disease germ. The wonderful discovery by Prof. Koch of the cholera germ as the cause of cholera, stimulated great researches throughout the world, and it is believed this liberal prize offered by a house of such standing, will greatly assist in the detection of micro-organisms that are the direct cause of disease and death. All who are interested in the subject and the conditions of this prize, should write to C. Smith Boynton, M. D., sec. of the association, Burlington, Vt.

Foods and Fertilizers.—The opinion is general among our best feeders that it pays directly to feed well, and that it also pays indirectly by increasing the fertility of the farm. Rapid fattening cannot be accomplished without the use of nutritive foods of the best quality. Mr. A. Boyd, of Toronto, offers in our columns such foods as linseed cake, cotton seed meal, palm nut meal, and many others that have been found of great value for feeding all domestic animals. Lump rock salt is also kept on hand. The same person makes a specialty of fertilizers of all kinds, and those desiring anything in this direction should not fail to consult him. In the minds of many of our farmers the time has arrived in our agriculture when it will pay to economically use special fertilizers, but the question that follows out of this is where may they be obtained from a reliable source? We direct them to Mr. Boyd's advertisement elsewhere.

Mica Roofing.—We would respectfully call attention to this roofing for cheapness, durability, and ease of application, for dwellings, barns, stables, and outhouses, steep and flat roofs. It is water tight, air tight, and fire proof. A heavy roof is not needed for the greater number of buildings. A light roof answers every purpose and offers many advantages. It does away with girders, braces, and numerous other contrivances necessary to sustain a heavy one. These neither increase the looks or convenience of the building, but they do increase the cost. This extra cost may be saved or used to more advantage in other parts of the building. The saving can be affected by the use of mica roofing. The ease of applying is of an advantage both to the builder and owner. To the builder especially because he can quickly enclose the building, an advantage which is of the greatest importance in a variable climate. To the owner, because he will be certain to put a similar roof upon any of his other buildings that may need it. See advt. last issue.

Hereford Prizes.—The American Hereford Cattle Breeders' Association offer a number of special prizes at many of the leading American Exhibitions. At Buffalo International Fair, Sept. 3d to 13th, they offer a \$50 herd prize; \$25 for best bull, any age; \$25 for best female of any age; and \$20 for best Hereford steer, two and under three years. Many \$10 prizes are offered for bulls and cows of different ages, and the heifers and calves likewise. For the Chicago Fat Stock Show, November 12th to 21st, if the grand sweepstakes is won by a Hereford, they add \$100, and for best herd of Herefords \$50, and so on through the many other classes. They require that animals eligible to compete, must be registered in the American Hereford Record, except in case of a steer, when sire and dam must be registered therein as pure-breds, and sire for grades. Mr. C. R. Thomas of Independence, Mo., is secretary of the society.

Chatham Fanning Mills.—No better criterion of the worth of these mills, manufactured by Mr. Mason Campbell, of Chatham, could be instanced than to point to the growing popularity in all parts. As an indication of this, it may be stated that during the month of June no less than 500 mills went out from the manufactory, making the season's sales so far 1,200. We learn that he bagging attachment is taking well, for how could it be otherwise when such a badly needed article was supplied made of the best material. In Ontario, immense sales have been made, and no less than fourteen wagons are continually de-

livering these mills in various parts of the Province. It is the intention of the manufacturer to show these mills at all the leading exhibitions, including Toronto, Hamilton, London, Ottawa, and Kingston. It will pay every farmer to make a point of at least seeing their exhibit, which we have no doubt will fully up-bear their reputation.

Clydesdale Exportations.—Canada again claimed the greater portion of the Clydesdales exported last week. Mr. Sylvester Campbell shipped about a dozen head of horses and mares, the most of which were bred in Aberdeenshire, and are well calculated to improve draught horse stock anywhere. Mr. McFarlane, Shakespeare, Ont., shipped three colts, viz. one by Prince Lawrence, purchased from Mr. Peter Crawford, one by Macgregor, purchased from Mr. Wm. Montgomery, and one by the Macpherson, purchased from his breeder, Mr. John Houston, Overlaw, Kirkcubright. These colts are good representatives of the stock of their respective sires. Mr. Ed Dingman, Maplewood, Ont., shipped five colts, two of which were purchased from Mr. Walter S. Park, Hutton, Bishopton, and one each was purchased from Messrs. M. Gilmour, Inchinnan, James Andrew, Bushes Farm, Paisley, and C. Lawson, Mains of Culis. Several of these have taken prizes, and especially the colt purchased from Mr. Gilmour, which is got by the Ardgowan horse The Macneil, and gained fourth prize at Maryhill and Bishop-ton. *North British Agriculturist of June 26th, 1889.*

Ensilage Cutters.—There is no doubt, considering the status of the ensilage question at the present time, that many farmers will be pondering in their minds where they may obtain cutters of the best workmanship, best model and from a reliable firm of manufacturers. Such we would direct to the Watson Manufacturing Co., of Ayr, who place with us in this issue an advertisement pertaining to their ensilage cutter. They furnish with this implement an eight foot chain, which may be made to work from either end of cutter, or from front or back of cutter, and can be raised to any height. They make these any length to suit individual cases. The capacity of this model—The Excelsior—is stated to be, when rightly handled: Hay per hour, 2 to 3 tons; corn stalks per hour, 3 to 4 tons; ensilage per hour, 6 to 8 tons. It possesses many new features over old models, and we would certainly strongly advise those desiring such an implement to write at once for their handsome catalogue of all kinds of farm implements. Notice their advertisement this issue.

Dominion Sheep Breeders' Association.—During the week of the coming Provincial Exhibition at London, it is the intention of the above association to set apart one evening for the holding of their meeting. The growing importance of our sheep interests and the good results that will no doubt follow a thorough discussion of the several phases, should prompt every one interested to make a point of being in attendance. The programme so far as arranged is as follows: The Proper Classification of Sheep at Fairs, by J. G. Snell, Edmonton. The Value of the Silo and Soiling Crops for Sheep, by John S. Pearce, London. The Proper Method of Getting up Fleeces for Market, by John Hallman, Wool Merchant, Toronto. What a Canadian Sheep Raiser Can Learn in England. It is also expected that the Hon. Chas. Drury will be present and deliver an address. Others have also promised to assist in the programme, but the subjects of which they shall treat have not yet been handed in. Full programme and date will be given in our next issue. All connected with this industry should feel it their bounden duty to attend and at least countenance, if not materially aid the association in the good work it is doing.

Central Farmers' Institute.—The executive committee of the above society met in Toronto, July 2, with the president, Mr. N. Awrey, M.P.P. in the chair, and the following members present: Messrs. T. Loyd Jones, vice-president; Prof. Shaw, Ont. Agricultural College, Guelph; G. Copeland, Hespeler; S. Kitchen, St. George; D. Barr, Renfrew; Col. Campbell, Nelson; M. Bogart, Napanee; Jas. McEwing, Drayton; Thomas Kells, Vandeleur, and the secretary, A. H. Pettit, of Grimby. The subjects for the next annual meeting, to be held at Toronto the first Tuesday in February next, are as follows: What Can Winter Dairying Do for Ontario? to be introduced by Prof. Robertson, Ont. Agri. Col., Guelph, and supported by Mr. H. Nixon, of St. George. The Desirability of a Universal Herd Law for the Province of Ontario, introduced by Prof. Shaw, Ont. Agri. Col., Guelph. Is It Desirable that the Government Introduce Compulsory Legislation for the Consideration of the Ontario Parliament Regarding the Extermination of Noxious Weeds on Public Highways and Private Property? Would it be Advisable for the Government of Ontario to Adopt the Torrens System of Land Transfer, to be introduced by James McEwing, of Drayton. What Effect have Combines on the Farmer? How Can They Be Remedied?

To be introduced by Mr. Clark Wallace, M. P. Woodbridge, and Mr. J. Bain, M. P., Dundas. This list is incomplete, as it is expected and asked that the farmers' institutes will notify the secretary of other subjects that they would suggest as worthy of discussion. Included in other business transacted, the secretary was instructed to ask the various agricultural associations to send a representative to the annual meeting. Messrs. Copeland, Kitchen and Loyd Jones were appointed a committee to draft rules and order of procedure for next meeting, and Prof. Shaw was appointed as representative from the board to confer with Prof. Mills in arranging for lectures to the several local farmers' Institutes for the coming year.

Dates Claimed for Fall Exhibitions.—To prevent the clashing of dates as far as possible, as well as for the benefit of our exhibition associations, and information of our readers, we would kindly ask the secretaries of all our exhibition associations and agricultural societies to send us dates of their exhibitions, and we shall willingly give them free space as below:

Name	Place	Date
North Elanark Exhibition	Almonte	Sept. 24th to 26th
Toronto Industrial and Agri. Exposition	Toronto	" 24th to 28th
Great Central Fair	Hamilton	" 23d to 27th
American Horse Show	Chicago	Oct. 30th to Nov. 9
American Fat Stock Show	"	Nov. 12th to 25th
Midland Central	Kingston	Aug. 28th to Sept. 7th
Eastern Twp. A	Sherbrooke, P. Q.	Sept. 3d to 5th
Central Canada	Ottawa	" 9th to 14th
Southern	Bramford	" 10th to 14th
South Renfrew	Renfrew	" 17th and 18th
North-Western	Goderich	" 17th to 19th
Peninsular	Chatham	" 17th to 20th
Lincoln County	St. Catharines	" 23d to 25th
Wellesley and Easthope	Wellesley	" 24th and 25th
South Grey	Durham	" 24th and 25th
Lindsay Central	Lindsay	" 24th to 25th
Ontario and Durham	Whitby	" 24th to 25th
Centre Bruce	Paisley	" 24th to 26th
Southern Counties	St. Thomas	" 24th to 27th
Central	Peterboro	" 24th to 27th
Great Northern	Collingwood	" 25th to 27th
Central Agri.	Walters Falls	" 26th and 27th
Central Exhibition	Cannington	" 27th and 28th
North Brant	Paris	Oct. 1st and 2d
Co. of Haldimand	Cayuga	" 1st and 2d
Gt. S. Western	Essex Centre	" 1st to 3d
Brampton	"	" 1st to 3d
The Northern	Walkerton	" 1st to 4th
C. Saskatchewan	Saskatoon	" 2d
East York	Markham	" 2d to 4th
Ontario Central	Port Perry	" 2d to 4th
North Perth	Stratford	" 3d to 4th
North Renfrew	Beachburg	" 3d and 4th
South Oxford	Otterville	" 4th and 5th
Howard Branch	Ridgetown	" 8th to 10th
West York and Vaughan	Woodbridge	" 9th and 10th
Wellington	Fergus	" 10th and 11th
Scarboro	Danforth	" 10th
Norfolk Union	Simcoe	" 15th and 16th

Stock Notes.

Parties forwarding stock notes for publication will please condense as much as possible. If written separate from other matter it will save much labor in the office. No stock notes can be inserted that do not reach the office by the 2nd of the month preceding the issue for which they are intended.

Horses.

From the *North British Agriculturist* we learn that Messrs. Major and Son, of Whitevale, have imported two colts and two fillies of superior breeding and quality. Other purchases were made by Mr. Whiston, of Atha, Ont., and also by Mr. Agnew, Langton, Ont., who purchased the prize colt, Care Not, by What-Care-I (192).

Shorthorns.

Mr. Wm. Cannon, of Annan, Ont., bought a pure Shorthorn bull about the first of the year, from the Riverside herd. He is named Lord of the Isles, and was sired by British Sovereign, the Mantlini Booth bull, for several years at the head of the Riverside herd. This young bull is, we understand, doing good service, not only in the herd of Mr. Cannon, but also in the neighborhood. Mr. Cannon also keeps pure Berkshire pigs of a good type, and like all farmers who try to do their duty to their stock, he is keeping them well.

Jerseys.

Mr. John Fennell, Berlin Ont., offers for sale in this issue some choicely bred butter producing Jerseys. As they are due to calve this and next month, they will make fine winter milkers. Do not fail to see his advertisement.

Holsteins.

"The grand Holstein cow, Jewel, 668, H. H. B., has just completed a good record. From May 15th to 21st, inclusive (7 days), she gave 5021 lbs. 4 ozs. of milk. From this was churned 311 lbs. 3/4 ozs. of unsalted butter, it taking 28 1/2-30 lbs. of milk to one lb. of butter. The two year-old heifer, Jikke Herbert, in 7 days produced 14 lbs. 8 ozs., a large return. The "Yankees" are making great strides in developing the dairy qualities of the Holstein cattle. This record is of special interest to Osgood farmers, as A. and G. Rice, of Curries, have a grandson of this cow Jewel. She also took the prize at Buffalo last fall for "producing most milk in three days," open to all breeds, and scored 97 points when judged by an expert—*The Register*.

We publish the letter below to show the animals offered by the Wyton Breeders Association are of the first rank, and have been appreciated by the buyers. They hold another sale the coming fall. "Edmonton, July 1, 1889. To the Wyton Stock Breeders' Association. Dear Sirs—I drop these few lines to you to let you know that the cattle I bought of you last fall are doing remarkably well. Aaggie Ida has grown well. She is as big as any cow, and due to calve in last of October. She is making the appearance of a fine big milker. Everybody says they never saw as good a one. Membrino is doing just as well. He is a fine big fellow, but don't keep in flesh as good as Aaggie. We are getting a good number of cows. He is just the people's fancy. I intended to have been up at your sale last spring, but was busy and could not get. I would have shown the cattle at our county fair, but when I came to enter them I had no certificate for them, therefore I could not show. So I will ask you to send me certificates for both of the cattle. I can be ready for the fall. I will try, if possible, to come to your fall sale, for I would like to have another heifer or two, as they are the kind of cattle to suit me, for I have a small cheese dairy, and they will pay me the best and take less feed. The cattle came down all right, only they were very hungry. They were two days on the road." Yours truly, Joseph Atchinson, Edmonton.

Smith Bros. of the Credit Valley Stock Farm, Churchville, Ont., write under date of July 26th as follows: "A few days ago we sent three head of young Holsteins to Prof. Saunders, of the experimental farm, Ottawa. They were Onetta's Edgely, Bonnie Ethel's Mercedes, and Siepie's Queen. The dam of the young bull gave 9,023 lbs. during eight months, from October 13th to June 3rd, and his sire is our Duke of Edgely. Bonnie Ethel's dam gave 15 lbs. 11 oz. of butter in seven days, and six of her half sisters as two year-olds averaged 16 lbs. 5oz. in a week, and one half-sister at three years of age gave 24 lbs. 153 oz. butter in seven days. The dam of Siepie's 3d's Queen has given us nearly 10,000 lbs. of milk during the past ten months, and her grand-dam, Siepie's, gave us 13,021 lbs. of milk during the past year. We received from quarantine a few weeks ago six young Holstein heifers of excellent quality. They were Baroness Clothilde (grand-daughter of Clothilde who gave over 26,000 lbs. of milk in a year, and 28 lbs. 2 1/2 oz. of butter in seven days); Netherland Statesman's Benola (whose g. dam took 1st prize at Buffalo International Exhibition last year for most butter made during three consecutive days. She is also strong in the Netherland blood); Aaggie Idaline 6th's Princess (sire Prince of Artis, g. sire Artis. The inspector of the North Holland herd book says Artis is the best and most perfect bull recorded in that herd book); Netherland Heroine (rich in the Netherland blood); Modest Girl 3d, and Aaggie's Gem 2d (rich in the Wayne and Angie strains, both strains are remarkable for their butter and milk). These young heifers are very fine in appearance, square, level on the back, and in every respect well formed, as well as having ancestors of great records and worth. We have now over 40 head of the best strains, believing that the best is not too good for the breeders and farmers of Canada, and we are offering them at close prices, determined not to be undersold."

Sheep and Pigs.

Mr. J. C. Snell, who has been in England making selections of stock, is expected home by the end of July, with about 35 head of Berkshires and 30 Cotswolds, selected from the best flocks and herds in Britain, including some of the prize animals at the Royal Show.

Mr. Robert Marsh, Lorridge Farm, Richmond Hill, writes us that the Lorridge Farm flock of Southdown sheep have done and are still doing well, the crop of lambs this year being 180 per cent. to the flock of ewes. Sales during the past season have been satisfactory. Some of them had to travel nearly 2000 miles, where they arrived safe and sound. There has also been a good demand for Berkshires.

In our present issue Messrs. Green Bros., the proprietors of the Glen Stock Farm, Inverkirk, Ont., make a change in their regular advertisement, which it would be well for our readers to observe. They have successfully handled Shorthorns, Shire horses and Berkshire pigs for a number of years, and now have introduced to their stock farm a number of improved, large white Yorkshire pigs, which we feel assured will aid in upholding the time-honored reputation of this firm, as breeders of stock of the highest class. Their new importation of Yorkshires we are informed, are in excellent condition after their ocean voyage. They are selections from the renowned herd of Mr. Walker Jones, of England, who has won innumerable prizes on his stock. As some of the imported sows are expected to farrow soon, those desiring first-class pure bred animals should at once correspond with this firm. See their advertisement.

Mr. H. J. Davis, of Maplewood Stock Farm, Woodstock, Ont., reports the following sales: One yearling Shorthorn heifer, sired by imp. Roan Prince, and out of Violet's Eclipse, sired by imp. Ecipae, to Mr. A. West, Oxford Co., Ont. One Berkshire boar and sow, to Elias A. Flagg, Meaford, Co. Gray. One boar and two sows to Col. A. Audet, Montreal, P. Q. One boar and sow to W. B. Rittenhouse, Jordan, Ont. One sow to Ira Davidson and Bro., Florence P. O. One sow to George Gould, sr., also sow to George Gould, jr., both of Rutherford, Ont. One boar to Wm. Temple, Jerseyville, Ont. One sow to A. Rowell, East Zorra.

John Campbell, jr., of Woodville, Ont., who visited England this season, reports his having purchased choice selections of

Shropshires from Messrs. H. Williams, J. & S. Bradburne, W. H. Clarke, A. S. Barry, and P. & S. Evans. Among the lot are several winners of first and second premiums at the Bath and West of England, the Royal at Windsor, and the Shropshire and West Midland shows. A sheep worthy of special attention is a yearling ram sired by the noted Rector, bought from the Messrs. Evans, of Uffington. He was the choice of their fifty rams, eighteen of which were by the Rector, which they purchased when six years old at 105 guineas, and he had been previously let for the season at 200 guineas.

We were favored with a call from Mr. John Jackson, of Abingdon, Ont., a veteran breeder of Southdowns. During the course of an interesting chat on sheep matters, Mr. Jackson informed us that he soon expected to hear of the landing of his new importation, including the first prize pen of Southdowns at the late Royal, that had to be imported to refresh his flock, as the latter had been considerably drained through the very strong demand. Mr. Jackson is to be congratulated on the securing of such a number of high class sheep. They are from the flock of Mr. Colman, who secured all the Southdown prizes at the Royal this year, with the exception of that on a yearling ram, but even in that section he secured second. Mr. Jackson states that he has had every success with his lambs, he having a number of excellent ones now on hand. The clip this year was good, averaging about 7 lbs., while that of the stock ram tipped the beams at eleven. Mr. Jackson will, as usual, go the round of the fairs, and we feel certain his showings shall not be in vain, but that he will add a number more prizes to the long list already his.

Messrs. J. G. Snell & Bro., of Edmonton, Ont., writes us: "We have just received a letter from Mr. Main, in which he says he has purchased for us in England 26 head of Cotswolds and 15 head of Berkshires. Among the Cotswolds are the first prize pen of five shearing ewes and the first prize ram lamb at the Royal Show, besides winners at other shows. In the lot of Berkshires is the sow that won first prize and champion prize for the best Berkshire sow at the Royal Show. Mr. Main expected to sail on the 13th of this month."

We have to chronicle an addition to the ranks of importers of improved large, white Yorkshire pigs, in Messrs. Green Bros., of Innerkip, and Mr. Jos. E. Brethour, of Burford. These gentlemen intend importing and breeding improved, large, white Yorkshire pigs as a joint concern, the partnership being confined to this department only. Their first importation consisting of two boars and six sows (all in pig, and due to farrow in July and August) arrived safely last month. They were selected from the celebrated herd of Mr. F. Walker-Jones, England, who has won over \$10,000 in three years in prizes alone. This is, we believe, one of the largest, if not the largest, importation of this breed to Canada. We are informed that a portion of the importation will be kept at Innerkip and the remainder at Burford, and orders sent to either party will receive prompt attention.

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Advertising Rates.

The rate for single insertion is 18c. per line, Nonpareil (12 lines make one inch); for three insertions, 15c. per line each insertion; for six insertions, 12c. per line each insertion; for one year, 10c. per line each insertion. Cards in Breeders' Directory, not more than five lines, \$1.50 per line per annum. No advertisement inserted for less than 75 cents. Contracts broken by bankruptcy or otherwise, shall revert to the regular rate of 18c. per line.

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



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4 years old, and a 6 months old bull calf

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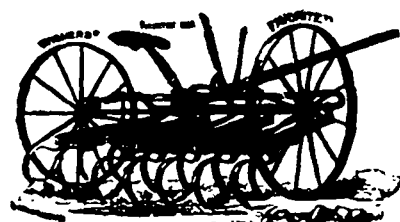
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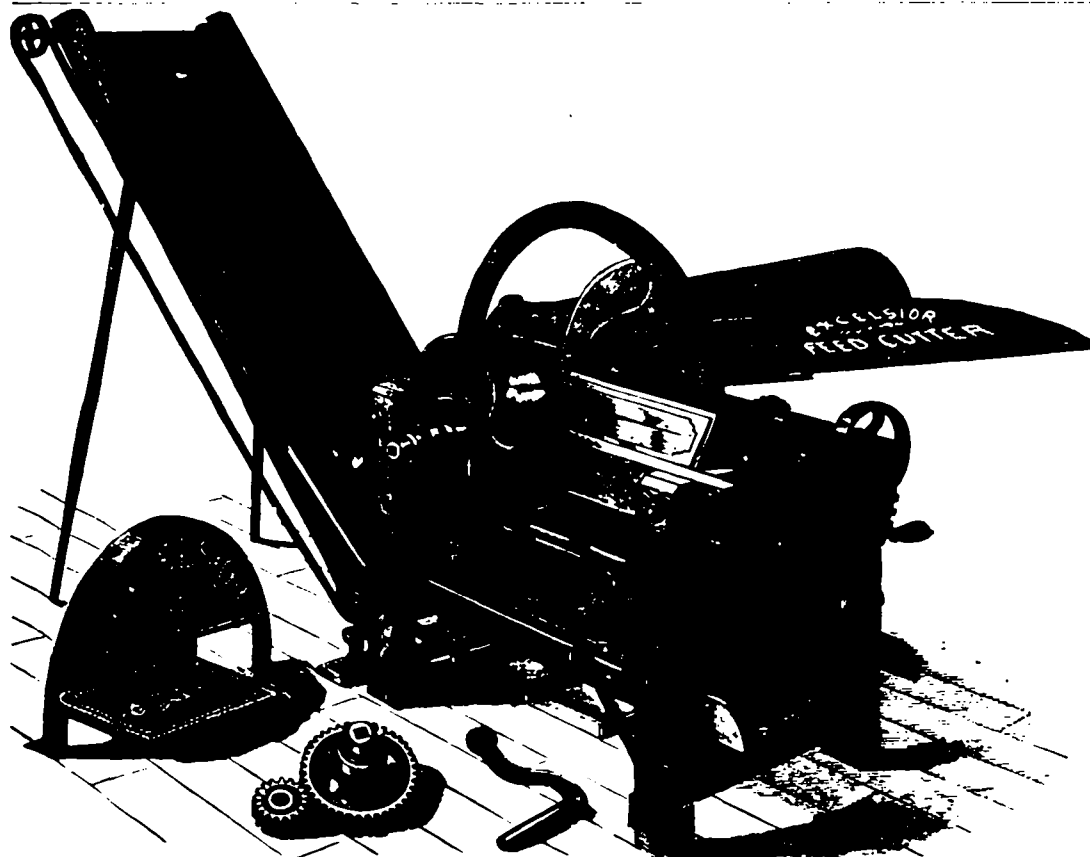
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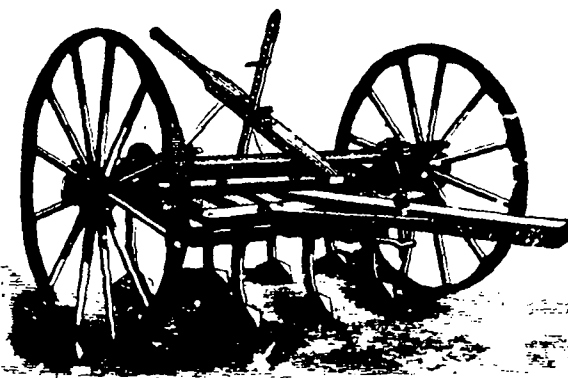
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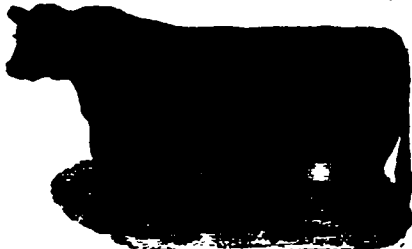
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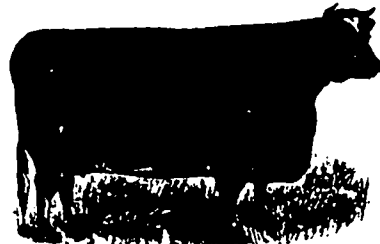
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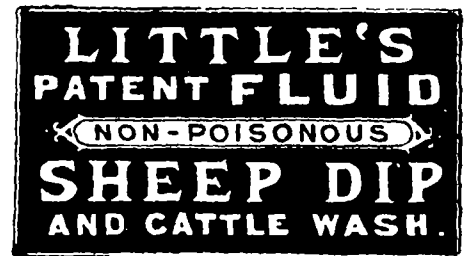


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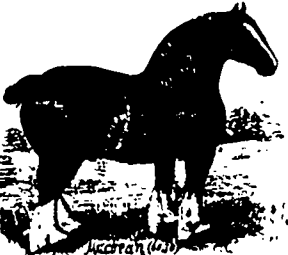


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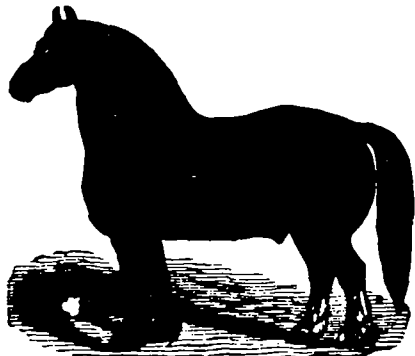


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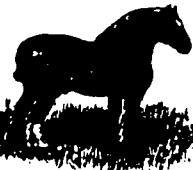


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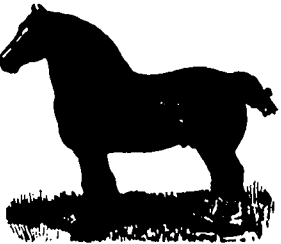
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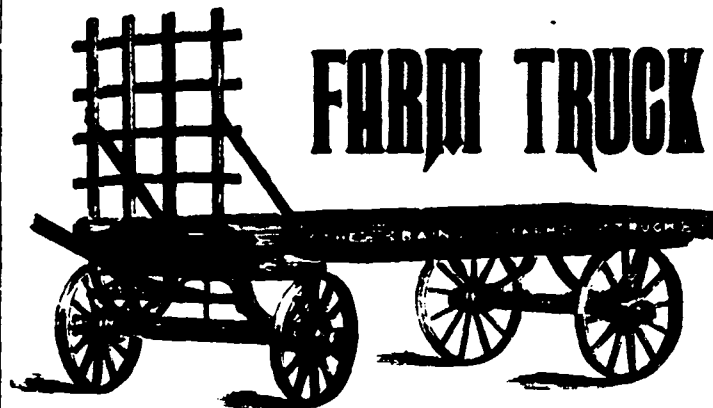
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