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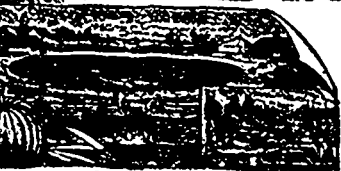
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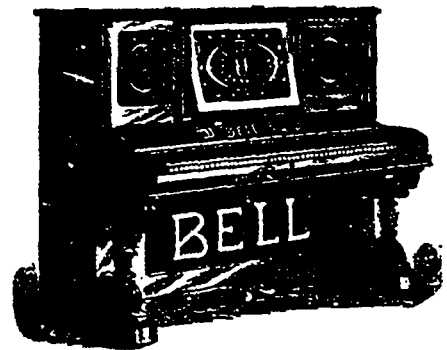
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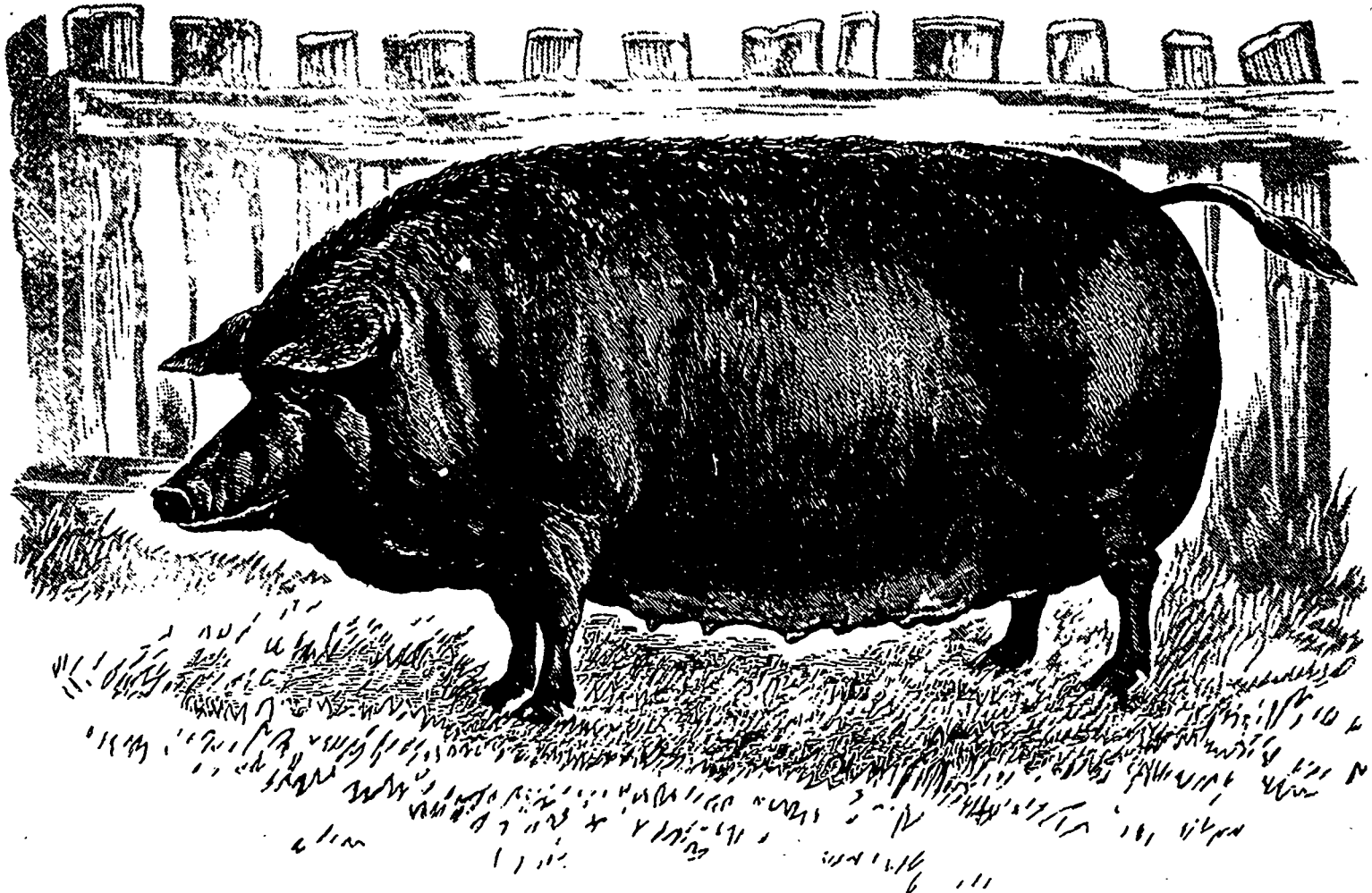
THE CANADIAN LIVE STOCK AND FARM JOURNAL

Devoted to the Interests of the Stock-Raisers and Farmers of Canada.

VOL. VII. No. 8.]

TORONTO, AUGUST, 1890.

[WHOLE No. 82



MR. W. H. MITCHELL'S TAMWORTH SOW. "SYLVIA II."

Our Illustration.

We have this month the pleasure of presenting to our readers an engraving of a famous Tamworth pig specially prepared for us by an English artist from a painting by E. B. Herbert, Esq. Sylvia II. was bred by Mr. W. H. Mitchell, of Elmdene, Kenilworth, England, one of the foremost breeders of Tamworths, and she has gained a splendid fame through the numerous prizes she has captured for her owner at the leading exhibitions of Great Britain. She has won no less than six first prizes and one second, including first at Birmingham in '84, first at the Royal at Newcastle '87, and first at the Windsor meeting of the Royal last year. She has won over £50 in prize money, and may be said to be by far the most successful sow of her breed. She is stated to be of great length and depth, measuring 6 ft. 6 inches from the tip of her nose to her stern, and the same around her girth, while her live weight is given to be about 1000 lbs.

Mr. Mitchell has made a specialty of breeding Tamworths since 1883, and the result of his work is a

flattering testimonial to his skill, as may be noted from the fact that his herd has taken prizes at the Royal Shows five years in succession, including first prizes for boars and sows at Windsor last year, and upwards of fifty prizes at other prominent shows. Beginning at Birmingham in 1884, Mr. Mitchell showed his first pen there in a class for five breeding pigs under six months old, and had the high honor of capturing the first prize with a pen 5 mos., 2 weeks and 3 days old, that tipped the scale beam at sixty score, or 240 lbs. per pig.

A word as to the qualities of the Tamworths may not be amiss. For years they have been extensively bred and in great demand in the Midland counties, especially in North Warwickshire and the near neighborhood of Tamworth (South Staffordshire), from whence they derive their name. For decades back the Birmingham Fat Stock Show has had classes for the Tamworth pigs, the honors usually being captured by local farmers. Mr. Mitchell gives as his reasons for investing in Tamworths, that he found the public demanded bacon with a larger proportion of lean than the market supplied, and that he felt that a pig of

greater length and depth, not so heavy in the jowls and shoulders as the fashionable pigs of the day, would be in the greatest demand, and as the Tamworth approached nearest to these requirements he selected them. The Tamworth has long been celebrated for certain well defined and excellent qualities, chief amongst which may be mentioned the fact that they are good prolific mothers, quick growers, and produce a larger proportion of lean meat than any other breed. They are red or bright chestnut in colour, which darkens with age. Originally they had black spots, but these breeders are endeavoring to eliminate. They are rather long in the snout, with great length and depth of body. It is only within a few years that they have been given classes at the leading shows, and breeders have been further hampered through the prejudices of judges, especially against the long snouts common to members of this breed; but the snouts are being gradually shortened, and the good qualities of the Tamworths as a breed are being rapidly recognized, and they have, in recent years, become very popular in the United Kingdom, and now their classes at the leading shows are amongst the largest.

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TORONTO, AUGUST, 1890.

Original Plans, Devices, and Ideas.

If you have an original plan, device, or idea, that you think would be of benefit to your fellow farmers or stockmen, turn to our March number and see how we will pay you for it if you send it to us for publication. Space forbids us printing the whole scheme in full, as usual. We would refer those desiring to know more of this to our January, February, and March numbers, where the premiums are given in full with complete particulars.

Our Barley Competition.

From the many indications apparent up to the present, that enable us to form an opinion as to the favourableness of the season for the barley crop, we think we are warranted in drawing the conclusion that the conditions for the success of our barley competition have been excellent, and that the results following will be intensely useful to the farmers of Canada. We desire to strongly urge the competitors to make an extra effort to forward us the sample and full report as soon as possible, so that results may be announced early. When the required sample has been chosen and the schedule filled do not delay a moment in forwarding them both to us according to directions given on the printed form. We are satisfied that by the competitors giving close attention to all the features of this competition, reporting exactly, and observing to the letter all requirements, immense good will surely accrue to them and to the Canadian farmer through the knowledge that may be obtained from the facts that will be brought to light.

THE Americans say that the new tariff bill as amended by the Senate Committee prevents the free admission of horses for breeding purposes registered in the Dominion Draft Stud Book or the Canadian Draft Stud Book; as the amendment requires that all animals admitted free for breeding purposes must be "pure bred and of a recognized breed," and must be duly registered in the book of record established for that breed. The *Breeders' Gazette* calls the attention of the custom officers to this and urges them to see that the principle of the restriction is fully carried out.

Our Conditions for Beef Production.

In an essay on American Cattle Markets in the journal of the Royal Agricultural Society of England, Mr. John Clay, jr., of Chicago, gathers together

much interesting information on the beef industry of the United States, but he allows his mind to wander beyond the bounds of certainty in such a passage as this: "The nature of the climate and the vast tracts of barren land contained in the British Dominion will never allow it, at least for many years, to become an important factor in the beef trade of the world." Let us remind our declaimer that through the nature of our climate we send vigorous and healthy bees to Great Britain, and thereby win a premium of twenty dollars above the price received by our American friends, and also that the vast tract of barren land exist not in our Dominion, but only in the slander breeding brains and sold opinions of a few American immigrant agents. Those districts that may be barren from an agricultural point of view are rich in minerals and not wild wastes of sun-scorched and blizzard-driven sands. William Warfield wrote years ago about such conditions as ours as follows: "The greater capacity of all classes of animals bred in cold climates to make peculiarly rapid and vigorous growth during the summer, a capacity shared by all nature and the tendency to lay up fat as if stored for the long winter's drain on the system; the effect of the invigorating air on the whole constitution, deepening the chest, filling out the form in every way needed to baffle the winter's cold, springing from these we find an active digestion, rapid assimilation and fine flesh-producing qualities." In the last decade, Canada has tripled her exports of beef cattle to Great Britain sending last year eighty-five thousand head, and from the reception of those and with an awakening in the minds of our farmers we may reasonably hope that his trade is yet only in a lusty infancy. We have the conditions and the grading stock to enable our products to surpass those of any country on the globe, and the only assistance needed further is a greater reliance from our farmers upon this trade, and a strengthened appreciation such as only years of profit will nurture.

The New Polley of Shorthorn Breeders.

As a whetstone for the wits, quickening thought and stimulating action, few things serve the purpose better than a spell of hard times. The beef interests have experienced a slight depression, but that has not been wholly bereft of good, for it gave birth to a searching consideration of methods, and led to a change of thought which demanded retrenchment and called for new policies. This is true particularly of Shorthorn breeding, and especially does it apply to those who gave a free rein to their ideas of fashionable, and in some cases perhaps whimsical, fancies, making pedigree their compass instead of the well defined trend of the market. The days are not far distant when the amenities that followed the work of the breeder were largely drawn from pedigree certificates and herd books, and when the reaction set in against breeding by paper, hands were raised in stricken horror at the mere semblance of the thought of deprecating the opinions of those within the charmed circle who took upon themselves the power to determine what was fashionable breeding. The pleasures of Shorthorn breeding as well as the profits must come from other sources. It was the mistaken notion of some that making the Shorthorn fit into the niche cut out by the market would rob it of those distinctive Shorthorn traits of character that, though they may add not to the returns given, augment greatly the pleasure that follows the work of the breeder. It would be an uncalled for sacrifice on the altar of utility to neglect those personal charms of

appearance, the gay look, and royal carriage, and the neat and symmetrical form, that gives Shorthorn character to any animal. Though it may be couching the thought in words too forcible, yet, there is much in the statement of Mr. Warfield in the *Breeders' Gazette*, that it is nothing less than a sacrilege to make this breed only a beef or only a milk breed. They are a perfect congruous entity, he says, and there is no reason to take away one of their fine traits. He goes on to say—"One critic looks at a yearling and thinks her a trifle too gay—'beef cattle you know, should have a heavy disposition. They feed better.' Yes, that is just one of the troubles. Men do not seem to fully appreciate what is meant by fineness. A Shorthorn has a right to be fine, to have a gay and sprightly carriage. We do not want to lose this even at the price stipulated." It is the mistaken fancy of some breeders that it is impossible to cling to those more pleasing and pleasurable features of the Shorthorn and yet fully meet the stern demands of a market at low ebb. It is possible to enjoy the pleasures of such breeding and receive to the full the profits, and perhaps no breeder illustrates this more than Mr. Warfield in the course of his own work.

A large index finger points to many evidences of the reversion of opinion in regard to the past policy of breeders, and chief amongst these may be noticed the marked popularity and surprising success in the showing of those Shorthorns that at all times carry their pedigrees with them. Those breeders who have kept along the line of work blazed by the earliest workers have experienced little depression, and as long as the north of Scotland cattle-feeders can make the descendants of animals so bred pay 20 shillings a month for their board, they have little reason to fear hard times. As Robert Bruce says in an article, part of which we reproduce elsewhere. "Instead of aiming to breed cattle with certain pedigrees, that for too many years have commanded a good market, independent of the personal qualifications of the individual carrying such pedigree, they have gone for the animal and not without reason. If a pedigree animal, say they, is not a better individual than the ordinary stock of the country, he is all the worse for us as breeders. Being a pedigree animal he is all the more likely to reproduce stock like himself, and if he does what can we expect to breed?" With the lessened demand in the fashionable market, breeders began to realize the truth of these words and to cater to the requirements of the feeder and wants of the consumer, seeking to supply stock that would give thick-fleshed steers that mature early, and yield not blubber but nourishing flesh. A combination of that rare quality of flesh that is a leading characteristic of the "black-shins" with that early ripeness that has ever been a fixed feature of the old Durham in its evolution up to the present, would prove a fusion that would greatly brighten the outlook and enlarge the profits of a most important industry.

Violent Changes to be Avoided.

The power of adaptation both in animal and plant life is wonderful indeed, but in the case of both it has its limits. A plant whose native habitat is in the valley may be made in time to flourish on the plateau, but this is better accomplished when a longer period of transition is chosen, the changes being made as it were by successive stages. So too animals whose home was at first in the tropics may be made to flourish on the confines of the frigid zone, but this is better accomplished when the change is made by

moving northward gradually through a succession of generations, than if it were attempted directly with one and the same generation.

The lesson is plain. If a change of conditions is necessary in the treatment of animals it should be gradually made rather than with suddenness. There is an inherent tendency in animals both of disposition and constitution to resist such changes, or to put it in the mildest possible form, there is a lack of ability, both of system and disposition, to conform to changes that are violent. In this we find the explanation of the resistance offered by the scrub to the efforts of the kind stockman whose object is the production of flesh. This resistance is always much greater in the case of an animal that has been kept on a short and a hard ration, than with one that has been liberally dealt with from the first. The converse of this is also true; an animal that has been pampered from the beginning, and which is then put, it may be suddenly, on a lower fare is pretty certain to do poorly and to prove unsatisfactory in every way. There is an idea here for those who fit young animals for exhibition and then allow them to fall away in flesh through a low or a short ration to which they are subjected. When fed all they will take for a time the system accommodates itself to such generous treatment, because it has known no other. When a change of an opposite nature is made there is opposition to it on the principle that there is always resistance to a change of habit. The system fails to accommodate itself to the new conditions; hence, results that are unsatisfactory are sure to follow.

It is plain therefore, that in herds which are lean at one period of the year and fleshed at another, these alternations following each as regularly as the seasons, that the result will prove very unsatisfactory in every instance.

In keeping animals therefore, an evenness of condition should be the aim. If it is deemed expedient because of the object sought to keep them high fleshed, that condition should with them be made a normal one. If the condition most conducive to the attainment of a certain end be a medium one as in dairying, then this medium condition should be made a uniform one. It will seldom or never be found necessary however, to make a low condition a normal one. The same principle will apply to a condition of freedom or the opposite. If an animal has been accustomed to run at liberty it will not readily accommodate itself to confinement. The ignoring of this principle may oftentimes lead to serious loss. Take a number of dairy cows that have been accustomed to pasture from the opening of spring and confine them altogether to close stables about the first of July, and feed them ever so liberally, for a time there will be relative loss from the resistance voluntary and involuntary to the change of conditions.

There can be no doubt but that soiling is growing in favor with the people of this country. With a climate such as ours it is sure to be so. It is well, therefore, that our farmers when adopting it should study it in all its phases. It is not enough simply to grow plenty of food and to mete it out to the stock when wanted. They should be kept subject to conditions that will at all times prove conducive to the attainment of the object sought. When cattle are to be soiled in the stables through the warm and dry months of the year, it is of questionable advantage to turn them out for a time to pasture, and then confine them altogether. It is well to consider whether it would not be more prudent to soil them altogether by keeping them in throughout the year, and only allowing them out a while, by day in winter, and at night in summer, that they may get exercise.

The farmer who is to succeed well as a stockman must never content himself by lying on his oars. He must exercise a prudent forethought at all times, and so look ahead that his supplies will be adequate to his wants—and so exactly adequate—that he can keep his favorites at all times and through every period of their existence in that condition of evenness and uniformity that must prove eminently favorable to their development and general well doing.

The Care of Pastures in Summer.

Ordinarily pastures get no care in summer, but this is clearly a mistake. They become the home of certain noxious weeds unless some care is given them, and if these are allowed to go to seed it is so much the worse for the land when it is again subjected to cultivation.

Sometimes pastures may not be cultivated at all, owing to peculiarities of surface. They may be strewn with stones or be steep and rugged, but even under these conditions they require some care, for if they are allowed to become a harbor for noxious weeds, these will soon make their presence known in the adjoining portion of the land that may be cultivated. In all such places means should be taken, therefore, to prevent them from going to seed.

In ordinary pastures weeds to a greater or less extent will get a footing, and unless means are taken to dislodge them, their presence will some day make serious trouble. In some soils the Canada thistle will increase, while in others it may decrease though left unmolested. But various kinds of weeds are sure to come. As to how they come, we will probably have to inquire of the birds of the air, and of the winds and the waters, if we wish to know.

The most simple means of destroying them is by walking over the field, spud in hand, and removing them either by cutting or by pulling. The amount of time required is very much less than is generally supposed, and when the work is properly done in this way none are allowed to escape.

A more common mode, however, of fighting them is to run the mower over the fields. This is a very necessary and commendable process, but it is not sufficient for complete weed eradication, as many seeds will ripen on the portions of stems below the knife of the mower. Burdocks, blue-weed and rag-weed will at once commence to grow again, and will ripen a large amount of seed after the operation of cutting with the mower has been performed. The only sure way there is of getting rid of the intruders is by spudding or by pulling, and if this is followed up faithfully from year to year, the time required will be relatively small.

But there are other reasons for using the mower, and these are important. Pastures that are kept as they should be will not be eaten close. There will be portions of the field with long and uneaten grasses, which at the season will produce seed, after which they become dry and will be rejected by the stock during the remainder of the season. Mowing them before they ripen prevents this state of things, for when the stalks are thus cut a new and tender growth springs up again, which is relished by the stock.

As to what should be done with the grass cut by the mower much will depend upon conditions. When there is a large amount of grass and it is clean, it may be made into hay. When, however, the quantity is not large, a portion of the field may be cut at a time. The stock will eat up this in the process of curing, and as occasion requires, more may be cut until the whole field is thus gone over.

It may seem strange that animals will eat grass in the wilted condition that they would refuse in its natural state, but so it is. The reason is found in the chemical changes which it undergoes in the process of curing. The juices, which may be harsh and offensive while the grass is growing, becomes less acrid if not positively palatable. Thus it is that cattle and other animals will eat grass when partially cured that has grown up in tufts around the droppings, which in its natural state they would reject.

A pasture field with tufts of grass or weeds growing over it is unsightly. By the process of mowing the appearance is very greatly improved. The real difficulty is found in the lack of time for this and kindred operations which have to be performed at a busy season, but provision will be made for this work by the farmer possessed of the laudable but rare ambition to have a clean farm.

Another mode of dealing with pastures in summer is very commendable. It consists in ploughing them before the seeds ripen when the soil and season will admit of doing so, using a chain on the plough, and then working the ground on the surface from time to time to prepare it for wheat or rye. This is an excellent plan when the weeds are very numerous and aggressive. It admits of pasturing the land practically, and then fallowing it the same season. In sections where winter wheat will not succeed, rye may be sown on this fallow and pastured, if this is desired, both in the autumn and spring following.

Autumn Foals.

It is an unsettled question as to whether autumn or spring foals are preferable. Custom would of course decide in favor of the latter, but custom is not always right. Custom is that the proper thing at one period may not be the proper thing at another. The matter is one of much importance to the farmer and a good deal may be said on both sides of the question. Its importance arises from the fact that unless the mare can be employed in suckling a foal in the winter she is virtually idle during that period, and a Canadian winter means that for five months in the year at least we are virtually shut out of the ground.

Some good arguments may be brought forward in favor of the present practice, but the balance of argument will probably be found on the other side.

1. Foals coming in the spring arrive at that period when grass, succulent and suitable for producing an abundant milk flow, may be provided for the dam. This is a matter of much importance, as it enables the young foal to get a good start in life, which is of much consequence, in view of its effects upon after-development.

2. It is thought by some that a foal coming in the spring develops more vigorously than one coming in autumn, and attains to a greater size. This, it is argued, arises from the more favorable conditions of food and climate which surround it for the first few months of its life. But it should not be forgotten that these conditions are governed largely by the individual, and may be made fairly suitable in either case.

3. When foals come in the spring the dam may run out on pasture, and therefore but little room is required in the shape of stabling. An autumn foal necessitates the setting aside of a box-stall for the use of the dam and foal in each instance.

4. It is argued that the spring season is the natural one for young quadrupeds to come to hand, as evidenced in nature.

While this is true of wild animals generally, including cattle, it should be remembered that the autumn

has come to be the favorite time for the arrival of the calves when beef is the object sought, and it may yet prove the favorite time to have the calves of dairy cows come to hand, as in the case of winter dairying.

The arguments in favor of having the young foals arrive in autumn may be summarized as follows:—

1. It enables the dam to suckle the foal during that period when her services are not required at work. When a mare suckling a foal is worked hard in summer the foal cannot have so good a chance as though she were idle. The same animal cannot provide milk and muscle equally well at one and the same period. It is not justice to either foal or dam to have the latter severely employed during the period of milk production.

2. The young foal is weaned at a time when the conditions are very favorable, that is when grass or other succulent green food is abundant. This ensures rapid growth at a critical period and produces development of muscle and action which are perhaps equally important.

3. The foal is out of the reach of annoyance from flies and does not suffer when young from undue heat. The quarters in which it is kept may be comfortable at the will of the owner, that is if they have in the first place been suitably constructed.

4. The owner has time at his disposal for giving both dam and foal that close attention which will insure their well-being. The average farmer is so severely occupied in summer that he cannot give that attention at all times to his live stock which he may desire, and which their wants may call for, but in winter this is his principal work.

5. It is almost certain to ensure the life and well-being of the foal when it comes to hand. This arises from the fact that the dam is active during that portion of the period of gestation which is of great importance to the young foal. The exercise is constrained when the dam is worked in summer and is therefore rendered certain. When the exercise is voluntary, as it usually is in winter, the dam does not take enough of it, hence the mortality observed in young foals at birth almost every spring.

There is an argument, however, of considerable weight that is sometimes urged against the practice of having foals come in autumn. It is said that there is more difficulty in getting the dam to breed at that season, that is, she is less likely to come in heat; under ordinary conditions that is very probably true, but it should not be forgotten that this matter is largely subject to the kind of food given, which may be regulated at the will of the owner.

The subject is one of much importance and should engage the attention of the thoughtful farmer. It is surely something if many thousands of brood mares are to be kept for breeding purposes alone, when they might as well be kept for both breeding and labor uses. Every idle eater in the stables in the winter in the shape of horse-flesh, is for the time being a parasite feeding on the prosperity of the farmer.

Fecundity.

Fecundity in the stock which is kept upon the farm is a matter of much moment to the successful breeder, and yet it is much more under his control than ordinarily he is aware of. It is governed by laws which are at least as uniform in their action as those which relate generally to any of the features of animal life and being.

Fecundity is affected by heredity, by in-and-in breeding, by food and by treatment, artificial or otherwise. Animals in a wild condition are usually

less prolific than those which are domesticated, and those which are domesticated are at some periods considered more prolific than at others. Several breeds have been known to deteriorate in this property, and in the case of others it has improved. In all these changes certain laws have been at work which are uniform in their operation, and which are happily largely under the control of man.

Heredity is one of the most potent of the controlling influences affecting fecundity. Some breeds are much noted for the possession of this property. Among these may be mentioned Dorset sheep, and Yorkshire and Tamworth swine. The conditions amid which they have lived in the past have contributed to this result. The possessor then of animals of any of these breeds is more likely to have prolific producers than if they belonged to some other breeds not noted for prolificacy. Much difference is observable in the fecundity of individual animals of the same breed. This affords wide scope for selection on the part of the intelligent breeder, who will not be slow to avail himself of his opportunities in this respect.

Breeding ewes may be retained from those which produce pairs, and the same rules of selection may be applied to the choice of rams. A breeding sow may be chosen from a litter complete in numbers as in uniformity of development, and when so chosen she is more likely to produce large and even litters than if her ancestry did not possess these qualities. Wide scope is furnished, therefore, by the influences of heredity to enable the intelligent breeder to improve the average fecundity of his animals.

In-and-in breeding has an adverse influence on fecundity. We speak of the fact here rather than of the cause. It is probable, however, that it so affects fecundity through a general weakening of the constitution. We do not mean to represent that in-and-in breeding is thus dangerous to the extent that would forbid its practice, but that the general result indicated follows when it is long practised.

Food affects fecundity in a marked degree. The fact is widely known that animals upon over-stimulating food are much less fertile than those not so fed. Animals very fat are less certain to breed than those in medium condition, and when they do breed it is more sparingly than when the conditions are right. Sows that should produce ten at a litter have been known to produce but one, through over-fattening. Indeed so marked is the effect of food on fecundity that the powers of reproduction may in a very short time be so impaired as to be wholly incapable of performing this function. Under-feeding has this effect as well as over-feeding, and this, no doubt, is one cause of the want of fecundity in wild animals as compared with those that are tame of the same species. Oftentimes the former go on short supplies, and their food supply is more irregular in every way than that of domesticated animals. Cows that are wintered on a low diet and in the barn-yard seldom come in heat before the flush period of grass in early summer, while those which are properly fed may breed at any season of the year that may be desired.

Fecundity is powerfully affected by *general treatment*. Confinement has an injurious effect upon it. This is a fruitful source of barrenness, particularly in the case of show animals. Even after conception insufficient exercise is injurious to both the mother and her young. Confine a pregnant sow in a small pen and feed her stimulating food, and the result will prove certain death to both the sow and her brood. This also furnishes the reason for the desirability of working breeding mares that are carrying their young.

It is thus clearly apparent that the fecundity of the animals composing a herd is largely in the hands of the breeder. It is one of the most important influences in determining the degree of the profit or loss, and should therefore receive the most careful consideration. If a common ewe fails to breed, her value the following summer is not much more than one-half that of another which has produced one lamb, and is probably less than one-half that of a third which has successfully reared two lambs. The retention of barren animals and of non-breeders in a herd is usually a source of much loss. To use a common phrase they soon "eat their heads off," and should therefore be exchanged for an equivalent in money at an early day.

H. J. Hill.

The brilliant and marvellous success that the Toronto Industrial Exhibition has experienced since it first became an independent and permanent exhibition in 1879, has given rise to a wide spread interest amongst all classes to know of the source of its success and learn of the person who has been chiefly instrumental in guiding it in its wonderful growth. We are pleased to introduce to our readers as one to whom most credit is due, Mr. H. J. Hill, the genial and active secretary of the Industrial Exhibition Association. While there may be room for a discussion on the relative importance as to the Royal of England, Toronto Industrial, or some of the larger State fairs in respect to size and variety, we yet feel convinced that on the score of good management our Toronto Industrial will far surpass them all. It may be a surprise to some to know that at Toronto Exhibition last year there were shown over twice as many horses and quite as many sheep and pigs as the Royal brought together this year at Plymouth.

After holding the Provincial Exhibition in Toronto in 1878, an effort was made to secure its permanent establishment here, but that failing, the members of the Exhibition Association, of the City Council and the Toronto Electoral District Society, decided to establish and maintain a permanent exhibition in the city under joint management, for the encouragement of agriculture, horticulture, arts, and manufactures. The first exhibition was opened on September 2nd by the Marquis of Lorne, and since then under the careful watchfulness and enterprising management of Mr. Hill it has gone forward with leaps and bounds.

Mr. Hill is an Englishman, having been born in Somersetshire. He was educated at Hurstpierpoint, Sussex. At the early age of sixteen years he left England with the purpose of becoming a Canadian citizen. In an age remarkable for the versatility of its successful men, Mr. Hill's capabilities for work of various difficult kinds have been and are most wonderful. At one time a steamboat purser, again an advertising agent, soon after city editor of the old *Leader* of Toronto, and latterly of the *Daily Mail*, he subsequently became Assistant City Clerk, and through this latter position passed to the secretaryship of the Association, now popularly known as the Toronto Industrial.

With such a rich store of experiences as come from the holding of so many divergent offices, Mr. Hill has a wide knowledge of human nature, which has contributed much to the success of his association with persons of all classes, while his indomitable perseverance and restless energy have given him a marvellous capacity for work. A fitting tribute was paid to the worth of Mr. Hill, when at the International Associa-

tion of Fair and Exposition Officers, held at St. Louis he was elected to the position of secretary. He also had the honour of presiding over the first meeting of that association some six years ago.

Associated with him in his work Mr. Hill has Dr. A. W. Bell, whose efficient and courteous assistance has contributed much to the enjoyment of exhibitors and others. Dr. Bell has been in this position for the past two years, and on his services Mr. Hill lays great store.

If there is any culmination to the efforts of such progressive and enterprising persons, we would predict that the coming exhibition, judging from present signs, would be the crowning glory of Mr. Hill's efforts, but knowing the vigor and activity that have carried him so far, we only feel safe in saying that the fulfilment of the coming exhibition will far outshine the brilliancy of those of former years, and as to future years we are quite sure Mr. Hill will take good care of them.

When does a Heifer become a Cow?

At the last Fat Stock Show held at Guelph, a difficulty arose in the showing between Mr. James McQueen, of Pilkington, Ont., an exhibitor, and Mr. Thomas Waters, the president, and other authorities of the club, over Mr. McQueen exhibiting three animals that had never had calves, two of them about four years of age, in the class "cows three years and over." The animals, acknowledged superior to any others shown, were ordered out of the ring and Mr. McQueen entered a suit against the president of the club. The evidence given supported either of the two following definitions: that a heifer should not be considered a cow until she had had a calf, or that age alone determined the right application of these terms. Mr. David McCrae held that it was not necessary for a cattle beast to have a calf to become a cow, and that the distinction between a cow and a heifer was one of age. Mr. James Hunter, of Pilkington, concurred with Mr. McCrae, he considering a heifer three years of age was a cow irrespective of having had a calf. Among those differing from these were Professor Shaw, who thought that a cow was generally understood by farmers as an animal that had had a calf, and he understood the prize list to support that meaning. Mr. Robert McQueen and James Miller shared in the same opinion. Judge Chadwick, in giving his decision, said: "The meaning of the word cow as given in the dictionaries, is 'the female of the bovine genus,' a definition which embraces the plaintiff's cattle and which is accepted as its popular meaning as regards a fully grown animal by several of the witnesses of the plaintiff, and the Fat Stock Club could not be allowed to put a narrower meaning upon it when their prize list, which is in fact their contract, is in question. As I have shown the word is to be taken in its most comprehensive sense and most strongly against those using it. If, therefore, this controversy had been between the plaintiff and the club, the decision must have been in his favor, and consequently it must be against the defendants." An application was made for a trial by jury, but as the sum in dispute was only \$20 this was refused. This trial clearly indicates the wide diversity of views held on this point, and also emphasizes the need of our live stock exhibition authorities defining such terms in their classes and thus ward off difficulties like these.

The Pure Breeds of Cattle.

By Professor THOMAS SHAW, Ontario Agricultural College, Guelph, Ont.

(THIRD PAPER.)

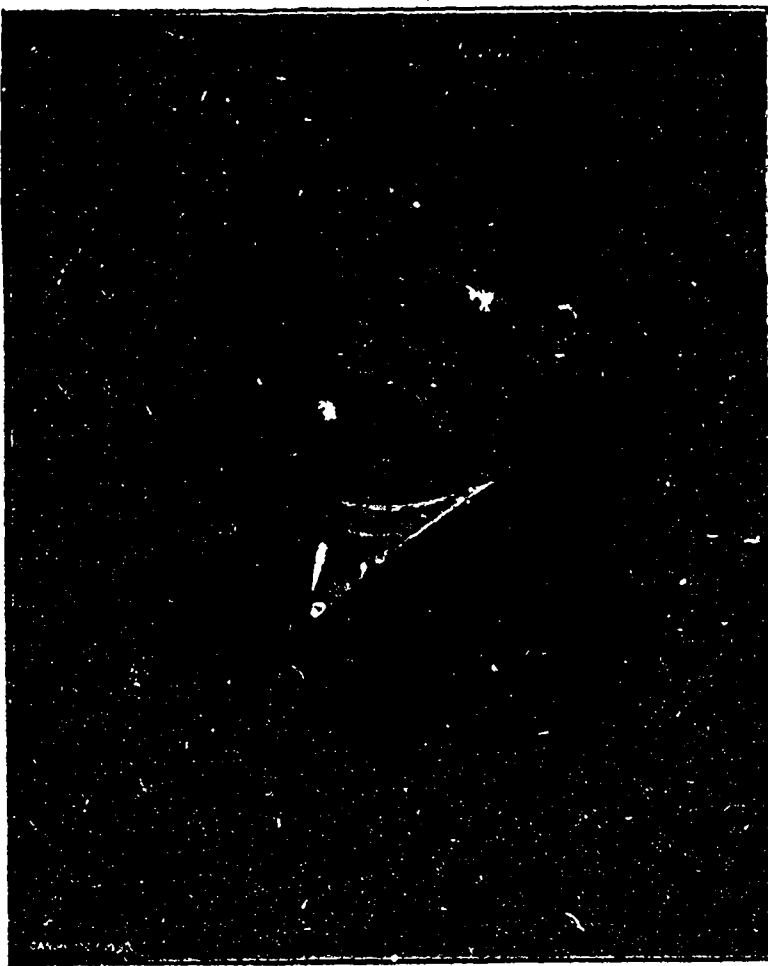
THE HISTORY OF SHORTHORNS.

The history of Shorthorns given in detail would involve the writing of several volumes. The utmost that can be done, therefore, in a brief outline, such as I propose to give here, is to say something about the most noted improvers of Shorthorns, the work which they accomplished, and the effects of this upon the development and progress of the breed; to sketch in brief detail some of the most important of the exportations from Great Britain, and to add something about the progress made by the breed in the countries into which it has been brought. This plan will only admit of dwelling upon the greatly important features

made were the first in point of time, and because they did more to advertise the breed and thus bring it prominently into notice than did any of their successors.

The Colling brothers commenced their work of improving Shorthorns about the year 1780, or somewhat prior to that date. They picked up their foundation animals, as all wise breeders do, wherever they could get good stock. Borrowing a leaf from the practice of that genius in the art of breeding, the talented but exclusive Bakewell, they kept two objects steadily before them while seeking to improve their herds. They aimed at improving the symmetry in every animal they bred, and also at increasing their fleshing properties. In the accomplishment of these objects they somewhat reduced the size of the frame and lessened the amount of ossal. They succeeded in producing many famous animals, and as a consequence bulls noted for their wonderful stock-getting properties went out from Ketton for the improvement of the principal herds in existence at that period. The famous "Durham ox," and the scarcely less renowned "white heifer that travelled," were bred by the Collings brothers, and the caravan-life to which these animals were subjected after they had become fully matured gave an impulse to the breeding of Shorthorns, the beneficial effects of which are no doubt felt even now, although well-nigh a century has passed away since the gathering crowds of England came in large numbers to gaze on those fleshy wonders of that age.

The power of example is infectious. While the Colling brothers were filling the land with the renown of the products of their genius, Thomas Bates, a faithful disciple of theirs, at least in many of his methods, was diligently employing the closing years of the last century in laying the foundation at Kirklevington of what afterwards developed into one of the most famous Shorthorn herds that ever existed. The renown of the Princess, Duchess and Oxford tribes will ever be associated with the name of Thomas Bates. While Mr. Bates gave much attention to the improvement of the maturing and developing qualities of the progeny of the animals which came within the power of this master bovine-moulder, he avoided that rock on which the Shorthorn breeders of to-day are making shipwreck, by keeping a careful eye on the retention of their milking qualities. The animals of his herd were therefore distinguished for their magnificent size, for without good milking properties on the part of the dams a reduction in the size of the offspring must follow as a consequence, because of lack of development in the early stages of growth, the only remedy for which is to call in the aid of more cows, which simply means ruin to the ordinary farmer in this age, when competition is so



MR. H. J. HILL,

Manager and Secretary of Toronto Industrial Exhibition Association.

which are most prominent along the line of the descent of the great river of Shorthorn history.

The firmament of Shorthorn history is thickly studded with stars of every degree of magnitude, representing the long array of breeders who more or less directly have taken a part in improving or in advancing the interest of the breed in one way or another. No other breed of live stock has succeeded as yet in enlisting the services of anything like so large a number of enthusiastic admirers and supporters.

The four stars of first magnitude, however, in this sky of dazzling splendors are the brothers Charles and Robert Colling, Thomas Bates, the brothers Booth, and Amos Cruikshank. These are imperishable names which, like the work which their possessors accomplished, will live through all the centuries. Of these the first place should be accorded to the Colling brothers, not because we can feel quite sure they effected greater improvements on the breed than did the others, but because the improvements which they

intense. Among the other distinguishing features of the Bates' cattle may be mentioned elegance of form, cleanness of neck and limb, and width of bosom, with straightness and broadness of back.

While Thomas Bates was gathering the materials for his wonderful superstructure at Kirklevington, Richard Booth was similarly engaged at Studley. When he died his mantle fell upon his sons, Thomas and John, who, at Warlaby and Killerby, respectively, built up herds that were at one time the pride of all England. The especial aim of the Booth brothers was to fill up the crops and fore-flank, to lengthen the hind-quarter, and to impart a strength of constitution that would stand forcing well. In securing these ends they developed in some instances an increased strength of head and horn, and a decrease in style; but the favorites of their herds were noted for their wonderful heart girth and uncommon spread of rib, and as a consequence the Booth bulls have become famous as improvers of herds into which they have been taken. When the renown of the Kirk-

Levington herd had passed its zenith, but while the fame of those at Warlaby and Killybeg were still increasing, a light was springing up in the remote north, the glory of which at a later period was destined to arrest the attention of the most successful breeders of Shorthorns in all the continents. Amos Cruikshank, a clear-headed, shrewd, far-seeing Scotchman, impressed with the convictions that the limit of improvement in Shorthorns had not been reached, began looking about for plastic materials for a herd in 1837. While he had a profound respect for pedigree, he was not a worshipper at the shrine of line-breeding, and therefore had the good sense to choose material adapted to his purposes. The fame of a long line of dead ancestors did not count with Mr. Cruikshank if it culminated in a deficiency of individual merit. The Cruikshank cattle are pre-eminently characterized by breadth, depth and thickness of carcass, and by the possession of great fleshing tendencies. They are low-set in frame and short in limb, and weigh like lead when put on the scales. This herd was dispersed in 1889, and now the Shorthorn world is anxiously looking around for the appearance of another master-builder who will add yet another story to the tower of Shorthorn fame.

The Difficulty of Combining two Standards of Perfection.

In the present decade of stock breeding the question seems to be which is the more profitable, the production of beef or milk, and which of the many popular breeds unites in their particular strain the greatest combined adaptability for both? Now this is a delicate question to discuss, seeing that so many prominent breed-fanciers are in our midst, and the possible result of agitating their feelings of partiality to their favorites.

We hear some say that the Shorthorn is the champion of the beef breeds, others say the Aberdeen-Angus are the out and out champions of beef-production, and so with the Hereford and Galloway breeders; while for production of material for the dairy, the champions of the Holstein place the black and whites highest in the score, and so of the Ayrshire and Jersey fanciers. But be such individual opinions as they may, one thing is certain, that perfection in both these lines cannot be united in the same individual. It might as well be attempted to combine the ponderous, slow-gaited draught horse and the lithe and fiery thorough-bred in the one animal, and claim the perfections of both in the one. The idea is absurd.

Some of the most noted beef producers of the past ages have, by strict attention to individual adaptability, and the careful mating of animals possessing those characteristics which go to make up a really superior beefing type, moulded what we have in the present day, a type of perfection in beef, viz.: the high-bred Durham and the Polled Angus, and the same may be said of the attainments of the dairy stock breeders, who, by unceasing effort and experiment in mating, have arrived at what might be called the goal of perfection, but still they are as far from the combined standard, as the north and south poles are from each other. Now we hear some of the beef breeders apparently trying to chime in with the popular impression that dairying is an indispensable adjunct to successful agriculture, telling us that by being careful not to over-produce flesh in the heifers, and by early mating and hand-milking, being careful to feed only succulent or milk-producing foods, that the favorite beefers can be brought to a fair standard as dairy providers. Now, I don't dispute the theory of such, but do those same breeders fail to see the double effect of such retrograding practices? Why, just as soon as they increase the milking qualities they diminish the beefing qualities so long and unceasingly sought for. No man can be Jack-of-all-trades and master of all of them, and no cow can be perfection for both milk and beef, but the great desideratum may be combined in the highest possible degree in the individual, and there certainly is an animal which, in its natural capacity or adaptability, unites these qualities, and to preserve the same the producer or beef breeder must not go about with his beef eye open and his milk eye shut, or vice versa, but must have both open at the same time, and constantly on the animals that he wishes to place at the goal of the highest possible perfection.

I might now quit this paper and allow its readers to draw their own conclusions, but some may say that

I appeared to be coming at something conclusive, but just quit where I began. The readers of this article may be wishing me to make bold and name the general purpose cow, so to speak, but that is a very prejudicial point to touch. I may say she is not the Jersey, the Guernsey, Durham, or Aberdeen, the Ayrshire, though possessing excellent qualities, can hardly be said to fill the bill, but in the present day the Holstein seems to me to be the nearest the desired equality. In other words, it is the truest general purpose cow, and to be according to present standards, capable of producing from 9,000 to 12,000 lbs. of good milk yearly, and if farrowed and fattened, weigh from 1200 to 1500 lbs. live weight, and this it will do if properly reared and cared for.

The careful selection and mating of the Durhams, as spoke above, might perhaps in time bring this class of cattle to a standard of equality; but in the present age the Holsteins possess those combined features in the highest possible degree.

W. G. R.

Greenock, Ont.

Suffolk Sheep.

This breed of sheep, bred, it may be said, with strict regard to purity of blood since the year 1810, resulted from the fusion of improved Southdown blood and that of the original horned Norfolks. In commenting on the latter, Young (1797) is liberal in his praise, ascribing their quality of mutton as having "no superior in texture or grain, flavor, quantity and color of gravy, with fat enough for such tables." Reference is also made by the same chronicler to their wool being "fine and in price the third sort in England," of their "activity in bearing hard driving," their hardiness and "success as nurses." From the Southdown rams used followed an enhanced quality of wool and mutton and more vigorous constitutions. The black face and legs of the present Suffolks came from the Norfolks, and their objectionable feature, the horns, have been obliterated. It was in 1857 that the Suffolk-Norfolk crosses were christened Suffolks, though they had before this been recognized as a distinct breed possessing fixed traits. As they now exist the Suffolks are black faced, hornless, with clean black legs, and very closely resembling their ancestors through the sire's side, the Southdown, in wool, though about 25% larger. Their points of excellence may be stated to be fecundity, early maturity, hardihood, quality of mutton and constitution. It is stated that a frequent average is thirty lambs per score of ewes and that if they are well pastured they are fit for the butcher at ten to twelve months old, and the ram lambs are so forward at seven or eight months that nineteen out of twenty breeders prefer them as tups to older sheep. The breeders of them claim that they are exceedingly hardy and are comparatively free from attacks of foot-rot. In the spring of 1886 the Suffolk Sheep Society was formed, and a stock-book established, and as many as four volumes have been issued, the last of which we have been favored with by the hon. secretary, Mr. Ernest Prentice, Stowmarket, Suffolk, Eng.

The Health of the Flock.

Upon the care and attention the flock receives depends in great measure its health and good condition, and the prevention of the parasitic diseases. It is out of the province of this bulletin to discuss the proper housing, food, and drink of sheep, beyond what is required for the prevention of parasitic maladies. The chief necessity as regards buildings and yards is that they should be kept clean. Periodic cleansings of wood-work and floors should be sufficient. White-washing and the liberal use of lye water for cleansing wood-work are desirable, and in some diseases, such as scab, absolutely indispensable. In the care of yards an economic management of the manure is to some of prime importance. It would seem that a mixture of this manure with lime in the compost heap, and a frequent cleansing of the yard, would be far better, so far as the sheep are concerned, than to allow it to accumulate. The lime would not only serve to kill the eggs of parasites in the manure, but would add fertilizing material to it. Manure so treated would be a better fertilizer, and would also be less apt to infect sheep when spread upon the fields.

The compost heap should never be where the liquor from it can be washed by the rains into water, which the sheep drink. As the manure from these yards may prove the source of infection, sheep should never be pastured on fields recently enriched with it, unless there is absolute certainty that the previous treatment of the manure has destroyed all the embryos of the parasites. As frequently urged in the text, every means should be taken to supply sheep with pure water. Although experiments show that sheep have other means of getting parasites than from the water they drink, yet this is at times a very fertile source of infection. The use of drinking-troughs into which water runs or is pumped, and rapidly running water, seems best suited to meet the requirements.

The grain food should be fed from cleanly swept troughs or floors. Hay should be put in racks, as feeding from the ground is not only wasteful but tends to infect with parasites. Salt should be supplied in boxes placed where sheep can have ready access to it. The mixture of a small portion of finely powdered sulphate of iron with the salt is allowable at times.

Pastures, which are ordinarily uncared for further than to provide fences for securely confining the sheep, need careful supervision. Wet swails, bogs and swamps should either be fenced out or drained. Pastures which are overstocked, and in which a flock of sheep is kept continuously, are the most fertile sources of infection. Not only do the sheep become more frequently infected where they are compelled to eat the grass close to the ground, but the chances of their being compelled to graze on an infected area are largely increased by keeping them ranging over the same ground of limited area week after week. Old sheep stand such treatment much better than young ones. For the latter, those fields which have not been pastured on by older sheep are better. The practice of feeding the sheep over fields from which the crops are removed is a good one, not only for the sheep but for the fields. These remarks, of course, apply more strictly to fenced farms and not to unfenced sheep ranges, but even on these certain portions of the range can be reserved for the lambs. The practice of allowing lambs, after they are old enough to wean, to feed after older sheep is also a source of infection.—COOPER CURTICE D.V.S., M.D.

Jacks and Jennets.

There is a noted absence of literature on this subject, and partly for that reason and largely because of the desire of a correspondent for information upon it we have the following to offer, gleaned principally from the members of the American Breeders' Association. The chief importations that have been made to this continent of Jacks and Jennets have come from Spain, France, Malta, or Italy. Spain and her possessions, however, have been the principal source of supply for American breeders, and from there a number of breeds have been introduced. In the northern part of Spain the Catalonian breed are carefully bred and raised, though it seems that the supply is limited and nearly exhausted through the large importations that have taken place to America. This breed was early introduced into Kentucky by Henry Clay and others, also into Tennessee, and has become very popular. They are black with many points, and are usually from 14½ to 15 hands high. The bone is fine and they are said to possess great style and action. They have usually well-formed shapely heads, with erect piercing transparent ears, which never droop. Mules from these it is claimed are handsome and active, and mature very early. In the Balearic Islands of the Mediterranean, particularly in the large island of Majorca, one of the Spanish possessions, the Majorca breed, differing widely from the Catalonian, is extensively bred. They will average 15½ hands, and are considerably larger and heavier than any breed of Jacks imported. The color is ordinarily black, and in appearance they are inclined to be bulky, and in disposition sluggish. They have been imported extensively into South America. Another Spanish breed is the Andalusian, bred in the Southern part of Spain, in the ancient kingdom of Andalusia. They are an exceedingly ancient breed, from 14½ to 15 hands high, distinctively gray in color. They have excellent legs of large bone, while they have a good head and ear. Two advantages claimed over other breeds for them, are that they are harder and live to a greater age.

About the best known imported Jack in America, is said to be the Maltese, bred on the island of Malta, in the Mediterranean. In height they range from 14 to 14½ hands, and in color they are either black or brown, and they are possessed of a great amount of vitality. Upright ears, good bone, and splendid feet are their other valuable qualities, which are, however, greatly offset by the small size as a whole.

The Poitou breed comes from the districts of Niost and Deux Sevres, and are more or less bred in all parts of the province of Poitou. They are said to be the oldest distinct and pure race, being described in French literature as early as the year 1016. Their heads are large, and their ears very long and adorned with long curly hair called *cadennette*, which is much esteemed by breeders. An astonishing feature mentioned is the size of their joints compared with the skeleton and small development of muscle. They are usually a black or dark brown. Owing to the high price at which individuals of this breed are held, very few importations have been made to America.

The Italian breed is found almost anywhere in Italy. They are undersized, averaging from 13 to 14 hands. They are generally black, though grays are not uncommon. Their bone is heavy and have a good weight of body, but for use as mule jacks, or for raising mules they have been found to be almost useless. A good many have been imported to America, but largely, it is claimed, on account of their cheapness, and not because of their merits compared with other breeds.

Kentucky claims the largest Jacks in the world, and as a result of paying particular attention to size, Jacks to hands high are not uncommon. Texas and Missouri are also giving much attention to the breeding of Jacks and they have been successfully raised as far north as New York, and Connecticut, and many are raised at the present time in the Northwestern States. A bright day is dawning for the mules, as an association has been formed to guard their interests, and their good qualities are gradually securing for them more appreciation and better care. They are easily raised, command high prices in comparison to most other marketable stock, and are hard enduring workers.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.

Bath and West and Southern Counties Show.

It has been my pleasure to be able to attend this show this year in the quaint old city of Rochester, in the beautiful county of Kent. The journey from London there, a distance of about 30 miles, is made in about one hour, and is principally through the fine old county of Kent, with its green fields, hedges, lovely trees, irregular fields, and odd old picturesque farm houses, so different from our straight roads, fields and fences. They are certainly more picturesque and artistic, if not so modern and practical as our own. June is a lovely month to visit England, every thing is so green and beautiful. The crop prospect appears to be very good. What astonishes me is the age of all things. Rochester was a city of importance at the time of the occupation of England by the Romans. It is situated on the broad banks of the Medway river, which is navigable by the largest ships from the ocean. As early as A.D. 600 the city was walled and fortified, and since then has borne its share of historical events—bloody Queen Mary here burnt heretics, and the Danes once conquered and robbed it. There is at present a fine bridge over the river to Stroud; it also has the ruins of a fine old castle, covered with ivy, and the home now only of hundreds of pigeons, where formerly knights and ladies lived. It is a fine old Norman structure, and was built about A.D. 1077, by one Bishop Gundulph, and completed by William Corboyl, Bishop of Canterbury, in the reign of Henry the I., in 1100 A.D. It is nearly 100 feet high, and was at one time one of the principal castles in England, the view from the top of it being very fine,

"Farms, granges, doubled up among the hills,
And cattle grazing in the watered vales,
And cottage chimneys smoking from the woods,"

while the lovely river above the bridge winds, and gleams, and lends its own charms to the far landscape. There is also in Rochester a fine old cathedral, built A.D. 600, and dedicated to the honor of God and the Apostle St. Andrew. There is also an unfinished temple called the "Jezreelites

Folly," begun by a sect for the home of the elect and never finished; it looks like a huge pile of lumber. On the different hills about the town are numerous old-fashioned windmills, just as they were 200 years ago. Pardon my description of the old city; it seemed so interesting to a modern Canadian, and such a treat to move about in such an ancient place that I could not stay my pen.

The show grounds are situated close to Fort Pitt at Chatham (Rochester and Chatham are close together), and are long and narrow. The view from them of the surrounding country is lovely. What strikes a Canadian most is the array of canvas, as all the buildings are covered with it, instead of being built of wood, as with us. It certainly is very useful; they have only the framework of wood. This is all taken down and stored away for next year, which does away with the necessity of expensive buildings. The shows are strictly agricultural, no amusements of any kind are allowed on the grounds, and as it is early in the season there are no agricultural products, only animals and machinery, buildings covered with canvas being provided for the latter as well as for the cattle. The judging was over before I reached the show, but as catalogues were provided, and the prize cards were all up, I had no difficulty in finding the animals; even the horses could be seen by lifting up the canvas. They are also classified in all the stables, something that we cannot get the exhibitors to do with us yet, but which must be attended to soon. The management also are able to get the entries in a month before the show, which gives them time to prepare the catalogue and accommodation. We have much to learn in this direction. The people go there to see the cattle, horses, sheep, swine and machinery, and it does you good to see such a fine lot of Englishmen and women of all kinds; the country families dressed so nicely in sporting or country costumes, and the farmers well dressed also, and looking prosperous. I was not there on a shilling day, but here there were three times as many people as on the two shilling days.

At this show the heavy horses were not classified, the Clydes and Shires competing, which is not wise—they are called horses for agricultural purposes. There was only 29 entries; in the aged class a Clydesdale called Young Merry Monarch (8407) took the first prize, the property of J. S. Hodgson, of Surrey. A Shire, King Henry 7499, owned by W. Gylbey, Elsenham Hall, Essex, took the second. Moulton Conqueror (6178), a Shire, owned by P. A. Muntz, M.P., Dunsmore, got the third. These gentlemen were the principal exhibitors, with Lord Cecil and Lord Northfield, in all the agricultural horse class. None of them were very extra. Hunters are the next class; there were about 18 entries, only a few were good ones. Hacks, the next lot in name, had only one representative; the next two entries were ponies, 2 entries, and harness horses, 5 entries.

CATTLE.

Devons—They put on the list 28 entries of very fine cattle. They were exhibited by gentlemen from a distance. They were much better than those now exhibited by our breeders. I was wishing some of the latter gentlemen had some of the young bulls.

Shorthorns—Came next with 37 entries, a very good lot, especially those of R. Thompson, Inglewood, Penrith, Cumberland, and H. Leney, West Farleigh, Kent, who, by the bye, has a sale of cattle on the 20th of June. None of them would have stood much chance at the last Provincial in London.

Herefords—Had 45 entries, and a very fine lot they were; I never saw better.

Sussex—There were 48 entries of this fine class of cattle; they are well liked and seem to be very popular.

Jerseys—125 entries; a very good lot and seem to be very popular amongst the gentlemen farmers of England.

Guernsey—There were 81 entries of this class, next in number to the Jerseys. There were also 11 entries of milch cows of any breed.

SHEEP.

Leicesters—Only 8 entries, but good sheep.

Cotswolds—Only 10 entries and a poor lot.

Romney Marsh or Kent—68 entries. I do not know what their is about them, more than being strong and hardy. They would be laughed at if imported here. Our common sheep are ahead of them. There

were 18 entries of other long wool sheep, represented by a sheep called the Devon Southdowns—there were 49 entries, and a very handsome lot. The Prince of Wales exhibited here and took some first prizes.

Hampshire Downs—20 entries, a very fine lot of serviceable sheep.

Shropshire Downs—37 entries; they always show well, and these were not behind; but why they are colored up so I cannot for the world imagine. There were only 8 entries of Oxford Downs, and 15 entries of Dorset Horn sheep.

PIGS.

The Berkshire come to the front with 27 entries of very fine pigs. Some of them would have made the Snells and Green of Fairview envious. There were very few black pigs of any other kind shown. Next came the Large White pigs, represented chiefly by the Yorkshires, with Mr. Sanders Spencer, of Holywell Manor, as the principal exhibitor, with J. Strickland, of Yorkshire, following him closely. The Berkshire are a very favorite pig over here. Of Middle Whites there were 21 entries, and shown by nearly the same men, which does not seem fair, as they are the same pigs pretty much. Of Small White pigs there were only 10 entries.

The next feature was hops. Kent being the native county for growing them, there was quite a large show and a great deal of interest taken in them. Another special feature was the wool shown, something we have never had on our list. The show was good. The working dairy was very interesting; butter was made and worked on the ground, and lectures given on butter making; also all kinds of centrifugals were at work. The Bath and North of England Show take a great interest in this matter, and send lecturers around the country the same as our Dairy Association. There was a competition for horseshoeing. There was also a very large and splendid lot of poultry exhibited, there being 449 entries. None of the birds were very valuable. At the show I had the pleasure of meeting Mr. W. H. Beatty, of Wilton Grove, and David H. Dale, of Glendale, who were buying sheep for Canada. How pleasant it is to meet our countrymen away from home? The show of machinery was very large, more than we have at our shows, and of a very strong nature.

HENRY WADE.

From London Farmer and Stock Breeder.

Breeding by Paper.

We hear butchers saying that the people's tastes have changed; that they will not eat fat beef; that instead of killing what are termed good home-bred cattle they are driven through their customers to buy and kill queer-looking foreign cattle from the continent. But have the consumers' tastes changed so much? In the first place, we may safely assume that much of our home beef is too fat to suit the tastes of the consumer, but we are inclined to think that there is quite as much in our cattle becoming over-fat to the loss of flesh as in the people having become less fat eaters than they were. And this brings us to consider what Shorthorn breeders have been aiming to produce. Have they been trying to produce beef cattle? If they have they must, without doubt, acknowledge that they have failed. Speaking plainly, in too many cases the great ambition of Shorthorn breeders has been to breed something they call pure, a something that for years past has sold at high prices, a something that we have often been told carried with it style and character, but a something of little practical value from the first, and a source of much harm and trouble in these latter days. Prejudice often ruled the day on the judges' bench at our great shows. Men biased in their opinion as to what an animal ought to be looked down on practical opinion and scoffed at the idea of any one out of a certain charmed circle being able to know what should be bred or what should be considered good enough to go to head a herd or class at a show. All very well; such breeders have had their day. They acted up to their light, and now that practical common sense has begun to have an innings one need not wonder at their saying hard things. The idea of breeding cattle entirely by paper was a beautiful one, but Nature's laws cannot be made to accommodate themselves to men's views. The theory has been carried out until

in many cases the decline and deaths of the subjects operated upon have spoiled the whole business, while at the same time the meat-eating public have proved quite beyond being educated that what is fit only for the tallow bag ought to be considered the *sim qua non* of roast beef.

We are not singular in our opinions as to what ought to be the proper valuation of the pedigree. At home and abroad breeders are becoming alive to the fact that a pedigree animal ought to show the advantage of registration and herd book record at a glance. Foreign buyers, who naturally thought that our highest selling Shorthorns were the best they could introduce into the newer countries, have found, through direful experience, that what are termed fashionable pedigrees do not insure good cattle while the home breeders are every day becoming more and more convinced that they must breed for the animal, not for pedigree, if they are to produce either milk or beef. No one, however, can limit the value of pedigree when the animal is the whole aim and object of breeding. Witness what the Cumberland and Westmoreland men have done with their thousands of cows, better in every respect than nineteen-twentieths of our herd-book ones, and, although they may not be eligible for the herd book, no one will deny that they have been bred with care and judgment. Witness the Lincolnshire red cattle with their great frames, strong constitutions, and every property which a rent-paying farmer would look for in cattle. Among herd book cattle, on the other hand, witness the short-legged, wide-chested Sittston Shorthorns—fit to live on poor, thin land; fit to hold their own against any or all of the newer breeds, and fit to be looked at with pride by any who owns them, as they are easily fed, good rent paying cattle. Neither the Westmoreland, the Cumberland, the Lincolnshire, nor the North of Scotland Shorthorns are produced regardless of pedigree. They are all bred by method, and that method is instructive to all Shorthorn breeders who aim at having good stock. It is simply this—that the animals produced must regulate the value of the pedigree, and not, as has been too common, that the pedigree regulates the value of the animal.

ROBERT BRUCE.

The Hog Industry.

It will be remembered by your readers that we strongly urged farmers to go more largely into hog raising and feeding, pointing out that this branch of agriculture was one of, if not the most profitable.

We have been much gratified by the interest that has been awakened by our articles, which have been ably seconded by the press generally, and even by bank presidents and managers in their annual addresses to their shareholders, and last, but not least, by the very able bulletin issued by the Ontario Minister of Agriculture. The increase in the rate of duty on wine and on all hog products (whether wise or unwise we will not argue), will no doubt have, in fact, the effect of raising the price of hogs, or rather widening the gap, between the price of Western hogs and Canadian. This should further stimulate Canadian farmers to the vigorous prosecution of this industry.

You will remember our vigorous defence of the Yorkshire breed, and our opinions on this point are unaltered, that is, that the progeny resulting from a cross between the improved large Yorkshire boar and the average native sow are the most suitable for bacon curers.

It gratifies us much on looking back thirty years to realize the great improvement in the general run of hogs, and we freely admit that this has been brought about by the use of Berkshire boars, but as we have before said, the taste of consumers has changed and they now demand lean meat.

WILLIAM DAVIES.

Toronto, July 18th, '9.

Questions and Answers.

If there is any subject bearing upon this or any other department of our JOURNAL, upon which you desire information, write us and we shall be pleased to intrust your query to competent persons and publish the answer therein in our earliest issue, and if an immediate answer is required, such will be gladly given if a postage stamp is enclosed. Write the queries on paper detached from all matters of business, sign your full name and address as a guarantee of good faith, and write only on one side of the sheet. We request the assistance of our readers in making this a useful and interesting feature, and we shall always be pleased to hear from any, either desiring information or obliging enough to give it for others upon any topic within our field.

BERKSHIRE BREEDERS. S.F.T., Buffalo, N.Y.—Would you kindly furnish me with a list of reliable Berkshire breeders in

Ontario. I am desirous of purchasing a pure bred boar to ship to our farm at Victoria, British Columbia, and I take this means of getting the addresses of breeders in Ontario. [We would refer you to the advertising columns of our Journal, where you will find only reliable breeders represented. Ed.]

DEHORNING CATTLE.—R.J.B., Mitchell, Ont.—What do you think of dehorning cattle or using a drug that will kill the germ of the horn on calves? I would like to have the matter referred to your JOURNAL. Exporters here are beginning to call for dehorned stock, and I understand the horns can be killed on calves at a cost of 1 1/2 cents per head. (Horns on cattle are troublesome, and an easy and humane method of getting rid of them would meet with extensive patronage. The practice of sawing off the horns cannot be alluded to by us but in terms of strongest censure. Preventing their growth from first stages by the use of chemicals is certainly the more humane practice, and from all reports the more commendable.)

EMBDEN GEESK.—M. S. R., Ont.—You will greatly oblige me by answering the following: Are there any breeders of Embden geese in Canada? How do they compare with the Toulouse? Any information in regard to them will be appreciated. (To the best of our knowledge there are no breeders of Embden geese in Canada. They are not as large as Toulouse, the standard weights being given as 25 lbs. for adult gander, and 23 lbs. for adult goose. They are pure white in color, yielding white feathers, and on that account many prefer them. They make better sitters and mothers than the Toulouse, though for egg production the latter is granted to be far the best.—Ed.)

QUESTIONABLE PEDIGREE.—J. H. N., Devil's Lake, York Co., P.O. N.W.T.—Kindly inform me if the enclosed description and pedigree is all right. It is a description of a horse travelling in this part, and is claimed to be an imported stallion and of pure pedigree. (The stallion you mention is registered in the Clydesdale Stud Book of Canada, and the pedigree there given agrees with the one you forward in every particular, with the exception that this stallion is not an imported horse but from an imported sire. This will be seen in the pedigree, which states that he was bred in Ontario. As we have never seen the horse, we are not prepared to pronounce an opinion upon the description. He is of pure Clydesdale breeding, and though perhaps not deserving the term "highly bred," comes of good Clydesdale stock. He is registered in the Stud Book as being a black with three white feet, white face, and was foaled May 7th, 85.—Ed.)

DESIRABILITY OF FAST WALKERS.—I continually see articles on the great advantage of a fast walking team. Is it advantageous to have a team of fast walkers? I would like to see those who talk so much about this question behind such a team where a few sunken rocks were at any moment likely to come in contact with the plow point. I have also wondered how they could hold such opinions after having ridden on a load of grain on one of our ordinary stone roads behind such a team. Is it true that such a team will do fifty per cent. more work on the same feed that a moderately slow team will? Is it not rather the case that such a team will require double the amount of grain, and then you cannot keep them in condition, and will not the driver of such a team go a few rounds and then let them and himself blow for a while? The moderate walker will go for five hours without stopping. I find the amount of work done depends more on the driver than upon the team. Moderation in all things is my motto. Yours truly, ALPHA. (Our correspondent is a regular interrogation point. Horses that are rattle-headed and continually pulling and chafing on the bit are as troublesome as those their opposites are annoying. Such fast walkers, we take it, are the ones referred to by our correspondent, and certainly no one could feel that he was doing a good service in defending them. A horse that is a fast walker is not perfect in respect to walking. A good walker to our mind is that horse possessing a level steady gait, so under the control of the horse's will, and the latter so under the command of the driver that the gait may be quickened or slackened, and continue so, as the driver bids. Our correspondent has merely indicated where it would be desirable for the horses to walk slow, and has not, however, done away with the fact that there are other times at similar work when it would be more desirable to have them walk fast. The most valuable feature of a well-broken plough team, is that they may be controlled in their gait by the driver, and go in varied quickness from a creep to a rapid walk. We feel almost inclined to say that taking into consideration the amount of food the driver requires for extra exertion, a team of good walkers will do fifty per cent. more work on the same food than a slow team. On the other hand a restless, uncontrollable team, such as we think our correspondent refers to as fast walkers, will require, as he says, double the amount of grain to keep them in condition. The walk is the business gait of the draught horse, and we feel that too much attention cannot be centred upon it.—Ed.)

Veterinary.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

Judging Horses.

By DR. GRENDSIDE, Guelph, Ont.

It will not be long before the fall shows are upon us; and perhaps there is no particular department amongst those which go to make up our exhibitions, in the judging of which there is greater interest evinced, and more feeling shown.

A brief discussion of this subject will not be out of place at this season. Assuming that one is a good judge of the class of horses that he has been selected to act upon, it is not a position that will cause much envy. In the first place it is a sacrifice of time, the only reward being a consciousness of having performed a duty.

It is a disagreeable task, for few people care to cause displeasure, even although it is unmerited, and it is a lamentable fact that many exhibitors do not hesitate to show their vexation.

It is quite consistent with ordinary human nature for the exhibitor to feel a sense of displeasure at not getting what he thinks he ought to get in a show ring; but he should not forget that no matter how good a judge he is, he is liable to form a wrong conclusion, as well as one that is acting as a judge. Good judges of horses very often experience a difficulty in coming to a conclusion as to which is the best amongst good horses, and also which is the least bad among poor ones. Weighing the comparative values of good points, and defects, is one of the greatest difficulties in judging. It is next to impossible to lay down a scale of points, and assign certain values to each point, correctly. Further than that, opinions differ so much upon what constitutes a perfect formation in some points. Take for instance the formation of a horse's foot. The importance of a good foot, or in other words a durable one, is recognized on all hands; yet we find that experienced and good judges, differ in their estimates as to what constitutes the most perfect formation of this organ. Some attach most importance to the middle piece of a horse, while others consider this secondary to the legs. When we come to realize the difficulty of estimating these points at their true value, we should not be too hasty in passing adverse criticism upon those performing the difficult duty of judges.

It is no doubt a fact, that there is much carelessness displayed in the selection of horse judges, in many instances; but even where the utmost care is exercised, mistakes are apt to be made. Directors frequently jump at conclusions, regarding some individual's ability as a judge, upon some such slender evidence as, for instance, his having been the possessor of a good horse, forgetting that this is often a matter of luck.

It requires about as good a judge of horseflesh to select good judges, as it does to judge horses.

The difficulty in appointing unbiased honest judges will always have to be met. Prejudice is by no means the same thing as dishonesty of purpose, for it frequently exists unconsciously in many minds, particularly with regard to horses.

The one-judge system versus the three-judge one, has been much discussed of late years. In our opinion it is just a toss-up between the two. With three, if they are honest, and all good judges, and all equally strong minded, there is an advantage over one, for they can discuss the respective merits of the exhibits, and give a reason for the faith that is in them, and compare the results of their observations, which may

frequently differ, particularly if there are a number of animals to pass upon. The old proverb that "in a multitude of counsellors is much wisdom" applies with equal force to the judging of horses as to the judging of anything else, providing they are competent. The difficulties in the way of the three judge system are, first, that it is harder to get three competent, honest, unprejudiced judges than one; second, that there is apt to be a shifting of responsibility from one to the other, and the one who has the courage of his convictions is made to bear the brunt of the adverse criticisms of displeased exhibitors. In appointing three judges, we are informed that in the old country, the plan is frequently adopted of selecting either a large consumer or producer of horses, a successful dealer, and a veterinary surgeon. This is certainly a good combination. It by no means follows that an expert veterinary surgeon is a good judge of a horse, as far as type, style, and general conformation are concerned, but he is likely to be more skilful in the detection of any deviation from what is natural, and also more capable of estimating the true practical importance of such deviation.

Nothing tends to sharpen ones wits upon the merits and demerits of horse-flesh like a personal pecuniary interest. This the consumer, producer, dealer and veterinary surgeon all have to a greater or less extent. Possibly the dealer requires a wider knowledge of all that appertains to marketable horse-flesh, than either the breeder or veterinary surgeon, for the value in the market, which after all should be taken as the true test of merit in the show-ring, is likely to be better understood by him.

The arrangement of classes, particularly in some of our small shows, is defective, and adds to the difficulties experienced by the judges. One of the most palpable errors in classification is in combining the roadster and carriage classes. Educationally this has a bad effect, as it misleads the young and inexperienced exhibitors and lookers on, and prevents them from learning the types of animals meant by the terms roadster and carriage horse. Carriage and roadster horses differ in important particulars, viz.: in substance, conformation, style, action, and speed.

We sometimes see a large roadster succeed in a carriage class, the judges being carried away by an exhibition of speed. Certainly speed is not a drawback to any horse, but it must be given a secondary place to the typical points of a carriage horse.

In the roadster class too much value is frequently attached to speed; and an amount of value assigned to it when it exists in a degree that can not be utilized in the work of a roadster, altogether disproportionate to the value given to other points that are more essential in making up a perfect roadster. Sometimes three year olds are shown in such classes as roadsters, carriage or saddle. Animals of this age are not marketable for such purposes, and as it is market value we should be guided by, they should be excluded by the rules of every agricultural society from competition in such classes, as it is embarrassing to a judge to be forced to pass over a promising three-year-old for an older one of less merit.

It would make judging an easier task and conduce to more accurate decisions if colts were better handled before being taken into a show-ring. They should at least be taught to stand properly with all their feet under them, and be able to trot out, and back in a straight line, in order that the action can be properly observed. This is equally important to the exhibitor as to the judge.

Exhibitors frequently make the mistake of huddling their horses together so closely that it is impossible

for the judges to get around them, and examine them in a proper manner, without running a risk of getting kicked, or stepped upon.

Mutual consideration shown by judges and exhibitors would do much to lessen the almost invariable grumbling and bad manners exhibited at shows by disappointed exhibitors.

The Farm.

It has been recommended in weather of raining spells that clover be placed in the stack or mow with alternate layers of straw. A short time ago at a Farmers' Institute we met a person who had given this method of preserving clover a trial, and found it very successful. Between the hours of ten in the morning and one in the afternoon he cut the clover, and left it lie ungathered until the afternoon of the following day, when it was drawn in and stored in the mow, by putting in alternate layers of clover and straw of about six inches each. He put away about four tons in that way, and then during harvest time filled up the rest of the mow with grain. It was left in that condition until after threshing in the winter, when on taking it out to feed it was found to be unchanged in color either in the leaf or blossom, and well preserved. The straw becomes flavored by the clover and is also eagerly eaten by the cattle. If any of our readers have given this method extended trial we should be pleased to hear from them.

The Beet Sugar Industry.

Two gentlemen, Mr. Lauder, of Toronto, and Mr. Scafe, of Montreal, are showing a commendable interest in gathering information regarding the practicability of growing sugar beet in this province for sugar-making purposes. Seed was distributed by those gentlemen to farmers in various parts of the province both in 1888 and 1889 to test the percentage of the sugar that the beets would yield, and also to ascertain the amount of the crop grown per acre. Seed was forwarded to the Ontario Experimental Farm at Guelph, and from the crop grown there the largest percentage of sugar was realized. We understand that the present crop now being grown at the same institution is looking very fine. If the result generally should prove satisfactory this year, in all probability a beet-sugar refinery will be established, and if the results are as favorable from the crop now being grown at the Guelph Experimental Farm, it is probable that Guelph may get this refinery.

Mr. Lauder estimates that the yield would be fifteen tons per acre, but that by proper cultivation this could easily be increased to twenty tons per acre. The price which it is proposed to pay for the beets delivered at the factory is \$4 per ton.

Our farmers would do well to note the results of these experiments when published. Sugar beets will grow well on lands that will give good crops of mangels, which means that they can be grown in large areas in various sections of the province. If \$60 per acre can be realized for a single crop, it will pay our farmers well to expend a good deal of labour in the production of such a crop.

We trust that the results of the present effort will be entirely successful. It will add another important feature to the agriculture of this province, so wonderful in its adaptability. The more varied the features of Canadian farming, the more independent is the farmer of vicissitudes of weather and trade. We will keep our readers informed on the subject at each successive stage in its progress.

The Hon. Charles Drury.

"All along the life-course of men, great and good, who have risen through the trueness of their manhood and effectiveness of their own exertions, from positions of humble labor to those of place and power, there goes out from their personality inspiring influences that urge all those with whom they come in contact to greater progressiveness. The best and most useful biography imparts in print that spirit, and passes it down the ages as an elevating inspiration, urging those who come after to step higher. The depth of that inspiration may be measured by the lowliness of the starting and the honor and height attained, and in conformance with that idea we offer our present sketch as one full of incitement for those laboring in narrower spheres of action.

The Hon. Charles Drury, M.P.P., is a son of Richard Drury, who was one of the first settlers in the county of Simcoe, he having taken up his residence there in 1819, shortly after leaving the home of his younger days in Kenilworth, Warwickshire, England. The subject of our biography was born on the fourth day of September, 1844, in the township of Oro, in the county of Simcoe, and that county has had the honour of claiming him as a resident ever since, and as a representative in the Local House for a number of terms. Though not favored with superior advantages in the way of educational facilities, yet by profiting to the fullest extent the course of study at the public school and the Barrie High School, through industry and attention, a foundation was laid for the afterwork of self-culture, which has proven to be such a strong force in the making of prominent men. Various public positions have been held by Mr. Drury—sufficient is it for us to mention the fact that he has been reeve of the township of Oro since 1877, a member of the Council of the Agricultural and Arts Association since 1878, and was president of the same body in 1882, and he is also a director of the Ontario Fruit Growers' Association. In the general election of 1882 for the Commons he was an unsuccessful candidate for North Simcoe, and the same year he was first returned to Parliament in the Ontario Legislature on the resignation of the sitting member. Soon after assuming parliamentary duties Mr. Drury entered the cabinet of the Liberal government as Minister of Agriculture, and it is more particularly to his work in that capacity that we desire to refer.

One occupying such a prominent position as Minister of Agriculture in such a progressive agricultural province as Ontario, must of necessity be possessed of many strong qualities, and the surest criterion of the degree to which Mr. Drury possesses these appears to us to be reflected in the hearty reception accorded him, and the generous attention paid to all he has to impart, at the various farmers' assemblies throughout the province, at which he is so often an honoured guest. The farmers, while feeling that he is one of themselves in sympathy, have every respect for his ability and embrace every opportunity of placing on record their appreciation of the effective work he has done for our provincial agriculture. Possessed of ample stores of valuable information, and having these always ready at hand, besides being able to impart his knowledge to others in an exceedingly pleasant manner, Mr. Drury has always been heartily welcomed at our farmers' institutes.

Through the valuable assistance of Mr. A. Blue, as Deputy Minister of Agriculture, Mr. Drury has sent out from his department many timely bulletins that have been of great assistance to the farmers of this and other provinces as well.

The farmers and stock breeders of Ontario have every reason to feel indebted for the valuable assistance that has been given them in their work through the efforts of Mr. Drury. The various associations have always been liberally dealt with and encouraged in their work as far as governmental power will allow, and generous grants have ever been awarded to all projected associations of whatever complexion that endeavoured to make our agriculture more profitable. The farmers' institutes of this province, taking into regard economy, will compare favorably in their work with those of any other country, and the success that has attended their widespread adoption reflects great credit upon the present Minister.

Clean Farms.

We were asked the question not very long ago as to whether we knew of a single farm that might be said to be truly clean. Our answer was that we knew of one, and probably only one, and that it was owned by Mr. Simpson Rennie, Scarborough. That question and the answer given to it has suggested this article. The term "clean" is used here in a relative sense, for absolute cleanness in farms would be akin to absolute holiness in spiritual life on earth, which is perhaps an impossibility in the present order of sublunary things. But while absolute cleanness in reference to weeds is an impossibility in farming, any farm may be so far cleaned that all the more troublesome forms of weed-life may be eradicated.

In this sense Mr. Rennie's farm is clean. Thistles, burdocks, rag-weed, blue weed, pigeon-weed, mustard, wild flax, couch-grass and the ox-eye daisy, find no place of refuge on any part of it. It is true that now and then a seedling thistle will appear, but this cannot be prevented so long as the air during every autumn wafts to and fro the seeds of this baneful intruder. Their appearance, however, is short-lived, for every year the farm is gone over more than once, and the audacious intruders along with every thing else that is vile are sent to their own rightful place.

In Ontario there are fully 180,000 farmers. It does seem strange that out of this number but one should be even relatively clean. This fact is not creditable to Ontario farming, and yet we believe Ontario farming stands higher than the farming of any province or state of the continent. It may be that there is more than one farm in the province that is quite clean, but if so we have not heard of it, and in such a case we will most thankfully receive correction. There are many farms that are nearly clean, but only one, so far as we know, that is quite clean. Even the Experimental Farm at Guelph, we have many reasons for believing is very far from being in a clean condition, notwithstanding that it has been some fifteen years in existence.

Why, we ask should there be only one clean farm in Ontario? The task of cleaning a farm may be arduous, but is far from being an impossible one. There is no doubt but that Mr. Rennie spent much time in subduing the varied forms of weed-life that at one period infested his farm. He sat upon the watch-tower of vigilance through the summers of many seasons, but now that he has triumphed, we make bold to assert that no farmer in the province spent less time than Mr. Rennie in subduing weeds during recent years, and for the reason that but little time is required to be spent by him in this way. He has conquered in this war with weeds, and now only requires to hold the fort. Why should not 50,000 farmers do what Mr. Rennie has done? Indeed, why should it be deemed an impossibility to clean all the

farms in the Province of Ontario? The apathy of the farmers themselves is the only real obstacle in the way. We ask of every farmer who may chance to read this paper to make the attempt, and to do so not through a spirit of vainglory, but for the sake of country, and be assured of the material gain that such an achievement will bring to him during every succeeding year.

An enormous amount of labor is spent in the aggregate every year by the farmers of this province in the eradication of weeds. In a sense this is nearly all unnecessary labor. What we mean is this: if they would but once clean their farms the greater portion of this labor would be unnecessary. The labor requisite in keeping them clean would not be a tithe of that now spent in imperfect efforts to clean them.

There are two weak points in the practice of many farmers while cleaning their farms. The first is, that the work is not quite thoroughly done, and the second, that what is cleaned is not watched with sufficient closeness to keep it clean. It is in the perfection of cleanliness that its value chiefly consists. It is the stray thistle left here and there that becomes the source whence others grow. It is the isolated weed, that somehow escaped the rigor of the cleansing process, that shakes its seeds all around, thus forming a centre where troublesome possession becomes the order again. The effort then should be to clean a field most thoroughly when this work is undertaken. When a field is thus thoroughly cleaned, the wise husbandman will endeavor to keep it clean. This cannot be done without going over it at least twice a year, checking forms of intrusive weed-life at the outset. Weeds will come and from where we cannot always tell. Some travel in the air, some are carried by birds, some by water courses, others by domestic and wild animals, and yet others we scarcely know how, but come they do, and must be watched or they will soon prove troublesome.

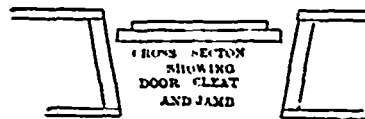
Every farmer alive to his own best interests will do his best to obtain complete mastery in this war with weeds. In addition to the labor required in subduing them the plant-food they devour is something enormous, and this is just so much taken from the crop in the midst of which they grow, and just so much subtracted from the farmer's returns at harvest time.

We cannot close without again appealing to our farmers to redouble their efforts to destroy the weeds that infest their farms. Give them no quarter upon the highway, around the fences, in by places and in the fields, and increasing returns from year to year will be the encouraging reward.

From Home and Farm.

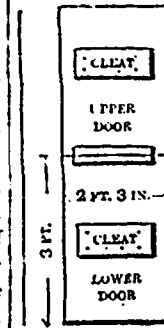
Building a Silo in the Barn.

If you desire to build a silo in one end of the present barn and can spare the room to let it commence on the ground and occupy the whole height of the barn, so that the pit will be eighteen feet or more deep, you can then build very easily. If the barn is a common timber frame, and the posts and beams are eight by eight inches or ten by ten inches, or any other size for that matter, and the girts or studding



are not as wide as the timbers, you must throw them out with two-inch lumber, so the sides and end of the barn will be ready to put on a smooth ceiling. It does not make a particle of difference whether the inside ceiling boards to the silo are put on horizontal or perpendicular.

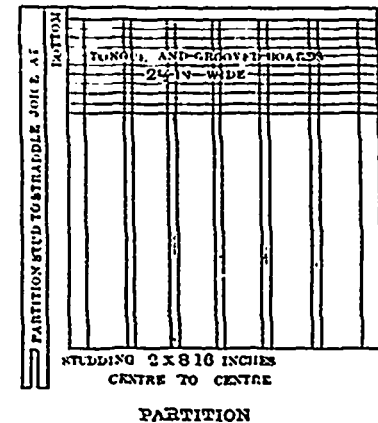
I would widen out the girts flush with the beams and sills, if the outside covering of the barn was put on perpendicular, and then put the ceiling of the pit perpendicular, same as the outside. If you desire to have the silo occupy one bent's space of the barn you must then lay a brick or stone wall foundation under the end sill and both side sills of the barn and also under the crossbeam of the lower floor of the barn; and this bottom foundation must be laid up in mortar and made airtight with a smooth inside finish. In all common barns this one bent space will usually be from twelve to sixteen feet wide, which makes an excellent sized silo. If the barn is twenty-four feet or more wide you will then have a large silo room. The



floor to the silo pit can be the plain ground itself, if it is naturally a dry earth. If it is on wet clay, spongy ground you should fill in six or eight inches deep with cobble stones, and then put no sand and gravel to fill up between the stone and make a good smooth floor without leaving any air holes or rat holes in the bottom of the pit; or, if you are rich enough to waste a little money for beauty, you can make a cement ground floor with water, lime and sand. The front side of the pit, or the one toward the barn floor, if the

silo is made in the old bay part of the barn, you can use studding, between the crossbeam of the floor and the big beam above, two inches thick and the same width as the beams, eight or ten inches most likely, and it will be plenty strong enough. The lateral pressure of the ensilage in the pit when filled will never burst out the side or bulge in the least. If the big beam above does not go up as high as the plates of the barn, you must put short pieces of studding above the beam, and then spike on top two places two by eight or ten inches, breaking joints just as the width of the studding may be, and then ceil up on this studding inside the pit all around, both on front and all sides, clear up on to the plates of the barn, so the pit will be as deep as you can possibly make it under the roof of the barn.

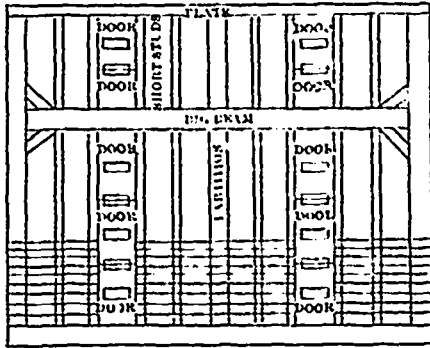
This kind of a silo will hold an immense amount of feed, and you will need one or more cross partitions so as not to have it all in one pit. You must regulate the size of the pit by the number of animals you desire to feed. One hundred square feet of surface measure is very large for ten head of cattle (ought to have fifteen). Two hundred square feet surface needs twenty or forty head of cattle to eat it up fast enough to have the silage always warm when you feed, for it is then in prime condition. Generally the whole end of a barn will make from two to four pits. These cross



partitions for the pits can always be made easy with upright studding, and the width of them has much to do with the security of the pit. If your silo is from fourteen to twenty feet deep, I would use two by eight inch studding, set up edgewise, of course, and then ceil the partition on both sides with horizontal ceiling-boards, and let this be done before you touch the side ceiling of the pits at all. The partition ceiling should go clear through against the outside covering of the barn, and nail on to the side partition studding. The partition can never spring or bend out of

place if so made. You can frame a joist for bottom support of the partition, where needed, from the sill of the barn to the floor-beam, and put in one four by eight inches or two pieces two by eight, side by side. You can then mortise a four-inch space from lower end of the partition studding on the bottom end and straddle it over this cross partition joist, and let the two by two pieces each side of the joist go clear down to the ground floor. You can then ceil from the ground up to the top of the partitions. I always spike two two by eight pieces on for a plate, and let my ceiling come clear up to the top of the plate on both sides. You then have a good strong partition, and one that will never give out. When these partitions are made you must then spike a two by eight corner joist on to the ceiling-boards of each partition, so you can then have a chance to nail on your side ceilings of the pits and make a good corner. You must now calculate for a door to get the silage out of the pit when you want to feed it.

I leave two feet space to each pit from the barn floor to the top of my silos to take out the feed and this space we fill up with little short doors only three feet high one on top of the other, and we take them out one at a time as we empty the pit. Some have smooth boards about one foot wide each, and slip them out as they go along down feeding the pit, but the youngsters in my barn would run away with many of these boards during the time of the year the silo was empty and I could never find them when needed. These little three feet doors don't cost any more and you can always keep them. I let mine lap one and a half inches on each side of the open space of the pit and they are three inches wider than the hole, and by putting the smooth sides of each together, the ensilage in the pit will press them close air tight. This kind of a silo can be built on the side of a barn or on



the end of a barn you may already have, and in that case you must make the necessary outside covering to the pit the same as you would for the barn, and also it would be a roof extra. If you build one separate, of course, you can observe all the same conditions, never forgetting to make the foundation or floor of the pit under the sills of the building air-tight with a well mortared wall and smooth with the inside of the pit, if possible. Always use narrow planed and matched ceiling lumber and get whatever kind you can the easiest or cheapest that will last best in a wet condition, a portion of each year—with us clear pine is best then next to it clear yellow white wood, but I have used oak, ash, maple, beech, elm and cucumber in mine just as I happened to have spare lumber on our farm and it all does well and makes perfect silos. If you use wide boards when the wet ensilage soaks them up, they will huff up and swell so large they burst out the pit and let in air. Another trouble comes when they are empty, being too wide they will shrink out of the matching and warp out of place. Never have any of the boards over four inches wide. Mine are from two and a half to four inches, very narrow ceiling, all planed and matched lumber. The pits are then smooth inside and handsome; no places left from top to bottom for the ensilage to catch on and prevent perfect settling, as it heats up and begins to cook itself after tilling. In such pits as these where we feed from ten to forty head of cattle, we commence on the top of the pit to feed, and never open but one pit at a time, and never take off a feed until we get ready to use it. The silage is then always warm and in its best condition for feed. If I was going to keep a very large herd of cattle, I would make long narrow silos without any partitions, and then commence feeding from one end of the pit, raking down the ensilage to the floor of the pit slanting, and it would

then be warm and no more exposed surface, perhaps, than with the smaller pits to each number of cattle; but unless I had from fifty to one hundred head, I should greatly prefer the smaller pits.

HENRY TALCOTT.

Toronto Exhibition.

From the number and character of the applications received from exhibitors and the general interest evinced in the progress being made, it may be rightly concluded that the outlook for the success of Toronto's Industrial is of the very brightest. The probability that the Governor-General and Prince George will either open the exhibition or be in attendance later, has added not a little to the prospects for enjoyment during Exhibition time.

The forces of the Association are industriously at work rearing new buildings, modifying old ones, and in one hundred and one different ways energetically striving to make this year's exhibition a greater success than even the present outlook promises. The Horticultural Hall has been greatly enlarged, which will permit of the grand display that is expected to be seen to the best advantage. At a cost of \$8,000 a new building has been erected for the accommodation of the exhibits of the Grand International Dog Show.



NEW DOG SHOW BUILDING.

The grand stand is further enlarged so as to afford better facilities for a view of the horse ring.

In appointing judges in the various classes of stock, the committees are exercising the greatest thoughtfulness to secure the right men for these responsible positions. They are using every effort to secure only those of practical experience, good judgment, and unblemished reputation, so as to secure sound and unbiased decisions, fully realizing that nothing damages a fair so much in public estimation as awards which can be suspected of unfairness.

Already in the entries for the cattle department are represented the best herds in Canada, so that a remarkably complete display may be anticipated. The milking competition is full of promise, and from present indications it is likely to be a representative contest. It is a matter of surprise to know that the large entry of one thousand exhibits in the horse department last year will be greatly exceeded at the coming exhibition.

The Dominion Experimental Farm will exhibit about one hundred varieties of potatoes, of which fifty or sixty are new seedlings that originated at the Central Farm at Ottawa. A large and varied display of cereals will also be made, including samples from all the various stations in the Dominion. The Ontario Experimental Farm will also be represented by a display of their collection of grains comprising 300 samples, some grown from imported seed and others from seed partially acclimated. In addition to the staple grains various other kinds of agricultural produce will be shown.

Very favorable arrangements have been made with the railway companies for low rates and excursions from all points during the fair.

It is getting to be a growing custom to hold important annual meetings and conventions of associations during fair time. The system is a good one and has been adopted by all the large breeders of the Western States, who hold their annual gathering at Chicago when the Fat Stock Show is in progress. Among the association meetings that will take place in Toronto during the Exhibition are those of the leading Horse and Cattle Breeders' Associations, the Ontario Poultry, Bee Keepers, Inventors and Patentees and Dog Fanciers' Associations, and the annual meeting of the Canadian Medical Council, which will be attended by doctors from all parts of Canada. The official programme will announce the date and places of these meetings.

An official catalogue will be issued which will give a complete list of exhibits and other information.

The work of preparing and printing this book occupies some time, so it is strictly necessary that all entries should be made before the 10th of August. All intending exhibitors will please bear in mind that there can be no deviation from this rule, and make their applications in time if they would avoid disappointment.

The Dairy.

THE swinging or oscillating churns would lead more useful lives as cradles rather than as churns. The box or barrel churn is built on the best practical and scientific principles.

HONESTY is the best policy both for the mind and pocket. Thirty two millions of francs is a measure of the decline in the butter trade of the Norman with Great Britain, owing to the fact that a fraudulent mixture of oleomargarine was sent in large quantities from Caen, notwithstanding that a special law forbids its manufacture.

Butter Conferences.

On various occasions we have taken advantage of opportunities to urge the worth and necessity of butter conferences for the purpose of imparting practical instruction in respect to the best methods of buttermaking and the correction of wrong and hurtful practices that might be followed. The need of government assistance was and is apparent, but it is a pleasing surprise to know that we have in the province one so enterprising and public spirited as Mr. A. A. Wright, of Renfrew, Ont., to take up this matter, and with the assistance of a corps of missionaries consisting of his wife and Mr. and Mrs. Joseph Youill, of Carleton Place, and other local helpers, conduct a series of meetings, and at these go through the best methods of buttermaking in a practical way, and also answer and solve all difficult problems upon which light is wanted by those in attendance. Mr. Wright is desirous of improving the grade of butter made in that district, and we cannot but admire the laudable and public spirit that actuates him. A series of meetings were held throughout the whole country, and at these good butter was made from cream supplied by a local friend before the assembled audience, and besides much literature was distributed and questions answered. The most general trouble, and the most frequent reason for soft butter was found to be the ripening of the cream at too high a temperature, and it was advised that in summer when taken from the cow, the milk should be brought down to 40° Fahr. or thereabouts, and never allowed to rise above 58° Fahr. One case that is given will illustrate this difficulty. A lady had continual trouble with soft butter, and after her practice was sifted by the instructors, they credited the fault to the fact that after she stripped her cows (this milk being about 98° Fahr.) and for three days, night and morning, put it into the cream which she was ripening, thus raising the temperature of the cream up to 80° Fahr. or so six times before churning (she churned twice a week); whereas it should, as the instructors intimated, have been cooled down to nearly 55° before being put in with the cream and stirred thoroughly every time new cream was added. We are glad to know that these meetings are being well attended and the work appreciated, and we hope it may not be many moons away before such work will meet with government assistance and guidance.

The Harvesting of Corn for Ensilage.

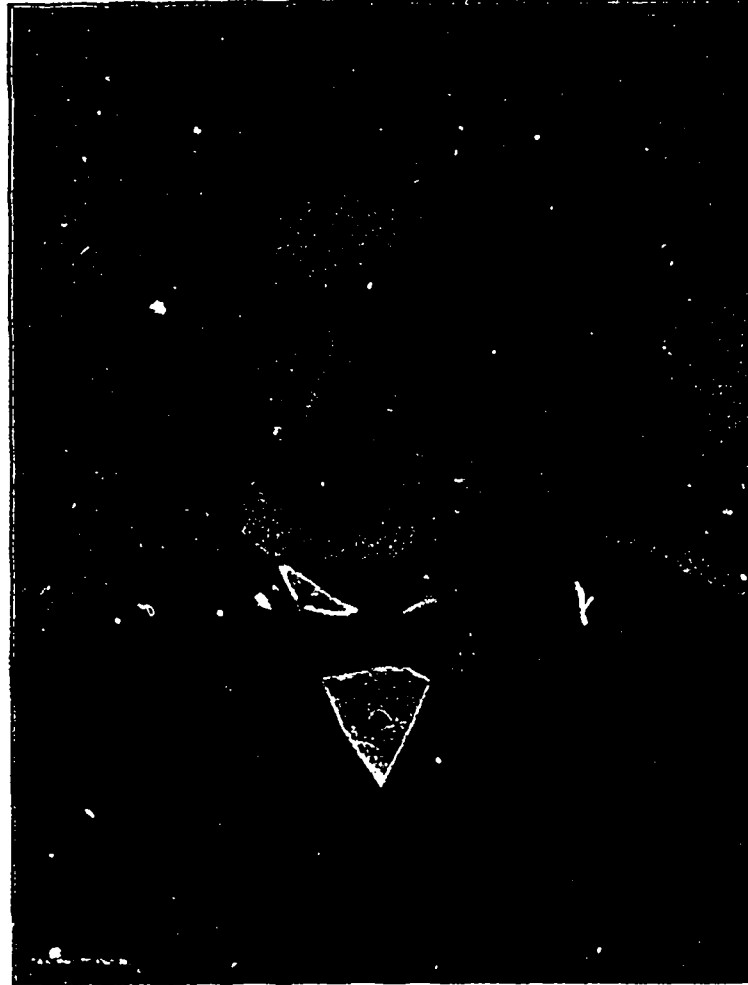
Now that it has been clearly demonstrated that the keeping of corn in the silo is an unqualified success, and that it is an excellent ration, when so treated, for the production of both milk and meat, everything relating to its growth is worthy of the most careful consideration.

We propose in this paper to give a few hints in relation to cutting the corn and putting it in the silo, as this is a feature of the work that requires the utmost promptitude in its execution, and it also involves much labor at a busy season. It has been ascertained that there is no way of cutting the corn equal to that of cutting it with the hook, when it has been grown in drills. This is not so difficult a task, for a diligent and competent workman will cut an acre in a day. The drawing of the corn is quite a labor but, is much simplified by using a platform of light boards suspended between the front and hind axles of an ordinary wagon, which enables it to be loaded and unloaded easily. It is important in putting corn into the silo that it be drawn fast enough to keep the cutting box running without interruption, otherwise there is a loss of time with the hand at the cutting box and also with the engineer. To do this properly, where the cutting box has suitable capacity, will require three teams and four waggons, with sufficient help to load quickly. It also requires one man at least to hand the corn from the wagon to the feeder. To do the work rapidly, there requires say two men to cut the corn, one man to help to load, three men and three teams to draw, one to unload, one to feed the cutting box, one to attend the engine, and one in the silo to level the cut corn and tramp on the outer portions. Thus we see that ten men in all are required, and three teams, unless the field is at hand, when two teams will suffice. It is therefore apparent that when silos become numerous that it will be a matter of much moment to the farmer to have careful preparation made for this important work. It is involved in a good deal of difficulty, and the way out of this is not very easy of solution, owing to the fact that the corn harvest comes on about the same time all over the country. Suppose the time comes when each of our one hundred farmers in a township has a silo. This would involve the labor of one hundred engines at about the same time, and one thousand workmen.

We do not make these references for the purpose of throwing a damper on the growing of corn, as we have infinite faith in its value as a food for live stock, but simply to assist those who are going into the enterprise the better to count the cost. We also hope to draw from our numerous correspondents some additional light in reference to this feature of corn growing. Of course it is not necessary to have an engine, as a horse-power will answer, but horse-power in such a case is costlier than the hiring of an engine. The work may also be done slowly and by

few hands, as the farmer may cut the corn one-half the day and draw the other half, and the man who runs the engine may also feed the cutting box, but when this plan is adopted and few hands are employed there is always a considerable loss of time, as the cutting box and engine and also a portion of the attendants are idle during a considerable portion of the time, waiting for corn to come from the field.

The difficulty arises in the limited season for doing the work. The corn should be cut when the grain is in the glazed state, which stage is reached almost simultaneously in many portions of Ontario, and more especially in the same locality. Were it not for this there would be no difficulty. Indeed it would form an important industry in itself, as then the owner of an engine and a set of workhands could go from place



HON. CHARLES DRURY, M.P.P.,
Minister of Agriculture for Ontario. (See page 269).

to place as they do now in threshing, and in this way reap a harvest for themselves as the fruit of their labor.

The Possibilities of the Dairyman.

EXTRACT from a paper on "The Dairy Industry of Canada," read before the Ontario Creameries Association, by R. J. GRAHAM, the Secretary.

In Holland where land sells for from \$500 to \$1,000 per acre, and they make dairying pay, for five years, from 1869 to 1874, with less than a million cows, Holland produced and exported a surplus of 37,779,765 lbs. of butter and 60,360,665 lbs. of cheese annually, which realized over \$18,000,000 annually; and we with nearly as many cows, only export about \$11,000,000 worth; and if the Danes can make dairying pay on land mostly high-priced, we ought to on

our cheap farms. Again, the average standard of the Ontario cow is at present 2,692 lbs. per season. Cheese factories designate a standard to be 3,000 lbs. per season of seven months. These cows are then dried up and remain dormant for five months—or are idle nearly one-half of the year. It is possible to milk a cow ten months per year profitably. It is possible to double the standard, nay, treble it, which I will prove by the following facts: I have had forty cows in a season of seven months give 5,900 lbs. of milk each. This was sent to the cheese factory, and during the winter I have sold \$500 worth of milk to milk dealers in this city, making an average of about 7,300 lbs. per cow per year. There are plenty better herds than mine. Messrs. Smith, Powell & Lamb report a herd of twenty that would nearly double these figures. Mr. F. M. Watson, of Riceville, speaks of cows which give from 7,000 lbs. to 8,600 lbs. in six months, and 10,619 lbs. in nine months, and I might go on and enumerate plenty more such instances, but these are sufficient to prove what is possible if we select the right breed and build for milkers.

Prof. James Robertson informs us that he believes the standard could be raised to 5,000 lbs. or more. These few comparisons show that our machines for manufacturing the raw material into cheese can be wonderfully improved upon. As to the raw material, we have also plenty of room for improvement. In these days of competition, progression and inventions, we must be a nation of progressors, or we will be behind the van. The dairyman who has no difficulties to overcome is not a progressive dairyman. The man who sits down contentedly 'neath the shadow of his own little attainments, in the vain belief that nothing more is to be learned in cheese or butter making, will never be able to compete in the markets of the world. The dairy world has not yet attained perfection. Better cheese and butter will be made in 1900 than at present. A few years since it would have been thought incredible that cream, which usually takes from twenty-four to forty-eight hours to rise by the old process, could be separated in as many minutes and less—as I have a centrifugal separator which has extracted the cream from 1,200 lbs. of milk in one hour, which milk was yet warm from the cow. There is no greater enemy to improvement in practical science than your thorough-going, self-sufficient farmer, whom you could as readily convince that he was his own cow or horse, as that smut in his wheat was a parasitical plant. Our pastures are not what they should be. Instead of the old-time clover and timothy meadows, and wild grass pasture, we should sow a combination of seeds suitable to the land we have, as it has been well proved that grasses grow more luxuriantly and abundantly by sowing a mixture of them, as I also myself have proved, having obtained over ten months' feed per acre from a twenty acre field of permanent pasture in one year; and this I claim to be double the amount of any wild grass pasture in the province, or of timothy and clover pasture alone.

Another saving and improvement in the future will be the preservation of green feed for winter feeding. In these days of cheap railway freight, cheap ocean freight, cheap land and improved machinery and combinations which bring the products of the world in competition, we must acquire the art of producing a cheaper and a better article than our neighbour if we succeed. Let us, therefore, be alive to this scheme as everyone admits that green feed is the cheapest milk producing food we use, and if we can preserve our summer feed to use in winter instead of the grain and hay and other high-priced goods, we will then be able to produce milk in winter about as cheap as in summer, and realize the high price by reason of less competi-

tion. In summing up let our dairymen be true to themselves and lead the world in the manufacture of butter and cheese. Let us be true to our country and extend the work into every suitable locality. Whilst formerly the greatest mental energies strove after universal knowledge and that knowledge was confined to the few, now they are directed to specialties and diffused widely over the world by means of the press and telegraph wires.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL

Pure Milk.

No common article of food requires more careful treatment than milk. None is more quickly injured by carelessness. Of all our food supplies it should be most carefully watched, being so much needed for infants, children, and invalids. How shall our milk supply be made and kept at the very highest standard? What are the requisites? (1) Healthy cows; (2) careful kind attendants; (3) wholesome food, pure air, and water; (4) cleanliness of milker and utensils; (5) milk aerated, cooled, and carefully delivered. These may seem matters easily attended to, but is is questionable if any of the milk delivered in our large cities comes up to this standard. Dr. Russell, the medical officer of the city of Glasgow, has been lecturing on the "Relations of the Business of the Dairy Farmer to Public Health," and some of his remarks, as reported and commented upon by the *North British Agriculturist*, are worth repeating. He traces many outbreaks of disease to impure and contaminated milk, specially enteric and scarlet fevers, and quotes Prof. Brown as saying, "Milk is often collected, both in country and town, with contemptuous disregard of the most elementary sanitary precautions, amidst surroundings which can only be characterized as filthy—dirty premises, diseased and dirty udders and teats, to say nothing of the state of the milkers' hands, are stern realities, which can be seen by any one who is curious in such matters; and they must inevitably lead to contamination of milk with septic bacteria, and often with infective matter, not only from consumptive cows, but also from the attendants, who are subject to little or no supervision." That this is true of some of our Canadian dairies may be easily verified by any who are curious in such matters. That the dairy cows in Canada are, in general, much healthier than those of Britain or the United States is well known. We enjoy a marked immunity from disease, but we can not claim to be entirely free from some phases which should exclude infected animals from any dairy. A few years ago Prof. McEachren, of Montreal, when visiting professionally the large dairies of the American cities, found disease, filth, and foul, unwholesome food, in startling abundance. From such places it is quite impossible to get pure and wholesome milk. Dr. Russell makes a special point that all dairy cows should be in good health, and as soon as disease of any kind is detected, the milk of the animal should not be used with that of the others, but kept separately, and not used for human food. After this experience, it may be well to know that we can get good pure milk, for Prof. Lister, the founder of the great system of antiseptic surgery, says: "Milk as coming from a healthy cow really contains no material capable of giving rise to any fermentative change, or to the development of any kind of organism which we have the means of discovering." To get such pure milk and keep it is the aim of the Copenhagen Milk Supply Company, of Denmark. It was established some ten years ago for the purpose of supplying pure and unadulterated milk to the inhabitants of Copenhagen, and especially to the infant population. The company pay to their shareholders 5 per cent., and the profits over this go towards reducing the price of the milk and improving the business of the company. The section of country selected has pure air and abundance of good water. The farms selected to supply the milk require to have a superior class of good healthy cattle. They are regularly inspected by a veterinary surgeon. Any animal becoming unwell is removed from the herd at once, and the milk kept separate. It is found that any sudden overheating of the herd, such as would arise from being chased by dogs, injures the quality of the milk. All such milk is taken by the company and paid for, but is withheld from distribution. The whole of the buildings and surroundings have to be kept clean and sweet; the cleanliness of the attendants and caretakers, and of all their utensils is a matter of every day inspection.

Male and female inspectors, thoroughly qualified for their work, are permanently employed in seeing that these matters are attended to, and that the farmer and his helpers are keeping the carefully prepared regulations. Not only have the byres to be kept clean and neat, but before every milking the udders and teats of the cows have to be washed, the cans carefully examined, and clean clothing put on by the milkers. This is extra trouble and causes extra expense. The price paid for the milk by the company is a good deal higher than the ordinary price. Enough to pay the farmer well for the extra care and cleanliness, and for the extra food required by the regulations. In summer the cows are pastured on grass and clover; in winter they are fed with hay, straw, oats, barley, and a small quantity of carrots. The company are handling about 18 tons of this milk daily, and with such precautions we might think they had done all that was possible towards giving their patrons the pure article. But this is not all. They have a carefully organized medical quarantine for all the farms. Any employee becoming unwell is at once kept away from the byres and buildings, and wages are paid as usual, so there is no inducement for any of the employees to conceal any illness affecting himself or family. The collecting of the milk and taking it to the creamery is another matter as carefully looked after as the transport and distribution to the consumers. With all this care one might think that the milk would be reasonably clean; that there could be little, if any, foreign matter in it. As soon as it arrives at the creamery it is filtered through a layer of sponges, closely pressed together between perforated plates. It is astonishing how much impure matter is removed from the milk by this process. The sponges are afterwards passed through hot steam, and pressed between rubber rolls, thoroughly cleansed before being again used. The cost of sponges last year was over \$500. The people of Copenhagen are getting, perhaps, the purest milk in the world. It costs more than the stuff sold by the name of milk in some places. Most of our readers will think it is well worth the difference. If Toronto had such a company it should be well patronized, and would be a great boon to those desiring pure milk. No one will deny that this Copenhagen Company is a great public benefactor, and worthy of imitation.

D. M.

Cheese Making.

Address by D. M. McPHERSON, of Lancaster, Ont., before the Quebec Dairymen's Association.

In this country, cheese is made principally from the milk of the cow; before we can succeed in making good cheese, we must know of what this milk and this cheese are composed, and what are their qualities.

Cheese, a solid substance, is extracted from milk, a liquid substance. In making cheese, only one thing is added to the milk, rennet, and only one thing is taken away, whey. The quality of the cheese is chiefly determined by this addition of the rennet, and by this removing of the whey.

But before attacking the question of cheese making, allow me to say that the production of the milk has more influence on the quantity and quality of the cheese than farmers and makers generally believe. I will go so far as to say that the making of the cheese is only one end of the cheese industry. In order to make sure of all the conditions of success, we must not stop at the management of the milk in the vat, but go back as far as to the very food the milk cows receive.

First, our cows must be well looked after, must receive appropriate food, if they are to produce good milk and plenty of it. Then, this milk must be suitably treated, if the cheese produced from it is to be uniformly plentiful in quantity and good in quality; for it is on these two conditions, quantity and quality, that success in farming depends. To get plenty of milk from your herd you must, in the first place, feed the soil or the plants. The produce thus extracted from the land may be used either directly, by selling grain and hay, or indirectly, by turning the grain, hay, and straw into food for animals, to make them yield either meat or milk, or those articles manufactured from the milk. The first principle then is to feed the plant so as to arrive at feeding the animal.

The second principle is to feed the animal so as to arrive at feeding the plant. This is the grand point that should be studied by all farmers. All of you are

feeding your cattle this winter for the purpose of being able to feed your plants next summer. If you waste your manure, if you allow it to run down the ditches, sink into the wells, generating malaria, the doctor and the undertaker will be the only ones who will be benefited. For this manure, which, neglected, develops fevers and often causes death, becomes, if taken care of, the food of the plant, and, in its turn, the plant becomes the food of man and of beast.

Now, in order that farming may be profitable, we must make the consumption of a cheap food produce a thing that will sell for a high price. Wheat, barley, oats, are costly food; on the contrary, bran, clover-hay, linseed, cotton-seed, are cheap foods. It pays, therefore, to sell grain and buy these cheap foods. Manufacture only answers on the condition of buying raw materials cheap, which we subsequently convert into articles of high value. Well, farmers are manufacturers; they must buy cheap and sell dear. I know some of them who sell hay in the fall for \$8 and \$9 a ton, and, in spring, buy again for \$11 and \$12 to feed their cattle on it. I know some of them who sell their grain in autumn, and, in spring, pay 50% more for seed-grain. That is selling cheap and buying dear. The food of animals gives two profits: profit direct, the production of milk or meat; indirect profit, the production of manure, plant-food. We must know then how to feed the animal for the plant, and the plant for the animal. Learned men tell us that plants of a vigorous, robust habit contain more nourishment than plants of feeble growth. So, an animal full of life and strength is more profitable to feed than a delicate one. All that a beast yields comes from the food he receives; and all that a plant contains comes from what the soil has received from you or from nature. Consequently, we must learn how to feed both soil and plant, for the animal's sake, and to feed the animal so as to have a right to expect good results, the production of milk and meat.

Part of the food the beast eats is converted into heat. The animal heat must be kept up, at any cost, in every part of the body, else the animal will lose weight. The system must be maintained at 98° F. The production of milk is in a great measure determined by the quality of the food. The best food, in my opinion, is clover hay and mixed grasses. Farmers in general do not appreciate clover. Clover is good; you cannot sow too much of it. It has all the elements necessary for the support of beasts; it is at the same time a meat-former and a purveyor of heat. Bran is another good food. I prefer the modern roller-bran to the old process or brown bran. Bran contains phosphates, and other elements entering into the formation of the bones and muscles. Cotton-seed is a good food for milk making. It contains an excess of albuminoids, and is one of the best things to mix with straw, hay, ensilage, etc. Linseed-meal is good, too, but better suited to feed calves than for milk-making.

Now, the quality of the water drunk by the cow influences greatly the quantity and quality of the milk she gives. No beast ought to drink dirty, muddy water; water that the farmer himself would not drink. If farmers would learn this truth, and act accordingly, it would be a great step towards the manufacture of a better article than we make to-day. Two motives should induce us to give our cattle nothing but pure water to drink: the preservation of their health, and the production of a good article for sale.

When the milk has once been produced, if good cheese is our object, two conditions must be realized before its delivery at the factory: the milking must be conducted with the greatest cleanliness, in proper vessels, well washed in boiling water, and the milk must be strained and aerated. It is better to strain twice than once; three times than twice, and four times than thrice. A strainer, made of several folds of calico, is the best. The aeration of the milk acts upon the milk-sugar and forms an acid from it. This acid thus developed in the milk will act in concert with the rennet in causing the coagulation of the curd and helping it to retain the butter-fat. Without aeration no man can make good cheese. This aeration can be done with the dipper, or by passing the milk over some metallic surface. In general, this question of aeration is not understood by farmers; they do not pay enough attention to it.

The cheeseman must, every day, look at the state of the milk he receives, attend to the temperature of the past night and the temperature of the milk and of the morning, before he determines how he is to set to work. If the milk, from the low temperature of the

past night, comes to the factory in too sweet a state, he has to keep it in the vat for some time, warming it up to 82, 85, and even to 88 Fah., and stirring it to acidify it by the heat. This will help the rennet to act powerfully on the curd, and will aid in retaining the cream in it, giving that fine flavour so highly prized by the trade. The rennet ought to be used in sufficient quantity to bring the curd in fifteen minutes in spring, and twenty minutes in summer. The curd ought to be ready to cut in from forty to forty-five minutes in spring, and from fifty-five minutes to sixty or even seventy minutes in summer. The rennet should be dissolved in a pail of water for each vat of milk, properly mixed, poured into the milk, and well stirred for five minutes, gradually slackening the pace of the stirring. After seven or eight minutes, perfect repose. The vat must be covered, to keep the temperature uniform. When the curd is firm enough, which may be known by its breaking clean under the finger, it is to be cut in pieces, taking great care to slice the pieces of equal size. Then, the curd is to be stirred gently for ten or fifteen minutes. This is done to make a crust form on the curd. The heating is commenced five minutes after the stirring, if the milk was ripe; ten or fifteen minutes, if it was sweet. The rennet was added at 84; the heating should be carried up to 98. If a softer cheese is wanted, in spring, the heat should not exceed 96 to 97. But for a young hand, it is better always to go as high as 98. This heat should be kept up all the time as much as possible when acidity begins to show itself, with the hot iron test, is the time to draw off the whey. The difficult point in cheese-making is to preserve all the slices of curd that remain in the vat at the same temperature. To allow any part to cool is to spoil the flavor and colour of the cheese. When the whey has been drawn off and the curd is dry, it is worked over with the hand, so as to break all the lumps that may be found in it. Thus working, a uniform curd is produced, equally firm in all its parts. This is the great secret of all.

Next, the curd is piled, heaped up in the vat, and allowed to remain in that state for three or four hours, to undergo the action of the rennet; it should be turned from time to time. After three or four hours the temperature of the curd should have fallen from 96 to 90. It is allowed to cool thus that the cream may be retained in the curd while the latter is being ground in the mill. More cream is retained by this treatment. Sent hot through the mill, the curd breaks, and there is more loss. A full half-hour after grinding, the cheese is salted with 2 lbs. in spring, 2½ lbs. in summer, 3 lbs. and even 3½ lbs. in autumn. Half an hour after the cheese is put into the moulds, which are left upright in the press, and well covered; it ought not to be pressed for more than a quarter of an hour, or a little longer, after it has been put into the mould. This precaution prevents loss, and the whey will run off more clear. A quarter of an hour after you may gradually increase the pressure. For two or three hours the pressure should be moderate. One reason why cheese, and the moulds too, are sometimes burst, is that too heavy a pressure is applied at first.

The cheese ought to be turned in the evening, and again in the morning; this makes the cheese firmer and better. If some cheeses are out of shape, by turning them in the morning, that fault will be corrected, and the form of your cheese will be pleasant to the eye. Great care must be bestowed on the cheese from the time it leaves the mould till it is put into boxes, so that the work of the maker may not, on an outside view, have the appearance of been badly conducted. Now, let us look at the question of cheese with eyes or holes in it. These eyes are caused by gases which are developed in the cheese, after pressing, in the cheese-room. They are obliterated by letting the curd remain rather longer between the draining off of the whey and the grinding. Instead of three or four hours, four or five hours ought to intervene between these two operations. Open cheese is caused by the cows drinking bad water, or by the exposure of the milk in the neighbourhood of the cowhouse or of pigsties. Sometimes it comes from the bad food given to the cows.

We are much pleased with the CANADIAN LIVE STOCK JOURNAL. Since it moved to Toronto we see a decided change for the better and we can unhesitatingly say that it stands head and shoulders above any other agricultural and stock paper published in Canada. Its lofty tone, sincere devotion to our best interests, hearty support of every movement having in view the benefit of the farming community, its inspiring words and cheerful encouragement in difficulties cause us to take pride in its existence.—W. H. & C. H. McNish, Lym, Ont.

Poultry.

The Feeding of Fowls.

The morning meal for poultry should consist of soft food. Nearly all poultry fanciers and poultry writers are at one in this view. The principal reason assigned is, that it is thus quickly and easily digested and so affords nourishment early in the day.

This meal may consist of a variety of substances, any set which may be adopted according to convenience. When the number of fowls is small, potatoes and potato skins from the household, boiled and mixed with scalded bran will answer very well. No cheaper mixture can be given them, and but few will answer the purpose better. By mixing the potatoes with the scalded bran the food is made sufficiently warm.

Where the lots are large, small potatoes may be boiled and given to the fowls. It may be mixed with bran as in the first instance, or in either case barley meal scalded may take the place of the bran.

Where potatoes are not to be had, equal parts of barley meal and wheat middlings may be used, or equal parts of corn meal and bran. Turnips or mangolds boiled and mashed and mixed with the meal are excellent, as in this way the equivalent of a diet is given which answers for the green food usually fed to fowls in summer. The choice of food is therefore very large for this meal.

The manner of preparing it is important, and the precise method to be adopted will depend upon circumstances. Two things, however, must be borne in mind. This meal should be given warm, and it should be of that consistency only as regards moistness which will cause it to crumble when taken in the hand. When food is required on a large scale it should be mixed the previous evening, covered with some substance that will prevent the escape of the steam, and kept in a warm place. The steaming process virtually cooks the food and so aids in its quick digestion.

The ordinary method of feeding this meal is not a wise one. The food is usually thrown on the ground, on a board or into a trough, and so becomes fouled by the trampling of the feet of the fowls upon it. This meal is usually fed early in the morning before the droppings have been removed for the day, so that the food is thus almost certain to be rendered less palatable from the trampling. This may be wholly avoided by putting the food in troughs furnished with a lid and with wires or slats in front. They may thus eat food at will, and if any is left it can easily be removed.

There is a hankering on the part of some to spice this food, especially in cold weather. The practice may be adopted with advantage if judiciously done. If anything can thus be added slightly stimulating and tonic in its nature, it may be given for a time, but should not be fed for a very long period.

The Langshans.

By CHAS. FRENCH, FRURO, N.S.

It is not our purpose to claim in the usual fanatical style that this breed of fowls, and only this breed, is the best; for whatever a man likes best is best for him; but we would state that for an "all round" fowl, the Langshans are unsurpassed.

They are classed as "Asiatics," and were first imported into England in 1871, and from thence into the United States in '78, and derived their name from their native province in North China.

Their plumage is of a uniform glossy greenish-black and full of lustre, comb single and a bright red color. Legs and toes dark, with a vivid pink tinge showing between the scales; shanks scantily feathered to the end of the toes,—(there should be no feathers on the middle toes)—bottoms of the feet are pink.

They are classed in the standard as medium weights, and it is the birds of medium weight that combine the good qualities of the two extremes, being great layers (though somewhat less so than the small breeds) and extra good table fowls.

Their eggs are fair size, and are beautiful in color, varying from palest salmon to the darkest chestnut brown; on some there is bloom like that on freshly gathered fruit, whilst others are spotted, often literally splashed all over with dark spots, and the same hen will tint her eggs differently one day from what she does another.

They thrive in very confined spaces, are of gentle disposition and are easily domesticated, are very hardy, being able to withstand our rigorous winters, are unsurpassed as mothers, and enjoy being handled and petted. Our birds are as tame as so many kittens, and we know a case where a man, whose birds, if he does not pet them, will follow him around, and one cockerel will even take hold of his pants and pull until he stops and pets him.

In addition they are great foragers, and on a farm where there is an orchard, they are invaluable. They not only destroy a great pest in the shape of caterpillars and insects, but return to the earth a manure rich in nitrogen.

Of late years, a fresh branch of the same great race has been added to the breed, namely, the White Langshans; at present they are bred chiefly in California, and not yet been admitted to the standard, but the astonishing popularity of the Blacks gives evidence that they are destined to enjoy a tremendous boom. The Langshan Catalogue says of them:

"As egg-producers they are unrivalled, and as a grand, general purpose fowl for everyone who loves fresh eggs and fine table poultry in such quantities as will make the poultry-yard a profitable investment, they have no equals."

There is a fascination about the history of the Langshan fowl not found in that of any other breed, while at the same time their origin, or more correctly speaking, their discovery by the English, who first saw in them a meritorious fowl and pushed them into popular favor, is familiar to all true fanciers of the breed in its purity.

The only cloud that has rested upon the fair name of the Langshans was the infusion of the Cochinchina blood, which at one time bid fair to ruin the breed, not only in England but in the United States. Persons not wishing to have their flocks spoiled from the start, should be very cautious about buying, and be sure to get the pure article. It is a well recognized fact among breeders of Langshans that very few who once give them a trial ever give them up for some other breed.

The Langshans have characteristics not possessed by other breeds, that are familiar to the experienced eye. The true Langshan form is better known than described, and their action, peculiar to this breed, is one of the silent attractions that convey an indescribable pleasure to the true fancier. Any sluggish foreign blood is quickly detected by the experienced fancier, while the beginner would not know of its presence; and thus the many mongrel black fowls that have been sold as pure Langshans have done even more mischief than is generally supposed. In conclusion, we hope, by our remarks, to draw the attention of your readers to a breed which well deserves its merited position.

Horticultural.

In a late bulletin on "Plum Knot," Prof. Pantone, of the Ontario Agricultural College, states that the best thing to do in seeking to get rid of it is to cut off the affected limbs and destroy them.

In the Iowa State Register, Prof. J. L. Budd gives the following points on strawberry growing: (1) It never pays to go to a neglected plantation for plants. If with great care you secure young plants with good roots, you have no guide as to the number of seedlings

you plant, and rarely can you be certain whether you are getting perfect or imperfect flowering varieties. As a rule it pays better to buy the plants at fifty cents per hundred from those who make it a business to grow them. (2) The quick and apparently careless plan of planting with a spade with the roots in a bunch pointing downward, will give the best results. (3) It is best for the farmer to plant in rows four feet apart, and to set the plants not less than eighteen inches apart in the rows. By training the first runners in the line of the rows, and giving good horse culture, you will have in the fall full matted rows eighteen inches wide, and with slight winter covering you will have a great crop the next season. Aside from picking we can grow a bushel of luscious strawberries about as cheaply as we can grow ten bushels of potatoes. But the beginner will wholly fail if he neglects some of the essential principles in regard to selecting, setting, and culture of the plants.

Forestry Should be given More Attention.

Compare this Canada of ours, with her excellent conditions for the production of all agricultural products, animal and vegetable, with the scorched plains and bleached hills of many other countries that are leached of their soil's fertility by heavy and long delayed rainfalls, and the magnificent heritage we have in our forestal possessions becomes strikingly clear, and implores us eloquently to guard carefully what is already ours. The sacrifice of timber limits on the sacreligious altar of political favoritism, may happily be said to be a feature of the past, and it is gratifying to notice that more attention is now being given to the preservation of our forests from wanton destruction. No one is justified in raising a wail against judicious deforesting of fertile districts, but it is the bounden duty of all to lift up their voices against the clearing of elevated sections that will never be tillable. This is purely a matter for state interference and encouragement, as it is a work that offers but slight hope of reward to individuals, though the attention which it receives will surely determine the welfare and happiness of every occupant, present and future, of Canadian territory. The Dominion Forestry Commissioner, Mr. H. Morgan, and the Ontario Commissioner, R. W. Phipps, both appear to be laboring industriously within the scope given them, but whether it is apathy on the part of those that might follow their advice, or the narrow scope or misdirection of their efforts, the fact is discernible that they are not effective. We have before us the report of the Minister of the Interior, and therein, occupying but four pages, is the report of the Dominion Commissioner, which is chiefly taken up with a few mild toned suggestions. It is not demanded of us to go into the work of other countries in this department to show the need of it, but merely necessary, for the present, to say that in every European country, with but rare exceptions, it is given every attention through well equipped forestry schools with large staffs, and in the United States they have a numerous staff of forestry experts devoting their whole time to this alone. The Dominion government, through Prof. Saunders, is doing a grand work for this cause, and the Ontario government also deserves its mead of praise, but we would warmly urge the furtherance of this work, and we are convinced that every effort so put forth will meet with response from an appreciative people. There is work to be done at once, for even now changes in our climate and conditions have been observed, owing to the destruction of forests at the fountain heads of our rivers. The course to pursue is

clear. The various provinces, as recommended by the Dominion Commissioner, should appoint commissioners, and these, co-operating with Dominion authorities, could meet and prepare for the various provinces small pamphlets to guide the private individuals desirous of doing something in this direction, while they could also (which would be the most valuable feature of the work), evolve some plan which would meet with the approval and adoption, not only of the Dominion government, but by the several provinces, for the preservation of reserves and plantations of forest trees on an extensive scale, by the respective governments in the provinces and territories.

Farmers, Grow Your Own Fruit.

The number of farmers in this province who grow but little fruit, even for themselves, is very large. This is certainly not as it should be. If we lived in a country and climate where fruit would not grow it would be different. The prevailing practice would then be justifiable.

The advantages of growing fruit for home use are so apparent that it seems incredible that so many farm tables are not better supplied. In the summer time good ripe fruits are appetizing and have a purifying and renovating influence on the whole system. There is not the shadow of a doubt but that if more good ripe fruit were used in our farm homes that much less medical aid would be required, and the general health of families would be greatly improved.

It should of course, be used in the simplest form, that is as near as may be to the condition in which we receive it, ripe and attractive, fresh from the hand of nature. It is easily possible to prostrate the best gifts to ignoble uses, so too it is easily possible so to adulterate fruit by imperfect or over-preparation as to materially lessen its healthfulness.

The production of an abundance of fruit such as will grow well in any certain locality is not a work requiring a large amount of labor. The important requisite is care. A small plot of ground tidily tilled will yield a very large amount of fruit of various kinds. There are but few farmers who fail altogether to plant some fruit, but it is too often not cared for, and therefore it not only fails to yield but the spot on which it grows becomes an eyesore.

Strawberries will grow in most localities in Ontario, and yet not one farmer in ten grows his own supply. Raspberries will grow almost anywhere, and yet but few have them, unless they are found growing wild about some neglected fences. Grapes do not flourish in so large a portion of the province, but the hardier varieties will grow successfully in many parts. Plums, apples and pears will grow over wide areas, but of course they cannot well maintain the struggle for a useful existence without the interested attentions of man after they have been planted and given a start.

The appetite long for fresh ripe fruits in summer and this furnishes evidence that these should not be denied it. To the young person on the farm there is a charm about home-grown fruits such as none that are purchased can give, more especially if their own young hands have assisted in caring for the vines or shrubs or trees producing it.

We desire to say to our farmer friends, cease to be so unkind to yourselves as to be content without the production of a full supply of such fruits as your locality will grow. The preparation for the work should be made this fall if it has not yet commenced.

Select a spot that is dry, and which has a deep loamy soil, if such can be had. It should be near to

the house for many reasons, if a proper soil can be found there. It should be enriched with a liberal supply of manure, and laid up for the winter in trenches or narrow ridges. The fruits may then be planted as early as the season will admit of this in the spring.

The larger trees should be kept out of the plot where the small fruits grow, or they will provide overmuch shade. The small fruits should be planted in rows so that they may be cultivated with the horse hoe at least in one direction. By this arrangement the labor of keeping them clean is reduced to a minimum.

The large fruits may have a plot for themselves. This need not be large. One acre of orchard properly cared for should abundantly supply any farm home. The smaller trees, as plums and some others, may be set in the rows between the larger, as the apples and pears.

One and one quarter acres may thus be made to give the farmer everything that he may desire in the shape of fruit, and it will give it to him in the greatest abundance. From this it is apparent that it is lack of will rather than lack of opportunity that keeps so many of our farm homes so scantily supplied with fruit.

From North American Review.

A Chat About Gardens.

By OUIDA.

"Corisande's garden," in "Lothair," is the ideal garden; and it is pathetic to think that, as an ideal, it was given to the world by one esteemed of all men the coldest and most world-hardened. But Disraeli had a warm and enduring devotion to flowers in his nature, and their loveliness and innocence and "breath of heaven" never failed to touch the soul which slumbered behind that glittering, artificial, and merciless intelligence. He rightly abhorred the elaborately-patterned beds, the dazzling assorted colors, the formal mosaic of hues, in which the modern gardener delights. All the sweet-smelling, and what are now called old-fashioned, flowers are hustled out of the way by the bedding-out system and the present craze for geometrical arrangement. Numbers of delicious flowers which were dear to the heart of Herrick, fragrant, homely, kindly, hardy things, have been banished almost out of all knowledge, that the pelargonium, the dahlia, the calceolaria, the coleus, and various other scentless but fashionable flowers may fill group and border. It is a mistake. Even the petunia and the dwarf datura, though so sweet at sunset, cannot give such fragrance as will yield the humble favorites of yore—the musk-plants, the clove-pinks, the lavender, the lemon-thyme, the moss-rose, the mignonette, and many another sweet and simple plant which is rarely now seen out of cottage gardens.

Educated taste will spend large sums of money on odontoglossum and orchid, whilst it will not glance perhaps once in a lifetime at the ruby spots on the cowslip bells and the lovely lilac or laburnum flowers blowing in a wild west wind. It will be a sorry day for the flowers and the nation when the cottage gardens of England disappear and leave the frightful villa garden and the painfully mathematical allotment field alone in their stead. An English cottage, such as Creswick and Constable, as old Crome and David Cox saw and knew them, and as they may still be seen, with roses clambering to the eaves, and bees humming in the southern-wood and sweetbriar, and red and white carnations growing beside the balsam and the dragon's-mouth, is a delicious rural study still linked in memory with foaming syllabub and ruddy

cherries, and honey-comb yellow as amber, with the plaintive bleating of new-born lambs sounding beyond the garden coppice. Who that knows England has not some such picture—nay, a hundred such pictures—in his recollection?

A Fruit Ladder.

There is scarcely a farmer who does not occasionally need a ladder in gathering his fruit; and I take pleasure in submitting a description of the best one I have ever seen. Take a pole of any desired length, but not of large diameter, sharpen it at the top to a slim point, and several feet from the top put a flat iron band about it, or in case a band is not at hand it may be securely wrapped with wire to keep it from slipping. But the band should not be thick or with sharp edges else it may cut or chafe the bark of the tree. If the grain is straight it may be split with wedges from the butt to this band, or it may be split with a rip-saw. Now spread it at the bottom to several feet in width, and if the ladder is to be quite tall this should be five or six feet or even more. Nail a brace temporarily across the butt ends to hold them apart, and bore holes at proper distances and at proper angles; or if the spread is not too great they may be bored before the pole is split. Rounds of tough, strong material may now be inserted, beginning at the top, first removing the brace.

Such a ladder can be thrust upward into a tree and placed in a fork or against a branch without danger of falling or being unsteady, and it has the additional advantage of being very light at the top and easy to handle. If desired, a third leg or brace can be added by hinging it to the top round through a hole, thus making a step-ladder.

H. E. VAN DEMAN.

The Apiary.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

The Use of the Honey Extractor.

By R. F. HOLTSMAN, A.O.A.C., Romney, Ont.

Every bee-keeper knows the honey extractor, but not every bee-keeper knows how to use it to the best advantage. It has been used too much and too little; too little when the broad chamber becomes crowded with honey and the bees hang out and eventually swarm on account of lack of space to store honey; too little when inferior honey of spring and fall is allowed to mix with and interfere and deteriorate the value of the light and first-class honey. It is used too much when the honey is extracted in a thin and unripe condition, and when in the fall of the year the bees are without stores and require to be fed.

I shall enlarge upon the points taken. When honey comes in and the upper storey of the hive becomes crowded, the bees will prepare to swarm, and as quickly as young bees emerge from the cell the old bees fill it with honey and in consequence the queen cannot deposit eggs. The bees then swarm, rather on account of insufficient room to store than on account of their own number, a feature in bee-keeping not desirable.

All inferior honey should be extracted before clover comes on. Even if not capped, honey does not generally come in fast enough to be thin previous to that, and even if not capped it will be ripe. Again after the linden or basswood flow ceases all honey should be removed in the upper storey, to prevent its deterioration by fall honey. A farmer would hardly think of mixing a good crock of butter with an inferior, no more should the bee-keeper think of mixing his honey with inferior.

Thin and unripe honey is an injury to the bee-keeper, it is unpalatable and if not quickly sold it sours (unless artificially ripened), and to extract too closely leaves the bees without winter stores, which means to allow them to starve or feed. The latter should be avoided, for it causes robbing, unpleasant work, loss of vitality to the bees, and direct financial loss.

We are satisfied that advertising in the JOURNAL pays. D. G. Hammer & Sons, Mount Vernon, Ont.

Young Stockman's Department.

Our Prize Essays.

To deepen the interest of our farmers' boys in the work of the farm, and so strengthen their love for a life in the country, to awaken their slumbering talents and stimulate their efforts for self-improvement, we offer the following book prizes as inducements for the boys to write on such subjects as we shall announce each month:

1. *The Soil of the Farm*, by Scott & Morton.
2. *The Chemistry of the Farm*, by Warrington.
3. *Handbook of Agriculture*, by Wrightson.

The conditions to be observed by competitors are:

1. The writer must not be over 17 years of age.
2. The essay must not exceed one column in length.
3. The essays for competition for the prizes to be given in any month are to reach us on or before the 15th of the preceding month.

Essay for September competition:

The Winter Feeding of Dairy Cows.

Essay for October competition:

Stock Raising Compared with Grain Growing for Pleasure and Profit.

Care of Working Farm Horses.

The first matter of importance is to feed and water your horses regularly. As to the quantity of feed, each meal they should have plenty of hay and about four quarts of oat chop three times a day, or if you feed whole oats I would give them three quarts of oats and one of bran. If your soil will grow carrots by all means feed them, for horses are fond of them and it helps to make their coat sleeker. In working, see that the traces are all the one length, and that the whipple trees are centred properly, for if not the horses' shoulders will soon get sore. Raising the collars two or three times a day and rubbing your hand up and down the shoulder is a splendid preventative of this trouble. The horses should be cleaned twice a day. I would rather spend half an hour cleaning night and morning than an hour at one time.

W. F. HUNTER.

St. George, Ont.

Notes From the Boys.

ACTIVE BOYS.—Joseph Henry Dobson, who is eighteen years old writes us: "I have worked on the farm ever since I have been able to make myself useful and I like it. Last spring, my brother and I who is fourteen years old, put in 70 acres of spring crop, cultivated twice over and ploughed 10 acres in the spring. I drilled all the grain in, my brother rolling and harrowing. We had fifteen acres of fallow and no help until August." The youngest, Frank, who is only fourteen years old writes: "My father has 200 acres near Schomberg, but as he cannot work, Joe and I thought we could manage last year. We got along splendidly. Last spring we had about 1,300 bushels of six-rowed barley besides a lot of other grain."

BIRD NESTING.—Subscriber, Weston, Ont.: Is it wrong to take birds' eggs, when one wants to make a collection? How many ought one to take? Would the birds lay again if you took one egg or all but one. By answering these questions you will oblige many other boys besides myself. [The collecting of birds' eggs is the most senseless, cruel, and debasing hobby that may be ridden, and no boy with the heart and sympathies of the true man would practice it or allow others to do so without raising a hand or voice against it. The boy who begins his career robbing birds' nests is writing his own invitation to a neck-tie party with a hangman for a partner. If you seek the friendship and desire to study the habits of birds, watch them in their haunts and inquire into their ways. The amount of interesting material you will gather, and the fund of amusement it will afford you by doing this, cannot be measured.]

Farmers' Daughters' Column.

Our Prize Essay.

With the avowed object of helping our farmers' daughters to make the life on the farm more pleasant and more enjoyable through a wider knowledge of the work that may properly come under their guidance, we purpose offering a series of prizes for essays written by them on various topics. That there need not

be any lagging on account of the want of subjects, we shall from month to month suggest a few, but it is to be remembered that a choice of any prize will be given to the writer of the best essay on any suitable subject that reaches us that month. You may choose your own subject, and if none better reach us that month, and the subject chosen is one that will interest the other readers of this department, a choice of any of the prizes will be given to the writer. The conditions to be observed by the writer are:—

- (1) The essay must not exceed one column in length.
- (2) The essays for competition for the prizes to be given in any month are to reach us on or before the 15th of the preceding month.

Essay for September Competition:

The Winter Management of Poultry.

Essay for October competition:

The Preservation of Fruit for Winter Use.

The following are the prizes we offer:

- (1) *The Canadian Queen* one year, \$1.00.
- (2) *Vick's Illustrated Floral Magazine* one year, \$1.00.
- (3) *The Ladies' Home Journal*, one year, \$1.00.

This list will be increased later.

Window Gardening.

(PRIZE ESSAY.)

By MARTHA M. CULLIS, Elmwood Farm.

The requisites for success in window gardening, are plants, time, patience, common-sense, and love.

Any window may be a garden window, but to be a success, it should be (1) large, (2) in a favorable position, (3) capable of being made air-tight in winter. Plants need ventilation, but it is somewhat unsafe to introduce them to Jack Frost through the medium of the window. The window should have a wide sill, or if it has not, provide it with a nicely planed board, from two to two and a half inches wide, fastened firmly to the sill. Now from a hardware store, get five brackets, similar to those used for lamps, have them plain or fancy as your means or taste suggests. Fasten two to each side and one in the centre of the sash.

Now as to the plants. Suppose we take first the Geraniums, those hardy old stand-bys, that will live almost in spite of us. The double varieties are more desirable for bloom, since they bloom more freely, and the flower lasts much longer, though the single ones have a greater range of shade. It would be well to have a few varieties of each, and let us not neglect the Royal George, or Lady Washington, with its dainty pink flowers spotted with crimson. Do not have them in too large pots, or they will not bloom freely; if they are given too much space, they will grow too much to stems and leaves. Every one adores the Fuchsia, so we would select a Red Dragon or Midnight for dark colors, and Storm King for white.

These will fill your window seat, and I fear some will have to move to make room for our queen of flowers, the Roses, so some of the smaller specimens may take up their abode in the brackets till they out-grow them. For the centre we want a hanging basket; there is no necessity for buying an expensive basket, an old tin pan with holes in the sides and painted, serves admirably. In the centre of the pan place several shades of geranium that will harmonize, say salmon, pink, and deep crimson, white and bright red, and have one or two bright leaved Coleus plants, and as many varieties of trailing vines as you can obtain, such as Wandering Jew, Tea vine, Moneywort with its yellow flowers, with a few sprays of ivy to run up the cord.

On each side of the window have a large urn or pail filled with ivy, either English or German, the English is the more hardy, but the German grows faster. Let them run up the curtains or train them

on strings. We cannot pass the Begonias, either the flowering or the Rex, with their beautifully and strangely marked leaves. Of the lilies, the Calla and the Araryllis are the hardiest. We would place these on a stand in front of the window with some of the many beautiful ferns to be had in many woods for the taking.

The soil should be good leaf mould from the woods. They should have freshening shower baths, and a drink of liquid manure at least once a month. Try it and see how they will thank you in brighter foliage and more beautiful flowers.

Jottings.

New Fall Whoats.—Amongst the most successful of late introduction are the following varieties: Golden Cross, Early Red Clawson, Canadian Yellow Chaff, James' Winter Eye, and American Bronze. These are fully described and illustrated in the fall wheat circular of the Steele Bros. Co., Toronto. Send your address on post card for copy.

Machine Oil.—All farmers appreciate the importance of using the best lubricating oil on their machinery, thereby saving in wear and avoiding very much annoyance and loss of time in the busy season, and it will be found in all cases that the best oil is always the most economical. Rogers' Peerless Machine oil is especially made for farm machinery, and has received twelve gold medals at the leading exhibitions.

Heavy Weights.—In discussing the merits of the Shropshire, H. T. Cole, in the *Ohio Farmer*, stated that he had an imported Shropshire ram that weighed 190lbs. when nine months old, and at the same time threw out the hint that if any Oxford breeder could beat it he would like to hear from him. W. A. Shafer, of Ohio, replies: "Now, we raised an Oxford lamb last summer, which, at six months old, weighed 175lbs. Can any one in America beat that with a pure, home-bred Shrop? We showed a yearling Oxford ram last fall which weighed 330lbs., and had a yearling show ewe to weigh over 300lbs. Have seen two-year-old Oxford rams which weighed 425lbs. and over."

Clover with Straw.—It has been shown many times that clover, if cut when not damp, and mowed or stacked in alternate layers with dry straw, comes out as green in color as when put in; even the blossoms do not change color. The moisture in the clover is absorbed by the straw and renders it more palatable. In this way every particle of the nutriment is saved. In drying clover into hay, as usually done, the life of it too often gets dried out or washed out by rains. When too dry the leaves shell off, leaving not much else but woody stalks. In view of these facts it would be well for those who have clover to cut this season, and have straw, to put up a quantity in this manner and try it.—*W. in National Stockman.*

Great Central Fair.—The Great Central Fair to be held at Hamilton, September 22nd to 26th, promises well to be the best of the many successful exhibitions that have been held there. Great attention has been given especially to the horse classes, so that a striking display may be looked for in that department. Arrangements have also been extensively made to provide for the large and varied exhibit of fruit which is expected this year. Hamilton being situated in one of the best, if not the best, fruit districts in the Dominion, will undoubtedly be the gathering place for a showing of fruit that could not be equalled anywhere else in the Dominion. Though extra efforts have been made in these departments, the efforts of the Secretary, Mr. E. R. Smith, have not been relaxed to made the other departments more complete than those of former years.

Publishers' Column.

Sample Copies, etc.—We shall be glad to furnish sample copies, Blank Order Forms, and all other necessities for the securing of subscriptions, to anyone desiring them.

Trial Subscribers.—We will send THE LIVE STOCK JOURNAL for six months, on trial, to any address for 25 cents. All trial subscriptions must be written out on our blank order-forms provided for that purpose.

How Trial Subscribers Count.—Three new trial subscribers count as one new regular subscriber in all our premium plans.

How to Secure Your Own Copy Free.—Send us \$2.00 with the names of two new subscribers, or \$1.50 with the names of 6 new trial subscribers, and we will advance your own subscription one year free. Remember that the subscribers so obtained must be new, old subscribers will not count. The trial subscriptions should be written out on blank order forms which we will supply on application.

How to send your money.—Send it by Registered Letter. This is a perfectly safe and satisfactory way. If the amount is large send by Post Office Money Order. Never send money in an unregistered letter. There is no means of tracing it if it be lost, and losses are sure to occur now and again.

The picture of the Ontario Agricultural College.—We have received from the late managers of the JOURNAL a number of fine lithograph pictures of the Ontario Agricultural College. It is a beautifully colored plate, 14x27 inches, giving a good view of the College and the surrounding buildings and grounds, and quite suitable for framing. To every present subscriber sending us money, either for arrears or for renewals, we will send a copy (if requested) of this picture until the stock is exhausted.

How to address your letters.—Address all correspondence to THE J. E. BRYANT PUBLISHING COMPANY (Limited), 58 Bay Street, Toronto. Put all matter intended for the editor, all items of news, stock notes, and matter intended for publication, on separate sheets. Please bear this in mind; it saves a good deal of trouble.

IMPORTERS' AGENTS.

To those importing stock from Scotland. For Forage and other supplies address

JAMES CLARK,

Hay, Grain and Straw Merchant (Forage Contractor), 401 Parliamentary Road, GLASGOW, Scotland, One Hundred yards from Buchanan and Queen Street Station. Forage of best quality supplied to shippers of stock on short-est notice. References by permission to Mr. JOSEPH VANCE, New Hamburg, Ont., and other Canadian Importers.

TELEGRAPH, "FODDER," GLASGOW.

NOTICE TO IMPORTERS!

CHARLES CHABOUDEZ,

Hotel de Franco, et de Suisse, 1 Rue de Strasbourg, Paris, France,

Agent for the National Line. Information of all the horse districts given at the office. Charges strictly moderate. Correspondence solicited.

CHARLES CHABOUDEZ, Proprietor.

FARM PROPERTY.

TORONTO PROPERTY

Pays good interest and is continually increasing in value.

We can usually exchange farm property, if unencumbered, for productive Toronto Real Estate. Clients' interests carefully guarded. Address:

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(WESTERN ONTARIO.)

FROM \$1,500 TO \$25,000. Address:—

EDWARD HARRIS, 23 Toronto St., Toronto.

FARMS JOS. POLLARD, JR. LANDS

Washington, Iowa.

Has bargains in Iowa, Southern and Western States.

HOLSTEINS FOR SALE.

IMPORTANT SALE

—OF—

HOLSTEIN CATTLE.

About disposing of my Farm I offer for sale my entire herd of Holstein Cattle. This is the first herd in Canada, having for the last three years won more money prizes, more gold and silver medals and more diplomas than was ever won by any Herd of any breed at same number of exhibitions in this Province. At the Industrial in Toronto last fall, with an American expert as judge we practically swept the ring, taking first for aged Bull, sweepstakes for best Bull of any age, first for yearling Bull, first, second and third for Cows, and first herd prize for best bull and four females. Breeders will understand what that means. Whether the herd is sold or not it will not be exhibited this year. Small breeders will therefore have a chance to get what they have never been able to do since I have exhibited—a share of the principal prizes.

JOHN LEYS, TORONTO.

FINE YOUNG HOLSTEIN BULL

ELEVEN MONTHS OLD.

For Sale on Reasonable Terms.

Address:—**WELLINGTON MUISINER,** Port Robinson.

What is \$4.50 for selling it, you can sell your stock all over Canada.

Stock Notes.

Horses.

The *Drivers' Journal*, of Chicago, records the only case of a triple birth in the equine family as occurring at Marshall, Mo., on May 19th. A fine brood mare dropped three colts at that place, and they are all stated to be alive and doing well, being perfectly formed and as lively as crickets.

A National Standard Pacing Horse Breeders' Association has been formed lately, of which Frank G. Buford is president, F. G. Jernyn treasurer, J. W. Neal, of Indiana, secretary, and Thomas Parsons, of Cleveland, O., registrar. The constitution, by-laws and rules for standard will be printed and distributed later.

Mr. E. G. PREECE, of Shrewsbury, England, desires to draw the attention of importers and others to the excellent facilities he has for the selection, purchasing, and shipping of live stock according to order to various parts of the world. Mr. Preece has lately made a very large shipment to Russia for one of the largest breeding establishments there. He has assisted not a few Canadian importers and filled orders for others to their greatest satisfaction. Mr. Preece is prepared to fill orders for Shire horses, Shorthorn and Hereford cattle, Shropshire, Dorset, Hampshire and other sheep, as well as for Berkshire and Yorkshire pigs. His advertisement appears in this number.

MRS. PROSK & WILLIAMSON, of West Oxford, and Wm. Freel, of East Nissouri, shipped four fine horses to-day for the Glasgow market. The stock comprises three fillies, sired by the standard bred trotting horse Whistle Jacket, and also the well known stallion Albert Kirk. The latter has been very successful as a stock-getter in this country and will be missed by the farmers of Oxford county. He was awarded 1st prize as a sucker at Tri-State Fair, Toledo, in 1883. In 1884 got 1st prize at Ohio State Fair, Columbus, and 1st at Tri-State Fair, Toledo. He was awarded 1st prize in roadster class at Provincial Exhibition, London, Ont., over seventeen entries in 1884. These are four picked horses and should demand good prices. This is the first shipment of trotting stock from this section and we wish the boys success in their enterprise.—*Ingersoll Chronicle.*

Mr. JAMES CLARK, grain, hay, and straw merchant, Parliamentary Road, Glasgow, Scotland, writes: The month of June here has been exceptionally wet. In fact we have not had twenty-four hours without rain during the whole of the month. The 30th day of June was the wettest and coldest day we have had this summer—almost as cold as you would expect a day in January or February to be. Between wind and rain the hay crop is very much delayed, and farmers are waiting for the weather to clear up to commence hay cutting. We are afraid the hay crop will not turn out so well as expected, owing to the unfavorable weather. Oats are looking well, but wheat and barley will be deficient in quality of grain unless we get dry weather at once. We have grass in abundance, but owing to want of sunshine, not very nutritious. Harvest will not be an early one now, but we are hoping for a dry spell to mature the grain. Turnips are growing well. Potatoes have had too much wet weather as yet.

Mr. W. H. HUTCHINSON, Woodlands, Portsmouth P.O., Ont., having to dispose of the whole of his splendid stock of stallions before Oct. 1st, is prepared to offer some first-class bargains to persons desirous of securing good stock, as may be seen from his large advertisement in our present issue. The lot comprises Yorkshires and Cleveland Coachers, and a pure bred Shire stallion. They all have been imported by their present owner. The Yorkshire Coach and Cleveland Bay have become popular of late, because of the fact that stock got by them invariably turn out to be excellent and stylish carriage horses. As will be seen from the descriptions and pedigrees, the stallions to be disposed of are all of good breeding and excellent individual qualities, and have not only won prizes in this country, but have all, more or less, distinguished themselves in Great Britain. Mr. Hutchinson writes us: "As I have to clear out my stock before Oct. 1st my time is short, and so I am offering my horses at cost price, and they are genuine bargains."

Quite a ruffle of excitement has been caused in Clydesdale circles over the defeat of the famous Prince of Kyle by Mr. Andrew Montgomery's Macara at the late Royal Show. The Prince of Kyle is full brother to the well known Prince of Albion, and as he is a stallion of rare qualities, and as he had already won a marvellous series of leading prizes, it was thought with reason that he would be invincible at the Royal. Macara, on the other hand, was a stallion known to few, as he had never before sought honors within the ropes. He was in magnificent bloom, and being a stallion exemplifying the solidity of the English type, as well as possessing superb qualities otherwise, he succeeded in overcoming his illustrious competitor. Not being satisfied with the award of the judges, Mr. Jas. Kilpatrick, the owner, comes out with a challenge to Mr. Montgomery in the *North British Agriculturist*, offering to put up £100 in the hands of the secretary of the Glasgow Agricultural Society, and have the matter finally decided by three judges to be appointed by the directors of that society. In this state the matter rests.

J. P. WISER, who until recently had a stock farm at Prescott, Ont., passed through Chicago last week, en route for Kansas, where he owns a few ranches stocked with cattle. For a number of years he dabbled in trotters, making many of his earlier purchases from Aristides Welch, who bred Rysdyk, the stallion selected as premier of the Canadian establishment. During Mr. Wiser's career as a breeder of trotters he owned such well-known horses as Orient, 2:24; Barbara Patchen, 2:24½; George M. Rysdyk, 2:25; Bellewood, sire of W. Van, 2:25½; Chestnut Hill, 2:22½; Hartwood, Star, 2:30; Snap, 2:30; Solo, 2:28½; Pan Handle, Florence Elmore, 2:26½, which sold for \$5,000 under the hammer at the closing out sale in New York City; Lady Patchen, dam of Barbara Patchen and George M. Rysdyk; Lady Fashion, dam of Star and George B.; Grace Galloway, sister to Susie, dam of DeBarry, 2:19½; and Odd Stocking, dam of Happy Russell, 2:21½, pacing; Second Love, sister to the Clay State winner First Love, 2:22½; Victoria, dam of Florence Elmore and sister to Barbara Patchen and Mary Clark, a mare that won a five-mile race at Ottawa ten

Stock Notes.—Continued.

years ago. For a time Mr. Wiser also owned an interest in Phil Sheridan, and stood him at the Rysdyk Farm Horoman

ONE of the most beautiful catalogues that we have yet received has reached us from Mr. Alfred J. Smith, Woodbridge, Suffolk, England, widely known as an extensive breeder of Suffolk horses and Red Polled Cattle. In the introduction an encouraging outlook is given of the future of the Suffolk, borne out by the fact that over five times as many Suffolk Punch horses have this year crossed the water as in any year in the past. Rendelsham Suffolk studs is stated to be the largest in the world and has been established over the last one hundred years. A list of the prizes won by members of the stud during the last eight years is given, and they certainly make a highly honourable showing. It will be remembered that the famous Stockwell 1692, winner of first at the R.A.S., '88, and also winner of the Championship and first prize at the Suffolk Agricultural Show the same year, was from these stables, and also Wedgewood 1749, that more recently obtained renown by winning the Championship prize at the R.A.S., and Queen's Gold Medal, 1889, was from this stud. An engraving of this horse appeared in one of our issues. Mr. Smith also owns a herd of about 160 head of Red Polls of the best of blood, many of the heifers being by Stout 581.

MR. T. W. EVANS, of Yelverton, Ont., we learn from the Farming World, has recently shipped seven Clydesdales, the greater portion being, as our contemporary says, purchased from Mr. Walter S. Park, Hatton, Bishopton, and amongst them were the well known prize horse, Royal Salute, by Danby, whose dam was a prize-winner at Stratford shows, and owned by Mr. Wilson, Frough, Stonekirk, the splendidly built two-year-old colt, Rustic Lad, by Knight of Lothian, winner of third prize in a very good class at Bishopton on Thursday last, and third at Dalbeattie last October; the well-bred two-year-old filly, Clara, bought at Strirling show on Friday from Mr. McEwen, Cambuslinnie, and got by the celebrated prize-horse, Knight Errant, many of whose excellences she inherits, and the pretty yearling filly, Elsie Ward, bred by Mr. Laird, Dils Farm, and winner of third prize at Kilmalcolm on Wednesday last. She was got by Mr. Love's splendid breeding horse, Prince Gallant, and is altogether a very promising filly. The other horses in the shipment are got by Henry Irving 449, by Macgregor, whose success as a breeding horse seems likely to rival that of his sire, and the Lanark premium horse, Harold; while another is out of the prize mare, Victoria, by What Care I. Mr. Evans has now made three shipments to Canada, and his selections have invariably been like the present one, comparatively few in number, but of more than average quality. For such there has been a ready sale in Canada, and Mr. Evans has found the trade a good one. Mr. S. C. Johnston, Manilla, Ontario, the Farming World informs us, also purchased from Mr. Park the richly coloured, thick, handsome horse, Manilla Boy. He is three years old, and is a horse of superlative breeding, with splendid free action. He gained fourth prize at Maryhill in 1889, and is the kind of horse for which there is ever a ready demand.

Cattle.

A. C. HALLMAN & Co. of New Dundee Ont. writing under date of July 31st, say: "Business is brisk. The Holstein business in fact was never better, and our sales have been numerous. The Messrs. Hallman, in paying their account for advertising in the JOURNAL, also remark: "We are well pleased with the LIVE STOCK JOURNAL, and trace numerous sales direct to our advertisement in it."

At the sale of Scotch Shorthorns, held by Mr. John McHugh, at Cresco, Iowa, 23 bulls averaged \$127.00; 76 cows, \$126.00; making an average of \$125 for the 99 head disposed of. At the same sale, Mr. William Redmond also offered a small lot which brought the following averages: 7 cows averaged \$87.00; 6 bulls averaged \$25; bringing the average of the whole, 13 animals, to \$104.00.

MESSRS. JOHN THORNTON & Co., London, England, hold for sale several important herds and flocks, notably among which they desire to draw attention to the Border, Leicester, Shropshire sheep, and Shorthorn cattle of Lord Polwarth. The lot includes a number of young rams and bulls said to be of excellent individual breeding. Do not fail to see their advertisement offering several other splendid bargains in this issue.

MR. JOHN DRYDEN, Maple Shade Stock Farm Brooklyn Ont., makes a change in his regular advertisement, to which we direct the attention of our readers. He has for disposal, at reasonable rates, a number of Cruikshank bulls, and also a selection of Shropshire ram lambs and ewes. Maple Shade has long been justly noted for the excellence of both its herd and flock, a statement endorsed by their great success in the show rings of Canada.

CHARLES J. STUCKEY, Atlanta, Ill. U.S.A. proprietor of Pleasant View herds, Shorthorn cattle and Duroc Jersey Red hogs writes: "My stock is coming through the extreme hot weather in good shape; although the weather has been very warm and continues so, and quite dry, still the crops are looking quite well, and a finer and more abundant hay harvest is seldom seen. I have shipped Red pigs recently to Kansas, Mo., Iowa, Nebraska, Indiana, and Illinois with the best of satisfaction to all buyers. This breed is taking wonderfully well with western feeders. Visitors do not fail to speak in high terms of our stock bull, Oxford Grand Duke 76707. He is a massive red, bred by Mr. A. J. Alexander of Ky., got by imported and Duke of Whittieberry (47709) dam, the Bow Park bred cow Grand Duchess of Oxford 52nd, by the noted 4th Duke of Clarence (33597). Mr. Alexander bought her when but a small calf at \$2000.00. Oxford Grand Duke promises to make as fine a getter of good things as his breeding indicates."

THE BOLLERT BREED of Cassel, Ont. write: "Our herd of Holsteins is doing very nicely, and are booming. We recently sold a fine yearling bull to Mr. J. L. Namara, Leauvois, this is the first Holstein in that section, also a yearling bull to Mr. S. Stephens, Waubun—Mr. Stephens introduced Holsteins in his section in 1886, and has found them a grand success. Mr. A. E. Plumer, of Waterville, N.B., took a grand pair of year-

CANADA COACH HORSE BREEDERS SOCIETY

Organized Feb. 6, 1889.

For the registration of Coach Horse stock. Full particulars as to the standard of registration and entry blanks can be had on application to the Secretary.

This is the only Stud Book for Coach Horses in Canada. ARCH. WILSON, Pres., Paris Station, JAMES MITCHELL, Sec'y, Goderich, Ont.

FARM ACCOUNTS Rogers' Farm Account Book is the best ever published. Price prepaid 50 cents each, \$4.00 per dozen. Address, G. A. ROGERS, North Andover Depot, Mass., U.S.A.

SHORTHORNS FOR SALE

FOR SALE.—12 Head of Short Horns, 20 Leicester and South Down, Ram Lamb and about 30 Berkshire Pigs. Send for prices.

EDWARD JEFFS, Bond Head

Shorthorn Bulls.

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

A. C. BELL,

TROUT BROOK FARM, New Glasgow, N.S.

HORSES FOR SALE.

FOR SALE

The Imported Yorkshire Coaching Stallion, "PREMIER" (1138)

He is a rich bay with black points; 7 years old; sixteen and a quarter hands high, and weighs 1300 lbs. He was shown six times in England and gained five first and one second prize. He is perfectly sound and a sure foal getter. Also well bred sire stallions. For particulars and price apply to, GEO. TWEEDY, Charlottetown, P.E. Island.

FINE ROADSTER STALLION

FOR SALE.

A beautiful seal brown horse, 16 hands full, foaled 1888. Kind as a gelding, very showy; pure action; wears no boots; never trained for speed, perfectly sound and smoothly built, weighs 1195 lbs., has three standard and producing sires on his dam's side.

Sired by General Stanton (2145), Sire of Fides, 2.22 1/2, Nettie 1, 2.22 1/2, and three others below 2.30. Dam by Pelham Tartar (6599), sire of Namouna, 2.28 1/2, dam of Marshall B., 2.20 1/2, and Brown Douglas, sire of Charley Gibson, 2.21 1/2. General Stanton by Rysdyk's Hambletonian, (10), sire of 41, in the 2.30 list. Pelham Tartar by Toronto Chief (85), sire of Thomas Jefferson, 2.23, Lady Hamilton and others, and of the dam of Toledo Girl, 2.15.

Extended pedigree sent on application to owner, who is selling because he cannot devote time and attention to the horse business. No. 1000. Will be sold well within value and those wishing to purchase will be accorded every opportunity to study themselves. J. G. CADHAM, Niagara Falls, South, Ontario.

BALLACHEY, Brantford, Breeder of Percheron, Short-horn, Shropshires and Berkshires. Stock for Sale.

BROOKSIDE FARM,

New Glasgow, Pictou Co., N.S.

Standard-Bred Trotters,

AMERICAN

CATTLE-CLUB JERSEYS.



To sell lambs or sheep, or any other species of live stock at the highest obtainable prices should be the aim of every farmer. You cannot secure the highest prices unless you breed the finest qualities. You cannot breed the best qualities unless you know how. To know how you must keep abreast with the times. To keep abreast with the times you must read THE CANADIAN LIVE STOCK AND FARM JOURNAL.

Stock Notes.—Continued.

ling heifers; Mr. J. Wilson, of Jamestown, one of the finest heifer calves we ever owned; and Mr. A. Bald, of Sebringville, Ont., the grand three-year-old cow Emma J. Neptune—this we believe to be one of the finest, if not the finest cow of her age in this country. Last year as a two-year-old she gave 48 1/2 lbs. of milk in a day, and averaged 43 1/2 lbs. for 60 days, without any crowding, running out with the rest of the herd. Mr. Bald acted very wisely in securing the very best to start on. We have lately made an importation of 7 head, which will be released from quarantine in September next; we will make some comments on them later on."

A. C. HALLMAN & Co., Spring-Brook Farm, New Dundee, write: "Never since we were engaged in handling this noble breed of cattle, the Holstein-Friesians, were prospects better for a bright future. Enquiries come from all parts of the Dominion, and from a substantial class of farmers, many that are replacing an aged bull, others adding females and starting a herd, and numerous fresh inquirers that are making their first purchase. Our sales since January have been both numerous and of importance, having sold 13 head since then, including the imported bull and cow to the Ontario Agricultural College, and several herd bulls. Since our last report we made the following sales: Yearling bull and heifer to Mr. John Hillgartner, Walkerton; yearling bull to Hugh McCauchery, Streetsville; yearling bull to Mr. Henry Beckett, Hamilton; yearling bull to Benj. Buck, Mantoulin Island, imported cow to Andrew Henderson, Koveville, imported cow and two-year-old heifer to John McGregor, Constance, Ont. Some of the above animals are of choice breeding and quality, but space forbids us to give anything but a mere notice. We have not exhibited since 1887, but have decided, if nothing interferes, to exhibit at the Industrial at Toronto this fall. We intend to bring out about a dozen head of different ages. We would invite our numerous friends to meet us at the exhibition and see our stock."

MR. JOSEPH LEASK, of Taunton P.O., Ont., informed us during the course of a pleasant chat over stock matters, that his stock are doing well, and particularly so in respect to his Shorthorns. He reports sales brisk and a brighter outlook for breeders of beef cattle. Mr. Leask has been breeding Shorthorns for a number of years, he carrying on the work of breeding begun by his father years ago. The bulls that have been used have come from such herds as those of Messrs. Davidson, of Balsam, Ont., Miller, of Brougham, and a number of other prominent breeders of Scotch Shorthorns. The females were from the best herds, the foundation animals being a Mina from the herd of Messrs. Miller & Son, a Phoebe from Bow Park, and several others from Messrs. Currie, of Iverton, and Davidson of Balsam. A bull extensively used was the Earl of Dalhousie, got by Prince of Athelstane 2nd (16385), dam, imported Flora 6th, by Golden Eagle. The bull used at present is Julius Caesar and, by Julius Caesar (49784), dam Elsie of Dumbleland (47792). Mr. Leask has won a number of sweepstake prizes on his cattle in strong classes. The herd now numbers thirty-five to forty-five head of pure bred stock. This spring nine bulls have been sold from this herd to farmer in the surrounding districts. The Clydesdales are all Canadian bred. The Shropshires are handled extensively by the Messrs. Leask. Their foundation animals were chosen from importations of Messrs. Miller & Sons, of Brougham. In pigs, Berkshires are bred, a well patronized boar Prince Albion (1113), bred by A. Cameron, of Ashburn, Ont., standing at the head of the herd. These breeders have not only made a success of stock raising, but have, we learn, one of the best farms in a most progressive district. They have entered their farm in the competition for this year.

Sheep.

MR. JOHN DUNCAN, of Brucefield, Ont., has arrived home from Great Britain with a car load of Shropshire Downs.

MR. J. C. SNELL, of Edmonton, Ont., offers in this issue Cotswold rams and Berkshire boars of prime quality, and tracing to imported stock. He expects a new importation early in August.

MR. R. BAILEY, Oak Grove Farm, Union, Ont., who makes a change in his breeders card, writes: "I have just sold to J. W. Heenan, of Rushville, Indiana, 5 rams and 3 ewes, for show purposes this fall. I also sold 85 ewes and one ram to Andrew Elliott, of Galt, Ont. My Jerseys and sheep are all doing well."

J. CAMPBELL, Jr., of Woodville, Ont., writes from Liverpool, England. "It is my intention to leave for home per the 'S. S. Lake Superior,' on Friday July, 11th, taking with me a lot of Shrops, bred by Messrs. J. Bowen-Jones, H. William and P. Everall. I have carefully selected each one with a view of having none that would be a discredit to any flock, and if it is my good fortune to land them safely, I think they will be the best and most useful I have had from this country. Among them are winners at the leading shows here, and the others while only in store condition, are of good size, and I think my customers will find them full of quality."

J. C. SNELL, Willow Lodge Farm, Edmonton, Ont., writes that the demand for Cotswold sheep has been more active in the last two months than for the corresponding season in many years, and several selections from his flock have lately been made by breeders from the States, to make up their show flocks for the circuit of the fall fairs. The demand for Berkshire pigs has also been steady and active, shipments having recently been made to four of the provinces and several of the states. A new importation of Cotswolds and Berkshires is expected about August first, which includes several of the prize-winning animals at the Royal Show, and selections from the leading flocks and herds in Britain.

MR. E. GOODWIN PREECE, live stock agent and exporter, of Shrewsbury, England, writes us that he has just shipped per 'S. S. Dominion,' sailing on July 17th from Liverpool, upwards of 300 head of Shropshire rams, ewes, and lambs, specially selected from the best English flocks with his assistance by Messrs. C. S. Bingham, of Vernon, Mich., and Nichol, of Cresco, Ia. Mr. Goodwin Preece personally selected these sheep and superintended their shipment at Liverpool, two English shepherds go-

Stock Notes.—Continued.

ing out in charge of them under Messrs. Bingham and Nichols. Mr. Goodwin Preece has also been purchasing with and for Messrs. John Miller & Sons, of Brougham, Ont., upwards of 150 head of selected rams, ewes, and lambs, which are a particularly choice lot, and will leave for Ontario on July 25th, per "Toronto," under care of Mr. R. Miller, Jr., and a shepherd. Mr. Goodwin Preece is now buying 450 head of Shrops for Mr. Elliott Gray, of Michigan, which will be shipped about July 25th; and holds commissions to buy upwards of 5000 head for English breeders. By this we see that the demand for the popular Shropshire is daily increasing.

Swine.

MR. CECIL FRENCH, Turo, N.S., writes us that his latest importation of Large White Yorkshires arrived safely at the beginning of this month. They were all purchased from F. Walker-Jones. "In poultry," he writes, "I have lately imported a valuable Langshan cock, which is an important addition to my flock of highly bred 'crows'."

MR. S. COXWORTH, Silver Spring Dairy Farm, Claremont, Ont., writes: My herd of Berkshires were never in better condition than at present. My two stock boars, Star (727), and Royal Hero (891), have done credit to the herd. Although the Yorkshire Whites have been boomed on every side, the demand for good Berkshires has been increasing, in fact the trade with me has never been so good as at present. I have recently purchased from George Green, Fairview, Ont., three choice sows. These, with the six breeding sows already in my herd, I hope to be prepared to supply the demand for choice ones. If space permitted I would record sales of the spring trade, but I fear it would trespass too much on the space of your valuable columns, so I will withhold it till next issue.

**Horses For Sale.
Thoroughbred Stock.**

The following Imported Stock must be sold by Oct. 1st, owing to the owner having to return to England.

**The Imported Pure Bred Yorkshire Coach Stallion,
PRINCE OF ORANGE,** No. 1250, Y.G.H.S.B., 4 years old, 16.1 h.h., 1350 lbs., dark brown, clear of white, a stylish Carriage Stallion, with good looks, combined with substance and good action, broken to harness and a sure foal getter.

**The Imported Pure Bred Clydesdale Bay Stallion,
INGMANTHORPE MONARCH,** No. 853, C.B.S.B., 3 years old, 16.2 h. h., 1230 lbs., Bay, clear of white, a stylish General Purpose Stallion, likely to make a horse suitable to cross with small mares, a good mover with very strong bone and good feet, broken to drive and a good stock getter.

**The Imported Pure Bred Shire Stallion,
MELTON IV.,** No. 7703 S.H.S.B., 4 years old, 16.2 h.h., 1600 lbs., dark brown, clear of white, a very blocky wide set horse, showing quality and good action and a fast walker. Winner of two 1st prizes at Midland Central and Bay of Quinte Fairs in 1889, broken to harness and a good stock getter.

**The Imported Pure Bred Yorkshire Coach Mare,
VICTORIA,** No. 1251, C.H.S.B., 3 years old, 16 hands high, 1200 lbs., Bay, clear of white. A model carriage mare with style, action and symmetry combined, good enough to show and win in any company, with Bay Fawn colt, at foot, foaled April 26th, by Mother and in foal to him again, broken, and quiet to ride, driver, winner of the 1st prize and two diplomas at Midland Central and Bay of Quinte Fairs. The above described horses are offered for sale very cheap and on easy terms as they will be sold by October 1st. Full pedigrees and all additional information can be had by applying to the owner and importer.

W. H. HUTCHINSON,
Woodlands,
Portsmouth, P. O. Ont.

**QUEEN BEES!
ITALIANS**

	EACH	PER THREE	PER 1/2 DOZ
Virgin Queen,	\$ 40	\$1 00	\$1 75
Untested,	1 00	2 75	5 00
Tested,	1 50	3 75	7 00
Select Tested,	2 00	6 00	10 00

R. F. HOLTERMANN,
Romney, Kent Co., Ont.

SALES IN ENGLAND.

Herfords and Shropshires.

Sale of one of the Best Herds in the Kingdom.

The Grand old Benthall Herd of 150 Bulls, Cows and Heifers, will in consequence of the decease of the proprietor be unreservedly sold by auction

at Benthall, near Shrewsbury, England,

FRIDAY, SEPTEMBER 26th, 1890.

By order of Mr. John Crane, the appointed Judge of Hereford Cattle by the Council of the Royal Agricultural Society of England in the years 1878, 1879, 1881, 1885 and 1888.

The Herd which is duly registered in the English Hereford Herd Book is by "Prizeman" 4051, a grandson of the Royal winner, "Albert Edward" 850 and "Walford" 871. "Assistant" 6788, brother of the renowned R.A.S.E. prize, "Archibald" 6200. "Myrmidon" 10221, by the R.A.S.E. Champion "Good Boy" 5042 and "Standard Bearer" 14195, a Grandson of The Grove 3rd 5011. It is one of the most profitable herds in the universe and its absolute disposition will afford a peculiar opportunity to Breeders and Exporters.

The noted flock of 300 Shropshire Sheep of Shropshire Flock Book Pedigree and Crane's renowned R.A.S.E. prize blood will be unreservedly sold on the same occasion.

Foreign Commissions executed by F. GOODWIN PREECE, Live Stock Agent and Exporter, Oak St., Shrewsbury, England, and Catalogues of the Auctioneers.

W. G. PREECE & SON,
Shrewsbury, England.

MESSRS. JOHN THORNTON & CO.,
7 PRINCES' ST. HANOVER SQUARE,

LONDON, - - - ENGLAND,

Have the honor to make the following announcements of important sales of
ENGLISH PURE-BRED STOCK.

The Annual Sale from the old Buckland Flock, belonging to Sir N. W. Throckmorton, Bart., will be held on Wednesday, August 14th, at Buckland, Faringdon, England.

Lord Hampden's Annual Sale will be held on Thursday, August 21st, at Glynde, Lewes, Sussex, England.

The First-Class Flock, bred by F. Barchard, Esq., at Horsted Place, Uckfield, Sussex, England, will be sold on Friday, August 22nd, when the entire herd of Polled Aberdeen-Angus Cattle will also be sold.

Mr. Hugh Gorrings's Annual Sale will take place on Friday, August 29th, at Kingston House, Brighton, England.

Commissions will be executed and Sheep carefully shipped by **JOHN THORNTON & CO., 7 Princes St. Hanover Square, London, W. England.**

Telegraphic Address,
"SHORTHORN" LONDON.

**Shropshire and Leicester Rams,
SHORTHORN BULLS.**

LORD POLWARTH'S celebrated flocks of Border Leicester and Shropshire Sheep and Herd of Shorthorn

Cattle having considerably increased, to meet the Colonial demand a number of first-class Rams from each flock and young Bulls are offered for sale as well as several young Clydesdale Horses and Berkshire and Tamworth Pigs.

John Thornton & Co. will receive orders for these animals, select, ship, and consign them to the nearest ports.

Address,
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TELEGRAMS—"Shorthorn," London.

The "CONCISE IMPERIAL DICTIONARY" is superior to all other dictionaries published. Write to the publishers of this paper for prospectus.

CANADA'S

International Exhibition,

—AND—

INDUSTRIAL AND AGRICULTURAL FAIR

To be held under the auspices of the Exhibition Association of the City and County of St. John, from

WEDNESDAY, SEPT. 24th,

—TO—

SATURDAY, OCTOBER 4th, 1890,

ST. JOHN, N.B., CANADA.

A FEW OF THE LEADING FEATURES:

Competition Open to the World.

Space and Power Free of Charge.

About \$12,000 in Premiums.

Finest Summer Climate in the Continent of America. The largest Building Accommodation, and the largest and most conveniently situated grounds in the Maritime Provinces, on which over \$40,000 has lately been expended.

A Large and Comprehensive Display of the Products of the West India Islands,

the first ever shown in Canada, made under the auspices of the various Governments of those Islands, as well as by individual Exhibitors.

A Large Display of the Products of the Sea Fisheries of the Maritime Provinces,

also an opportunity of testing the various Products of the Sea, fresh from their native element.

A large display of Exhibits from Great Britain, the United States, and elsewhere, including some Fine Exhibits that were shown at the Paris Exhibition of 1889. A large array of special attractions, both on the grounds and throughout the City, including an Extensive Programme of Racing Competition, for which Prizes of about \$2,000 are offered by the Moosepath Driving Park Association. The Great Maritime Butter Competition, for which prizes amounting to about \$800, including \$500.00 offered by Messrs. Manchester, Robertson and Allison, of St. John, will be offered. Attractive Poultry and Bench Show Competition, including about \$1,200 in Prizes. A Great Carriage Competition, including the McCaskill Vanish Prizes of \$500 and medals. A Large and Comprehensive School Exhibit, under the auspices of the Educational Department of the Province of New Brunswick. A Large Collection of Machinery in motion, including some attractive Novelties in the processes of manufacturing. An attractive Electrical Illumination. Additional Novelties are being added daily, particulars of which will be announced later.

Ample accommodation for visitors at reasonable rates during the Fair. Special Excursion rates for passengers and reduced rates for exhibits by all railway lines.

For full information and particulars address,

IRA CORNWALL, Secretary,

Exhibition Association of the City and County of St. John, N.B.

N.B.—The Moosepath Driving Park Association hold their annual meeting during the time of the Exhibition, and offer about \$2,000 in Prizes for the racing competition. Every horseman should write to W. P. FLEWELLING, Secretary of the New Brunswick Trotting Circuit, Fredericton, N.B., for the list of the purses amounting to about \$4000, offered for competition this season.

AYRSHIRES.

JAS. DRUMMOND,

PETITE COTE, MONTREAL,

Importer and breeder of

PURE-BRED

AYRSHIRE

CATTLE

Of Large Size, and from Choice Milking Strains.

The herd numbers sixty-five head, and for three years in succession has won Provincial or Dominion Prize as best milkers. The imported bull, ROB ROY (3071), at head of herd.

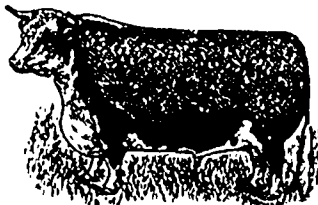
Young Stock for sale at all times.

HEREFORD AND ABERDEEN-ANGUS.

THE

TUSHINGHAM

HEREFORDS



This herd is remarkable for the number and uniformity of the good calves that it produces. It has taken all the Medals given in the Province of Quebec, at leading exhibitions the last three years. Breeders who are anxious to get bulls or females with plenty of hair and of good quality and good milk producers, should see this herd before purchasing elsewhere.

J. WALTER M. VERNON,

TUSHINGHAM HOUSE, Waterville, P. Q. Waterville is on the main line of G. T. R., 110 miles east of Montreal.

THE PARK HERD OF HEREFORDS.

This herd embraces over 60 Head of Choice Animals, All registered. Catalogues sent on application.

F. A. FLEMING, Weston, Co. York, Ont.

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

HEREFORD AND ABERDEEN ANGUS BULLS AND HEIFERS.

We have on hand for sale a number of Hereford Cows, Young Bulls and Heifers of the best of breeding. They are all from imported stock of the highest merit. The bulls are a robust, vigorous lot and cannot fail to get prime feeders. We also hold for sale a choice collection of young Aberdeen Angus Bulls from the best strains of the breed and they are all imported or from imported stock. A rare chance is afforded to get a superior sire of sturdy constitution.

Prices Reasonable and Animals Right.

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LACHINE, QUE.,

Importers of Herefords, Aberdeen Angus and Jersey Cattle.

JERSEYS.

JERSEYS FOR SALE

Several fine Jersey Heifers; choicest strains. Prices low. Write G. M. BEEMAN, NAPANEE, ONT.

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The best Non-poisonous Sheep Dip and Cattle Wash in the world.

A "CHEMICAL FOOD" FOR THE WOOL. Rapidly increases the quantity and improves the quality.

IT IS EASY TO USE,

Requires very little preparation, mixes instantly with cold water, leaves no sediment, no scum, no waste.

CERTAIN DEATH TO LICE, MANGE,

And all insects upon Horses, Cattle, Calves, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, Saddle-Galls, Sore Udders, etc.

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Sole agent for the Dominion.

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COTSWOLD RAMS

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BERKSHIRE BOARS

of Choicest Breeding and First-class Quality, Bred straight from Imported Stock.

A new importation will arrive early in August. We ship to order and guarantee satisfaction. Prices reasonable. Special rates by express. Come and see or address,

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

Imported Rams used only. Stock for Sale.

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English Pedigree Live Stock.

Shire Horses, Shorthorn and Hereford Cattle, Shropshire, Dorset, Hampshire and other Sheep, Berkshire, and Yorkshire pigs, etc.

E. G. FREECE.

LIVE STOCK AGENT,

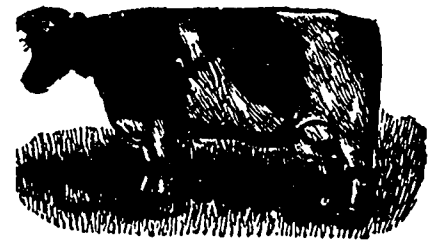
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HAS Choice registered stock for sale at moderate prices, from the best studs, herds and flocks. Foreign buyers assisted in the purchase and shipment of stock. Choice animals of various breeds bought on commission. Special low freights. Highest references. Terms for buying 2 1/2 per cent. Importers should communicate.

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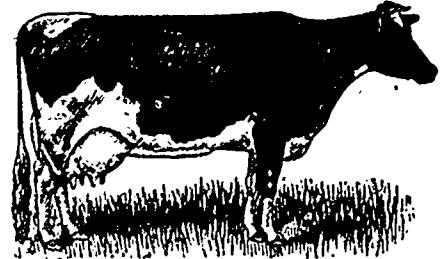
HOLSTEIN-FRIESIAN CATTLE.

The choicest and most uniform herd in Canada. Upwards of 40 head to select from. Only choice stock of highest milk and butter production selected from. Individual merit and pedigree a special object. Direct descendants of Aaggie, Artis, Netherland, Johanna, and Billy Boly.

Stock of all Ages and both Sexes for sale from above Families. Prices reasonable considering quality. Send for Catalogue.

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THE GREAT BUTTER AND MILK HERD

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Most first prizes of any herd in Canada at Provincial and Industrial Exhibitions, 1888 and 1889.

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

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HAY & PATON.
KINNOUL PARK STOCK FARM,
NEW LOWELL, ONT.



BREEDERS AND IMPORTERS OF CHOICE
ABERDEEN-ANGUS POLLS.

We have reserved from the sale of our champion herd of Polts, some 17 excellent females, with that splendidly-bred Ruth bull, Runnymede and, at their head, and have started afresh to breed the comely doddie with individual merit (as before) the guiding star of our efforts. We are at present sold out, with the exception of two or three yearling bulls.

We have also a flock of over a hundred head of fine Shropshire sheep, the ram lamb and shearlings of which we have now for sale at reasonable prices. Send postal card for terms.

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Breeder of Choice Devon Cattle. During the past five years, at the leading Exhibitions in Canada, my herd has stood first whenever shown, winning five Silvers, one Gold, thirteen Slivers and one Bronze Medal. Stock for sale including Berkshire Pigs, Cotswold Sheep and Plymouth Rock Poultry.

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Over 50 Head of Registered Shorthorns.

Including 12 bulls of various ages, incorporating the best blood of the Sittytou, Kinellar, and Killerby Herds. Also Horses and Pigs.

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Sussex, 56625.

Maple Shade Herds And Flocks.

Cruickshank Short Horns and Shropshire Sheep
Now ready for shipment, Imported and Canadian bred Rams and Ewes. Also Lambs of both sexes, sired by prize winning Rams of the most approved breeding. Address,

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SHORTHORNS.



SHORTHORNS

I have for sale
Six female Shorthorns from 8 to 20 months old, also
Three Bulls.

These animals have been all bred by me from imported stock.

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

I breed and have
FOR SALE

A-1 SHORTHORNS

Marquis of Linwood and Lord Chesterfield gth. Leicester and Cotswold Sheep, Berkshire Pigs. Thorough-bred and Heavy Horses of all kinds.

Young Bulls a specialty. Supply always on hand. Come and see.

J. R. MARTIN, CAYUGA, ONT.

A GREAT BARGAIN.

We have decided to offer for sale

Our Entire Herd of Shorthorns,

Including animals bred by such breeders as S. Campbell, J. Bruce, A. Cruickshank, Aberdeen Scotland, and of such strains as Imp. Minnie, Imp. Wimples, Imp. Columbine, Imp. Princesses, Imp. Pansies and Imp. Maybirds and their daughters. Also im-



ported and home-bred Bulls and Heifers. A grand lot from Silver Medal Bull, owned by J. Russel, bred by me and also some from Imp. Goldfinder, bred by J. Bruce. The bull I have been lately using is a well bred Cruickshank.

TERMS VERY EASY.

Joseph Redmond & Sons, Peterboro.

Two trains daily, C.P.R. and G.T.R. Send for Catalogue.

WE DO NOT INTEND

MAKING A PUBLIC SALE THIS YEAR



Hence to keep our stock within our capacity we are now offering Cows, Heifers, and young Bulls of first-class breeding and quality, and from our best milking strains, at prices that will suit you. Come and see them at

MAPLE LODGE STOCK FARM.

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BREEDERS OF SHORTHORNS
CLYDESDALES AND
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If you want to get ahead in the world, show some enterprise and advertise in the U.S.F.

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BATES SHORTHORNS

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THE undersigned desires to call the attention of Shorthorn breeders to his very choice herd of finely-bred Bates Cattle, comprising the following well-known families, viz.: Duchess, Oxford, Thomdale Rose, Barrington, Kirklevington, Wild Eyes and Red Rose; headed by that grand imported bull, Grand Duke of Connaught (56403).

Several very choice young bulls of the above families, fit for service, for sale on reasonable terms. For particulars write to me call on

WM. WRIGHT, —or— WM. WRIGHT,
340 Port St. West, Detroit, Mich. Pettit Coto, Sandwich, Ont.

BOW PARK HERD OF

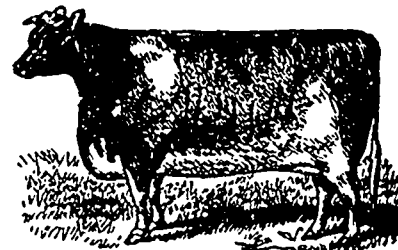


PURE-BRED SHORTHORNS

We have on hand eighteen young bulls fit for service, good bred and well bred, which we offer at reasonable prices and on liberal terms. Address,

JOHN HOPE, Manager,
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Arthur Johnston
GREENWOOD, ONT., CAN.



Announces to his customers, and the public, that he is still doing business at the old stand, and has for sale the finest lot of young animals, of both sexes, ever offered by him. The yearlings of both sexes are exceedingly good—all by imported bulls, and mostly out of imported dams.

Intending exhibitors can be supplied with first-class show animals of either sex and of various ages. New catalogues will be ready by January 20th, 1890. Send for one.

Claremont Sta'n, C.P.R., or Pickering Sta'n, G.T.R.
Write or wire me, when and at which station to meet you. No business, no harm.

BELVOIR HERD

Pure-Bred Shorthorns.



The Bates portion of herd is headed by imported 8th Duke of Leicester—027900 and consists of the following families:

- Waterloo Princess
- Darlington Garlands
- Constance's Charmers
- Filigrées Seraphinas

There are some imported Booth Cattle, and Scotch strains are also included. Purchasers can depend upon fair treatment and liberal usage.

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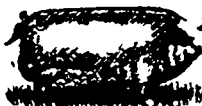
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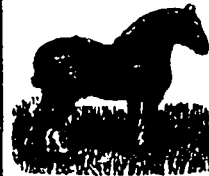
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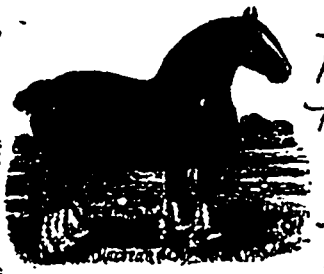
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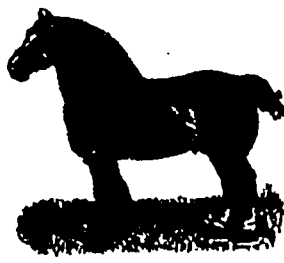
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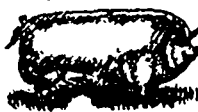
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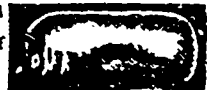


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