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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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SPECIMENS OF OXFORD DOWN SHEEP,
THE PROPERTY OF MR. HENRY ARKELL, ARKELL P. O., ONTARIO.

EDITORIAL.

Mr. Henry Arkell's Oxford Down Sheep.

Mr. Henry Arkell, of Arkell P. O., has for many years held an enviable reputation for breeding high-class Oxford Down sheep. His practice has been to import the best sheep obtainable, many having been showyard winners in England, and from these the majority of the flock he now has is descended. Mr. Arkell was one of the first to introduce this grand breed of sheep into Canada, the first importation having landed on his farm in 1881. Before this date he had been breeding Cotswolds extensively, and had been very successful in establishing a reputation for fair dealing, which doubtless has rendered him great assistance in disposing of his Oxfords. In the frequent importations he has made during the last twelve years he has drawn on the most noted flocks of England, and as his selections have been taken from the flocks that have carried winnings in each year, he of necessity now has in his possession a variety of blood and the best blood of the greatest English flocks.

It is, therefore, not surprising that he has been foremost in the fray at showyard meetings in Canada during the last few years, and sheep of his own fitting have been quite able to hold their own in the highest company. The story of his winnings at the Toronto Industrial and at the "Columbian," Chicago, has already told what he has done towards upholding the sheep of his choice and the credit of Canadian breeders through the season that has just drawn to a close.

The illustration that appears on our front page for this issue is only a fair representation of such specimens as he generally imports: Such sheep as British Wonder, Doncaster Royal, The Nob among his rams, and Millie Miles among the ewes—the latter having distinguished herself by winning first as the best ewe of any age or breed at Detroit in the open class.

Having gained a continental reputation, Mr. Arkell has found it very difficult to withstand the drain upon his flock occasioned by the increased demand that he has found for his sheep. This has been partially overcome by purchasing from those breeders to whom he has sold sheep of his own breeding and importing in former years. Thus he is enabled to do these breeders a good turn by finding a market for their sheep, and at the same time can supply his customers with sheep equal to his own in breeding and merit.

If the land is not all thoroughly underdrained, open up the water furrows so that the water can get off the land, and the farmer will not be kept waiting for weeks in the spring for the land to dry.

This is a good time to weed out all unprofitable animals from the herd. It will pay to keep only those which give a good return for the feed. All others should be fitted for market as rapidly as possible and disposed of.

The young stock will need special attention at this critical period of their growth, for if a calf or foal be stunted the first year, it will seldom recover the lost ground. It must be kept in a thriving condition, if it is expected to turn out well in the spring.

Live stock has been recognized as the pillar of agricultural prosperity in Great Britain for the last three-quarters of a century, and the only hope of our Dominion is to pursue this industry. Farm lands can be made to produce double the present capacity, if those who occupy them will only make the production of live stock and live stock products their first aim. It is the direct benefit that the farm receives through crops being fed at home that gives the indirect profit to farming as a business.

November is usually one of the busiest months of the year on the farm; what with threshing, fall plowing and preparations for winter, all the spare time is required. A few suggestions will not be out of place. Upon the farm, as indeed in everything else, much depends on prompt action, otherwise much time will be lost; and this applies with additional force to work in fall and early winter. We must remember that everyday's work done on the farm in the fall means a saving of time and labor in the spring, when everything needs attention at once. As long as the present open weather continues, every effort should be made to finish the fall plowing, for just on this work much of the success of next season's crop depends.

There will be plenty of work to be done in the orchard and garden this month. Grape vines should be cut back, only leaving spurs of new wood, containing two or three eyes each, for next summer's fruit. In some parts of Canada it will be necessary to protect the vines in some way. This can be done by laying them down and covering either with earth or some waste material.

Raspberries and blackberries fruit only on last year's growth, hence the old shoots should be cut away and the young shoots shortened up.

Pruning at this time of the year will save much work in the busy spring, though one advantage of deferring the work to the spring is that in exposed positions the thick clusters of shoots and bushes will collect the snow, and thus protect the bushes.

An application of manure between the rows of small fruits will protect the roots in winter and feed them in the early spring, thus increasing the size and quality of the fruit. As soon as the ground is frozen, cover the strawberry beds lightly with marsh hay, coarse manure, or some other light protection.

Thin out the young wood of gooseberries, to give plenty of light for what remains. Red currants bear mostly on short spurs on the old wood, and except with young bushes where larger growth is required, the last year's growth should be cut back to the third eye from the old wood. The black currant fruits from last year's spurs as well.

Doubtless the most important work that can be recommended for this month, in regard to the destruction of insects, will be that of burning all prunings and brush in the orchard. Also, if all weeds, leaves and other brush found in fence corners and around thickets, are raked together and burned late in the season, and before winter sets in, it will serve to destroy many of the insects which have secreted themselves, and expose many others to the effects of the frosts, birds and other enemies. This is recognized as an important means of lessening the damage annually caused by insects.

Miss Omerod, the well-known entomologist of Great Britain, has received a report from her correspondent in Norway, to the effect that the Hessian fly is now for the first time doing considerable damage in that country. Specimens of infested straw showing the presence of the flat, brown chrysalis of the *Cecidomyia destructor*, which so resembles a flaxseed, arrived with the report.

It is now one year since the obnoxious restriction was placed upon the free entry of Canadian cattle to the inland market of Great Britain. The reason given at that time was that disease had been found among the cattle shipped from the Dominion, and although the promise was not exactly made, yet Canadians were given to understand that as soon as the members of the British Board of Agriculture were assured that no disease existed within the Canadian boundary, our cattle would be again placed on the same footing as before. From time to time the FARMER'S ADVOCATE has dealt strongly with this subject, and has always contended how much the welfare of cattle feeders and shippers depends upon the advantages of free entry of finished cattle. In this opinion we stood almost alone, as the Canadian press, with hardly a dissenting voice, held that access to inland markets was no advantage to us, and as long as our finished cattle were allowed at certain ports and slaughtered within ten days of landing, that was all we required; and, doubtless, these arguments caused much of the apathy of the Dominion Government in not dealing more promptly with the subject at the time. One year's trial has proved most conclusively that our contention was only too well founded, for the unanimous verdict given by those in the shipping trade is, that there is a loss in any event of \$10 per head, when the cattle are landed in the best possible condition. This is because carcasses of beef are depreciated in value from the impaired appearance of the meat through being shipped from the seaboard to the point of consumption. Several of our British contemporaries, who are naturally antagonistic to the trade, claim that it was generally hoped that the restriction would ultimately kill the shipment of live cattle. The only conclusion that we can arrive at is, that although Great Britain is presumably affecting free trade, she is pursuing as far as the live cattle trade is concerned a highly protective policy, under the pretense that our cattle are diseased.

Gather in and store under cover all tools and implements not in use. The leak caused by neglecting this is one of the great factors in sinking the farmer's ship.

If you desire an ice house, it had better be built now. If put off until cold weather sets in, it will not be likely to be built at all, and for another year you will have to do without one of the cheapest luxuries in the world, and one of the most essential things for dairying.

Although the hay crop was more than usually heavy throughout the Eastern Provinces, yet there is very little bulk of straw, and in many localities roots and corn are very light crops. It will, therefore, be well to economize as much as possible, for although prices of coarse grains and hay are now cheap, there is likely to be a substantial advance before the end of winter. There are many ways in which feed may be more cheaply supplied, but chiefly through chaffing hay and straw. Farm horses, which have many idle days throughout winter, are too often allowed all the hay they can cram into them, while much is trodden under foot and wasted. If hay and straw are chaffed, dampened, and ground grain and bran added to the mixture, the horse will be much more cheaply wintered, and will be kept in better condition.

Take an early opportunity of thoroughly cleaning out and repairing all stables, sheds, henhouses, and all places where stock is to be housed. Repair all windows and put in fresh glass where it is found wanting. All the light that can be obtained is needed; none should be lost by filling the windows with old clothes, bags, etc. See that the doors are in good repair, and that they will shut tightly. In other words, get the stables ready for the stock in plenty of time. It does not pay to use feed grain at any price to keep the animals warm, and the animal heat must be kept up in some way. Thousands of dollars worth of feed are wasted in this way every year, which might have been saved by spending a few cents for lumber and tar paper in the fall. Keep the stock comfortable, if you would receive any profit from them. Do not be afraid to put them in the stable too early in the season. Some farmers think that the longer they can put off feeding their stock in the fall, there is just that much gained. Stock of all kinds, and especially dairy cows, should be housed as soon as the nights begin to get cold, otherwise they will fail in flesh, and the milk will grow less in quantity.

Ontario Agricultural and Experimental Union.

The good work that is being done by the above institution, through the system of co-operative work in testing fertilizers and new varieties of grains, is becoming known beyond the province, for the London Live Stock Journal has the following complimentary remarks to make regarding it:—One of the most important features of the Ontario Agricultural Experimental Station is its system of co-operative work in agriculture which has been established in the province. Fertilizers and seeds are distributed annually among the graduates of the college through their association, known as the Agricultural Experimental Union, and also among other interested and progressive farmers throughout the province. In the spring of the present year, no less than 322 packages of fertilizers, 894 of fodder seed, 1230 of root seed, and 3110 of spring grain, were sent out to Ontario farmers. This system of co-operative experimenting was started upon its present basis in 1886. In the first year of the work there were only twelve experimenters; in 1887, sixty; in 1888, ninety; and since that date the work has had a steady and substantial growth in accordance with the development of the station and the demands of the province. There are at present upwards of 800 experimenters with spring crops; 400 others can be supplied with winter wheat.

Good Shorthorn Sales.

There have been some very successful Shorthorn sales held lately in Scotland, but that of Wm. Duthie, Collynie, capped them all with an average for the twenty-one bull calves of £50. 15s., Jas. M. Williams' dispersion sale at Stoneytown coming next with an average of £37 on fifty head of mixed Shorthorns of both sexes and all ages, all of Scotch breeding, followed by the Edengrove sale (of principally Booth blood) at which 34 head averaged over £31, and the largest sale of Bates cattle coming fourth with an average of £33 on forty-six head.

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Agents Wanted.

We want good, active agents to work for us in every county in Canada. To suitable persons we will give permanent employment and good salaries. We ask each of our readers to take an interest in the *ADVOCATE*; send us at least one new name, more if possible. If you cannot canvass for us, and know of a suitable person who can, send us that person's name and address. We are anxious to double the present circulation of the *ADVOCATE*. The more assistance you give us in the way of sending new subscribers, the better paper you will receive. Now is the time! Help us to make the *ADVOCATE* the best agricultural paper in America. We will do our utmost, but we want and must have your help.

Please Remit Your Subscription for 1894.

We ask as a special favor that all our old subscribers will remit their subscriptions for 1894 as promptly as possible. Look at the label on your paper and you will know just when your present subscription expires. If the label is marked *Jan., 1894*, you will know that the December number, 1893, is the last for which you have paid. We ask each of our subscribers to *consult the label bearing his name*, and remit us promptly on the expiration of the present subscription. We prefer our old subscribers to *remit direct to us*; do not send your money through a third party. If you send money by registered letter or post office order we accept all risk.

Ontario's Winter Show.

The tenth annual Ontario Provincial Fat Stock Show, which will be held on the 6th and 7th of December, 1893, promises to be the best Winter Show ever held on the continent. This exhibition is held under the auspices of the Dominion Sheep and Swine Breeders' Associations, the Agriculture and Arts Association, and the Guelph Fat Stock Club. No pains have been spared to make it the best show of its kind ever held. The large sum of \$1750.00 in prizes is offered in the sheep and swine departments, while liberal prizes are offered in the cattle classes.

Prize lists and entry blanks may be obtained by applying to the Secretary, Mr. Henry Wade, Toronto.

Auction Sales.

SOUTHDOWNS AND SHORTHORNS.

Our readers will regret to hear that Mr. John Jackson, Abingdon, lost his barn and buildings by fire on the night of the 4th inst. The contents consumed included a quantity of hay and grain, together with 16 head of Southdown sheep, among which were several of the late Chicago winners. In consequence of this disaster Mr. Jackson has decided to sell, at public auction, on Nov. 22nd, 50 head from his celebrated flock of Southdowns. Several pure-bred Shorthorns will also be included. For many years Mr. Jackson has imported the best sheep he could find in England, among which many winners at the Royal and other English shows have been selected. In proof of this, we only have to call to mind the innumerable triumphs this flock has won during this and other seasons. This sale will therefore afford one of the best opportunities offered in many years to find a flock of Southdowns.

SHORTHORNS.

As announced in another column, Mr. W. B. Cockburn, Aberfoyle, will sell his entire herd of show Shorthorns at public sale, on Jan. 10th, 1894. The bulls offered include several celebrated show yard winners, such as Greenhouse Chief, the sweepstakes bull at Toronto and Montreal, 1892, his twin brother British Chief, that beat him at Chicago this season, the sensational bull calf Indian Warrior, that won sweepstakes over all beef breeds at the World's Fair, Chicago. Among the cows and heifers are a number that have also made their mark in the show ring, and comprise such popular Scotch families as Nonpareils, Wimples, Village Lillies and Missies. In all 26 head will be sold without reserve.

Ensilage for Summer Feeding.

The absolute necessity of providing something more than pasturage for the summer feeding of cows is becoming well recognized, perhaps never more so than during the past season. A fresh discussion of this important subject was recently invited by the *FARMER'S ADVOCATE*, and brought out an interesting contribution from Mr. Butler, of Dereham Centre, who has made a success of clover ensilage for that purpose. Mr. J. O. Sanford, a Vermont farmer, after two years' experience with corn ensilage, pronounces it a cheap and most excellent summer feed. His silo is 24 feet long, with a partition across the middle, making two pits 12 x 16 feet. One of these pits is again divided the other way with a partition of two-inch plank five feet high, the top edge of the top plank being hewn to an edge, so that the silage will settle readily around it when the silage is fed down to a little below the top of that partition; one part is covered with a foot of saw dust and left for summer food. It is uncovered on August 1st, and lasts till the new corn is mature enough for use, about one bushel per cow per day being fed.

Swine at the World's Fair.

(Continued from page 419.)

CHESTER WHITES.

This breed is very popular in many of the States, and some very choice specimens were on exhibition. Nine different herds were in attendance, and the prizes were divided, although S. H. Todd & Sons, of Wakeman, Ohio, who showed 20 head, secured the lion's share of the premiums, and they had a very select herd, well fitted, and an even type throughout. Mr. Todd informed us that he was endeavoring to produce pigs with more length and depth, and it was quite evident, after inspecting his herd, that he was succeeding. The list of his prizes is as follows:—First on My Choice, an aged boar, very long and straight, with a fleshy back and low set on his legs; second on boar over 6 and under 12 months; first on a smooth, low set boar under 6 months; first and sweepstakes on Ollie, an aged sow; third on yearling sow; first on a sow that was 6 days over 6 months, and shown in section over 6 and under 12 months. The judge afterwards said that "had this sow been entered for sweepstakes she would have been an easy winner." Messrs. Todd also won first and third on sows under 6 months. In the two sections, boar and 3 sows owned by exhibitor, and boar and 3 sows bred by exhibitor, both prizes fell to these exhibitors. They also won third on another herd, and the two sections—boar and 3 sows under 1 year owned by exhibitor, and bred by exhibitor—were also secured by them. Four pigs, the produce of same sow under 6 months, bred by exhibitor, and four pigs, the get of the same boar, were each awarded to four splendid young pigs comprising this herd.

L. H. Martin, Alexandria, Ohio, showed 10 head and secured six prizes. His herd were in fair condition, but not highly fitted.

F. A. Branch, Medina, Ohio, had only 4 head but won three prizes, including sweepstakes on his yearling sow, which was in the pink of condition, and had a good head and ear, with a smooth, fleshy back and full loins, but a trifle short; the third prize on aged sow went to the same exhibitor.

Baker & Haskins, of Delaware, Ohio, had on exhibition 24 head, and secured three prizes, his pigs not having been fitted for exhibition.

M. E. Newburn, Hennepin, Ill., came forward with 19 head and won 12 prizes, including sweepstakes on boar bred by himself. This boar was long and smooth, a little high on the legs, but possessing good bone, and had the appearance of being a thrifty pig.

F. B. Ashbridge had the largest exhibit in the Chester White class, but his pigs were in thin condition and of fair quality; he secured two prizes.

F. A. Grover, of Bennett, Neb., showed 6 head, but was not fortunate enough to secure any of the money prizes.

Ten head were exhibited by R. J. Crumb, of Ouaquaga, N. Y.

TAMWORTHS.

Although the "sandy-haired" Tamworths have only recently been introduced into Canada, they are steadily gaining admirers, especially among the pork-packers and those who are interested in the growth of bacon-hogs. They are a very long, deep-sided pig, and possess a lot of merit. The appearance of their long faces was the butt of much merriment among our American cousins who had seen the breed for the first time, but we must admit that when one gets accustomed to seeing them the head does not seem out of proportion to their long bodies; and, although the head is long, it is not by any means heavy, and I will venture to say that many of the prize-winning Poland Chinas had more waste about their head than this breed which created so much amusement.

Thirteen head was the total number of Tamworths on exhibition, 5 of these being the property of Jas. Calvert, 2 belonging to John Bell, of Amber, Ont., and the balance were owned by Thos. Bennett, of Roseville, Ill. The majority of the prizes went to the latter exhibitor, whose herd had the appearance of having had a cross of some other blood.

Mr. Bell won first on aged boar and second on aged sow.

Jas. Calvert received first on herd over 2 years, first on boar over one and under 2 years, also 3rd and 4th on aged sows.

SMALL YORKSHIRES.

This class was represented by five exhibitors, and, taken as a class, they were decidedly a mixed lot. As a breed they would be known in Canada as Suffolks, and the type chosen by the judges was after the pattern seen in that class in Canada. If the Suffolks which were shown at the Industrial at Toronto this year had been allowed to enter as small Yorkshires, I doubt if there would have been a single prize gone to the animals competing at the World's Fair.

In the section boar 2 years and over, there was a ring of five animals of fair quality, the first going to A. P. Chapman, Sugar Grove, Ill., whose pig was a good type of small Yorkshire, but a little off his legs, second going to Willis Whinery, Winona, Ohio., third to Chas. McClave, New London, Ohio, and the fourth to D. T. Bascom, California, Mich. D. T. Bascom got first on Romance in the section

boar 1 year and under 2, with A. P. Chapman second on a boar of good quality, Willis Whinery third, and Charles McClave fourth. Section boar 6 months and under 1 year, D. T. Bascom won first on a nice young boar of small Yorkshire type, and fourth with a boar of the middle Yorkshire type, while Willis Whinery got second on his boar, Flip, which was of the Improved Large Yorkshire type, and Chas. McClave came third with Richmond. The section boar under 6 months, the pigs were very small for their age, and it is a clear evidence that this breed is not the breed of pigs to secure good weight, fit for the market at six months. The first prize went to a boar owned by Willis Whinery, second and third to D. T. Bascom, while the fourth went to Chas. McClave.

Sows 2 years and over, D. T. Bascom secured first and second, and A. P. Chapman third, with Willis Whinery fourth. In the section sows one and under two years, D. T. Bascom won first on Treasure, a sow of good small Yorkshire type; he also won fourth on Rose L., Willis Whinery getting second place on a smooth, lengthy sow, the third going to Linwood Queen, owned by Chas. McClave. Section sow 6 months and under 12, a well-finished sow of D. T. Bascom's secured the blue ribbon, the red ribbon going to Willis Whinery, the third to D. T. Bascom's Lilly Ha Ha, while the fourth was awarded Chas. McClave upon Princess May, which was a trifle coarse in the hair. In sows under 6 months, Willis Whinery came first with a sow of extra nice quality, C. H. Williams, of Church's Corners, winning second and third, with D. T. Bascom fourth.

Section boar and 3 sows over 1 year brought out six herds, which were, with the exception of the first prize herd of D. T. Bascom, an uneven type, the second prize going to the same exhibitor, the third going to Willis Whinery, while the fourth went to Charles McClave. The awards in boar and 3 sows bred by exhibitor were the same as in the above section. For the boar and 3 sows, under 1 year D. T. Bascom was again awarded first, with C. H. Williams second, Willis Whinery third, and Chas. McClave fourth. The same order was maintained in the class boar and 3 sows under 1 year bred by exhibitor.

Four swine, the get of same boar, bred by exhibitor, D. T. Bascom secured first and second on two herds that showed a uniformity of type, the third going to Willis Whinery, and the fourth to Chas. McClave. C. H. Williams was the fortunate winner of first prize on four pigs under 6 months, produce of same sow, the second going to D. T. Bascom, the third to Chas. McClave, and fourth to Willis Whinery.

In the sweepstake boar of any age, the favorites for the coveted premium were Romance and Caesar III., but Romance finally secured the honor, also winning for Mr. Bascom the sweepstakes for best boar any age bred by exhibitor. The same exhibitor was also successful in winning the two sweepstakes, on sow any age and sow any age bred by exhibitor, upon Mystic, a sow of true small Yorkshire type.

IMPROVED LARGE WHITE YORKSHIRES.

This breed, which has recently attracted so much attention and which has grown so popular in Canada, is not known to any extent in the United States. It certainly was a contrast to compare the Poland-Chinas (which seem to be the national pig), with their broad fat backs, heavy shoulders, full crests and thick jowls, with the Large Yorkshires, which are noted for their length, depth and lean flesh, qualities which are now bringing the highest price in the English market.

The Large Yorkshires were represented by three herds, viz.:—B. J. Hurlbut, Clymer, N. Y., J. E. Brethour, Burford, Ont., and Jos. Featherstone, Springfield-on-the-Credit. Owing to the judge not being familiar with the type required in this breed, many of the awards were given contrary to the qualities sought for in the Improved Large Yorkshire breed.

In aged boars, Jos. Featherstone won first on Plymouth Prince, the second going to J. E. Brethour's imported Gladiator, which had so recently won first at Toronto. Two boars in low condition were shown in the section boar 1 year and under 2; the first prize going to B. J. Hurlbut's Billy, and the second to Jos. Featherstone's Holywell Tom.

In section boar 6 months and under 1 year, Jos. Featherstone won first on Haskett, a lengthy pig, but a trifle off on his front legs. J. E. Brethour secured second and third, with Jos. Featherstone fourth. Only three pigs were shown in boar under 6 months; the same exhibitor won first and second, with J. B. Hurlbut third.

Sow, two years and over, brought out four imported sows, which were a good lot. Lady Duckering, owned by J. E. Brethour, won first; she is a sow of great substance and of smooth finish. Second went to Jessica, the property of Jos. Featherstone, a sow of immense size, and a winner at the Royal of England, in 1883. Maid 6th, which was a trifle short but of good quality, owned by J. E. Brethour, came in for third place, while Whiston Pride, which has been a winner in her time, secured fourth.

In the yearling class, J. E. Brethour's Dominion Belle, was an easy first, with Jos. Featherstone's Whiston Sally second, and Rossberry Belle, owned by J. E. Brethour, winning third, while the fourth went to Holywell Sally, which was a good sow, but not in show condition, shown by Jos. Featherstone.

For sow 6 months and under 1 year, Jos. Featherstone secured first on Daisy Midge, with Canada's Pride, and Canada's Pride Second (two daughters of Lady Duckering), owned by J. E. Brethour, for second and third, while the fourth was awarded to Featherstone's Dolly Midge. Two choice young sows of Jos. Featherstone won first and second under 6 months, with J. E. Brethour third and fourth.

Section boar and three sows over 1 year. The herd of J. E. Brethour was first, with Gladiator, Lady Duckering, Maid 6th, and Dominion Belle, while Jos. Featherstone came in for second, with Plymouth Prince, Jessica, Whiston Pride and Whiston Sally. Three sows over 1 year, bred by exhibitor, the herd of Mr. Featherstone, was the only one shown, owing to the first prize herd in the former class not having been bred by exhibitor.

The awards in the next section, boar and three sows under 1 year, decided the premium in the two following sections, viz., in the next class for boar and three sows under 1 year, bred by exhibitor, and four swine, get of the same boar, bred by exhibitor, and was given in the following order:—Joseph Featherstone, first and second; J. E. Brethour, third and fourth.

For the four pigs under 6 months, produce of the same sow, Mr. Featherstone brought out a choice young herd, the produce of Whiston Sally, winning first, with J. E. Brethour second upon a herd that appeared to be much younger than the first prize herd.

In the two sections, boar any age, and boar any age bred by exhibitor, Mr. Featherstone secured the first on Whiston Swell, a very neat young pig, under 6 months.

Dominion Belle, the property of J. E. Brethour, won the sweepstake as sow, any age, but in the class, sow any age, bred by exhibitor; the premium fell to Daisy Midge, bred by Jos. Featherstone, owing to Dominion Belle not having been bred by exhibitor.

A Valuable Cup to be Offered at Guelph.

Messrs. Wm. Cooper & Nephews, Galveston, Texas, manufacturers of the celebrated Cooper Sheep Dip, offer a silver cup valued at \$100 as a sweepstake prize for best sheep shown at the Ontario Provincial Fat Stock Show. To become final owner the exhibitor must win the cup twice in succession. This splendid trophy is now in the possession of F. W. Hodson, London, Ont., Secretary of the Dominion Sheep and Swine Breeders' Associations, and will be on exhibition at the Commercial Hotel, Guelph, during the time of holding the Fat Stock Show, where it will be offered as a prize for the first time.

In a recent letter to the editor of this paper, Messrs. Cooper & Nephews write:—"We have received the highest award for our exhibit at the World's Fair, but what is of much greater consequence is the fact that Cooper-dipped sheep carried off above 300 premiums. Nearly half the entire sheep at Chicago were Cooper-dipped, and half of these secured premiums. It is a record totally unparalleled in the history of sheep dips. Our dip is the original dip, and this is its jubilee or fiftieth year of manufacture. It is used on at least one hundred million sheep annually."

Switzerland has passed a law which renders the Jewish method of killing animals for food illegal, upon the grounds that it inflicts unnecessary suffering upon the animal. The Society for the Prevention of Cruelty to Animals recently took this question up in Scotland, and entered an action against a Jewish Rabbi as a test case; when it came before the Judge the charge of cruelty was dismissed as not proven.

If the advice "to cultivate no more land than can be managed properly" is good and is being now generally recognized, it is just as important to keep no more stock of any variety than can be properly attended to. Therein lies the secret of success. The *Scrub* must go; whether it be scrub stock, scrub grain or scrub care or management, all are doomed, and the *ADVOCATE* intends to wage war with the scrub right to the end of the chapter.

If lice or vermin troubled your cattle or stock last winter, did you thoroughly cleanse and white-wash the partitions, etc., in the stables? If you have not done this, you may count on trouble again; as soon as the stock go into winter quarters, the insects will immediately attack them. Coal oil emulsion is a capital remedy, and can be easily and cheaply applied at any time. To make the emulsion: Into one gallon of soft water stir half a gallon of soft soap (or half a pound of any good hard soap); when thoroughly dissolved, and while boiling, add two gallons of coal oil, and stir till all is well mixed; then add another gallon of hot water. This will keep any length of time, and be ready for immediate use. When this is to be used on the animals dilute this formula with four parts water.

STOCK.

The Sheep and Swine Breeders Convene.

The annual meeting of the Dominion Swine Breeders' Association will convene in the City Hall, Guelph, December 5th, at 10 a. m. The afternoon session will meet at 1 p. m., and the evening session at 7 p. m. same day. The Executive of the Association will meet at the Commercial Hotel, Guelph, at 1 p. m., the 5th inst.

The annual meeting of the Dominion Sheep Breeders' Association will be held in the same city and hall, and at the same hours, morning, afternoon and evening, December 6th. The officers of this Association will meet at 8 a. m., the 6th, at the Commercial Hotel, Guelph.

The programme for each Association, which will be issued in a few days, is better than that prepared for any previous meeting.

The Annual Report of the Sheep and Swine Breeders' Associations.

There is seldom issued a pamphlet which gives so much useful information as the one that contains the combined reports of the Dominion Sheep and Swine Breeders' Associations for 1892. The opinions advanced and thoughts expressed in the discussions are of the more value in that they contain the ideas of men of experience in their respective lines of breeding, while the very fact that the men who have written papers on the different subjects appertaining to the breeding and management of the flock and herd have attained the highest success in the show ring, as well as in the breeding circles, should give the work a value not easily estimated.

The Dominion Sheep Breeders' Association has been established for nearly five years, while that of the kindred association of the swine breeders of the Dominion has been in existence since September, 1889. That they have accomplished much is proved by the work they have already performed. The old adage, "United we stand, divided we fall," was never better exemplified than in the workings of these two societies, and it will only require a steady determination and unity of purpose on the part of the members to obtain any concessions they may require at the hands of railway officials, fair associations, or any department with which they may have to deal in the future. Past experience has proved how readily the views of the breeders have been met by the two Governments in granting their demands in regard to the World's Fair at Chicago, while the wonderful success the flocks of Ontario have achieved in competition with those of the United States must be ascribed to the skill of our breeders, together with the strong front presented through a thorough organization. Every breeder in Ontario has already realized what has been attained, and each year new accessions to the ranks of these two strong associations will wield a beneficial influence not easily conceived. That both these societies have entered a long lease of utility is assured, and a great share of the credit is due to the able secretary, Mr. F. W. Hodson, to whose exertions the founding of each may be ascribed, while their continued success is in a large measure attributable to his untiring zeal in directing their working. As each member of both societies will or has already received a report, they will come to future meetings better prepared for future action, which shows the vast advantage gained by having past deliberations recorded in the report. Among the discussions was that of deciding

THE NUMBER OF JUDGES

best qualified to fulfil this most important part of the work in connection with our show system. That there was a wide difference of opinion in regard to this point shows that all are not in accord as to which is the safest anchoring ground. Perhaps the strongest disputation was provoked when the advisability was suggested of making it peremptory on exhibitors to produce

CERTIFICATES OF REGISTRATION

on entering sheep for exhibition, or to judges while exercising their duties in the show ring. This question, it appears, never came to a vote, and although there was a strong opposition shown by some of our ablest breeders, still the majority evidently favored the adoption of this rule in future.

The questions mentioned will doubtless again be brought up for discussion at the coming annual meeting, and it is to be hoped that members will study what is to the best interests of breeders, and come to the meeting prepared to arrive at satisfactory conclusions in both these important cases.

The report, in the excellent papers read, furnishes a fund of information upon the different points of sheep husbandry that has never been surpassed, and if the breeders' associations had never attained anything else, the very compiling of this store of knowledge is of incalculable benefit. Among the good points that were brought out by those who had prepared papers, they very properly dwelt largely on the point of production for the export trade; and if these could be read by some of the farmers of Ontario, they should go a long way toward making sheep breeding from a commercial standpoint more popular with those who at present practise grain growing, and make stock breeding and feeding side issues.

Ideas Culled from Sheep Breeder's Annual Report, 1893.

"HOW SHALL THE GENERAL FARMER MANAGE HIS SHEEP SO AS TO REALIZE THE GREATEST PROFIT?"

Here the report most admirably fulfills its mission, and the useful ideas brought out in the prize essays written on this subject enter into the question of sheep breeding most fully from the ordinary farmer's standpoint. Each season's work is enlarged upon, giving the most useful details from start to finish.

We have arranged the thoughts of the writers so that the work commences at the most suitable season to begin the year's work in the flock, while we first give the opinions of Walter Cowie and A. P. Kitchen as to what is suitable for

SHEEP HOUSES.

"The sheep pen need not be a very elaborate building. In shape it should be long and comparatively narrow. A building 40 x 20 feet will accommodate thirty sheep nicely, and perhaps more at a pinch. It should face the south, and be provided with lots of windows for the sunlight to enter. The racks should run along either side against the wall, and be provided with troughs to catch the hay seed, and from which the grain may be fed. At either end double doors should be provided, so that the manure can be loaded directly on the wagon as it is driven through. While sheep withstand severe cold, yet it is wise to provide a comfortable house, which may be done by lining the shed with tar paper and boarding up on the inside; if too warm such a pen is easily cooled, and when extremely cold it is as easily kept sufficiently warm."

"A very good sheep pen can be built by putting posts, say ten feet long, in the ground, putting them down two feet in ground. This will make the wall eight feet high, which is plenty high enough. To these posts a 2 x 4 scantling can be spiked near the bottom, and a 4 x 4 mortised on the top for a plate on which the rafters can rest. Then side it in and clap-board it, and you have a sheep pen equal to the best. For a small flock of thirty-five or forty ewes, I would recommend a building 20 x 50 feet, divided into two compartments by a partition twenty feet from one end. This will leave a pen in one end twenty feet square, which could be made warm by double boarding, with tar paper between, in which to put the ewes for a few days at lambing time. The entrance to a sheep pen should be by a wide sliding door, which could be closed in stormy weather and left open at all other times to allow the sheep to run in and out at pleasure. The door should be wide enough to prevent the sheep crowding each other when going in and out, as it is very injurious to a ewe that is heavy with lamb to be jammed by the others when going through the door. Another advantage in favor of a wide door is that it enables one to back a wagon or sleigh right into the pen for the removal of the manure. The feeding rack should be placed all around the sides of the pen. My ideal sheep rack is made in the form of a box, about twenty inches wide and twelve inches deep, having a hinged lid made with slats placed about ten inches apart, so the sheep can get their heads down into the box, but still cannot hoist the feed out with their noses. The advantages of this feeding-box are many. In the first place, they do not get so much chaff and dirt into their wool as with the old style of rack. In the second place, they waste less feed. In the old style of rack the sheep kept pulling the hay out, and if it was clover, a large proportion of the leaves and blossoms, which are the very best of the feed, would break off and drop down amongst their feet, and was consequently wasted. With the feeding-box I have described, the leaves and chaff stay in the box, and are eaten up clean by the sheep. Grain, roots, or anything else can be fed in this rack without waste, and according to my way of thinking it is far ahead of the old rack in every respect."

We do not entirely approve of these two descriptions of sheep-sheds. If convenience is the aim, sheep, like other farm animals, must be fed from a passage, which, to economize room, should divide the compartments. If the racks are placed around the sides the sheep will be always in the way at feeding time, unless they are turned out until the racks and troughs are supplied with the feed. This is impracticable on wet days, and any one who has experienced the difficulty of feeding a lot of lusty, hungry sheep will require a better arranged shed and feeding troughs.

If a passage with racks is placed in the centre, the shed would require to be thirty feet wide; the sides can be subdivided for the different ages, and there will still be room for a wagon to drive through when the manure is to be removed.

Sheep require separating. They will do far better if about a score are fed together; if thirty-five or forty sheep are fed in one lot there will be a few of the stronger that will get the bulk of the grain, and lambs will do no good among a large number of old sheep.

Three of the writers, viz., John Dickin, A. P. Kitchen and John Bowman, take the time of weaning the lambs as the commencement of the flock year.

The first writer says: "I will commence my paper proper at the time the lambs should be weaned and follow the ewes and lambs throughout the year, claiming that the same care and attention is necessary to breed and feed sheep for the

market as any particular pure breed. I must imagine that a farmer has a flock of ewes and lambs. The lambs should be weaned by the first of August, and the ewes placed on bare pasture, the lambs upon the nicest you have, with access to pure water. Constant attention should be given to the ewes' udders, and in about three weeks any matter that remains in the same should be withdrawn and the ewes put on good pasture.

Now is the time to prepare the flock for the coming season. Weed out any that have a fault—one that has disowned a lamb, or has a bad udder, or bare of wool underneath, etc., etc. Replace these with the best of your shearlings to keep up your number, and see that their tails are nicely trimmed. Take the draught ewes and the rest of your shearlings and sell as opportunity offers."

The second writes: "We will start on September 1st, where this work was finished for last year.

Their lambs are taken from them now, or should be, and ewes turned on bare pasture for about two weeks to dry up the flow of milk. Now cull the flock, that is, see if any of them are beginning to lose their teeth, or are failing in other ways to make them unable to breed profitably. They should be separated and put in good pasture along with the ram.

The breeding flock will now need good pasture to enable them to build up for another year's work. Before turning them into stubble fields, go around all the fences and see that there are no burs or other weeds that will stick into their fleeces. About the first of November their pen should be ready, so that cold, wet nights they can have a dry place to lie, and what clover hay they will clean up, which is very little for some time yet. If they are not in good condition about the tenth of this month, they should get a pound of oats each per day, and on the twentieth let the ram with them, and continue feeding the grain for two weeks. When cared for in this way, they will be almost certain to all come in season within two weeks from the time that the ram was let with them. This will bring the last of the lambs in the first week of May. We think this time the best for several reasons: 1st—Very little expensive feed is needed, as the grass soon fills the bill. Lambs are ready for first grass. They are not so apt to be stunted. Also, at this season, the weather is so warm that the pen in which the ewes have been housed all winter will do for lambing pen."

While the latter, in writing upon this point, says: "As to the age at which lambs should be weaned, opinions differ. The shepherd must be guided in this by his own judgment. My own opinion is that the lambs should be left as long as possible with the ewes, providing that the ewes do not become too thin for breeding again. For the last two years we have allowed the ewes to wean their own lambs, never separating them until the buck was turned in with the ewes, and we have found this system to be followed by excellent results, producing a heavier Christmas lamb without any apparent injury to the ewe. Of course care must be taken not to allow the ewes to get too thin, as it is a suicidal practice to have them in low condition at the time of copulation."

With the two latter essayists we take issue. The first of August is late enough to wean the lambs; if there is any after grass it can be had by this time, and the lambs will do better, while the ewes will require all their time to regain their flesh before they are again bred to the ram, the condition of the ewes at pairing time having much to do with the number and strength of the next crop of lambs.

Three essayists, Walter Cowie, John Dickin and Jas. Bowman, write as follows on

PAIRING TIME.

"The ram should be admitted to the ewes from October or earlier to the middle of November, according as we desire early or late lambs. For early lambs we need warmer accommodations, a greater care, and we must be prepared to lose more or less of the increase. In return we obtain an earlier sale, or more money if held until later. However, unless the farmer is prepared to furnish the above conditions, he had better rest content with lambs dropped in April."

"The ram should not be allowed to run constantly with the flock during the time ewes are in heat. Either for twelve hours each day, or upon alternate days, he should be confined in a separate pen and fed liberally with a grain ration, preferably oats, and all the grass or clover hay he requires. The ewes which have been once served will in his absence go out of heat, thus preventing the excessive drain upon his system from repeated services. The ewes during the time of rutting may run as usual at pasture and should not be over-fat, but yet in strong, vigorous condition."

"Select a ram, the best you can purchase of the breed you fancy (let me advise the use of a pure-bred male with masculine countenance, but not too coarse in the head, with plenty of wool on legs and belly.) If the flock should number over fifteen use a shearing ram, if under that number a good strong lamb will do, and when he has been used two seasons will sell in November of the second season for more than he cost you; and when the time comes to mate these, take a little Venetian red and mix with common grease and put on breast of ram, see your sheep every day and note in book results. A good shepherd will know each sheep individually; if not, a very convenient way is to

obtain ear tags, and let every sheep be known by her number, then drive the sheep into a pen once a week and enter results as above. At the end of sixteen days change color on ram to lampblack, and watch if any of the ewes return, and note. The above, if strictly carried out, will make your work easier in the lambing season, as you will know which ewes lamb earliest and have a warm place provided for them."

Walter Cowie, A. P. Kitchen and James Sharp score good points on

WINTER TREATMENT OF BREEDING EWES.

"As winter comes on the sheep should be folded at night and during storms. While they seem perfectly capable of withstanding the bleak autumn winds, yet a chilling rain under such conditions may be decidedly injurious. The winter food should be as varied as our resources will permit. Clover hay, pea straw and roots will of course form the staple. Clover should be furnished once a day at least, and clean, well-preserved pea straw *ad libitum*. A few oats will amply repay their cost in increased vigor of the animal, but not more than a gill or two per head need be supplied. It is not wise to give too many turnips to ewes bearing young, but yet a small quantity, say one to two pounds, will help digestion. A similar quantity of ensilage, if available, may be furnished also. Water should be provided constantly. Salt should be kept in a small trough, so that the sheep may help themselves at will."

"A good crop of turnips means a poor crop of lambs; as sheep are passionately fond of them, they are apt to gorge themselves, thus crowding and weakening the lambs. But it does not follow that because the excessive use of turnips is detrimental, the moderate use of them may not be profitable; in fact, when fed with judgment their place cannot be filled by any other article of food for keeping any class of stock in a healthy, vigorous and thrifty condition. As the season advances and the lambing season comes on, it will be necessary to feed a little grain, or clover hay, because the farther the animal is advanced in the period of gestation the more nutriment does the system require. It is also desirable that the amount of nutriment should be increased without increasing the bulk of the ration. It is bad policy to feed a bulky ration to any animal heavy with young, because the crowding of the fetus is apt to result in weak or deformed offspring. After lambing the ewes should be fed liberally, so as to induce a good flow of milk, because if one wants to raise good, thrifty, profitable lambs it is important that they give them as good a start in the world as possible. For this purpose a ration of clover hay, with a few oats, fed whole, and a liberal supply of roots is, perhaps, as good a feed as can be got. For milking ewes, I like mangels the best. They may not induce a greater flow of milk than turnips, but it is richer and has a better flavor; in fact, I have known lambs to refuse to suckle if their dams were given a feed of turnips as a change. When the lambs are about a month old they should be induced to eat a little grain. A small enclosure should be penned off at one end of the sheep-house, leaving an opening through which the lambs could run in and out at will. In this pen a trough should be placed having a little bran or ground oats in, and the lambs will soon learn to nibble at it; and although they will not eat very much, they will pay their owner handsomely for what they do consume."

"For the general farmer who is not in the show business, the lambs will be in plenty of time if they come from the middle of April until the same time in May. Coming, as they would, in time for the first bite of grass, there would be no standstill or go back with them, as we so often see in very early lambs. But we must say a word about the fall and winter treatment of the breeding flock. The ewes have had the run of the stubble and pasture fields, and they should be looking well; though run down in summer, they have had time to pick up again. But the first indications of winter are upon us, and the flock needs a little more attention. The sheep pen should be open at all times, that they may find shelter in wet and stormy weather. Shelter is of great importance in the cold, wet and changeable weather in the fall of the year. They should have the run of the fields as long as they are free from snow, supplemented with a few cut turnips and nice, clean pea straw fed in troughs and racks in the pen. Old and weak ewes will have a hard time to get their proper share of the feed from the young and vigorous, and should have a separate pen if they are to be kept another year. But, unless the flock is much reduced in numbers, they should be fattened for the butcher at once, as their clip gets lighter every year, and they are not able to rough it so well as the younger ones.

[TO BE CONTINUED.]

Just as we go to press we are pleased to learn that at the Mauchline Show, one of the best held in Scotland this year, Mr. Andrew Mitchell, Barcheskie, Kircudbright, Scotland, was successful in winning nine first prizes, two seconds and two thirds, the champion cup for the best Clydesdale mare, champion cup for best Ayrshire, and also the champion cup for best three Ayrshire females.

Woodville Stock and Dairy Farm.

Woodville Stock and Dairy Farm is situated about four miles above Ottawa, and is owned by Mr. J. G. Clark. The house and barns are approached by a winding drive through a beautiful grove of maples. A large windmill surmounts the barn, which provides a supply of pure water for house and barn. From the farm a delightful view of the Dachine Rapids and of the Ottawa river can be had. Being so conveniently situated to Ottawa, Mr. Clark early began to cater for the city milk trade, and for this purpose he chose the Ayrshire and their grades. About seven years ago he obtained a number at the dispersion sale of T. C. Larkin, Ottawa, who had spared no pains to obtain the best regardless of cost. At present he has a herd of sixty dairy cows, twenty of which are pure-bred; his milk trade has increased to such an extent that he now finds it necessary to keep two wagons on the route delivering milk to his patrons. Mr. Clark, at the time of our visit, was busy filling his silo. He prefers the Longfellow and Mammoth Southern varieties of corn, and states that the silo reduces the cost of feeding his cows at least five cents a day, which, in his herd, would amount to quite a substantial profit in itself. Choice bulls have been selected from time to time of the best milking strains, to keep up the standard of this well-known herd.

The stock bull, Frank Ramsby 449, won second at Ottawa this year. The two cows, Mountain Maid and Beauty Bride, are as near perfect as can be. Three bull calves from Frank Ramsby were shown at Ottawa, two of which were highly commended in a very strong class of ten or a dozen.

Mr. Clark has been very particular in breeding from long-teated cows, believing that short teats have been one of the great defects of this breed. Having found, to his cost, that Canadians will not milk short-teated cows thoroughly, he set himself resolutely to work weeding out any of his cows that were deficient in this respect, with the result that his herd is remarkably good in this particular. The farm consists of two hundred and fifty acres of rich land, and in spite of his large crop he buys coarse grains. If the price of wheat continues as low as it is at present, he will use a large quantity of it as feed this winter, though his favorite feed is a mixture composed of two-thirds bran, one-third peas and oats ground together. The cows are given eight or nine pounds of this mixture, ten pounds clover hay and what ensilage they will eat up clean.

Feeding Cattle.

Just now many farmers who are in the habit of winter-feeding cattle are discouraged at the outlook, as the demand for export steers has not been equal to that of recent years, and the price has been correspondingly low. In consequence they have already decided not to feed as extensively as formerly. As a rule, farmers are apt to jump at conclusions, for they know relatively nothing of the profit and loss of feeding, or, for that matter other lines of their business. Any light that can be thrown on the subject is therefore interesting. In conversation with a prominent farmer who feeds a large number of steers every winter, he told us that he purchased only the best cattle, and claims that the export steer must be well-bred, smooth and well-finished. He usually buys steers at thirty months old, but the younger the better, providing they have the size. Such steers, when sold at thirty-six months old, should make an average weight of from 1,400 to 1,500 pounds. A year ago these cattle cost him from \$1 to \$1.50 per 100 pounds. Last spring he had two carloads of his own feeding, and not being satisfied with the price offered by local buyers he shipped them himself, and they realized as good as \$5 at home. On being asked what the cost of producing a pound of beef was, he replied that the two loads mentioned were fed with a view of ascertaining the gain per day in winter-feeding, food consumed, and cost. The steers were weighed, then put in the stables and weighed each subsequent month, until the time they were shipped. During that time they made an average daily gain of a fraction over 3½ pounds, and cost 4½ cents per pound. Charging then the market price for all feed consumed, he therefore claims he has made a profit of 7 of a cent per pound in feeding this lot of cattle. Other feeders, who have kept account of everything, declare they can make a profit by feeding cattle at \$1 per 100 lbs., but find it difficult to buy the class of steers that will give the best results, and claim that cattle have depreciated in quality from the little interest taken in breeding. In other districts many farmers are realizing this fact, and at present are endeavoring to stock up with good grade Shorthorn cows, from which they make butter, raise the calves, and find that it pays, as steers of their own breeding do better, feed at an earlier age, and produce beef at less cost per pound, which gives a correspondingly larger profit on the food consumed.

If Ontario is to keep her place in the export trade, only the very best finished cattle must be shipped, and these only are of any use in competition in the English beef markets.

Chatty Stock Letter from the States.

FROM OUR CHICAGO CORRESPONDENT.

The demand for horses for the northern pineries seems to be unusually light. There are two reasons given for this: One that lumbermen find it difficult to get what money they want for their business, and the other that they are afraid of the competition of Canadian lumber, if the tariff is removed by Congress.

A French Count, recently visiting Chicago, brought over 7 Spanish jacks, which he thought ought to sell for \$1,000 each, but which were knocked down at \$1,200 for the lot. He bought and shipped to Paris two carloads of \$50 to \$75 street-car horses.

The average price of the horses lately selling here has been below \$50 per head. This tells two stories: (1) of a low grade of stock, and (2) of a very weak demand for horse flesh.

The movement of stock cattle and feeders to the country continues on a large scale.

It seems queer, but it is nevertheless a fact, that young cattle are often bought at market and returned to the same neighborhood whence they came, thus causing two extra freight charges. Sometimes this is due to the inability of buyer and seller to trade at home. The one often thinks he is being cheated and so sends them to the open market, while the buyer, happening to be there, often finds that he can buy them to better advantage away from than at home.

As a rule, the highest priced cattle marketed lately were dehorned Shorthorns. The fact is being largely recognized that horns are a hindrance under all circumstances.

So glutted are the markets with medium to "pretty good" cattle that makers of really good beef do not receive the proper amount of encouragement.

United States wool growers were generally rejoiced at the way the recent State elections went, indicating a possible stay of proceedings on the part of Kansas in the matter of tariff reform. No doubt the almost certain prospect of a removal of the wool tariff was largely at the bottom of the great flood of sheep lately forced upon the market.

When one sees two carloads of 1,800-lb. Shorthorns sell at \$6, and the great mass of the cattle averaging 1,200 @ 1,500 lbs. and selling at \$4 to \$4.50, the conclusion is irresistible that the quality of the cattle being prepared for market is very poor.

The States have a large surplus of corn this year and a tremendous surplus of wheat, and the low prices of the latter are causing many farmers to busy themselves with converting it into young pork, eggs and butter.

A local authority says:—"Montreal sent to London recently a shipment of 335 live sheep. It is too bad that our American sheep are not good enough to be sent abroad. They are certainly low enough now to have a margin of profit for exporters if the quality was at all suitable for shipment."

The exports of live stock and meats from the States are considerably behind last year. The foreign demand, of course, is weakened largely by the relatively high prices on this side and the sharp competition of the frozen meat trade.

Scotch and English Shorthorns.

In a recent article the editor of the North British Agriculturist says:—"Breeders of the Cruickshank type of Shorthorns may well be jubilant over the triumphs which this class of stock has lately achieved. At the World's Fair the Shorthorns of Cruickshank blood carried the lion's share of the prizes, and one of them, Young Abbotsburn, won the proud honor of being awarded the male championship in the cattle section at that great show, the female championship going to Abess of Turlington, a member of the Abess family of Polls which have been so largely bred by Mr. Clement Stephenson, and hailing originally from Balquhain, Aberdeenshire. Many of the most prominent English breeders of Shorthorns—notably the Queen and Mr. Willis, of Bapton Manor—have also used almost exclusively bulls of Cruickshank blood; and some of the proudest triumphs which the Lady Farmer of Windsor has won in the breeding and fat stock showyards of recent years have been won with Shorthorns of this strain. In the old-established herd of the Duke of Northumberland at Alnwick Castle, a Cruickshank bull was used for the first time last spring. Mr. Robt. Bruce's famous old Sittytton-bred bull Hospidar having been hired for the purpose of being mated with some of the best cows in that herd. And now, at some of the best cows in that herd. And now, at the Bapton Manor sale last week, the President of the Shorthorn Society, Mr. Philo L. Mills, of Ruddington Hall, declared that the Aberdeenshire type of Shorthorns were the only kind that were likely to win prizes or pay the rents in these times of depression. Surely, therefore, the breeders of the Aberdeenshire type of Shorthorns have good reason to be satisfied with the progress that their stock are making in the estimation of the public. At the same time, there was much force in Mr. Duthie's statement made at the Bapton Manor sale, to the effect that there was no cause for any feeling of rivalry between the breeders of the distinctively English and the distinctively Scotch types of Shorthorns, for while the English Shorthorns excelled in quality, the Scotch Shorthorns excelled in substance and robustness, so that a judicious blend between the two great strains of Shorthorn blood would be distinctly advantageous to all concerned.

Feeding Animals Judiciously.

BY C. S. MOORE.

A good food ration for an animal must possess at least four qualities or attributes. It should have (a) palatability; (b) digestibility; (c) there should be a proper ratio between the albuminoids, or flesh-producing parts of the food, and the carbohydrates, or heat-producing parts; and (d) also a proper ratio between the concentrated part of the food and the coarse fodder.

It is evident to any farmer that a substance must be palatable and digestible in order to serve as a food at all. Anthracite coal contains all the elements of a good food, in about the right proportions, but it has never been used to feed animals, and never will, because it lacks those two essential qualities—digestibility and palatability.

(c) The ratio of the albuminoids (flesh-producers) to the carbohydrates (heat producers).—The animal body demands food both for building up the tissues and for keeping up the heat and energy of the body. It has been found by experiments that the best ratio for a milch cow is about 1 part albuminoids to 5 parts of carbohydrates; for fattening cattle, the ratio is 1:5½; for fattening sheep, 1:4½; for fattening swine and for young cattle, 1:6; for working horses, about 1:5. This proportion between the flesh-producing and heat-producing elements of a food is called its nutritive ratio.

(d) The proportions, in a ration, of coarse fodder (such as hay, straw, corn-stalks, etc.) to the concentrated food (such as the common grains, wheat bran, cottonseed-meal, oil cake, corn-meal, and so on), must be determined by the kind of animals to which it is fed, and the object aimed at in feeding them. If they are to be fattened they need more concentrated food than if they are merely being fed for growth. Cattle and sheep need a larger amount of coarse food than horses or swine, for the stomach of the ruminant is large and must be distended in order that digestion may go on. The stomach of the horse and hog is smaller and digests more concentrated food to advantage.

Let us suppose that A is an average farmer with cows, sheep, horses, young cattle, fattening steers and pigs. Also suppose that his crops have been poor this season, and that he wants to get through the winter economically, and yet have his animals come out well in the spring. We will try and see how he can apply some of the above principles with profit.

If fodder is scarce it is necessarily dear; hence, in our case, it will probably be best for A to fit up what stock he intends to fatten and get them out of the way before they "eat their heads off."

Before considering how A should feed his animals, we will try and impress upon him the importance of keeping them in a warm place. Animals have to eat a certain amount of food in order to keep up the right temperature in their bodies. The colder the stable in which they are kept the more heat radiates from them, and hence the more food they must eat in order to keep warm. This is one reason why we eat more in cold than in hot weather. A will save money, if he has cold stables, by using every means to close up the chinks in the floor and wall and thus keep his animals warm.

Now, I am afraid he is going to say "Oh, pshaw!" at this next suggestion, if he has not said so already. But nevertheless here goes.

At nearly any experiment station A can get a list of food products with the amounts of albuminoids and carbohydrates given in 10 or 100 lbs. of each fodder. When he once has one of these tables it is a very simple matter to "cut and try" until he has a ration for each group of animals in which the albuminoids and the carbohydrates bear the proper ratio to each other. For instance, in his table he will see the following:—

Pounds.	Food.	Alb. (lbs.)	Carb. (lbs.)
10	Clover hay.....	.78	4.40
10	Corn-stalks.....	.24	3.56
10	Wheat bran.....	1.17	5.13
10	Cottonseed-meal	3.57	6.14

From this table he finds out the amounts of albuminoids and carbohydrates in 50 lbs. clover hay, 20 lbs. corn-stalks, 10 lbs. bran, 5 lbs. cottonseed-meal, and tabulates them thus:—

Pounds.	Food.	Alb. (lbs.)	Carb. (lbs.)
50	Clover hay.....	3.90	22.00
20	Corn-stalks.....	.48	7.12
10	Wheat bran.....	1.17	5.13
5	Cottonseed-meal	1.78	2.57

Adding, we have..... 7.33 36.82

Now, 7.33:36.82::1:5+. Hence the nutritive ratio of the above ration is 1:5. When ensilage and roots are fed their analysis can be neglected for all practical purposes. By following his table he can make up rations for all his animals, and by using a little thought and a few figures he can soon learn how to use up all his fodders to the best advantage. Here are a few rations for illustration:

FOR MILK.

10 lbs. brewer's grains, 4 lbs. cottonseed meal, 8 lbs. wheat bran, 70 lbs. corn silage. Nutritive ratio, 1:5.2.

FOR GROWING CALVES.

15 lbs. timothy hay, 20 lbs. ensilage, 2 lbs. oil meal, 1 lb. oats, 1 lb. corn-meal, 4 lbs. bran. Nutritive ratio, 1:6.6.

FOR FATTENING SWINE.

30 lbs. corn-meal, 6 lbs. oil meal. Nutritive ratio, 1:6.

After making up a ration, the first thing to do is to find out if the animals relish it. If they do not like it, make it over again until their tastes are

suited. Then they should be fed liberally, even if a little food has to be purchased before spring. There is no economy in stinting animals. The grain portion of a ration should be mixed in large quantities to save weighing so often. The hay and other coarse fodder can be weighed a few times, and then any man with good judgment can guess near enough for all practical purposes. There will be less waste if the corn-stalks and straw are cut up than if they are fed whole. It is usually best, in figuring up a ration, to begin with the coarse fodder as a basis, and add the concentrated foods until the proper ratio is reached.

If A will feed his stock after the above plan, it is quite certain that they will be wintered cheaper and come out in better condition next spring than if he goes about it with no system, simply feeding his animals what they will eat without any reference to the elements it contains.

Summer Feeding of Stock.
BY W. A. COWIE, VALENS, ONT.

As circumstances compel us to turn our attention more and more to stock feeding or dairying, the question of a supply of summer food confronts us, especially when, as during the past summer, an extended drought adds to the natural difficulties.

We all know only too well what large breadths of pasture must be reserved for milch cows or young stock, through our inability to ascertain whether the season will or will not be favorable to a luxuriant growth, and in any case July and August generally bring even the most approved permanent pasture to such maturity that from lack of succulent properties diminished yields of milk inevitably result; while, even after this time, with our hot, dry, midsummer weather, common pastures rarely yield a remunerative return until late in the autumn. Under such conditions it is to be wondered at that many progressive farmers are beginning to wonder if grass pastures, except in limited areas, are not the most expensive food supplies provided for our stock, and are looking about for some cheaper and more reliable substance? Especially in this case, as year by year the wisdom of depending upon stock rather than upon grain products for sale is brought home to us, as we gradually realize that it is much more profitable to feed our entire grain product rather than to sell it. When we find that with a largely increased grain ration our supply of hay and straw will feed double the number of cattle it formerly did, with ensilage a tried and valued factor of the supply, and that in order to consume the increased stores we must winter more stock, with warm stables still further conserving the ration to a marked extent, we are forced to the point when the profitable summer rather than the winter's food becomes a source of anxiety, and yet how rarely do we make any preparation for ensuring such supplies. The system of soiling has many advantages, but it has one crowning disadvantage—the increased labor it entails of the carriage of the food to the stable, and that, too, when every energy is being strained to accomplish the summer's work.

The average Canadian farmer is very conservative, and to urge upon us to grow special crops other than grass for summer pasture is very apt to be disregarded.

Schemes such as that of "Rye and Rape" look well upon paper, but when the rank and file of Canadian farmers are found missing one year's staple crop to grow rye and rape for pasture, even with the self-evident advantage of cleaning the ground of foul weeds—well, we will be somewhat older than at present.

Catch crops which will not interfere with our established system of rotation, and with almost equal facilities of getting rid of weed pests, may succeed as an entering wedge, by means of which many of the Utopian schemes so urgently pressed upon us may be given a fair trial in the near future.

Although red clover can not be considered as a catch crop, yet it may be made to serve as a valued link in the system of summer feeding here proposed. If a field be seeded down moderately thickly with clover, to be plowed under, in addition to its value as a manure it may be made to furnish a large amount of pasture, if judiciously fed, during two to three weeks of June without interfering but little with its value as a green manure. Pasture it as soon as it fairly commences to blossom, and plow under about the last of June, harrow until a fine seed bed is obtained; then sow thickly with oats or barley and Hungarian or millet, and this may again be pastured until about 25th of August, when it should be plowed under. Apply from seven to ten loads of manure per acre, and when wheat is sown, a top-dressing of fifty to one hundred pounds of commercial fertilizer (bone or potash). Under such a treatment the land will rapidly gain in fertility, weeds will disappear as quickly as under any other method, and a valuable increase and change of food may be added to the menu of the milch cows.

The increase of milk and thriftiness will more than repay for the labor expended upon the fallow. When the wheat crop has been removed from a field treated as above, no matter how filthy with weeds it may have been, we will find a comparatively clean stubble; but if it lie until late autumn before plowing, numerous weeds will have succeeded in their mission of seeding down large areas. If, on the other hand, immediately after the field is cleared, we use the two-furrow gang plow, or even the spring tooth cultivator, with three horses attached, we can prepare for a catch

crop of barley or oats with millet sown thickly, which during the latter part of September may be pastured off, when it will frequently be eight to twelve inches high. If the field has been unusually bad with weeds for years, we might use rye sown thickly, instead of the above mixture, which would furnish late fall and early spring feed until time to prepare the ground for ensilage, corn and roots.

Barley fields may be similarly treated. It is often urged that there is no time to prepare fields as above at the proper time, but the farmer who tries it for one year will devise ways and means afterwards by means of which it can be accomplished.

Oat fields may be sown with rape, which will furnish the sheep a welcome change in late autumn, and the plowing under of this may be delayed until all the other fall plowing is accomplished.

The bare fallow system should be relegated to its proper place, and instead of plowing or replowing four or five times after the sod field is turned over in early spring, sow with some mixture that will provide succulent food for the cows and other stock until time to prepare for wheat. It should also be urged strongly upon our farmers the advisability of providing ensilage for any breaks in the above system; if any are sceptical about ensilage being eaten in summer, it is because they have never tried it, or that the ensilage was improperly treated in the putting up.

With some such system modified to suit each farmer's individual requirements, a supply of food is obtained that will not only dispense with two-thirds of the pasture lands usually kept, but will increase by at least one-half the yields obtained by the old method. Such pastures might be made to produce grain instead, but if the grain product is not fed entirely upon the farm, it will only hasten the starvation process which is rapidly impoverishing many farms to-day.

If, however, we are not only endeavoring to increase our live stock, but our grain products as well to feed the former with, as year by year goes by witnessing an improvement in each department, an enthusiasm, a love for our profession is kindled that the era of low prices now inaugurated can not depress.

Report of Secretary S. E. Prather,

At meeting of American Southdown Breeders' Association, held at World's Columbian Exposition, Chicago, Ill., Sept. 27, 1893.

The American Southdown Breeders' Association was organized at a meeting of the breeders of this popular mutton breed of sheep that was held in Springfield, Illinois, May 1, 1882. The object for which the organization was formed was "The collection, revision, preservation and publication of the history and pedigrees of pure-bred Southdown sheep."

On June 23, 1882, the organization was incorporated under the laws of the State of Illinois as the American Southdown Breeders' Association. A constitution and rules of entry were adopted, and a co-operation of all feeling an interest in maintaining the purity of these sheep was solicited.

The leading breeders of Southdowns in America early accepted the invitation of the Association, and promptly gave to it encouragement by becoming members thereof, or by recording their flocks.

When it is remembered that for the purpose of making the registry of individual sheep, male and female alike, the whole system of breeding then in general use had to be changed, it is not strange that some breeders failed to see that the benefits to be derived would outweigh the extra trouble and care that would be required. The usefulness of such registry was, however, early acknowledged by breeders who had large flocks of the very best type of these sheep, and who, like General C. M. Clay, of Kentucky, the oldest living breeder, realized that this effort was for the best interests of the breed. At the present time almost every American breeder of repute is using the American Southdown record for the registry of their flocks. This work will not, however, be entirely satisfactory until every reputable breeder of Southdowns in this country has allied himself with this Association, and is using his efforts for the advancement of the interests it represents.

The matter of practicability of the registry of ewes as well as of rams has been so successfully demonstrated by breeders in America, and the desirability of the registry of all breeding animals is so apparent, that this Association will not seem to be asking too much if it insists that Southdown sheep, imported from England, shall for legibility in our record be recorded in the flock book of that country or shall comply with the same rules required for the registry of American-bred animals. The special premiums—a set of the volumes of the American Southdown Record—offered at State Fairs, in 1893, have accomplished good, and it would seem that a similar offering should be made for 1894.

Animals now entered for Volume V. of the Record number 1,000.

Since our meeting in May last the names of Thomas P. Hamilton, Mexico, Mo., Robt. Marsh & Sons, Richmond, Hill, Ontario, Can., Bickford & Hoyt, Dickson, Center, Me., and A. P. Booth, Hematite, Mo., have been entered on our roll of members.

The breed of sheep in which we are interested is increasing in public favor; it remains for us as an Association, and as individuals, to push the claims of this incomparable mutton breed by every consistent means.

A WORD TO AGENTS.

Farmers' Sons and Daughters, Students and Teachers.

Any honest, thrifty person, male or female, can earn good wages and obtain regular employment canvassing for new subscribers to the FARMER'S ADVOCATE. This is honorable work, benefiting the subscriber, the agent and the publisher.

The past year has been a very successful one with us. Our subscription list has grown. Our paper is daily becoming more popular all over the Dominion. The regular agents now in our employ are doing exceedingly well, earning for themselves, above expenses, from \$30 to \$85 per month, depending on the energy and industry of the individual. With a little practice any man equally industrious and earnest could do as well. At what business, without capital invested, can you do as well? We will give to all new paid-up subscribers the balance of this year and 1894 for \$1.00; for \$1.10 we will give the ADVOCATE for the same period and one copy of our splendid picture, "Canada's Pride," a few copies of which we have on hand. With such inducements as these we trust our friends will send us many new names between now and Christmas. If possible start to work immediately, before the other papers are in the field.

The following cash commissions are given to all our agents: From 10 to 20 names, 25c. each; 20 to 50 names, 35c. each; 50 to 100 names and upwards, 40c. each. Special terms will be made with those who wish to canvass continually. A short time ago, a farmer and his daughter earned \$180 in ten days taking new subscribers for us. Those who would sooner receive live stock or implements than cash commissions can be supplied advantageously. See our prize list advertised in next issue. We will guarantee the safe arrival of every animal and article, and will further guarantee that all prizes will be of good quality and satisfactory in every respect.

An Essay on Horse Breeding.

BY JOHN DUFF, ROCKWOOD, ONT.

In opening the subject for discussion at this time, I do not intend going any further into the history of the different breeds of horses than may closely pertain to the subject in hand. In opening the discussion we had better first consider what kind of horses is likely to be the most suitable to our purpose as farmers, and in what way we may best succeed in obtaining such. I am of the opinion that the most of us will agree in favor of the agricultural or general purpose horse as the most suitable for all farming purposes. A difference of opinion, however, may arise as to what constitutes a general purpose horse, as some may think that a horse that will weigh from nine to ten hundredweight is a general purpose horse. Now, my own opinion is that we require a horse that will weigh from twelve to fourteen hundredweight, with good action, compactness, strength of constitution, well sprung ribs, and large, flat bones. A horse of such weight and other qualities as I have just named will be able to draw a plow or wagon with the greatest ease, and trot six or seven miles an hour.

As we are now surrounded with railroads, and can get a market for all our produce within a few miles, we do not require horses to go as fast as when the country was new and markets a long distance off. Then again, as our soil is becoming worn out, and deeper and better cultivation will be found necessary, heavier horses must be employed. I may say to those who think a lighter and faster class of horses more suitable for our purpose, that whenever we attempt to add to the general purpose horse those qualities which make him serviceable on the road, except to a heavy load, we detract from his utility as a farm horse. If we are to aim at perfection in the farm horse, let us cease trying to engraft upon him those qualities that destroy his value on the farm. Speed goes with the form of the greyhound order—tall, long and slender, but these are the qualities we do not want in a farm horse. It seems to be essential that there should be two or three distinct breeds of horses, each bred with a special reference to its particular work. If we want to breed such horses as at present command the highest prices in the market, we should breed heavy draft and a certain style of coach horses; but if to obtain the requisite qualities for a general purpose horse, I see no need of going beyond the two breeds—the English and the Clydesdale draft horses, for I think the effect of crossing upon any other stock would only produce the qualities we do not want. I have now come to the second part of the discussion. I may ask, by what means or from what class of horses can we obtain a general purpose or agricultural horse? Stonehenge, one of the best authorities on this subject, says that "most farmers who are particular about their horses use either the pure Suffolk or Clydesdale stallion for

their cross-bred mares in preference to stallions of any other breed. The Suffolk now shares with the Clydesdale pretty equally the approbation of the farmers throughout Great Britain. It is supposed, however, by many breeders of experience that the Clydesdale horse is gradually gaining on his competitor, and that in the course of a few years the Suffolk will be as scarce as the dray horse." Mr. Youatt, in his description of the Clydesdale, says "the Clydesdale is a good kind of a draft horse, and particularly for farming business and in a hilly country." It derives its name from the district on the Clyde in Scotland, where it is principally bred. For the breed of horses now known as the Clydesdale we are indebted to the enthusiasm of one of the late Dukes of Hamilton. In Scotland that nobleman, who lived about the latter part of the last century, entertaining a desire for improving the breed of horses in his district of Lanarkshire, imported stallions from Flanders, which he crossed upon the native mares. Others followed his example, till now this breed is, I may say, almost world-renowned. The Clydesdale is larger than the Suffolk, with better head, longer neck, a lighter carcass and flatter legs, is strong, hardy, pulling true and rarely restive. The Shire horse is the best draft horse in England at the present time; they are bred with more care than any other draft horse in that country. A good horse of this breed might answer those of you who wish to use them as well as the Clydesdale. But it is maintained by some of the best authorities that there is not a breed of draft horses in the world that will improve a low grade of horses as the Clydesdale, and in support of this argument I will quote the opinions of Mr. Pole Gell, one of the best authorities in England. He says: "The progress made in that country in the breeding of horses was remarkable, and afforded a lesson of which they in that part of England might well take heed. Derbyshire has long possessed a fine breed of cart horses, but of late years the quality of the stallions had hardly been kept up, and their mares were continually being bought up by Scotch breeders." Mr. W. G. Powell says: "It is not alone in the great strength of the Clydesdale, according to his weight, over any other breed of horses for heavy draft work, that his superiority consists, but he surpasses all others in his ability to keep up his strain for a much greater length of time—his reserve nerve force seemingly being much greater. This is observable, not only in a continuous pull, but also at the close of a severe day's work. He keeps up through the whole day the same prompt, vigorous and energetic step with which he starts out in the morning to a degree not equalled by any other horse. Being more strongly bred than any other draft horse, it would be an anomaly in breeding were this not so. Many a dunghill could out-run even a Ten Broeck for a short distance, but this same dunghill is incapable of continued exertion, lacking the necessary nerve force, which can come only from good breeding, but is no less important in the draft horse than in the trotter or the racer. Another superiority of the Clydesdale consists in his greater propensity in breeding. Crossed with any other breed of draft horses in world, the Clydesdale characteristic will predominate. This being true, no other evidence would be necessary to establish the fact that, crossed with the ordinary unknown bloods of our country, the Clydesdale will produce the safest and most satisfactory results. Experience and observation everywhere where tested confirm this. This question of propensity—the power of transmitting the same qualities and characteristics—is of the greatest importance, not only in an individual animal, but also in a breed. This power of propensity in a breed the Clydesdale certainly possesses in a greater degree than any other leading breed of draft horses on the globe—a quality of the greatest importance, and one which is fast becoming recognized and appreciated."

Colonel Williamson says that the breeding of Clydesdales is not done in a haphazard way; on the contrary, by hard work, by keen observation, by dogged perseverance, the breeders of what we call Clydesdale horses have founded and continued to breed a race of horses that have never been surpassed or equalled in the world—a breed of horses that is a credit to Scotland, and the Scotchmen who bred them. One of the great carriers of Manchester said that he had used some of the largest horses in the world for many years, and his experience was "that there was no breed equal to the Clydesdale for the hard pavement, because their bones and muscles were laid on in the right place." The demand for this noble breed of horses ought to be a sufficient argument in their favor, if there was no other. There is hardly a month in the year but there are purchasers from foreign countries buying them up. I have a personal knowledge of this myself, being there at all seasons of the year, where I have seen some shipped to Australia, South America, United States, Canada, and even to Russia. As many as eighty-three were shipped on one steamer in 1882 to the United States. Hence, there is no breed of draft horses in the world that surpass them, if demand, high prices, and their success in the show ring are a criterion to go by.

Another fact worthy of notice is that while in Scotland there is not a stud of Shire horses or mares to be seen, some of the largest Clydesdale studs in the world are to be found in England; among those the studs of the Marquis of Londonderry, Sir Robert Rodor and the Earl of Cawdor are prominent. As bad qualities are quite as easily trans-

mitted as good ones, if not more so, it is necessary, when selecting a male to improve stock, to see that he is free from bad points as well as furnished with good ones, as it is known by experience that the good or bad points of the progenitors of the sire or dam are almost as likely to appear again in the offspring as of the immediate parents in whom they may be dormant; hence, in breeding the rule is that like produces like or the likeness of some ancestor. Stonehenge says that the purer the breed the more likely it is to be transmitted unaltered to the offspring. Hence, whichever parent is of the purest blood will be generally more represented in the offspring, but as the male is usually more carefully selected, and of purer or less mixed blood than the female, it generally follows that he exercises the most influence, the reverse being the case when she is of more unmixed blood than the sire. Now, I think that we will be able to show you that the best kind of general purpose horses are got by crossing those heavy horses with our common or native mares. The first prize teams at the Central Exhibition at Guelph, since its commencement, in the general purpose class are by draft stallions and Canadian mares, weighing from fourteen to fifteen hundredweight. Indeed, the most of the prizes in this class at all our large shows are generally taken by crosses between the heavy draft and our mares. I may say to those of you who want to breed lighter saddle or carriage horses, that I would recommend a strong, well-bred horse, as large as you can get, with plenty of bone and muscle. Such a horse, crossed with some of our most stylish, well-bred mares, would answer your purpose better than any of those mongrels that are so numerous in the country. In selecting a blood horse I would recommend one of the best bred ones you can find. In height the blood horse varies from fifteen to sixteen and a-half hands. The general height of the best English performers is fifteen hands three inches. Sir Taton Sykes was fifteen and a-half hands. Between that and sixteen hands one inch may be ranged every great winner for the last number of years. The texture of the coat and skin is a great proof of high breeding in all thoroughbred horses. The hair is more silky than common breeds, and the veins are more prominent. The mane and tail should be silky and not curly, though a slight wave is often seen. A decided curl is almost a mark of degradation, and shows a stain in the pedigree as clearly as any sign can do. I would impress upon farmers the importance of health and soundness in both sire and dam. The peculiarity of form and constitution are inherited from both parents, and the excellence of the mare is a point of quite as much importance as that of the horse. It is quite true that the foal proceeds from the sire and the dam, but the experience of ages has proved that the essential parts of the body, such as the bones, the tendons, the nerves and the veins, proceed always from the sire. This is beyond all doubt. There are several mistakes which farmers always make. They pay little attention to the kind of mares they breed from, and less to the proper nourishment of the foals. I would like to impress upon them the fact that there is little if any money to be realized from breeding scrub horses. This class of animals will meet with slow sale and bring unsatisfactory prices, for the reason that the supply is greater than the demand, while for good draft horses there is a strong, healthy demand, far exceeding the supply, and for which such prices are paid as make the breeding of them highly remunerative. In fact, farmers sell the horses that command the highest prices, and keep for their own use such as they cannot sell. This is one of the principal reasons why our supply of good, large horses is so inadequate to the demand. The great mass of farmers follow this practice of keeping only such horses as cannot be readily sold, consequently a large majority of mares that produce our annual supply of horses belong to this refuse class. Until farmers learn that it is true economy to retain only their best mares on their farms, and use them for breeding purposes, the supply of good farm horses, such as we have described, will continue much below the demand, and horses weighing eight or nine hundredweight will be the kind mostly used by farmers. The introduction of good stallions has done much in some parts of Canada within the last number of years towards improving the quality of our farm horses, but until we learn to place a higher estimate on the quality of the mares we use for breeding purposes, the progress must necessarily be slow and unsatisfactory. But if we use a little judgment in selecting a good, sound, well-bred horse, with plenty of action, of whatever class of horses we want to breed from, and keep the best mares, we will in a few years have a far better class of horses than we have at present. What is the reason that we have a better stock of cattle at present than we had twenty or thirty years ago? Simply because farmers use only thoroughbred bulls. Will not the same rule apply to horses as to cattle? Certainly it will. In conclusion, I would advise all farmers to pay more attention to the breeding and raising of their stock, when crops are so uncertain. I think if we would improve our stock, and pay more attention to the proper mode of feeding, then we would be well paid for our trouble or expense that we might incur. Good stock of any kind is, I think, far more easily fed than poor, ill-bred mongrels. I hope these few hints may induce some of my brother farmers to give the subject of breeding a little more consideration.

Allow the Heifer to Develop.

BY THOMAS BELL, MITFORD, N. W. T.

I see a small article in your issue of 20th October anent dairying. It mentions that some dairymen allow their heifers to go till two years old without breeding, thinking that it is essential to have a large, well-developed cow before the time of calving. Well, sir, I certainly think that these dairymen are quite correct in their theories, as my own experience as a dairyman, or farmer, in the Old Country has amply proved.

Certainly I have seen heifers calving at two years and doing great things, but I have also invariably seen it to be the case that in the next season they never do so well as those that are allowed to develop properly before calving; in fact, I think they never make up the loss they sustain at that immature age. Such has been my own experiences as a breeder for over sixteen years.

FARM.

Brokenhead District.

BY GEO. BARTLETT, BEAUSEJOUR.

The majority of the settlers in Manitoba have settled on the open western prairie land, thinking to gain by having no land to clear. Many of them are now realizing the disadvantage of settling so far from wood and water, and attention is being directed to the equally fertile woodlands east of the river.

As yet, however, the district of Brokenhead has not attracted much attention, on account of its position. It is several miles north of Beausejour station, and as the land around the station and along the railroad is stony and not good for cultivation, the intending settler concludes that the whole country is like it. He therefore passes it by, little thinking that he is within a short distance of some of the best land in Manitoba.

Anyone who has taken the trouble to go a few miles north of Beausejour is surprised to find that, instead of rocks and swamps, it is an excellent farming district, which can and does raise heavy crops every year. It will grow anything which can be grown in any part of Manitoba, and offers advantages which few districts can offer. It is the object of this article to show the advantages which this country offers to the settler with the capital or enterprise necessary to make a start in a new country; for if he has neither of these qualifications he is of no use here—he is not the man for Brokenhead.

The Brokenhead district is the country along the Brokenhead river between Beausejour and the Indian reserve near Lake Winnipeg. It is heavily wooded in places, especially near the river, but has some fine stretches of prairie which makes excellent hay land.

Brokenhead is over one hundred feet above Lake Winnipeg, and about forty feet above East Selkirk, so that the swamps may be easily drained by digging ditches to the river. This is being successfully done by the new Government ditches, and a rapid improvement is taking place in the land and roads in consequence of this drainage. Any swamps or marshes in this district are caused, not by low ground, but by want of drainage.

The Brokenhead river is a large stream of excellent water, which winds with sweeping bends through the settlement, giving everyone all its advantages of water, drainage and transportation.

The soil is a rich vegetable deposit, formed by the heavy grass of the prairie and the leaves of the forest. Farther west extends a sand ridge, about fifty feet high, which runs along the east side of Lake Winnipeg, crosses the Brokenhead river near the Indian reserve, and runs southward and crosses the Canadian Pacific Railway near Tyndall station. It was the eastern part of one of the series of beaches of the ancient glacial Lake Agassiz. From the river to the ridge the land rises slowly, and near the ridge it becomes sandy. Along this part, and on the eastern slope of the sand ridge, many kinds of fruit grow wild, and several kinds have been successfully cultivated. The chief fruits growing there are plums, cherries, raspberries and blueberries. All of these, except blueberries, grow in all parts of the district, and wild grapes grow abundantly along the river banks. Melons, cucumbers and corn are successfully grown in all parts, especially near the ridge, and magnificent crops of potatoes are raised. Nearly all Ontario fruits have been cultivated, but wild fruits are so abundant that few people take the trouble to cultivate them. In places the blueberries are so plentiful that the pigs live on them during the autumn.

Fish are plentiful in the river during spring and early summer, and game is also plentiful during shooting season. Partridges are numerous, ducks and prairie chickens are quite common, and moose and deer are sometimes found here. Timber is close at hand for building purposes or for fuel, poplar, spruce, oak and jack pine being the principal kinds. A saw mill, which is run during the winter, makes lumber easily obtainable.

Most of the cultivated land is cleared bush, but the prairie has also been cultivated with good results. The land is very fertile. The wood lands raise heavy crops of vegetables and grains, and the prairies always yield good hay in abundance.

From these facts the reader will observe that it is a favorable district for mixed farming and for stock raising. Those who wish to go entirely into cattle raising can choose few better locations in the province than Brokenhead district. Along the townline, a mile west of the river, are many excellent places for cattle raising. Here the country is about half woods and half prairie, covered with heavy grass every year, which makes excellent hay. In this part there are springs of excellent water.

Brokenhead has all the educational advantages of any country district. There are schools within convenient reach of any part of the district. In these schoolhouses church services are held every second Sunday. Leading agricultural writers are telling the farmers of the west the advantages and the picturesqueness gained by setting out groves of trees on their farms. Here, however, the groves are already set out and full grown. On every quarter section are beautiful groves of trees, which nearly all mark beautiful sites for building. Every stretch of prairie is enclosed by a ring of woods, which add beauty to the locality, break the force of the wind, shade the house and yard in the summer, and prevent the seeds of thistles and other weeds from being spread by the wind.

By the settlement of the country almost every other disadvantage will be overcome, and is being overcome year by year. The constant drainage has so improved the road to Beausejour, that in fine weather it is only a few hours drive to the station from the farthest part of the settlement. Then the district has more frequent communication with Winnipeg than most of the stations on the branch lines, for a train runs each way on the main line every day.

The Manure from Farm Stock.

The attention of the best farmers has long been directed to the superior value of the manure from well-fed animals, although much depends whether this indispensable material is properly preserved and applied. That of stable-fed animals has been for many years estimated at a high value, and in more modern days that of swine in much higher estimation than formerly. That there is still much difference in opinion as to the best methods of application and preservation one can easily judge from the arguments often advanced by the most practical men. One farmer, whose stock, farm and whole surroundings entitle him to be placed in the first ranks of his profession, has become so thoroughly convinced that loose boxes are the only right system of feeding for the well-doing of his cattle and the best manner of handling the manure that he has converted his stables into box stalls nine feet square, and contends that from his own experience and observations this size is sufficient. These do not require the manure to be removed except at any leisure time, thus saving the continual labor in cleaning out, for where animals are tied in stalls the droppings must be removed twice or three times a day to keep the occupants in comfort. Many advocate cutting the bedding, as in this form it absorbs the dampness more thoroughly, and is more easily removed when loose boxes are in use, and the manure is in better condition to apply directly to the land, while the article thus manufactured contains all the elements of fertility just as they pass from the animals, undiluted and unfermented, and consequently comprises all the organic material for vegetable nutrition ready formed for the coming crops. Where it is not advisable to apply directly to the land, the manure should be hauled to the field where it is intended to be applied. It is a good plan to plough the ground slightly where the pile is to be placed. The spot should be sufficiently high so that no water will get near it, except that which falls in rain or snow, thus any leakage may be caught by the soil underneath the heap. Five feet is a good height to pile it, and many favor giving it a heavy sprinkling of salt, which will prevent too rapid heating, which in the case of manure from horses and sheep will cause it to fire. It is claimed by many there is a vast advantage in feeding cattle in loose boxes when they are intended to be grazed the following summer, as it is a well-known fact that cattle that are kept too closely confined do not graze to the same advantage as do those which have had rather more liberty during winter. The great difficulty with the loose box system is the quantity of bedding required, much more being needed than where cattle are kept tied up; but this on some farms is no object, for where grain is extensively grown there is generally more difficulty experienced in getting it rotted down. The advantage to the land of feeding grain and purchased food of all kinds is often lost sight of, and farmers are too apt to forget that in many cases they are using up their stock in trade by expending the fertility of their farms in growing large crops and selling them. Just as the cities of ancient times drained the surrounding countries and left them barren wastes, as far as the necessary elements of fertility are concerned, so is Great Britain to-day gradually robbing Canada

of the fruitful parts of her farms. In these days, when wheat commands such low prices, and all other grains and hay are also cheap, it is as well to consider what the manurial value of each of these articles is to the farm on which they are produced, and by taking the authority of Sir J. B. Lawes as to value from experiments tried by him, we shall be able to judge how the farmers of Canada can afford to sell their hay and grain, or rather which feeds are best suited for the combined object of producing meat and manure. The comparative value of these feeds is taken from an analysis of the different fertilizing elements they contain, and reduced to practice by actual tests of feeding and growing crops therefrom.

The following table gives the value of the manure from a ton each of grains, hay and feed in most common use:—

	Total dry matter.	Ash, manurial matter.	Phosphoric acid, phos. of lime.	Potash.	Nitrogen.	Value of manure in \$ and c. for 2,000 pounds of food.
Oil Cake.....	88.0	7.00	4.92	1.65	4.75	\$19 72
Cotton-seed Cake.....	89.0	8.00	7.00	3.12	6.50	27 86
Peas.....	84.5	2.40	1.84	0.96	3.40	13 38
Corn.....	88.0	1.30	1.13	0.35	1.80	6 65
Wheat.....	85.0	1.70	1.87	0.50	1.80	7 08
Oats.....	86.0	2.85	1.17	0.50	2.00	7 70
Wheat Bran.....	86.0	6.60	7.95	1.45	2.55	14 50

The figures showing the money value of the manures made from different foods are based on the amount of nitrogen, phosphoric acid and potash they contain. Sir J. B. Lawes had been buying and using artificial manures for many years when he computed the above table, and, doubtless, the conclusion is as near correct as any that can be obtained as to the cheapest means of purchasing the three essential elements of fertility, viz., nitrogen, phosphoric acid and potash.

It is also as well to remember that not only are the chief ingredients of fertility in the most soluble state possible in the manure of richly fed animals, but the manure itself greatly assists in bringing the soil to the best mechanical condition.

Feeding pigs wheat is just now highly recommended, as it is contended by many that by feeding good feeding pigs in good weather at six cents per pound live weight, \$1 per bushel may be made of wheat. If this is the case, with proper care and application a good profit may be made by the manufacture of manure. Again, it is only by farming good, rich, well-kept land that either stock, grain or any crop can be produced at a profit.

How Insect Pests Are Kept in Check.

The necessity of waging constant warfare against the insect pests that destroy the hopes and profits of many crops on the farm requires continuous study on the part of those engaged in agricultural pursuits. Anything that will in any degree tend to lessen the inroads from destructive insects demands the attention of all so engaged. Many of these winter over in the ground, while others find a lodging place in any refuse left upon the surface, and if left undisturbed, will be ready to pursue their evil work when vegetation starts in the spring. Insects have their habits so thoroughly established that a sudden radical change must of necessity prove fatal to a greater or less number. This is why a rotation of crops is of so much value in holding destructive insects in check, and explains why it is that crops following after pasture or meadow are more apt to suffer injury. A grass or clover crop would be no more of a nursery for destructive insects than any other, if it was grown but for a single season on the same ground. This is, however, not the case, and how to overcome the effect of a continuous grass crop is one of the problems that is just now puzzling our farmers, as many of our most destructive insects are almost sure to get in their work immediately following the breaking up of sod lands.

One feature of these pests is that the majority of them winter over in the ground, in either one or the other of three stages of development. That is, they are either in the grub, pupal or adult state, and in either of these more or less susceptible to the changes of the weather, especially during the winter months. In autumn, all insects that remain inactive through the winter months make some provision against inclement weather, and usually this is done just prior to their becoming stupefied or dormant, in which state they are not affected by cold, no matter how severe, if continuous. It is the sudden changes, the freezing and thawing, the wetting and drying that is unhealthy.

With the coming of fall, white grubs, wire-worms and cutworms, that through the preceding months have been feeding near the surface of the ground, delve downward and by working their bodies about, construct a rude cell of earth, after which they practically go to sleep and remain in that condition until warm weather. What the farmer can do, after this sleepy, stupid condition comes on, to wreck these winter quarters, will be to throw the occupants out of their homes to the mercy of the elements, while the makers are in an unfit condition to construct others. Whatever the farmer can do to disturb or break up the surface of the ground late in the fall has this effect, and therefore fall plowing can not fail of being more or less effective in destroying any or all of the pests above mentioned.

GARDEN AND ORCHARD.

The Value of Observation and Experience in Fruit Growing.

BY ELMER LICK.

Man has many lessons to learn in this world. Some men gain a large amount of knowledge, while others seem to be at a standstill. Knowledge is said to be power; such can truly be said to be the case provided that such knowledge is turned to practical use. In acquiring knowledge, experience plays a prominent part. The lessons learned by our failures or successes are equally valuable, if not equally profitable in a financial sense. Experience teaches us to avoid these conditions and causes which have led to failure, and to follow that course which in the past has been successful. The man who trusts alone to his own experience will be an old man before he has learned very much, compared with the one who has closely studied and observed the experiences of others.

During the past few weeks apples have reached a size such that they can readily be seen from the roadside. I have been carefully noting the crops, and comparing the previous cultivation, with a desire to learn and add to my own knowledge some fact or facts which will enable me to produce more and better fruit on my own orchards, and at a minimum of labor and manure. In penning a few of these observations for the benefit of the readers of the FARMER'S ADVOCATE, I trust that they may be such as will lead men to observe and experiment.

There are about 180,000 acres under orchard and garden in the Province of Ontario, probably over one-half of this is planted to apples. Any method that will give an increase of production and of better quality will be a great boon to the fruit-grower. I have observed three principal methods of caring for orchards in this vicinity. One is to let them care for themselves—several orchards in this district come under this head; such trees have not been pruned for several years, are full of sprouts and dead limbs, and, should they accidentally have a few apples on, it is well nigh impossible to pick the fruit. The orchard containing these trees has usually been seeded down for several years, and consequently has become a tough sod. Usually all kinds of stock are allowed to run pell-mell through it summer and winter. In the summer the leaves are a pale yellow, and ripen early in October.

There are only two redeeming features to such a forlorn state of affairs. What fruit there is will be well colored, and in consequence of the lessened production the orchardist will have a better price and market for his fruit.

There are hundreds and thousands of orchards, ranging from an acre or more to many acres, which are being treated in a similar manner to the above. I never yet heard the man who managed an orchard in this style say that he thought there was money in growing apples. But I have heard tenants grumble because the landlord reserved most of the orchard for his own use, yet at the same time I have known them to use what few trees they did have in a similar way to that described.

Another method of managing an orchard is "to partially care for it." I fear that many orchards have been allowed to come under this head this hurried season. I personally have to regret being unable to plow a portion of one of my orchards this summer. When it should have been done it was too hard. Some pruning that I wanted to do in March I did not get done, I could not find time in June, and consequently a few hundred trees are unpruned. Such cases as my own are the result of unfavorable climatic conditions, and cannot be avoided. Within half a mile of my writing at the present time is an orchard which was thoroughly pruned a few years ago by cutting out many large limbs. So far the results have been satisfactory, but time will in all probability cause the decay and breaking of the remaining limbs. In another adjoining orchard the limbs were cut from one to three inches away from the trunk or branch from which the offending limb was separated. Orchards coming under this second heading are fairly loaded with fruit, considering the universal scarcity. Occasionally good crops are produced under favorable conditions.

The last class is that in which every care is taken of the orchard. Very few orchards can be so classed. The only conditions necessary to admit to this class are that the trees should bear abundantly, and of good quality, size and color, doing this without unnecessarily injuring the tree or impoverishing the farm. The last statement I will probably explain at some future time.

I know of several orchards that are well-pruned, fairly cultivated, and yet do not produce anything like paying crops. They simply lack the necessary manure. My observation and experience (and largely the latter) go to show that the best method of producing apples is to follow a course which opens the trees well to the sun, and that keeps the soil cultivated thoroughly and gives sufficient manure for the growth and development of the tree and fruit. Briefly, the best pruning is that which allows the branches and leaves to shade the trunk fairly well, and yet gives an opportunity for the fruit to color properly. The best cultivation is either two plowings in the spring, or one in the fall and another in the spring, following the last plowing in either case by buckwheat—the time of last plowing to be guided by the size of trees and

amount of fruit on trees. Under usual conditions the buckwheat should be sown some time during the month of June.

The best manure for an orchard, and about the only one I have used or seen used, with the exception of ashes, is farm-yard manure. I have seen an orchard with leaves yellow during summer and ripe early in fall, with small crops of fruit, changed to a dark green leaf and late ripening of leaf, and large crops of fruit of good size and quality and color, simply by the use of liberal quantities of farm-yard manure in connection with suitable pruning and cultivation. It is simply nonsense for men to talk about trees not bearing; make the conditions right, then, if they will not bear, either dig them out or graft them to some variety that will bear.

My enquiries have led me to the conclusion that a few orchards in nearly all portions of the province have a partial crop; these are the orchards for us to study and observe, and there is no better time for this than during September and October. I always hold the best time to plan and resolve is at the time of harvesting. The apple-grower needs a great amount of resolution and patience—resolution to carry out the best method, and patience to wait for the results. But he may well be assured that, sooner or later, his reward is sure if he but perseveres.

Care of the Orchard.

No one should set out a new orchard unless he is sure he can give it both manure and mellow cultivation. A small one of a few acres bearing yearly rich and beautiful specimens is better than a neglected one spreading over wide acres. There will be more profit in the small and perfect one than in the one extended and neglected. Until planters who have the means avoid this superficial practice, they will continue to set the unwholesome example to others, and perpetuate to a great degree the shipshod style of orcharding. It is well, therefore, for the planter to determine beforehand what special attention can be given to the trees, and fix on the size of the orchard accordingly. Cultivation alone, keeping the soil clean and mellow for several years, may answer while the trees are young; but when they come into heavy bearing, this annual draft can only be supplied by an annual or at least biennial topdressing, in the autumn or winter, of rich barn manure.

Why Every Farmer Should Subscribe to the "Farmer's Advocate."

Because it is the farmers' organ, edited solely for their benefit, and devoted entirely to their interests.

Because those who write in its columns are the foremost and most successful and practical agriculturists, dairymen, poultrymen and horticulturists in America and Europe.

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Because we publish the doings of the various associations—horticultural, dairymen's, poultry raisers', and all others.

Because we publish a live Canadian paper, and should be supported.

The American Gardening, so long known in the ranks of agricultural journals as one of the most reliable and practical of horticultural papers, comes to us this month with an entire change of form, and under new management, it having passed from the ownership of the Rural Publishing Co. into the hands of the A. T. De La Mare Printing and Publishing Co., who are so well and favorably known as the publishers of the leading weekly horticultural trade paper, "The Florists' Exchange," of New York. The American Gardening will hereafter be published twice a month; this, in addition to its close connection with commercial horticulture through the Florists' Exchange, will enable it to keep its columns fresh, spicy and abreast of the times. Each department will be under the charge of a specialist, and we may expect it to be in the future a still greater source of aid and inspiration to the amateur gardener.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Veterinary Questions and Answers.

ANSWERED BY W. A. DUNBAR, V. S., WINNIPEG.

SAMUEL W. BISHOP, Sinaluta:—"I lately bought a mule, it was lame, and previous owner said it required shoeing; this I had done. Hoof was split up the front, and one-half of hoof nearly half an inch thicker than the other. The smith said lameness was not in the foot. Mule seemed worse with shoes on, so, after five days, removed them. There is a small, hard lump just above upper part of hoof. One man says she is sweeneyed a little, but both shoulders look alike, being slightly hollow. Mule has also a small running sore under jaw that will not heal up. Please prescribe."

If the "small, hard lump just above the hoof" is the seat of lameness, it is probably the commencement of a ring-bone, and, from the deformity of the hoof, we are disposed to believe that such is the case. We would advise you to apply the following blister:—Binioidide of mercury and cantharides, of each one drachm; vaseline, one ounce; cut the hair closely from the part; rub the ointment well in with the fingers, let it remain for forty-eight hours, wash off and apply vaseline to the blistered surface. Repeat the blistering three times, allowing two or three weeks to elapse between each application. The sore on the jaw may be the result of an injury or of a decaying tooth. It may also be caused by fox-tail grass working its way through the soft tissues beneath the tongue. Have the part thoroughly examined, and remove any foreign body that may be found in connection therewith; by doing this the cure will be accomplished.

DAIRY.

The Cheese Competition at Chicago—An Unlooked-for Reason Why Canada Scored Higher than the United States.

One or two of the correspondents of some of the American dairy journals have thrown out the idea that the reason the Canadian cheese scored so sweeping a victory at the World's Fair was because the American dairyman fed more ensilage to his cows than the Canadian dairyman, which affected the quality of the milk, and, therefore, causing an inferior quality of cheese to be made.

Such a suggestion must be taken as a mere excuse for the American dairyman's inability to manufacture as good a quality of cheese as his Canadian cousin. Anyone who has travelled at all through the principal dairy districts of both countries knows that there are just as many, if not a great many more, silos in use in the dairy districts of Canada as in the dairy districts of the United States. Consequently for the American dairymen to put forth such a theory, as a seeming loop-hole by which they may escape the onus that falls upon them by the decisive victory which Canadian cheese has gained over the American in the competitions at Chicago, only serves to confirm still further the fact that the Canadian dairyman has put more skill, more intelligence, and more energy into the business of manufacturing cheese than the American dairyman has.

Another reason that proves the utter fallacy of such an argument is that the feeding of corn ensilage to cows has been tested in so many different ways, and by so many different persons, and proven to have no injurious effect whatever upon the quality of the milk produced. All these experiments go to show that milk produced from a ration made up nearly altogether of corn ensilage will not have any injurious effect on the quality of cheese manufactured from it, or likewise upon the quality of the butter.

In Canada, as well as in the United States, during the summer months, when the pastures are in good condition and succulent grasses are plentiful, not very much, if any, ensilage is fed to his cows by the patron of a cheese or butter factory, and, therefore, if it were injurious the proportion of milk produced from it is so very small that it would not materially affect the quality of the cheese.

The American farmer grows more corn as a food for his stock than the Canadian, but the bulk of it is not put into the silo, but fed from the "shock" to the cows chiefly during the winter months. There is no need, however, to comment on this, as the feeding of corn stalks to milch cows has been so general on this continent for so many years that their value as a food capable of producing good milk, and lots of it, is pretty thoroughly established. In conclusion, we may state that the "ensilage excuse" is only advanced by one or two dairymen, who perhaps consider they are rendering an important service to their fellow dairymen by such an invention, and must not be taken as the general opinion of the intelligent and thinking dairymen of the United States, who realize that they have been fairly and squarely beaten in the

cheese competitions at the World's Fair, and that the reason is they have not put the same skill, intelligence and energy into the business as their Canadian cousins have. This more reasonable way of viewing the matter will have its good effect upon the American dairymen, and will, no doubt, stimulate them to greater and more successful efforts in the future in the line of cheesemaking. It therefore behooves the Canadian dairyman to make particular note of this fact, and not relax his efforts until he turns out a quality of cheese that will compel the judges to give it the full score of 100 points, instead of scoring 96, 97, 98, 99, or even 99½.

How to Acquire Herds of Good Dairy Cows.

A question frequently asked by dairymen is, How are we going to get into a good herd of dairy cows? To answer this to the satisfaction of everyone will be a difficult task. There are a few suggestions, however, which might be offered that would be helpful if systematically carried out.

Farmers should raise their own cows for the dairy. This is the cheapest and best method, and can be done by every farmer who will go about it in the right way. Test your herd of cows and find out the cows that are giving the largest quantity and best quality of milk. This can be done quite easily by weighing each cow's milk night and morning for a week, and having a sample tested by means of the Babcock milk tester, which may be found in nearly all our cheese factories. When the best cows are selected, then raise cows for the dairy from these.

Particular care should be given to the kind of bull used for dairy stock. Because an animal has a long pedigree or belongs to a particular breed of cattle is no true guarantee that he is the proper one to use. Find out the animal whose mother was a good milker, and which has a record of its own for getting stock of good milking qualities. An animal of this kind will usually be found among the Ayrshires, Jerseys, Holsteins, or milking strain of Durhams. The heifer calf should receive the best of care in its early life, and should be trained and fed so as to develop the milking qualities. This can be done by feeding regularly, and not in overdoses, good, nourishing, succulent food while the heifer is growing, which will have the effect of stimulating and developing the organs that elaborate the milk, and of cultivating the milking qualities of the heifer. By adopting some system of breeding such as has been indicated, and attending to the little details, dairymen will be able gradually to secure cows that are good milkers.

There a number of points given for judging a good milch cow which are very serviceable when a cow is being bought or selected from a herd. A person may be able to get a good herd of cows by buying them, but, as a rule, unless a man is going out of the business he will not dispose of his best cows, and is more inclined to weed out the poor ones and dispose of them. Consequently, to keep up a good herd of dairy cows by buying them is not as satisfactory a method to the average dairyman as each one raising his own stock and training his own heifers. This plan will not be more beneficial to the herd in keeping it supplied with good cows than to the farmer himself, who, from the care and kindness it will be necessary for him to exercise towards the heifer in its early years, will acquire the habit of treating the cow kindly when she is producing milk.

Patrons of Cheese Factories Fined for Tampering with Milk.

During October, Mr. T. B. Millar, Inspector for the Dairymen's Association of Western Ontario, visited a couple of cheese factories in Haldimand County, and succeeded in bringing to justice a number of patrons who have been tampering with milk. The following are the names of the convicted parties and the amounts of fines imposed:—

PATRONS OF THE BISMARCK FACTORY, BEFORE SQUIRE SHIPMAN, OF SMITHVILLE.

Joshua Bowman, Gainsborough Township, Lincoln County, admitted the charge of watering milk. Fined \$10 and costs.

Henry D. Miller, Caistor Township, pleaded guilty to skimming. Fined \$10 and costs.

John Black, Caistor Township, was charged and convicted of skimming milk. Fined \$15 and costs.

David Vaughan, Gainsborough Township, pleaded guilty to watering milk. Fined \$10 and costs.

Richard Heaslip, Gainsborough Township, pleaded guilty to watering milk. Fined \$10 and costs.

John B. Becker, Gainsborough Township, was charged and convicted of sending milk that had been both watered and skimmed. Fined \$10 and costs.

PATRONS OF THE ATTERCLIFFE STATION FACTORY, BEFORE P. M. TAYLOR, OF DUNNVILLE.

Henry Waters, Moulton Township, Haldimand County, a former cheese manufacturer, pleaded guilty to skimming milk. Fined \$5 and costs.

Daniel Harrington, Moulton Township, pleaded guilty to watering milk. Fined \$5 and costs.

Archibald Angle, Moulton Township, pleaded guilty to watering milk. Fined \$5 and costs.

Frederick Klengender, Moulton Township, pleaded guilty to skimming milk. Fined \$5 and costs.

Kasper Hauser, Moulton Township, was charged and convicted of supplying milk that had been both watered and skimmed. Fined \$5 and costs.

Annual Convention of Western Dairymen's Association to be Held in Ingersoll.

The Executive Committee of the Dairymen's Association of Western Ontario met on Saturday, Nov. 4th, in the Secretary's office, London.

Arrangements were completed for the next annual convention, in the town of Ingersoll, on January 23rd, 24th and 25th, 1894. An excellent programme is being provided for the occasion, and the coming convention promises to exceed in interest the very successful conventions of former years.

A number of local conventions will be held during the winter, in order to reach as many of the dairymen in Western Ontario as possible with practical information on various dairy topics. An endeavor will also be made, as far as possible, to have some practical dairymen attend the annual meetings of factories and local meetings of dairymen.

Some Notes on Making Dairy Butter in the Fall and Winter.

At this season of the year nearly all the cheese-factories have closed, and farmers will have a much larger supply of milk to look after and manufacture into butter at home. A few suggestions at this stage, as to the best methods of handling this milk and converting it into butter, may be timely and helpful.

1. The cows should be kept in the stables as soon as the cool weather begins, and given good nourishing food.

2. Have the stables well ventilated, so that the atmosphere for milking in will be pure and wholesome.

3. As soon as the milking is done, the milk should not be left standing in the stable or where the air is impure, as it will readily take in bad odors which will affect the quality of the butter.

4. As soon as the milking is done, or when the milk is at normal heat, 98°, it should be set for the cream to rise. If the milk has had time to cool it should be heated to the proper temperature before setting. As the cool weather advances, ten per cent. of hot water from 150° to 160° may be added to advantage. It will have the double effect of heating the milk before setting, as well as facilitating the upward movements of the globules of butterfat.

5. Shot-gun cans are now generally used for setting the milk in, and should be placed in cold water, about 45° or 50°, as soon as the warm milk is put in. In the cold, frosty weather, better results will be obtained by setting the milk in shallow pans, and placing them in cold water the same as with the creamers.

6. Twenty-four hours is a sufficient time in which to allow the cream to rise. If the conditions are favorable all the cream will be on top at the expiration of this time.

7. The cream should be taken off when it is sweet, and kept in a cool place. Every time fresh cream is added the whole lot should be stirred and mixed thoroughly.

8. One day before the churning is to be done, about 3 per cent. of sour cream or sour skim-milk should be added to the cream, and the whole mixed thoroughly, and kept at a temperature of 60°, when after twenty-four hours the whole lot will be slightly tart and ready for churning. If about 25 per cent. of pure water is mixed with the cream when sweet, good results will be obtained.

9. The best temperature for churning during the late fall and winter is from 62° to 64° Fahr.

10. When the particles of butter are like clover seed, the buttermilk should be drawn off and pure water at 55° added in its place.

11. The churning should then be continued for a minute or two, when the milk will be washed free from the butter. The milky water may then be drawn off and a weak brine added at 55°.

12. After a minute's churning the butter may be left to drain half an hour before it is removed to be pressed and salted.

13. For immediate consumption three-quarters of an ounce of pure salt of medium fineness will be sufficient, and for packed butter one ounce to the pound.

14. While the salt is being added the butter should be kept cool and should not be worked any more than is sufficient to get the salt thoroughly mixed. The butter should be kept cool till the salt is dissolved, when it may be worked a second time to get rid of any streakiness that may be in it.

15. In getting butter ready for the market, particular care should be given to have it put up as neatly and clean as possible, whether it be in prints or in tubs. Parchment paper to wrap around the prints or put on top of the tub will be a good investment.

Nothing is more attractive to the consumer than tidy, clean packages of butter, while on the other hand, can anything be more repulsive to a person who has to eat it, than butter done up in a slovenly, dirty manner? If the manufacturers of dairy butter would give more attention to the little details which affect the quality and appearance of butter, they would realize a more ready sale for their goods and be able to retain their customers.

The Dairy Industry of Ontario.

BY H. H. DEAN.

When I think of the progress that has been made even within my recollection, I am led to exclaim, Marvellous! This progress, however, has been more marked in cheese than in butter, and we shall first consider the cheese side of the question. This progress has been in a great measure due to the good work done by the dairy associations of both Eastern and Western Ontario. Their instructors, public meetings and literature have left a mark on the cheese industry, and the good work is still going on. Perhaps no money that is voted by the Ontario Government brings in such substantial returns as the \$5,500 voted for the use of these two associations.

As these thoughts occur to me, my mind goes back some sixteen or eighteen years ago, when my father operated a factory in the Township of Burford, County of Brant. At that time hauling milk twice a day was the rule, and cheesemakers worked almost night and day. All this is done away with now, and the expenses for manufacturing are consequently very much lessened. I remember, too, at that time, he had a young fellow hauling milk for us night and morning, and the rest of the day he would work on the farm. He was of that age when "a young man's fancy lightly turns to thoughts of—" and occasionally I used to go with him on his round gathering milk. Though usually not very good at getting up in the morning, on the days when I went on the milk wagon early morn saw me awake and dressed before the wagon was ready to start. Off we started across the 9th concession swamp and down on the beautiful Burford plains, and at one particular place there used to be a nice bouquet of flowers stuck in the hole on the top of the can lid. I wonder if any farmer's daughter now arranges a bouquet for the milkman? If not, why not?—as it would, perhaps, repay him for having to get up so early in the morning, and tend to make him more patient on wet mornings, or when sleep has been allowed to knit too long at the ravelled sleeve of care.

Not only has there been progress made in regard to a lessening of expenses in connection with the manufacture of cheese, but during the last year or two there has been a decided improvement in the physical and chemical composition of the milk. The improvements in its physical condition are due to the fact that more people aerate the milk than formerly. Patrons are beginning to see that if they would make the most of the milk given by the cows, it is important that the cheesemakers get this milk in the very best condition. Aeration makes a marked improvement in milk for cheese-making, and every patron of a factory should either purchase an aerator or take the trouble to pour or stir the milk well, at least three times after it has been milked—once after milking, once half an hour later, and once before going to bed. In purchasing an aerator, do not buy one that is difficult to keep clean. Better to have none at all than one that cannot be easily cleaned. The simpler the method the better it will be for the majority of patrons. Milk should be well stirred at least once after going through the aerator. Some think that when it goes through an aerator that is all that is needed. This is a mistake—a stir before going to bed will improve it.

While there is doubtless room for progress in the matter of keeping milk in cleaner places and in looking after the cleanliness of the milk can, yet there is an advance on milking in wooden pails, feeding pigs under the milk stand, or locating the milk stand near the manure pile. Some few need a word of caution on this point still, but the majority of patrons understand how detrimental anything of this sort is to the business.

Straining of the milk as soon as it is milked should be practised at every dairy, whether the milk is used on the farm or sent away. A fine cloth strainer is best; this should be kept clean by boiling and airing. Another advance is that of some factories refusing to send the whey home in the same cans in which the milk is brought to the place of manufacture. A prominent dairyman and factory manager said recently he would not undertake to operate a factory and send the whey home in the cans—the risk is too great. There is no doubt about a great deal of milk becoming tainted from this cause. Where the tanks are kept clean, the whey scalded, and the cans emptied soon after reaching the farm, the danger is very much lessened; but in how many cases is all this done? Not many. At the factory, pressure of work prevents the maker giving his attention to the matter, and at the farm carelessness or forgetfulness finishes the damage commenced. Feeding the whey at the factory has helped to improve the physical condition of the milk, and, we might add, has improved the finances of both patrons and manufacturers.

A maker said to me some time ago that he was sure that the patrons of his factory would receive from 1/4 to 1/2 of a cent more per pound of cheese than they were getting, did the whey not go home in the cans. On a make of 100 tons, what the loss would be I leave my readers to figure out. Besides this, it is known that cans not properly cleaned after they have carried whey often cause gassy curds, and gassy curds, like a good many other things that are gassy, are expensive. Improvement in chemical composition within the last two years is due largely to two things:—

(1) Improved methods for detecting adulterations.

(2) Paying according to the per cent. of fat. If we were to judge wholly by the pounds of milk required to make a pound of cheese, we should conclude that the milk is getting poorer all the time, for we find that in 1883 the milk required to make one pound of cheese was 10.08; in '84, 10.25; '85, 10.30; '86, 10.27; '87, 10.54; '88, 10.51; '89, 10.47; '90, 10.54; and in '91 it appears to have reached the limit, when 10.56 was required; 1892 saw the average come down to 10.49. Whether this almost steady decrease of cheese made from 100 pounds of milk is due altogether to its poorer quality or not, I shall not say, but some part of it is, no doubt, caused by the farmer's great desire for quantity (in some cases regardless of the means), and to the market's demand for a cheese with less moisture in it than was required ten years ago.

Coming back to the first cause of chemical improvement, it is a shame that it is necessary to invent methods for detecting fraud. If every one were honest and sold milk as nature produces it, there would not be so much need for milk testers and inspectors. For those who will persist in milking the pump handle, or in taking off breakfast food spice, the methods now in use are quite competent to detect. The Babcock Tester will show the per cent. of fat in milk, and when it drops below 3 per cent. from a whole herd, they are either very poor cows, or else the milk has been very poorly handled after it came from the cows. If we desire to know in what way a sample has been tampered with, whether watering or skimming, we need to use a lactometer also. The best lactometer now in use is what is called the Quevenne or Lactometer. Instead of being graduated from 0 to 120, as in the old kind, it is graduated from 14 to 42. It also has a thermometer in connection with it, which is an advantage in testing a number of samples. This graduation on the Quevenne Lactometer is handy for another reason—it expresses in thousandths the difference between the specific gravity (weight) of water and milk—assuming water to weigh one. For instance, suppose that the Q. lactometer is dropped into a sample of milk which gives a reading of 25, to state its specific gravity we have merely to put the figures 1.0 in front of the reading, which, in this case, would be 1.025. This means that the sample being tested is 25 thousandths heavier than water. In using the lactometer the temperature must be observed. The standard temperature in most of them is 60° F. It would be considerable trouble to bring a number of samples to this temperature, and the following rule may be observed in making corrections for temperature. For every degree above 60 add one-tenth to the lactometer reading, and for every degree below 60 subtract one-tenth. For example:—

Lactometer reads.....	30
Temperature.....	58° F.
True lactometer reading.....	30 - .2 = 29.8
or Lactometer reads.....	32
Temperature.....	68° F.
True lactometer reading.....	32 + .8 = 32.8

This rule, according to Dr. Babcock, is only applicable where the temperature does not vary more than 10 degrees above or below 60.

Those who have used the Q. lactometer will have noticed two streaks along the side of the scale—one yellow and the other blue. In these streaks are figures ranging from 1 to 5 tenths, which are supposed to indicate the amount of water that has been added to a sample of milk, the figures on the yellow side to be used when testing whole milk, those on the blue side when testing skim milk. Of course they are only an approximation. When the lactometer sinks to the lines within the bracket, which embraces a reading of from 26 to 29, it indicates 1-10 water added to pure milk, and so on. The per cent. of water that has been added to a sample may be determined quite closely as follows:—Find the per cent. of solids not fat by adding one per cent. of fat in the sample to the true lactometer reading, and then divide this sum by 4. Where a legal standard is adopted, it will only be necessary to compare the suspected sample with the standard. Where there is no standard for total solids, a sample of the original milk should be obtained, if possible, and where this cannot be obtained, a limit standard of 8.5 per cent. of solids not fat may be used. The question then resolves itself into this:—

8.5% solids not fat 100 or pure milk; how much pure milk is there in a sample which has less than 8.5 per cent. of solids, not fat.

An example will illustrate:—

Per cent. of fat.....	2.5
True lactometer reading, 28.	
Find per cent. of pure milk in sample.	
28 + 2.5	30.5
30.5 ÷ 4	7.62% solids not fat.
8.5% s. n. fat	100 or pure milk.
1 " "	8.5 " "

And a sample containing

100	
7.62 " "	8.5 × 7.62 = 80.64 per cent. pure.

These improved methods of testing have probably had a good effect on the composition of milk furnished to factories, and the payment by test has stimulated a desire for better breeds of dairy cows.

In my next I shall speak of improvements in methods of manufacturing.

POULTRY.

Poultry on the Farm.

BY MRS. IDA E. TILSON, WEST SALEM, WIS.

T. W. Higginson, the author, says: "Fields are won by those who believe in winning." I lately read the interesting experience, written by himself, of a Georgia boy, who started in poultry by paying his solitary nickel to a neighbor for one full-blooded egg, which he set under a borrowed hen. That egg, in time, yielded a fine pullet, for which a mate was desired. The young poulterer still had no money, but traded his little pet pig for a valuable rooster, and the next year raised a number of pure-blooded fowls. Then, like any full-fledged fancier, advertised his stock in the papers. I wonder why parents do not oftener engage their children in poultry culture to teach them business habits at small cost? An account should be kept of poultry proceeds, and another of grain furnished and expenses, then the balance, which will be nothing or something, smaller or larger, according as he works, learns and plans, should go to the child who cares for the fowls. I know one novice, not so very young either, who, unless reminded, sometimes fed chickens every little while, and again, nothing all day. So there may be considerable bother at first watching and showing the little folks, to make them regular and judicious in care, but a child untaught to earn and manage for himself will be a bigger bother by and by. That best of all kindergarten mottoes is: "We learn to do by doing." I advise children, however, or anybody else, to begin with market fowls, as I would rather buy expensive stock and my eggs for hatching from those more thoroughly acquainted with fowls. It is probable some eggs and birds, not up to standard and expectation, have been sent out by inexperienced fanciers, who thus injured their intelligent, painstaking brethren in the business. Last spring I bought two settings of a boy doing very well with poultry and anxious to please me. I went after the first setting, exchanged one flat egg, tenderly transferred the others to my basket, covered them and carried steadily without shaking. Twelve fine chickens rewarded my care and judgment. The boy delivered my other getting, brought uncovered on a cold, rainy day, the basket swinging in time with his young, lively step. I threw out one cracked egg, two flat ones afterwards broke, and of the seven chickens that hatched but six grew up. Shall the difference be credited to luck or to myself?

A customer lately told me he got fourteen bad eggs out of two dozens bought at a store, and he knew a cold storage firm which, with their tester, rejected nine dozens out of one consignment of thirty dozens. Such eggs betoken ignorance or carelessness. Probably they had been kept too long waiting for a higher price, and, in the first place, not gathered daily, nor the broody hens promptly removed. Another purchaser, who reminded me she had walked some distance for my eggs, I joked about her lack of Chinese taste for chicks in the shell, but she was sure even the so-called "heathen Chinese" would not like old, dead, decayed specimens. From my own experience, I'll guarantee that in our present hard times, or in any other "times," the demand for reliable eggs is beyond supply, and whoever furnishes honest eggs will probably have her "days long in the land" and be long remembered, too.

If we would have plenty of eggs, we must make our pullets grow rapidly and lay early, and get our moulting and broody hens back to business again as soon as possible. Some have thought while these classes are not laying they need little to eat, but light rations will never supply them ready to resume payment in eggs. A varied but not fat-forming diet is suitable for all.

This fall a lady asked me why her pullets had so much leg weakness. I told her that damp quarters, roosts very wet with kerosene, free use of sulphur in food, too rich food, particularly corn-meal pudding and corn, lack of lime and gravel, or a continued inbreeding, would each and all produce such disease, according as it is rheumatism or paralysis. She thought it might be caused in her flock, as in mine some years ago, by too much sulphur given. Another lady asked about the diarrhoea among her chickens. She had been giving bran pudding mornings, and corn-meal pudding evenings. I asked her why she did not mix the two, since bran in excess is often accused of relaxing bowels. Her plan was like eating all bread one meal and all molasses another time. As I have said "previous and heretofore," bran can form one-third of any pudding, without harm and too much profit. Shorts is usually less loosening. Plenty of chopped onions, some good, clean wheat, and pud-

dings two-thirds cornmeal, one-third shorts, with a little flaxseed, pepper and dissolved alum in, carried my flock out of a tendency to bowel complaint during September, caused, I think, by getting hold of mouldy corn while the cribs were being examined and contents sorted, for I was careful not to let them have much new grain, which sometimes physics.

Every little while the buttermilk question comes up in poultry circles. I never give that drink unless fresh and somewhat weakened with water. Asafetida, popular with both people and animals a year or so ago, I still like in a one or two grain pill for a robust fowl just taken with bowel complaint, but, on further trial, find it too severe for young or long neglected ones. In such cases a simple bread and milk diet is most soothing and safe. Probably I should not always find alum putting my flock in good condition, did I use it often, or going beyond a teaspoon, before dissolved, in a pudding of four to six quarts. The much recommended lime I seldom give, and then but a tablespoon of that, air-slacked, to the same amount of pudding as above. One woman is on record who gave quick-lime, and afterward inquired why her fowls frothed at the mouth. Indeed, one great secret of success is overdoing no kind of food nor medicine, especially the latter.

Let us close by resolving ourselves into a "query box." Has a load of clean sand been put on the hen-house bottom for biddy to scratch in when snow comes? Are some autumn leaves or chaff stored ready for the same purpose? Has the surplus stock been marketed, so those left can "go around the square" or "swing around the circle," or exercise in whatever direction they please? Are you building that open shed? Mr. I. K. Felch thinks a hen with such a sunny exercise-place will lay twenty more eggs a winter. I'll say a dozen, and forty dozen at twenty cents—eight dollars. I have one nice shingled shed, ample for forty hens, which cost ten dollars; another shed cost three dollars, large enough for fifteen hens. So a shed will about pay for itself in one winter, and last years after.

The Way To Do It.

BY JNO. J. LENTON.

Will the farmer stop and ask himself what kind of eggs he would wish to buy, were he an inhabitant of a city and dependent upon a retail grocer for his supplies? Will the farmer's wife stop and consider the importance of good fresh eggs to the city housewife? Were you in her place, how much more per dozen would you be willing to pay for large, clean, fresh eggs than for the little, salted or stale eggs so many are compelled to use? Our country producers must disabuse their minds of the opinion that city consumers do not know the difference between a fresh egg and a fresh-looking stale egg. True, many do not; but the majority do, and enjoy a fresh egg on a piece of toast fully as well as the farmer. Remember this, and take more care of your eggs. City people are perfectly willing to pay well for the luxury of fresh eggs, if you will supply them. Take care of your eggs, and it will be money in your pockets. All we can say about breed and attention to fowls is absolutely valueless unless you take good care of your eggs. Gather them every day and market them often. The appearance has a great deal to do with the sale of an article, and there are few people who want to buy a dirty-shelled egg. When you pack them to go to the store, don't place them on dusty, dirty or damp straw, chaff or hayseed, but use clean, bright and dry. It does not cost anything to do this, and it makes all the difference in the world to the dealer. It has been and is now the custom for store-keepers in this and adjoining counties to pay the same price for eggs without regard to condition, but we predict that the time is not far distant when a difference in price will be made between large, clean eggs and small, dirty eggs.

The pernicious habit of holding eggs at home until they are stale, or putting them away in solution or salt, needs the severest condemnation from every worthy farmer. Never pack eggs. One salted egg put in ten gallons of ice cream will spoil the lot. Always market them fresh and you will invariably command the best prices, and your trade will be appreciated far more than if you speculate by holding.

Farmers, let us give you a little advice, for which we make no charge, but assure your troubled conscience that our reward is certain. Instead of investing twenty-five dollars in another cow, invest in a coop of one hundred young hens, and if these hens are properly cared for, we promise they will lay you twelve to thirteen hundred dozen eggs in one year, which, if marketed fresh, will net you in the neighborhood of two hundred dollars. What better investment do you want? Do not try to do too much: more than four or five hundred hens on one farm will be a burden and expense.

We often notice that the "same care and feed" was given a lot of hens. We will state that the same care and feed cannot be given hens. Some eat more than others, some select the warmest places on the roost, some will expose themselves to cold and storms more than others, some will not eat as much of certain food as others, some will be intimidated by the larger ones, who secure more than their share. It is claiming a great deal to state that all received the "same care and feed."

VETERINARY.

Dentition and Dental Diseases of Farm Animals.

BY DR. MOLE, M. R. C. V. S., TORONTO, ONT.

(Continued from Page 333.)

In youth the tooth is widest from side to side, at advanced age is widest from back to front, and quite angular in shape; as age advances the groove formed by the root of the tooth appears, and about half way down is well marked, but age then becomes an opinion and not a matter of fact. Below we give illustrations of the teeth of the foal and colt one, two and three years old.

TEETH AS EVIDENCE OF AGE DURING TEMPORARY AND PERMANENT DENTITION.

At birth the foal has four temporary incisors, two top and two at the bottom, not quite through the gums, but then sharp edges can be easily seen under the mucous membrane, somewhat laterally placed in consequence of the jaw not being wide enough to accommodate them both in front.

The three temporary molars are usually under the gum at the time of birth, and the temporary incisors shown in Figure 2, which depicts a fully developed cart foal in a forward state.

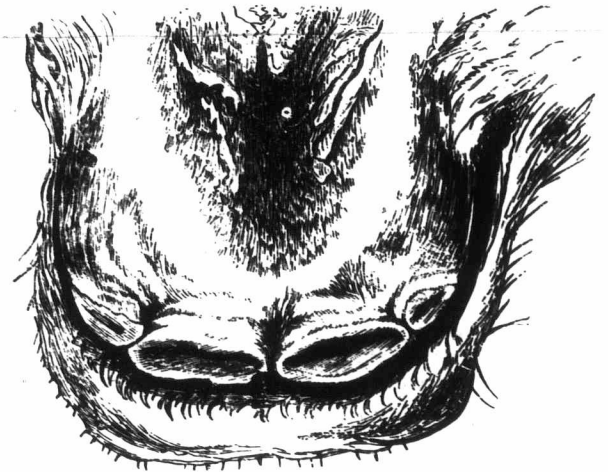


FIG. 2.—INCISORS OF A FOAL AT BIRTH VERY FORWARD.

By the end of the second week, the central incisors will be fairly in the mouth; at about one month he has four teeth top and bottom, and the front incisors are just commencing to wear; in six or eight weeks, the lateral teeth, and also the temporary molars, are well up; the corner teeth are just through and constantly grow for the next eight months, when the colt is ready to be weaned from its mother.

The central incisors have the surface very slightly worn, and the cavity or infundibulum is not surrounded by a line of worn structure—only the anterior edge is worn; in the lateral incisors the wear is confined to a small portion of the front edge, which is nearest the central pair.

At nine months old, the colt will have the corner incisors in the mouth with their extreme edges in wear, leaving a triangular space which may be seen on a side view when the lips are slightly separated. At this period the fourth molar, which is a permanent tooth from the first, begins to protrude through the gum; and by the time of the completion of the first year, it is level with the temporary molars, but its surface is not worn, and the recent appearance of the tooth is most important as evidence of the age of one year. Thus the three temporary molars have the upper surface worn, and the new tooth is as yet not in wear and only recently been cut through the gum. Experience and close observation will teach anyone to place more value on the position or actual wear of the corner teeth than any other conditions: it is at this period that the teeth present an exact condition of marking as at five years old, and there are a few cases on record where some experienced men, trainers of race horses, have mistaken the condition as aged animals in yearlings with discolored teeth.



FIG. 3.—INCISORS OF COLT AT ONE YEAR OLD

Figure 3 shows the shell-like character of the corner teeth and the state of the tables of the other incisors in the one-year-old colt. It may be remarked that the appearances of the yearling from the five-year-old are, the young teeth are temporary and pearly white, and in the five-year-old they are yellow and discolored.

when viewed in front by separating the lips. The four permanent central incisors are seen in position about half grown, with deep cavities or infundibula extending across each tooth, presenting a striking contrast to the worn temporary teeth on each side of them. The new permanent teeth at this age are not more than half way up, and there is con-

Figure 6 shows the condition of the molar teeth soon after two years and a-half. A permanent tooth, the first in position, is seen occupying the place of the temporary molar which has fallen, and the second temporary, marked with a 2, is being pushed up by the permanent, and is only held in its place by small portions of the fangs, which have not yet been absorbed.

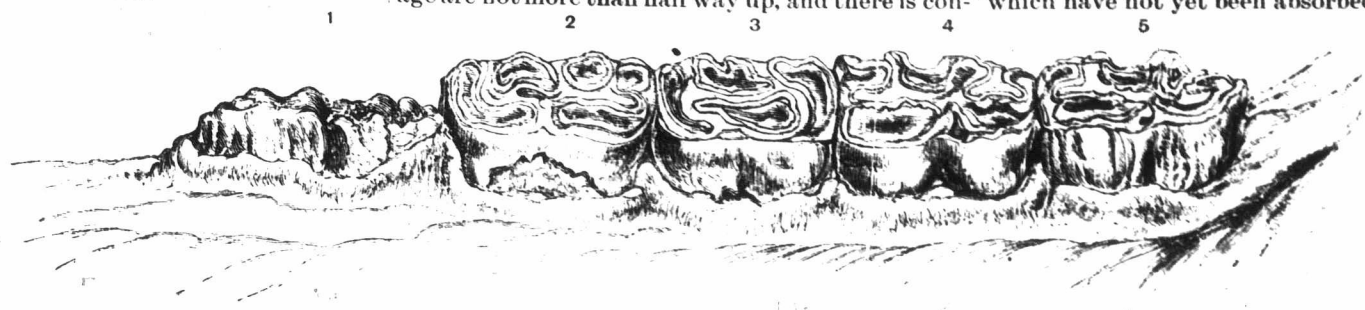


FIG. 6.—MOLARS OF A HORSE TWO YEARS AND SIX MONTHS.

Perhaps some of my readers may feel amused at anyone mistaking a yearling for a five-year-old, or a two-year-old for a six; but let anyone compare two different classes of animals at those ages and have an animal ready at hand to mislead the observer, and we feel sure that they will not be ready to certify their opinion. It is therefore not out of place to suggest that care should be taken to discriminate between temporary incisors, and if necessary, to refer to the molar teeth in order to avoid being misled.

Soon after eighteen months the fifth molar begins to protrude through the gum, and by the termination of the second year is level with the other

sequently a considerable space between the upper and lower teeth when the temporary teeth are in apposition. At the age of two years and nine months the four permanent incisors will be in actual contact when the mouth is closed; but on examining the tables it will be apparent that no wear has taken place. At three years old the central permanent incisors are fully developed, and the anterior edges show a narrow line of worn surface; the upper incisors are not quite so forward in all cases as the lower. The cavity is not worn, but extends quite across the teeth, and is open at least on one side, sometimes on both. Perfectly formed tables and the state of the lateral temporary incisors

The fifth molar, which was up at two years, is fully developed, and is quite clear from the angle of the jaw. At three years old the first and second permanent molars are well up, and the top and bottom teeth are in contact when the mouth is closed; but the teeth are easily distinguished by the recent appearance they present in comparison with the worn surfaces of the teeth immediately behind them. At three years "off", the same condition of the gum which was described in respect of the upper central temporary incisors now appears at the necks of the lower lateral temporary incisors; six months later, perhaps all four of the permanent lateral incisors are in the mouth; and at the same time or soon afterwards, the third and sixth permanent molars are cut, as shown in Figure 7.

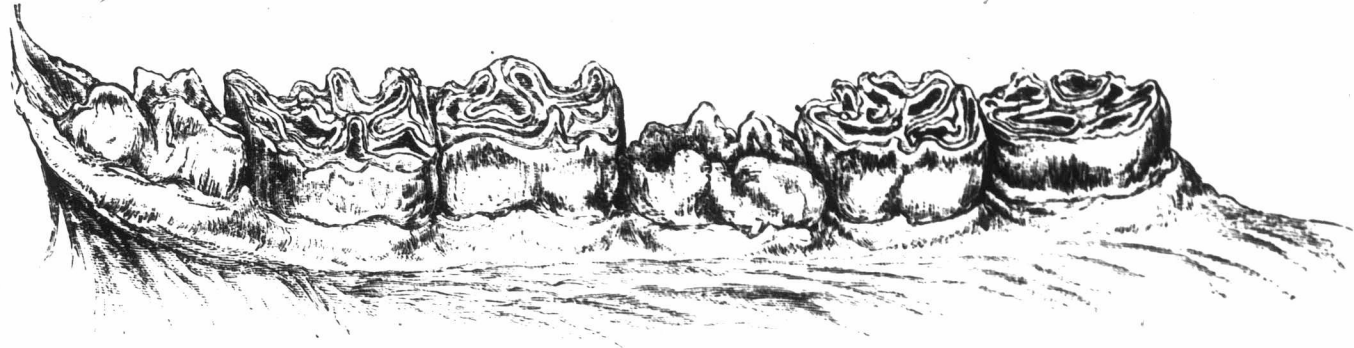


FIG. 7.—MOLARS OF A HORSE THREE YEARS AND EIGHT MONTHS.

molars, so that any doubt which may remain after inspection of the incisors may be settled by reference to them.

At two years old the tables of all the incisors are worn, and the corner one has lost its shell-like appearance. It will be observed in Figure 4 that the crowns are worn level, excepting a small portion at the inner side of the corner tooth, which shows the effects of wear, but only to a slight extent.

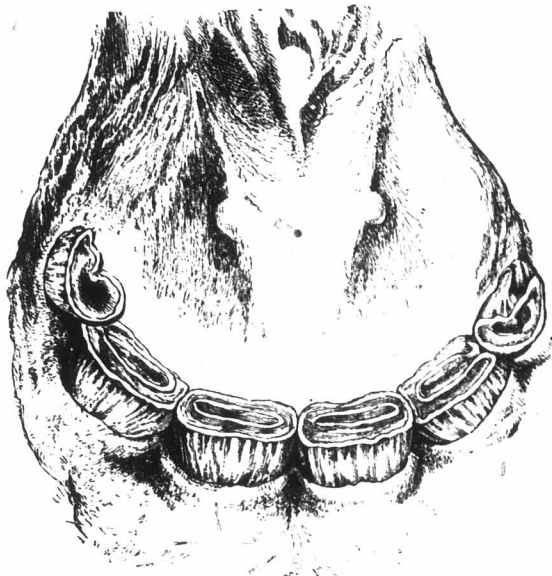


FIG. 4.—INCISORS OF A HORSE AT TWO YEARS OLD.

Between two and three years old the central temporary incisors of the horse are changed for permanent teeth, and are sufficiently well-defined to assist the examiner in deciding whether the animal is two years "off" or coming three years, according to the season of the year; between these times there will be evident signs of shedding of the upper central incisors. The gum at the necks of the teeth is somewhat sunken, and the color is rather deeper than in other parts. It is evident that one or both of the temporary teeth are only held in their places by a small portion of the fang, which has not yet been absorbed.

The mouth of the horse at two years and a-half has a very characteristic appearance, especially

ors will show that they are about to be shed; this will indicate that the horse is above the age of three if the season of the year corresponds, which will add materially to the evidence. These appearances are well shown in Figure 5.

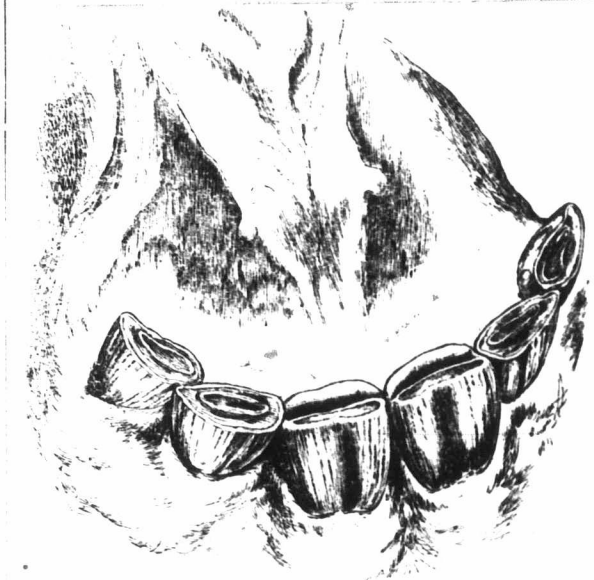


FIG. 5.—INCISOR OF A HORSE THREE YEARS OLD.

There should be no difficulty in recognizing the three-year-old mouth at a glance, but more disputes arise about an animal's age at this time than any other. The fully developed permanent incisors are seen in striking contrast to the temporary teeth on each side of them, and ought not to be easily mistaken. During the development of the central permanent incisors in the course of the third year, an important change is going on in the first and second molars, the fangs of which are gradually absorbed as the permanent teeth push their way up underneath them; these teeth do not follow the rule by coming up singly at intervals of a year, but advance nearly together, so that eight molars are cut between the second and third year.

At two years and a-half old, one or two of the permanent molars may be in the mouth. Sometimes the second in position is cut before the first, and a careful examination will show that the crowns of the first and second temporary molars, which yet remain, are only retained in their position by a slight attachment to the gum, and very little force is required to dislodge them.

We have been speaking of normal or regular dentition, and have said that at one year the fourth molar appears, and from two to two and a-half years the fifth molar should appear, and it is at this period of the animal's life his teeth should have most attention. In many cases, in cross-bred cart horses particularly, the fifth molar does not appear until he is three years old; he now commences to cast the two central incisors, also the first and second molars above and below, which are replaced by permanent teeth. By this we see in some cases that the horse at three years old not only casts twelve temporary teeth, but gets sixteen permanent, viz., four central incisors, first and second molars on each side above and below, and the fifth molar. About this time the animal is put to hard work and on hard keep of grain rations; what with the dental irritation at this particular time, the new mode of living and hard work, is there any wonder that animals suffer in health and constitution, some ruined irreparably? If we take into consideration the disorder and fever set up in children during dentition, the nervous disorder and complaints arising therefrom, need we be at all surprised to notice at this period the commencement of certain nervous disorders in horses? Some children invariably cut their teeth with an attack of diarrhoea—at least, mine do.

Having had ample opportunities of inspecting animals, from foals and upwards, at the agricultural shows held in England, it is very rare to notice any signs or symptoms of chorea, shivering, stringhalt, or clicking, until the animal is three years old; and from long observation we are inclined to think that the irritation set up during the dental period gives rise to these nervous disorders, through reflex nervous action, particularly when there is any hereditary predisposition. Therefore, when an animal is rising three years old, it is the most critical period of its life, for not only is it liable to all the above-named complaints, but that most fatal complaint, strangles, manifests itself at this period, and it is certain that the dental irritation and change from an out-door to in door stable life is accountable for the disease. Even if strangles does not appear, we may have pus or matter forming in the sinuses, particularly in the upper jaw, ending in softening and degeneration of the bone. We have seen some cases where the crowns of the first and second temporary molars were set, as it were, on the top of the permanent molars, which were well above the gums, causing the emaciated condition to which our attention was directed; removal of the cause soon brought about recovery. That was an object lesson we have never forgotten.



THE STORY.

The Pass O'Drineen.

Written for the Farmer's Advocate by "Constant Halle," Ireland.

Shure is it a story yer axin for now,
Acushla Machree, wid gold curls on yer brow,
And eyes o' the loveliest, tinnherest blue,
Like where the rifts in the dark clouds peep through?
Ach! ye young villain ye know very well
Every thing yer poor Norah can tell,
But who cud resist them two purty eyes,
That would coax, if ye looked up, the rain from the skies?

Now, Missy, sit down on that nate little stool,
An' Micky, ye spalpeen, don't stare like a fool,
But rake up the sods, an' make a foine blaze,
For could it be gottin' those short dhreary days,
An' now a nice story I'll try to recall,
If Miss Kathleen here can wait for it all,
For up at the Castle they're full of delight,
As His Honor an' Lady are comin' to-night.

Well, Miss Kathleen, 'twas more nor ten year ago,
When the country was full of confusion and woe,
That I lived in the wildest part o' the west,
Where niver from tumult or strife had we rest;
An' the look o' the boys was all sullen an' black,
But Murtagh, "Black Pad," was the worst o' the pack,
An' talked bould o' bloodshed, gunpowther an' shot,
An' was mixed up entirely in many's the plot.

Well, now, I won't be the one to gansay
That rack-rented we'd been for many a day,
But shure I lay all the blame at the door
Of that chatin' ould scoundril, Michael O'Moore;
For me Lord used to live in his southerin home,
An' the agent, O'Moore, was left all alone,
And a nice tidy sum, they did use to say,
He'd put by in the bank for the next rainy day.

Well, then came the time when we all of us heard
That to go O'Moore had been given the word,
For me Lord had discovered many's the trick,
An' 'tould him "Begone!" remarkably quick;
An' shure he was off like the stormy west wind,
But lavin' the bitterest hatred behind,
The bitterest hatred, which fell on the head
Of the new foreign agent who came in his stead.

And a foine, han'some gentileman he was an' kind,
An' shure I know he always designed
To thry an' relave the wants o' the poor—
Not like that scoundril, Micky O'Moore;
But then I'm tould it is always the same,
For the guilty the innocent suffer—no shame!
An' the boys they all talked of rack-renter an' Saxin,
Tho' 'twas only the proper amount he was axin.

Miss Kathleen Alannah! I'm loathe for to tell
Of all that they did—more like devils from hell,
Let loose to torment the poor dumb beasts again—
Yes, far more like devils than like Christian men;
An' many's the illegant horse I have seen,
Fit for the use o' England's great Queen,
Shot that relave might be found in death—
Relave from each gaspin', agonized breath.

One night I remember—it burns in me brain
Like a lifetime o' horror, agony, pain—
When pantin' an' stumblin', an' gaspin' for breath,
I straggled along for life or for death;
For the life o' the Englishman doomed to expire,
So sudden an' swift by murderous fire,
From the gun of whoever was chosen by lot
From the swate smilin' earth the "vile tyrant" to blot.

The lot as it should on Paddy did fall,
Who, as I said, was the worst o' them all,
An' his black heart rejoiced to think that at last
He'd a chance to revenge many things in the past;
All this an' more I'd the luck to o'erhear,
When none o' them knew I was lingerin' near,
An' how 'twas to be that very same night,
By the aid o' the moon's misty, strugglin' light.

A black mask on his face and a gun in his hand,
"Black Pad" was to go an' take up his stand
Behind a mud ditch, where the road takes a bend
Sudden an' sharp, an' that is one end—
Of a steep, rocky track, called the Pass O'Drineen—
The rockiest, narrowest road ever seen,
An' dhrovers all slackened their pace as they came
To that ditch, an' the boys they all knew that same.

The agent they heard was shure to come home
That night from Glen-a-beg all alone,
An' there the bloody deed would be done,
Or iver there shone the mornin' sun;
Ah! but they niver knew I was near,
Listenin' in agony, chokin' wid fear,
An' breathless I watched Paddy Murtagh depart,
Silently cursin' his evil, black heart.

I thought an' I thought, wid me head in a whirl,
An' wished I was more than a poor faible gurl,
For how cud I contrive to save
The Saxin from his bloody grave;
The time so short an' the way so long,
An' none but meself to stay the wrong,
An' the warnin' must come, if it came at all,
Before the agent cud reach that wall.

I wrapped me dark shawl round me head,
An' down the road after Paddy sped,
Quicker an' quicker along I ran,
Until I caught sight o' that black-hearted man;
Already the light was beginnin' to fail,
An' me poor, foolish heart was ready to quail,
For how cud I get through the Pass O'Drineen,
By "Black Pad" at the ditch I was sure to be seen.

But when to the head o' the pass I came,
'Twas sudden lit up wid an awful flame,
An' loud the thunder pealed overhead,
An' the sky looked sullen an' black as lead,
An' the pourin' rain seemed to me like blood,
As rooted there to the ground I stood,
For iver before me horrified eyes
The form o' the Englishman seemed to rise,
All bruised an' battered, bedabbled wid gore,
Dead, stone dead, he'd brathe no more.

Then, sudden like, I called to mind
A goat-thrack that lay right behind,
Which, as I turned, a flash revealed,
But shure me head entirely reeled
As I looked up that dizzy height,
Or so it seemed by that strange light,
For there the rocks rose high an' steep,
An' how cud I me footin' keep.

But then I thought wid joy, that how
When I had reached that rocky brow,
No longer need I try to shun
The eye o' Murtagh as I run,
For there the gorse grew thick an' tall,
And it would bring me past the wall
Where another thrack descendin'
Would bring to me journey's endin'.

The rain was pourin' in a flood,
An' slippery was the rocks wid mud,
An' soon me feet was bruised an' sore,
But on I struggled as before;
Wid laborin' breath an' dizzy head,
An' naked feet wid blood all red,
The jagged rocks cut sharp an' deep,
An' all me clothes was in a seep.

Up, up I went wid chokin' breath,
An' strugglin' heart—'twas just like death,
But at last I gained the crest,
Sank down for one short space to rest;
Then, startin' up, I onward flew,
For short the time was—as I knew,
And I must run just like the wind,
An' niver cast a glance behind.

The thunder rolled, the lightning flashed,
But onward still I wildly dashed
O'er sunken rocks an' many's the mound,
Which rarely brough me to the ground;
On, still on, until at last,
That ould mud ditch was safely passed;
An' now I freely brathed once more,
For on the road which stretched before,
No car was there of any kind,
No sound borne past upon the wind.

But when I reached the downward thrack,
I stopped, an' listenin', started back,
For certain now I heard a sound
Of grindin' wheels along the ground;
Then down the path I madly flew,
But how 'twas done I niver knew—
For all I felt, it might have been
The natest pathway iver seen.

I had not nearly reached the end
When the car came sudden round a bend,
An' now I shouted as I ran,
An' wildly waved—'at last the man
Looked up, when he had passed the thrack,
Looked up, an' swift came dhrovin' back;
If I had been one moment late,
One moment, he'd have met his fate.

"Why, Norah, lass," he wonderin' said,
"Whatever's got into your head?
I surely thought, as I looked back,
You'd break your neck adown that thrack,
And said no form of earthly mould
Can ever there a footing hold."
Then, breathlessly, I tould him all
About the gun, black mask, an' wall.

He grimly smiled an' looked around,
Then jumped down lightly to the ground.
"And now," says he, "I've got a plan
To catch your lively gentileman;
The storm, by now, its force has spent,
And the moon shines through where the clouds are rent,
And the light, tho' dim, is just quite right,
For the work we have in hand this night."

Wid that his great top-coat he stripped,
An' from the thrap a cushion ript,
An' stuffed the coat wid it inside,
And I thought I'd shure have died;
When on the sate he fixed it now,
An' placed his hat upon its brow,
An' settled up the reins quite gran—
'Twas just the moral of a man.

"And now, my brave colleen," he said,
"I'll lead old Roger by the head,
You run behind, but not too near,
Not until my call you hear."
I did not do as I was tould,
For on the thrap I laid me hould;
'Twas one o' them tax-carts, and tall,
'Twould well be seen above the wall.

Along the road we ran quite swift,
An' when the clouds begun to lift,
The narrow turn lay at me back,
An' now the pace began to slack,
And as the wall we slowly passed,
Crash! bang! "Black Pad" had fired at last;
But ach, me jewl, 'twas surely gran,
He'd shot that moral of a man.

Like lightning, wid an awful scritch,
That agent cleared the ould mud ditch,
An' rained down blows on Paddy's head
Until I thought he's shurely dead;
Then loud an' quick I heard his call,
Come, Norah, lass, an' hand yer shawl,
Which he tuk an' firmly tied
Brave Paddy's arms down to his side.

Into the thrap we dhragged him next,
An' I'm sure he was quite vexed,
But he uttered n'er a sound
As quick the horse was turned right round;
An' back we dhrove along the road
Straight to the barrack of Kilbode,
Where they lodged him safe an' warm
Just to kape him out of harm.

Well, Alannah, can you guess
That agent's name? Why, bless ye, yes!
Shure 'twas yer father, an' none other,
'Twas just afore he wed yer mother;
I mind her blushin' rosy red
When she come to me an' said,
"Norah, I can niver requite
The service that you did that night,
But I'll be yer friend for life,
For I'm to be that brave man's wife."
An' his lordship, standin' by,
Wiped a tear-droop from his eye,
An' said he niver would forget
His daughter's friend—nor has he yet.

A man with a donkey for sale, hearing that a friend wanted to buy one, sent him the following, written on a postal card:—"Dear D—: If you are looking for an A I donkey, don't forget me."—[Tid Bits.

THE QUIET HOUR.

Our Commission.

"Let him that heareth say, Come."—Rev. XXII. 17.

Ye who hear the blessed call
Of the Spirit and the Bride:
Hear the Master's word to all,
Your commission and your guide—
And let him that heareth say,
"Come," to all yet far away.

"Come!" alike to age and youth,
Tell them of our Friend above,
Of His beauty and His truth,
Preciousness and grace and love,
Tell them what you know is true,
Tell them what He is to you.

"Come!" to those who, while they hear,
Linger, hardly knowing why;
Tell them that the Lord is near,
Tell them Jesus passes by,
Call them now; oh, do not wait,
Lest to-morrow be too late!

"Come!" to those who draw in vain
From the broken cisterns here,
Drinking but to thirst again;
Tell them of the fountain near,
Living water, flowing still,
Free for "whosoever will."

Such as these are all around,
Meeting, passing, every day;
Ye who know the joyful sound,
Have ye not a word to say?
Ye who hear that blessed "Come,"
Sweet and clear, can ye be dumb?

Brothers, sisters, do not wait,
Speak for Him who speaks to you!
Wherefore should you hesitate?
This is no great thing to do,
Jesus only bids you say
"Come!" and will you not obey?

F. R. Havergal.

Winning Souls for Christ.

Selections from "St. Andrew's Work," by Rev. D. Hague, M.A.

Oh, that every Christian might be led to see that he should earnestly try and make a personal effort to save others. Unless he waters others he will not be watered, and the candle hid under the bushel of cowardice or inactivity will slowly but surely be extinguished. The soul that ceases to confess Christ will cease to possess Him; the Christian that does not give out will soon not take in. One has illustrated this by a geographic comparison. There is the sea of Galilee, with its sparkling waters fresh and pure and sweet. Why is it so sweet and fresh and pure? Because it is always giving out, as well as taking in; it has an outlet as well as an inlet. But look at the Dead Sea! It is lifeless, and dreary, and funereal. And why? It has an inlet, but no outlet. It is all for self. It takes in all it can, but gives nothing out. The Christian who does nothing for Christ, never goes forth to sow by all waters the precious seed that he has so freely received, never finds a thirsty soul to bring to the living water, will shrivel, and wither, and waste as a fruitless branch. Would that every Christian would at least endeavor to win a soul. It is our calling. It is our profession. It is our duty.

The worker for souls must always be natural, open and true. His words and character must be in harmony, for if the one belies the other his work is vain. He who goes forth to influence his fellow-man for Christ must be sure, first of all, that he is one who acts as he believes, speaks as he thinks, and appears to man as he appears to God; and then must carefully beware lest his manner and words be more unctuous and gracious than the reality within. All pedantry, affectation, unnatural and goody-goody phrases are to be avoided as poison. Every overtone that is made and every word that is said must be made and said in the frank and hearty manner of one who is, before man and before God, without guile, or deceit, or sham, or hypocrisy, or any such thing. I shall never forget the way in which a friend of mine, a very fine young fellow too, when asked what he thought of a certain Christian worker, replied: "Oh, he is too oily." What he meant was that his manner was too smooth, or, as one remarked of a certain politician, "He's too sweet to be wholesome." I might mention other very necessary characteristics if space permitted, such as wisdom, love, faith, patience, sympathy, etc., which the worker for Christ should earnestly covet, and constantly endeavor to attain by prayer and practice; but there is one that in some ways perhaps surpasses, if it does not include them all; and that is the one thing often lacking but sorely needed—"the Divine gift of Common-sense."

If Christians only realized more how much they could do by a simple word, or how many opportunities are given to them by God if they would only take them, they would not miss so often that wonderful and indescribable joy that comes to the man who speaks a word for the Master to another soul. If you have a word to say, say it. If you are ever moved to open your lips, open them, for while we stand hesitating the angel of opportunity goes past our doors never to return again. The late Captain Hope, a brave and true servant of Jesus Christ, told his doctor a few days before his death, that when he was a midshipman, an old officer said to him one day: "I never go to bed without prayer, do you?" It was a simple question and yet was the means of controlling a great and noble life. "It is between seventy and eighty years ago, but from that day to this I have never done so either." Then he added: "See the influence of a good word."

"In the morning sow thy seed, and in the evening withhold not thine hand; for how knowest thou which shall prosper, either this or that, or whether they shall be both alike good."

MINNIE MAY'S DEPARTMENT.

MINNIE MAY reminds her readers of the offer of a prize of \$5.00 for the best original Christmas Story—not to exceed one page in length. All communications to be in our office by 1st December.

An Article for Mothers.

BY A. M. C.

Of more than ordinary interest to mothers, or anyone else having the care of children, is the book written by Mr. Geo. Catlin, entitled, "Shut Your Mouth and Save Your Life." The author has travelled extensively among the various races of North and South America. He says: "Among the tribe of Mandans on the Missouri, a tribe of two thousand people, living in their primitive state, I learned that the death of a child under ten years of age was a very unusual occurrence. By a custom of this tribe, the skulls, when bleached, are placed in large circles on the ground; amongst several hundred of these skulls I was forcibly struck with the incredibly small proportion of crania of children, and also with the completeness and perfect soundness of their beautiful sets of teeth. From the bills of mortality we learn that in London and every large town in England and Europe, one-half of the human race die before they reach the age of five years, and one-half of the remainder die under twenty-five."

The liability to disease of the civilized race he attributes to an unnatural mode of breathing, for which mothers are mainly responsible. He says: "I have seen thousands of Indian women nursing their children, but I never saw one omit closing the infant's mouth after withdrawing the breast. I have seen many an Indian woman pressing the lips of her child together as it falls asleep in its cradle in the open air, and I have watched tender mothers in civilized life covering the faces of their infants sleeping in over-heated room and gasping for breath. The savage infant, like the off-spring of the brute, breathing the pure and wholesome air, generally from instinct closes its mouth, and, in all cases of exception, the mother rigidly enforces nature's law until the habit is fixed for life. But when we turn to civilized life, with all its comforts, its luxuries, its science and its medical skill, our pity is enlisted for the tender germs of humanity brought forth and caressed in a smothered atmosphere, which they can only breathe with their mouths wide open, thereby contracting a habit which is to shorten their days with croup in infancy, to turn their brains to idiocy or lunacy and their spines to curvatures, their sleep to fatigue and nightmare, and their lungs to premature decay. If sleeping with the mouth open is so destructive to the human constitution, and is caused by sleeping in overheated rooms, then mothers become the primary cause of the misery of their children, and therefore to them the world looks for the correction of the error. Mothers should know that infants do not require heated air, and that they had better sleep with their heads out of the window than on their mother's arms. To embrace infants is to subject them to the heat of another's body, added to that of feather beds and overheated rooms, the relaxing effects of which have pitiable and fatal consequences. Lambs, which are nearly as tender as human infants, commence immediately after birth to breathe the chilling air of March or April night and day, asleep and awake, without injury, because they breathe it in the way that nature designed. New-born infants in the savage tribes are exposed to nearly the same necessity, which they endure perfectly well, and there is no reason why the opposite extreme should be practised in the civilized world, entailing so much misery on mankind. It requires no more than common sense to perceive that mankind, like the brute creation, should close their mouths when they close their eyes in sleep, instead of dropping the under jaw and drawing an over-draught of cold air directly into the lungs, and this in the middle of the night when the air is coldest and the lungs least able to bear the shock. Those who have suffered with weakness of the lungs or other diseases of the chest need no proof of this fact. The mouth of man was made for the reception and mastication of food, but the nostrils, with their delicate and fibrous linings, for purifying and warming the air in its passages. The atmosphere is nowhere pure enough for man's breathing until it has passed through this refining process, hence the danger of admitting it in an unnatural way in double quantities, and charged with the surrounding epidemic or contagious infection. The air which enters by the mouth as distilled water is different from that in a cistern or frog-pond. It is a known fact that man can inhale through his nose, for a certain time, mephitic air in the bottom of a well without harm, but if he opens his mouth to answer a question or call for help he expires. The lungs and stomach are too help he expires. The lungs and stomach are too near neighbors not to be mutually affected by near neighbors not to be mutually affected by abuses offered to one or the other. A very great proportion of human diseases are attributed to the

stomach, yet I believe they have a higher origin—the lungs, upon the health and regular action of which the digestive as well as the respiratory and nervous system depend; the moving, active principle of health, of life itself, are there, and whatever deranges the natural action at that fountain affects every function of the body. He who sleeps with his mouth open draws cold air and its impurities into his stomach, and various diseases of that organ are the consequences. Bread may almost as well be taken into the lungs as cold air and wind into the stomach. Breathing through the mouth is injurious to the teeth. It is suppression of saliva, with the dryness of the mouth and an unnatural current of cold air across the teeth and gums during sleep, that produces malformation of the teeth, toothache, tic doloureux, with the premature decay and loss of the teeth, which are so lamentably prevalent in the civilized world, and so uncommon among the savages."

The author of the above passages should know whereof he speaks, for the habit which he so justly condemns had undermined his health to such an extent that friends and physicians thought him dying of consumption. But he conquered so completely that nights spent in hammocks in the open air, in canoes on the river, or between buffalo skins on the dewy grass, were not only endured, but relished. Some of the hardships of the poor may be blessings in disguise.

Personal Beauty.

There are many good people who have an idea not exactly that beauty is a snare of the evil one, that it is the affair of a "wightly wanton with a velvet brow," but that, at any rate, it is undesirable, and an affair of no consequence. "What matter about a few freckles? I would much rather see you concerned about your behavior," says the reproving mother. "If you thought as much of your looks as you do of your looks!" says the lately graduated elder sister. "Ah, my child, beauty is but skin-deep!" says the old grandmother, unaware of the retort which some one has made, that so long as we have skins, that is deep enough. But it is to be doubted if all these anxious monitors do not make a mistake. It does not at all follow that the young person cannot be concerned about her freckles and her behavior too; nor that she disregards her books because she regards her looks; nor is there any reason why, beauty being only skin-deep, one should not take care to preserve the skin.

For, after all, beauty in its varying degrees is a great factor in life, and probably always will be, since it has a power that it is to be regretted, is not always allied to intellect and virtue too, and that possible one day will be so allied. For since it is not to be supposed that the directing power of the universe makes mistakes, or allows to no purpose such a trait as the love of beauty to be to one apparently everywhere prevailing, it is very evident that this directing power has a distinct determination towards beauty, and manifests it through that natural selection which has made the beautiful animal always the object of preference and struggle, so that beauty should be, as it has been, perpetuated and handed down, perhaps with some ultimate intention of its universal possession in the future. That beauty is beloved of the divine idea in inanimate forms no one who looks abroad on hill and sea can doubt. Why should it be of less value, then, in the personal form?

Thus it may be intended that all the various kinds of beauty shall be united in one at last—the beauty of intellect, which is apt to be associated in our minds with a good deal of severity and sculptured outline; the beauty of goodness, which may belong to a pudgy person with a snub-nose, but which irradiates a sallow skin and a dull eye with a glow which exceeds and outlasts that of rose-leaf color and sparkling glance; the beauty of expression, without which the beauty of charming line and tint is very shortly worse than valueless—worse, because it usually does mischief which is regretted only when it is too late for regret to be of any use. Probably the wise mother and sister and the portending grandmother are all thinking of the futility and evanescence of this latter sort of beauty, and are all wanting the cultivation of goodness and expression, and are aware that when these two forms of beauty are added to the other the beauty becomes irresistible.

The truth is that much of the pleasure that comes to us in this world, whose Creator has made it so beautiful, comes to us through the eyes, and, *au contraire*, we are displeased and pained by the unlovely. Why, then, should one be indifferent about giving this pain and displeasure? We should certainly be to blame, by general admission, if we were indifferent about it in relation to our town, our church, our dwelling; why not, then, if we are indifferent about that other temple, our spirit's dwelling—ourselves? Is it not positively a duty to make ourselves pleasant to the eye, to add to the agreeableness of life for others in this way, to foster and develop such elements of beauty as we may possess, to take care of the blooming skin, the fine hair, the wholesome teeth, the erect figure, to cultivate that intellect which shall clarify, that interest which shall brighten, and that goodness which shall illumine, and thus make, even in the face of what is otherwise positive ugliness, beauty bloom in a barren place? Harper's Bazar.

Giving Thanks.

A quaint, brown house, just out of town,—
We young folks know the way;
Tis there, each year, with Grandma Dow,
We keep Thanksgiving Day.
A host of uncles, cousins, aunts,
Gathered from far and near,
The wanderer from home returns
To greet his kindred dear.

So great the crowd, so small the house,
Tis full to bursting, quite;
But grandma says, "There is room for all
Who may with us unite."
And round the cheerful hearth where we,
As children, loved to play,
With many a merry song and jest
We keep Thanksgiving Day.

Then "ting-a-ling," the dinner bell
Summons us, one and all;
We hasten to the laden board,
Nor wait the second call.
The turkey roasted to a turn,
The place of honor takes;
Here, too, such doughnuts, puddings, pies,
As only grandma makes.

And seated thus, each one recounts
The blessings of the year;
The dangers passed, the hearts made glad,—
We give attentive ear.
Then on the youngest papa calls:
"Come, Ned, 'tis your turn now."
Cries Ned, "I'm thankful as can be
That we've got Grandma Dow!"
—GOOD HOUSEKEEPING.

The Bright Side.

In the moments of despondency that come to every life—when cherished plans seem likely to fail, when disappointment instead of success caps our best endeavors, when "everything goes wrong" and all the world looks blue to us—how exasperating the advice, "Look on the bright side; all will yet be well!" This advice we must take, however. It is the people who cultivate the good habit of looking on the bright side that ultimately are successful. For, to mope over misfortune is to be conquered by misfortune; to grumble at our fate is to invite a repetition of fate's frown; to live in the shadow of adversity is to droop and dwindle and die. Our only hope lies in a struggle toward the sunshine.

To every mistress of a household is a bright outlook upon life especially valuable. Not only does it cheer herself, but is also the source of inspiration to all within her influence. If "the hand that rocks the cradle moves the world," surely it is desirable that that hand should pulse with the energy of a courageous, not faltering, heart! "Forward" is the watchword of youth, but when youth is tempted to fall back, then is the mother's opportunity; she points her children to the bright side, she urges them to persevere in well-doing, she keeps them true to their aspirations. So with the good man of the house. Wearied, discouraged, disgusted often, with the burdens, defeats, and trickeries of business life, he is half-minded to give up the struggle. He has been honorable, and honor doesn't seem to count; he has been honest, and honesty "don't pay." Well for him if in this crisis his wife can be his good angel, holding him back from despair, healing his wounded spirit with the balm of hopeful words, and restoring his faith in the right, so that he is enabled to "try again."

That there is a bright side to the darkest of our affairs, let us never doubt. The very failures that seem most appalling bring to us, if we will have it so, the stepping-stones to success. Only let us not yield to despondency, and from every trial we shall gather strength, from every denial, patience, and from every defeat, experience. Strength, patience, experience! These three are invincible helpers to life's best guerdons, and they come gladly to the aid of those stout-hearted folk who persist in walking on the sunny side of the daily path.—Good Housekeeping.

Children's Letters.

The following letter, or rather "written communication," from a small boy to an eldersister, who was too busy to talk or to play with him, betrays a certain instinct for probable methods of persuasion which does the author credit:—"Most beautiful Blanche, please will you come and play hidden-peek?—Tom." The story of those German children who wrote to the Giver of all good things to send them presents on Santa Claus's Day, was recently quoted in The Spectator. They are capable also of appealing by letter to the powers of the lower world.

A little boy who, in the absence of his parents, had been sentenced to go to bed early by a relation, was seen to be busy with a pencil and paper, after which he carefully buried the communication in a hole in the garden and retired to bed. The mischievous, when disinterred, ran as follows:

"Dear Mr. Devil: Please come and take Aunt Jane; please be quick.—Yours, Robert." It is also to be regretted that not a single letter by a Roman or Greek child survives, the nearest approach being, perhaps, some verses written by a child of ten, in the latter Empire, which his parents had engraved upon his tomb two years later. The ancients doted on their children. Catullus wrote an ode to his daughter's sparrow, Ovid to his children's parrot; and the Greeks wrote epigrams to their children's toys. They even made offerings of toys to their dead children, for playthings in the world of spirits. No voice of a Greek child comes to us across the of time.—London Spectator.

UNCLE TOM'S DEPARTMENT.

Bulbs for Window Gardens.

Much more satisfactory results would be obtained by those who desire to brighten their homes with flowers during the dreary winter months, if bulbs were planted instead of geraniums, fuschias, roses, etc., usually to be found in the windows of the flower-loving housewife. Flowers of this description, although making a good growth of strong healthy foliage, seldom blossom freely under ordinary circumstances during the winter weather; while they require fully as much care and attention as do the bulbs whose blossoms rarely if ever fail, and whose rapid growth and beautiful fragrant flowers are sure to prove a source of continued pleasure to the owner.

One does not need to be an experienced gardener in order to have success with bulbs; they are easily cultivated, will do well in any good garden soil, and as they will grow and bloom with little or no sunlight, seem particularly desirable for those whose windows are shaded from the direct rays of the sun. There are so many desirable bulbs that one finds it hard to make a selection for the window garden, but as each and every variety of crocus, tulip, hyacinth, narcissus, etc., has its own particular charm, one cannot fail to have a nice collection whichever kinds may be selected. And if the bulbs are planted in succession during September, October and November one can be reasonably sure of a supply of flowers during all the winter months.

In order to prevent premature top growth all bulbs should be kept in a cool, dark closet or cellar after being potted until strong, healthy roots are formed. The length of time required for this process varies somewhat according to circumstances. But as soon as they have become well rooted the top growth will appear to announce the fact, and they should then be brought to the light.

Those who desire a beautiful floral ornament for the parlor or sitting room should not fail to try the Chinese sacred lily. It is one of the very best bulbs for window culture, sending up from five to twelve flower spikes bearing large clusters of beautiful fragrant flowers. The bulb itself is large, and when in bloom is well deserving of a place by itself upon stand or mantel, where it can be seen to better advantage than when surrounded by other plants. Like the hyacinth the sacred lily can be grown in water if one desires to watch the formation and growth of the roots. And if placed in a prettily shaped glass dish, with the pebbles that are to hold the bulb firmly in place placed artistically around it, it is both beautiful and interesting.

This lily to the Chinese is the emblem of good luck. Not only is good fortune supposed to reign wherever it is cultivated, but to its magic charm the Chinese accord the power of bringing to a happy termination the hopes of any lover who chances to be in a house where a Chinese lily blooms on New Year's day.—*Vick's Monthly.*

My Hiding Place.

"Rock of Ages, cleft for me,
Thoughtlessly the maiden sung,
Fell the words unconsciously
From her girlish, gleeful tongue;
Sung as little children sing,
Sung as sing the birds in June,
Fell the words like light leaves down
On the current of the tune;
"Rock of Ages, cleft for me,
Let me hide myself in Thee."
"Let me hide myself in Thee"
Felt her soul no need to hide,
Sweet the song as song could be,
And she had no thought beside;
All the words unheedingly
Fell from lips untouched by care,
Dreaming not that each might be
On some other lips a prayer;
"Rock of Ages, cleft for me,
Let me hide myself in Thee."
"Rock of Ages, cleft for me,"
'Twas a woman sung them now,
Pleadingly and prayerfully,
Every word her heart did know;
Rose the song, as storm-tost bird
Beats with weary wing the air,
Every word with sorrow stirred,
Every syllable a prayer;
"Rock of Ages, cleft for me,
Let me hide myself in Thee."
"Rock of Ages, cleft for me"
Lips grown aged sang the hymn
Trustingly and tenderly,
Voice grown weak, and eyes grown dim;
"Let me hide myself in Thee"
Trembling though the voice and low,
Ran the sweet strain peacefully,
Like a river in its flow,
Sung as only they can sing
Who life's thorny paths have pressed;
Sung as only they can sing
Who behold the promised rest
"Rock of Ages, cleft for me,
Let me hide myself in Thee."
"Rock of Ages, cleft for me,"
Sung above a coffin lid,
Underneath, all restfully,
This life's joys and sorrows hid,
Nevermore, O storm-tost soul,
Nevermore from billows' roll
Wilt thou need thyself to hide,
Could the sightless, smitten eyes,
Closed beneath the soft grey hair,
Could the mute and stiffened lips,
Mozzartian in pleading prayer,
Still, eye-still, the words would be
"Let me hide myself in Thee."

Woman's Age.

"What is the most interesting age in woman?" was a question recently discussed by an artist, an author, and a woman of society. The artist said that he did not like to paint the portraits of those between the ages of twenty-five and forty. Before twenty-five the face has an expectancy which charms. It is looking forward with joyous freshness and hope, and is full of puzzling promises. At forty years the character is formed, and the lines of the countenance are strong for the painter's study; but in intervening years the face has lost its expectancy, is apt to be indifferent, and has no particular interest. The author differed from the artist. He liked to study women between the ages of thirty and forty. They had then the experience of the world and the joyousness of youth. In those years they were brightest and most interesting. The society woman thought that it was impossible to make general answers to the question, as individual women differ in regards to the most attractive age. Some are most charming at sixty years, while others have passed the prime at twenty. The best answer would be, that women are always beautiful to the friends who love them.

He Ain't No Canned Fruit.



Farmer Ryestraw (to tramp)—I s'pose yer willin' to work?
Indolent Ivers—Not much! I ain't no canned fruit.

Cranberry Sauce.

A great many housekeepers will be called on to cook cranberries to serve with the Thanksgiving turkey, and no one need fail to serve them in a perfect mold if they will but follow simple directions. To a quart of cranberries add a pint of sugar and a half-pint of cold water. Cook the cranberries in the water, without the sugar, for twenty minutes; then add the sugar and cook them ten minutes longer. Do not add one drop more of liquid or less of sugar, or they will not mold. They should boil all the time they are coming to the boiling point cannot be counted in any rule. The moment the cranberries are cooked, turn them into an earthen mold. A metal mold will give them a bad taste and a bad color. So will cooking them in metal. They should be cooked in porcelain or in a porcelain-lined kettle or in one of granite ware. Do not tserve cranberries till they have stood in the mold twelve hours.

Keep the Ovens Clean.

That it is a marked addition to the flavor of oven-cooked food that these places should be kept scrupulously clean is not so well realized by housekeepers as it should be. In Devonshire ovens are whitewashed, a practice that is excellent.

Firstly, it makes the ovens light, and it is doubtful if ovens would be allowed to get so dirty if they were not so dark and the dirt so inconspicuous. Then the lime whitening, which is the particular ingredient of whitewash, is a material approaching the nature of a disinfectant; anyway, it is not favorable to smells or odors of any kind whatever. Lastly, it so plainly shows by discoloration when objectionable results may be expected and the linewash should be renewed.

If you cannot have tiled ovens, in which bread and meats are most admirably baked, scrub out the black, sooty ovens of your range and whitewash them, and if you can't do this, at least keep the ovens actually clean, if they do not look so. [Chamber's Journal.]

Gone Shopping with My Wife.

There is at least one lawyer in Detroit who tells the truth. It is his custom to put on his office door, notices
"Gone to lunch; be back in half an hour."
"Gone to court; back in three hours."
"Gone out to see a man; back in ten minutes."
And so on, and callers are generally successful in waiting for him.
One day last week a caller found this:
"Gone shopping with my wife; back the Lord knows when."
The caller didn't wait, neither did four others who called. [Detroit Free Press.]

Puzzles.

1—TRANSPOSITION.

This happy puzzling band
I have entered, as you see;
Puzzling is delightful,
And it quite agrees with me.
Since I have become a puzzler,
I have been welcomed by not a few;
Although I first not worthy of their praises,
They cheer all puzzlers new.
And SECOND as Christmas is so near,
And New Year not far away,
Brace up your nerves, my cousins,
And work at puzzle play.
And then the time will come,
When you yourself can say:
I have THIRD a prize with hard work,
Yet work that were like play.
THOS. W. BANKS.

2—DECAPITATION.

A puzzle gay there once did well
On a farm near Highland Creek,
But tiring of the farming art,
A better he did seek.
This puzzler gay has been our Reeve,
And I think he will still remain
In that esteemed position,
Though a better he has obtained.
He invites us LAST to come and see
Him where he now doth dwell,
In the fine city of Toronto,
Where I hope he will do well.
So next time I'm in the Queen City,
I'll FIRST and see you, Harry,
Even if it is only a minute
That I can with you tarry.
And, now, if you do ever chance
To come to the Royal City,
Please do come up to Marden,
To see your cousin Geordie.
G. W. BLYTH.

3—SQUARE WORD.

1—A person of rank. 2—One who looks with side glances.
3—Watery, dim or weak. 4—Permission. 5—Having wandered.
THOS. W. BANKS.

4—NUMERICAL ENIGMA.

First is in wealthy, second in rich;
Third is in statue, fourth in niche;
Fifth is in blink, sixth in stare;
Seventh is in ringlet, eighth in hair;
Ninth is in rivulet, tenth in river;
Eleventh is in donor, twelfth in giver;
Thirteenth is in dancing, fourteenth in ball;
Fifteenth is in merry, and that is all.
If through those words you carefully gaze,
You'll surely find one of our festival days.
ADA ARMAND.

5—ANAGRAM.

In the pleasant evenings of the fall,
When the puzzlers, one and all,
Renew with vigour, every one,
Their posing as the year rolls on,
Ah, well! one that I must mention
Is most worthy of attention:
Our Friend Reeve, 'tis he who tries
To get there first and win the prize—
Which he will do, I know quite well,
As others in this race can tell.
And Uncle Tom, I have no doubt,
Will Lily Day or Banks leave out;
For such, I know, he would not do
To puzzlers, who, so good and true,
Will send to us abundant rhymes,
And always look for better times.
ADA SMITHSON.

6—CHARADE.

MY FIRST on wheels does swiftly run
Across the country, up and down;
It ferrets out the mine, the ore,
The merchandise for every store;
And FINALS where horse and man dare not,
To quickly reach its destined spot,
Its TOTAL brings trade unto them
Whose business is to buy and sell.
ADA SMITHSON.

7—NUMERICAL.

My total we are all sure to enjoy,
My 6, 15, 1, 8, 10, we like to be called.
My 22, 7, 9, 16, 13, painters know as a color,
My 12, 20, 21, 17, is the horsefly.
My 19, 11, 3, 5, is a pike, full grown.
My 4, 18, 23, 11, 2, 17, means placing
HENRY REEVE.

8—ANAGRAM.

As I lay me down in bed,
After the ADVOCATE I had read,
And my brains I had fed,
With the good things that it said:
'Twas a curious thing to happen,
But in less than minutes ten,
After saying good-night to little Ben,
I loudly cried, "Pa, me khan."
But, alas! I only dreamed,
And the prince that I seemed,
When I thus loudly screamed,
Disappeared when I awoke—awful mean.
HENRY REEVE.

9—PUZZLE.

My first is the name of a great English king;
My second, the way he used to sing;
My whole sailed with the good ship ADVOCATE,
Perhaps you might call him the second mate.
HENRY BOBIER.

Answers to October 15th Puzzles.

1—Tone, one. 2—O L I V E
L U N A R
I N U R E
V A R E C
E R E C T
3—Aper, pare, rape, pear, reap. 4—Scan, can, an.

Names of Those Who Have Sent Correct Answers to October 15th Puzzles.

Henry Reeve, Ada Smithson, Morley Smithson, Josie Sheehan, L. Irvine Devitt, Joshua Umbach, Addison and Oliver Snider, Geo. W. Blyth, Jessie Gordon, Geo. Rogers, Minnie Moore.

Carlyle says very aptly: "The most modest little pond can reflect a picture of the sun, if it is absolutely at rest in itself." A whole sermon is here. At rest in one's self, unruffled by outward things, one may become a mirror and reflect the image of the Eternal repose. To be near such people is to gain strength and calmness, patience and serene hope.

FARMERS' MITTS

Our assortment of Farmers' Mitts and Gauntlets is very large. We give only a few here. Write for our free catalogue, which explains all. The prices we give here include the postage; that is, we will deliver them to any post office in Canada, upon receipt of the price. Send postage stamps for amounts less than \$1. Our Farmers' Choring Mitt, No. 9, at 50c, each is our leader. Our No. 11 is the same, with extra selected stock; price, 60c. These mitts are made of leather and very warmly lined. The thumb and palms are faced with some one of the following leathers: Nappa buckskin, native buckskin, calf skin, hog skin, goat skin, colt skin, horsehide and moose skin. These are all leathers that will stand hard work. In ordering please mention your preference and give the number, viz., No. 9, ordinary pick, at 50c., or No. 11, extra select stock, at 60c. No. 16 mitt is a man's unlined horsehide mitt for drawing over a woolen mitt—price, 85c. per pair. No. 21 is a man's unlined, Indian-dressed, genuine buckskin mitt for drawing over woolen mitts—price \$1 per pair. Our No. 21 A is the same mitt made of genuine nappa tan buckskin—price, \$1 per pair. Our No. 30 is a man's driving gauntlet, with buckskin palms—price, \$1.50. No. 36 is a fur gauntlet—price, \$2.50. The fur is the dark Australian Wallaby. Our No. 40 is a pair of calf skin facings for woolen mitts, having the thumb pieces attached.

Coney Fur Caps, \$1.50 each; Astrachan Fur Caps, \$2 each; Seal Caps, \$2.50 each; Persian Lamb Caps, \$5 each; Beaver Fur Caps, \$6 each.

If you want a robe or a fur coat, or a horse blanket, write to us for our Shoppers' Guide, a book which gives all information.

STANLEY MILLS & CO.,
WHOLESALE MERCHANTS,
Hamilton, 336-y-om Ont.
IMPORTANT AUCTION SALE
—OF PURE-BRED—

Southdown Sheep

And other Stock, on Woodside Farm, 16 miles south from Hamilton, from Glandorf, and 8 from Winona Station, G. T. R.

On account of losing our buildings by fire, we will sell on—

WEDNESDAY, NOV. 22nd, 1893.
Fifty head of Southdown Sheep, including some Chicago winners; also fifty imported Shearling Rams, twenty Breeding Ewes and ten Ewe Lambs, and a few Shorthorn Cows. For particulars, write 346-a-o

JOHN JACKSON & SON, Abingdon, Ont.
IMPORTANT SALE

SHORTHORN CATTLE

W. B. Cockburn, Aberfoyle, Ont., Wellington Co., will sell on Wednesday, January 10th, 1894, His entire herd without reserve. The best lot of cattle ever offered in Wellington, including the Chicago sweepstakes calf Indian Warrior; also Greenhouse Chief, the 1892 Champion, and British Chief, the greatest bulls Indian Chief ever sired. Also several Indian Chief heifers, representing such families as Nonpareils, Wimples, Daisies, etc., and other good families as Missies, Village Lily, Verbenas, etc., numbering in all twenty-six head. The cattle are all Scotch-bred, and in nice breeding condition. Wait for this sale, as it embraces animals of rare showy quality. Catalogues on application. 346-a

THOMAS INGRAM, Auctioneer.

TENDERS FOR SUPPLIES, 1893.

The undersigned will receive tenders for supplies up to noon on **MONDAY, NOVEMBER 27, 1893,** For the supply of **Butchers' Meat, Butter, Flour, Oatmeal, Potatoes, Cordwood, etc.**

For the following institutions during the year 1894, viz.:—At the Asylums for the Insane in Toronto, London, Kingston, Hamilton, Mimico and Orillia; the Central Prison and Mercer Reformatory, Toronto; the Reformatory for Boys, Penetanguishene; the Institutions for the Deaf and Dumb, and the Blind at Brantford.

Two sufficient sureties will be required for the due fulfillment of each contract. Specifications and forms of tender can only be had on making application to the Bursars of the respective institutions.

N. B.—Tenders are not required for the supply of meat to the Asylums in Toronto, London, Kingston, Hamilton and Mimico; nor to the Central Prison and Reformatory for Females, Toronto.

The lowest or any tender not necessarily accepted.

R. CHRISTIE,
T. F. CHAMBERLAIN,
JAMES NIXON,
Inspectors of Prisons and Public Charities,
Parliament Buildings, Toronto, Nov. 13, 1893.
346-a-om

Ontario Agricultural College ANNUAL SALE.

By order of the Minister of Agriculture, the Fifteenth Annual Sale of Surplus Stock, the property of the Ontario Government, will take place in connection with the Fat Stock Show at **GUELPH, on THURSDAY, DECEMBER 7**

A number of young animals, representing several breeds of cattle and swine will be sold by Public Auction. Some very nice young bulls. For Catalogue, giving full particulars, apply to **WILLIAM RENNIE, Farm Superintendent.**
345-b-om **JAMES MILLS, President.**

ISALEIGH GRANGE FARM, DANVILLE, P. Q.

SPECIAL OFFERING. Four grand young Guernsey Bulls—one two-year-old, one yearling and two calves, all winners at the largest shows in Canada. Write quick and get prices.

IMPROVED LARGE YORKSHIRES. Orders booked now for fall pigs. We have a grand lot of sows due to farrow in October and November. **SHROPSHIRE**—A few ram lambs left; all the ewe lambs sold. Also a few choice **COLLIE PUPS**: Dogs, \$10.00 each; Bitches, \$7.00, from prize stock. Address, 333-y-om

J. Y. ORMSBY, Manager.

TENTH ANNUAL ONTARIO PROVINCIAL FAT STOCK SHOW

—TO BE HELD IN THE—
City of Guelph,
DECEMBER 6th and 7th, 1893.

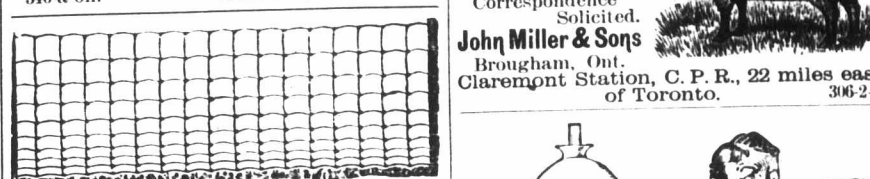
—UNDER THE AUSPICES OF THE—
Agriculture and Arts Association of Ontario, the Sheep and Swine Breeders' Associations, and the Guelph Fat Stock Club.

Cattle to be in the building at 10 a.m. on December 6th. For prize lists apply to **JAS. ROWAND, HENRY WADE, Sec.,** Pres. A. & A. Assn. 346-a-om TORONTO.

AUCTION SALE

GALLOWAYS

Twelve head pure-bred animals will be offered at American Hotel, Guelph, 11 a.m., December 7th, during the Fat Stock Show. Pedigrees and particulars on application to **D. McCRAE,** 346-a-om Box 200, GUELPH.



IS IT FOR HEALTH OR PLEASURE THAT YOU BUILD FENCE?

If neither, then you don't care to do it over right away, and should use the **PAGE WIRE FENCE**, which is permanent. If well put up it will last as long as you live. Send for descriptive circulars.

PAGE WIRE FENCE CO. OF ONTARIO, LTD., WALKERVILLE, ONT. 325-y-om

ARTHUR JOHNSTON, Greenwood, Ont.

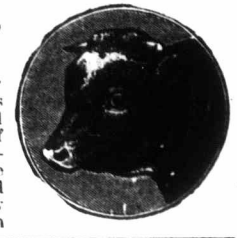


(SEVENTEEN GRAND BULL CALVES)
Offers seventeen bull calves, now ready for service, besides two exceedingly good imported yearling bulls and an excellent lot of young cows and heifers, all of which will be sold at moderate prices. Send for Catalogue, Greenwood P. O. and Telegraph Office, Clarendon Station on the C. P. R., or Pickering Station on the G. T. R. Parties met at either station on shortest notice. Come and see our cattle. 332-y-om

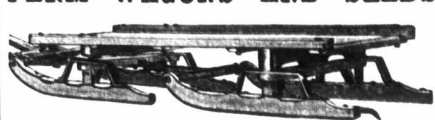
SHORTHORNS, BERKSHIRES,
Shropshires, Plymouth Rocks & Bronze Turkeys. Write me for prices on these animals. I have a grand lot of 15 young pigs now ready for sale. **H. CHISHOLM, Manager, Farm, Paris, Ont.** 342-y

Shorthorns, Coach Horses and Berkshires. Our herd is headed by Daisy Chief=13674, he by the famous Indian Chief=11108, and was highly successful in the various Western Ontario fairs of the past season. A few choice young Bulls and Heifers for sale. Also registered Berkshires and a few extra choice Cleveland Bay mares and fillies, the get of Disraeli, Dalesman, etc. Write for prices, or come and see us. **A. J. C. SHAW & SONS, Camden View Farm, Thamesville.** 336-2-y-om

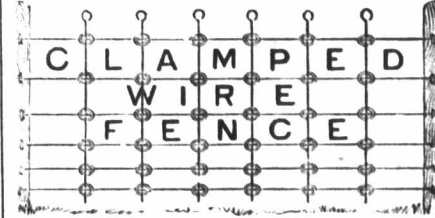
H. CARGILL & SON, Cargill, Ont.
SHORTHORNS.
Two imported bulls are now at the head of our herd. Stock of both sexes and different ages from the best imported and home-bred cows now for sale. 335-tf-om



FARM WAGONS AND SLEDS



BROWN BROS.,
DANVILLE, QUEBEC. 346-d-om



AGENTS WANTED

For every township in Canada and U. S. A. Superior to all others. We crimp the upright stays. Farm rights for sale. Send for circulars. **H. A. STRINGER,** 345-a-om 141 King St., LONDON, ONT.

FOR SALE. A CHOICE LOT OF **Bronze Turkeys** Apply to **JAS. A. STEWART, JR., Menie Stock Farm, Menie, Ont.** 346-a-om

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

Mr. Frank Harding, of the firm of George Harding & Son, Waukesha, Wis., visited Canada about the first of this month, and took from Mr. J. C. Snell forty-one Cotswold rams.

Messrs. J. G. Snell & Bro., Edmonton, write us that they have a superior lot of young Berkshire boars and sows on hand, and those who are seeking anything in this line may depend upon something choice. Write them.

Mr. Jas. Crowe, Trenton, Ont., advertises Bronze Turkeys for sale. He writes that his birds were not hatched until June, and some of them the latter part of the month. He says his male birds average sixteen pounds, and the hens twelve pounds. See his advertisement in this issue.

It will pay our readers who are interested in Shorthorns to give particular attention to the change of advertisement in this issue for Mr. Arthur Johnston, Greenwood, Ont. The prize-winners of his breeding at the World's Columbian Exposition, Chicago, are a sufficient recommendation as to the quality of the herd.

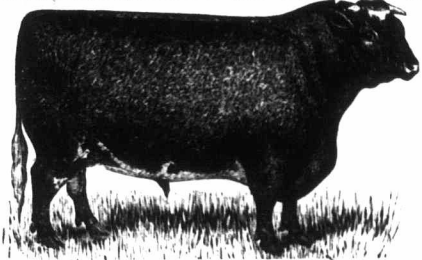
Mr. Jas. Laurance informs that he has made 85 sales through his advertisement in the Advocate. His Shorthorns are, he claims, going into winter quarters in better shape than ever before, he having pastured them on a rape field during the fall. His Yorkshires are, of course, on top of the heap, taking sweepstakes at Pilot Mound, Crystal City and Cartwright fairs shows.

Pig-killing season is on, and those who are fortunate enough to have pigs to kill would save themselves time and trouble (which is money) by using a thermometer to test the temperature of the water for scalding. It should be about 180, which is hot enough to loosen the hair, but not so hot as to "set" it, as frequently happens when this job is done by guess, especially by inexperienced hands.

"SPRING POOR."
At this season of the year when horses and cattle are being taken from green food and put on dry, they are apt to get out of condition and lose flesh, getting a poor start on a long, hard winter. A small investment in *Dick's Blood Purifier* would avoid this, as it strengthens the digestion, gives a good appetite, and tones up the whole system. Stock raisers who use it do not have the chagria of seeing their animals come out "spring poor."

We would draw our readers' attention in another column of the auction sale of Shorthorn cattle, the property of W. B. Cockburn, Aberfoyle, near Guelph, Ont. The catalogue, which will be ready shortly, embraces the entire herd, including that most promising young bull Indian Warrior, the sweepstakes calf at Chicago over all beef breeds; also the twins, Greenhouse Chief and British Chief, and several other young bulls equally promising. The lot, without doubt, comprises the best lot of bulls offered by auction for many years. The females are all of true Scotch type, and include the animals so successfully shown the past years by Mr. Cockburn. There will be other cows and heifers that have won all the prizes at township and county fairs for several years. Every animal will be sold to the highest bidder. Write for a catalogue and attend this sale, as all will be welcome.

GREENHOUSE -- SHORTHORNS



SHROPSHIRE and SUFFOLK SHEEP.
New importation arrived, consisting of ewes and rams, all ages, for sale. **W. B. COCKBURN, ABERFOYLE, ONT.** Corwin, C. P. R., 7 miles from Guelph. 342-j-om

Deep Milking Shorthorns

Mr. GRAINGER, Lutesboro, Ont., offers for sale some exceedingly good cows and heifers. (Fair Maid of Hullett 2nd, now at test at Chicago, is only a fair specimen.) Dams made thirty pounds of butter in seven days. Come and see them; they are good ones. 338-2-y-om

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Scotch-Bred Heifers, Imported Shropshire Rams, Imported Ewes, Home-bred Rams, Home-bred Ewes.

FOR SALE!
In any number. All of very best quality, and at the lowest prices. We want **200** recorded rams for ranches. Correspondence Solicited.
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Brougham, Ont.
Clarendon Station, C. P. R., 22 miles east of Toronto. 306-2-y



INFLUENZA,

Or La Grippe, though occasionally epidemic, is always more or less prevalent. The best remedy for this complaint is **Ayer's Cherry Pectoral.**

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AYER'S Cherry Pectoral
Prompt to act, sure to cure

SCOTCH-BRED SHORTHORNS FOR SALE

6 Choice Young Bulls

And the Imported Cruickshank Bull

ABERDEEN HERO,

Their sire. Also some nice

Young Heifers.

From one year old up. Prices to suit times.

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SHORTHORNS & BERKSHIRES.

A choice lot of young bulls on hand for sale at reasonable figures. JNO. RACEY, JR., Lennoxville, Que.

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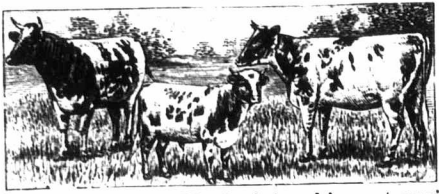
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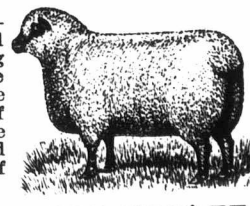
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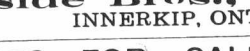
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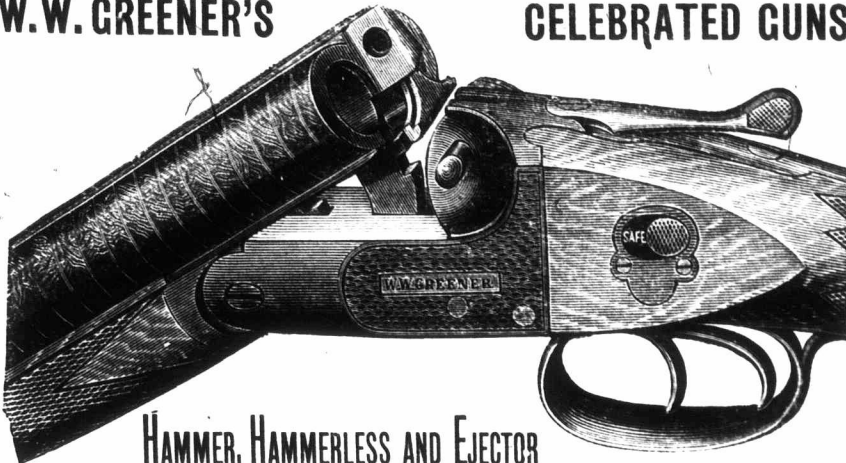
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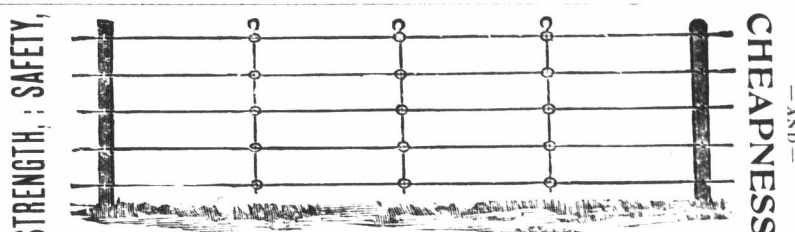
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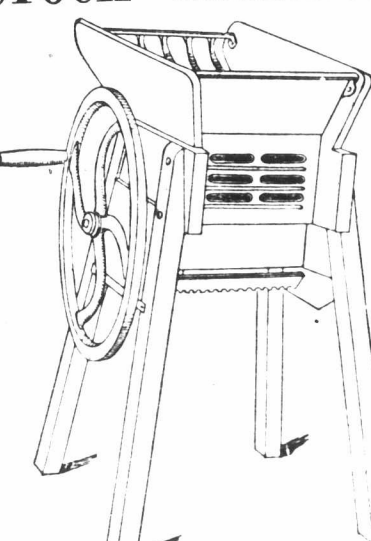
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