

St. Farm

Prof. R. T. Smith Dec 15, 01

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE AND SUCCEED FOUNDED 1866

* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE *

PUBLISHED AT REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875. PUBLISHED AT

VOL. XXXVI. LONDON, ONTARIO. FEBRUARY 15, 1901. WINNIPEG, MANITOBA. No. 529

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VOL. XXXVI.

LONDON, ONT., AND WINNIPEG, MAN., FEBRUARY 15, 1901.

No. 520

EDITORIAL.

The Live Stock Association Meetings.

In view of the annual meetings of the various live-stock organizations announced to be held during the present month, we would suggest that in order that the best work in the interest of these associations and the stockmen of the country generally be done, the meetings should be well attended, and that members come with well-thought-out ideas for reform, progress and usefulness, and not simply to adopt and give the tacit support of the associations to the plans of any one man or group. It is well in all such meetings, for the dispatch of business, to observe some order or system, and that the officers have a programme prepared of points which in their judgment should come before the meeting, but it surely does not necessarily follow, as is too often the case, that the meeting swallow holus bolus the roll of "have-beens" on the list of officers and directors, without regard to fitness or efficiency, or the claims and desirability of "new blood" on the boards, nor the whole contingent of cut-and-dried resolutions presented, simply because they come before the meeting in a prepared state, and it may be with the veiled intimation that if they are not accepted the promoters will not "play in your yard," nor let "you play in theirs." It is, of course, all right to elect the men and adopt the motions that commend themselves to the good judgment of the meeting, but men should have the courage to dissent with no uncertain sound where they cannot approve, and not allow themselves to be led by the nose into bogs and byways, from which they find it difficult to emerge with credit to their judgment. It has not infrequently been noted and acknowledged that general annual meetings of these and kindred societies have proven but a formal means of reinstating in office a set of men who nominate each other, or have individuals prompted to do so, none having the courage to propose a change lest they give offence to the privileged few, with the result that often the majority go away disgusted with themselves and the whole affair, that they have wasted time and expenses in giving a new lease of official life to some men in whom they have little confidence, and implied approval of a policy that is distasteful to them. It is just this loose system of allowing things to drift that encourages machine methods and frequently leads to abuses that forfeit the confidence and sympathy of the people.

Now that the season for holding the annual meetings of the various live-stock associations and the election of officers and directors for the prosecution of the work of the same is upon us, we are reminded of the feeling more than once and by more than one exhibitor expressed in our hearing during the fair season last year, that the somewhat stereotyped boards of directors which have continued in office from year to year in some of these associations give little encouragement to the younger exhibitors who feel that since these boards have practically the appointment of the judges, since it is expected and generally realized that their nominations shall be accepted by the various fair associations, the new beginners get scant recognition in the honors and the prizes.

The tendency in most associations to suffer the re-election of undesirable directors rather than run the risk of giving offence by nominating new men is the weakness of many organizations, and should be guarded against, as it is just this system of drifting that frequently leads to abuses in the

management and to loss of confidence on the part of the patrons. Men who have proven useful workers, and who have not laid themselves open to the charge of using their position to advance their own interests at the expense of others, should be continued in office as their experience and judgment may be valuable.

There is little satisfaction in kicking oneself and cursing the clique on the street after their schemes have been allowed to succeed.

The annual meeting is the proper place and time for the ventilation of complaints and the correction of abuses if there be any, and lay members should make themselves heard at the proper time instead of allowing all the time to be monopolized by the professional talkers, who in some instances seem to imagine that they are "the whole show" and to forget that "there are others." There should be room for original thought and independent action in all these associations, and in some it would doubtless be an improvement if there should be effected "a shaking among the dry bones."

The need of a higher standard of quality in our live stock of all classes—horses, cattle, sheep, swine, and poultry—is a subject which may well claim the attention and effort of these associations, and broad and comprehensive views to this end should prevail. Pressure should be brought to bear upon leading fair associations to induce them to offer more liberal and diversified prize-lists in the live-stock department, which constitutes the principal feature of their shows, as it goes without saying that without this their exhibitions would be a flat failure. Those associations which are fortunate enough to have a surplus of funds can do no better service to their members than by using a portion of their accumulations in offering special and supplementary prizes at principal shows in all the Provinces, especially for home-bred animals, herds and flocks, for the progeny of a sire and the produce of a dam. Something in the form of an amateur class in each breed might be adopted, and special encouragement to farmers by way of a prize-list for grade females in both beef and dairy classes of cattle. To give a wider field for competition, a leaf might well be taken from some of the United States shows in the cattle classes, by making two sections, a senior and a junior, for yearlings and calves in each class, thus making more uniform classes than are found in our shows, where long and short aged animals compete in the same ring.

The question of the best system of selecting judges is a never-ending one, and one which we do not propose to discuss at this time further than to state our conviction that if our leading live-stock shows are not to drift into mere contests between a few professional showmen whose nominations of judges are accepted by the directorate of the exhibitions, some consideration will need to be given to the feeling rightly or wrongly voiced by young breeders and new beginners, that there is little encouragement for them under existing arrangements, as in their opinion they must bring out stock beyond a doubt superior to that of the old guard if they are to stand any chance of figuring in the prize list. We offer no opinion upon the grounds for such feeling, but knowing it exists, we commend it to the consideration of breed societies and fair boards, whether the system of directors appointing as judges fellow directors who are exhibitors in one class to judge another class which they have never bred—a system by which "You judge my class and I judge yours"—is the best calculated to encourage an increased competition or to induce amateur breeders to enter the field?

Weighed and Found Wanting.

We need not repeat nor enlarge upon the facts cited in the last issue of the FARMER'S ADVOCATE showing the unreliability of the tuberculin test, and its injurious effects, particularly on breeding animals. The actual damage wrought to breeding interests has already been sufficient not only to destroy confidence in but to arouse widespread distrust of tuberculin injections. No amount of bolstering testimonials from manufacturers that the tuberculous matter with its living germs from which the fluid is prepared has been "boiled," "sterilized" and "strained" till quite innocuous, or assurances that the test is a "good thing for the country" from parties who have their own reasons for desiring to see it perpetuated, can establish it in public favor. But there are other aspects of the case which deserve serious consideration, and to these we purpose devoting some attention for the benefit of the agricultural public. But before doing so, we must mention, in passing, one absurdity involved in the present system as it affects international relations. The limited number of pure-bred cattle going to the States must be tested, some of them a second time, after having already undergone the ordeal in Britain; and yet during the year 1900, Canada sent into the States 83,989 head of cattle, mostly grades and scrubs, without any test whatever, to be fattened, grazed or bred on farms—just as the purchasers felt disposed! Could anything more farcical be conceived?

We have been at some pains to study the records of the nature and history of the so-called test, and the results of its unfortunate application, which has been quite as futile in eliminating bovine tuberculosis as was the original attempt of a few enthusiasts to cure human consumption with the Koch lymph. Both were no doubt primarily well-meant but misdirected efforts. One cannot but ask who in the first place designed or sought the imposition of this test? Was it the farmer, the dairyman, or the breeder?—all of whom have greater personal interest in having healthy stock than can anyone else. Seldom do we see an unhealthy animal or hear of one dying, and probably least of all from any disease resembling tuberculosis. What says the Chief Live Stock Inspector in the annual report of the Dominion Minister of Agriculture, just issued? "I have much pleasure in calling your attention to the excellent health and condition of all classes of live stock throughout the entire Dominion." During the year ending October 31st, 1900, there were officially tested in Canada 17,785 cattle—mostly suspected herds—and of these only 358 showed a rise in temperature, supposed to indicate tubercles somewhere in the system; but that they are hurtful or transmissible is not asserted. The human consumption which ravages Canada, therefore, does not arise from the cattle! Undoubtedly the same is true of Great Britain and the United States. The public did not ask for this test, and the facts just cited demonstrate that they displayed good common sense in not doing so, even without waiting for bacteriologists to record the differences noted between the bacilli of bovine tuberculosis and consumption, or in the absence of proof that the disease is conveyed from animals to man.

But we propose to go further than this, and to put into the box on this subject an expert who, probably of all men living, joins in the highest degree the practitioner and the pathologist, William Osler, Professor of Medicine in the great Johns Hopkins University, and Physician to the Johns Hopkins Hospital of Baltimore, a graduate of Toronto University. We quote from his masterly article on "Nineteenth Century Progress in

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JOHN WELD, MANAGER.

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LONDON, CANADA.

Scientific Medicine," in which, under the heading, "Tuberculosis," he says:

"The following points with reference to it may be stated. In a few very rare instances the disease is transmitted from parent to child. In a large proportion of all cases the disease is 'caught.' The germs are widely distributed through the sputum, which, when dry, becomes dust and is blown about in all directions. Tubercle bacilli have been found in the dust of streets, houses, hospital wards, and much-frequented places. A single individual may discharge from the lungs countless myriads of germs in the 24 hours. Dr. Nuttall estimated from a patient in the Johns Hopkins Hospital, who had only moderately advanced consumption, that from one and one-half to four and one-third billions of germs were thrown off in the 24 hours. The consumptive, as has been well stated, is almost harmless, and only becomes harmful through bad habits. The germs are contained in the sputum, which when dry is widely scattered in the form of dust and constitutes the great medium for the transmission of the disease. If expectorated into a handkerchief, the sputum dries quickly, particularly if it is put into the pocket or under the pillow. The beard or moustache of a consumptive is smeared with the germs. Even in the most careful, the hands are apt to be soiled with the germs, and in those who are dirty and careless, the furniture and materials which they handle readily become infected. Where the dirty habit prevails of spitting on the floor, a room or the entire house may contain numbers of germs. In the majority of all cases the infection in tuberculosis is by inhalation. This is shown by the frequency with which the disease is met with in institutions in which the residents are restricted in the manner of fresh air and a free, open life. The disease prevails especially in cloisters, in jails and in asylums. Infection through milk is also possible; it is doubtful whether the disease is transmitted through meat.

So widespread are the germs that post-mortem examination has shown that a very large number of persons show slight signs of the disease who have never during life presented any symptoms; in fact, some recent investigations would indicate that a very large proportion of all persons at the age of 40 have somewhere in their bodies slight tuberculous lesions. This shows the importance of the individual predisposition, upon which the older writers laid so much stress, and the importance of maintaining the nutrition at its maximum.

"One of the most remarkable features of modern protective medicine is the widespread interest that has been aroused in the crusade against tuberculosis. What has already been accomplished warrants the belief that the hopes of even the most enthusiastic may be realized. A positive decline in the prevalence of the disease has been shown in many of the larger cities during the past ten years. In Massachusetts, which has been a hotbed of tuberculosis for many years, the death rate has fallen from 42 per 10,000 inhabitants in 1853 to 21.8 per 10,000 inhabitants in 1895. In the City of Glasgow, in which the records have been carefully kept, there has been an extraordinary fall in the death rate from tuberculosis, and the recent statistics of New York City show, too, a similar remarkable diminution.

"In fighting the disease our chief weapons are: First, education of the public, particularly of the poorer classes, who do not fully appreciate the chief danger in the disease. Secondly, the compulsory notification and registration of all cases of tuberculosis. The importance of this relates chiefly to the very poor and improvident, from whom, after all, comes the greatest danger, and who should be under constant surveillance, in order that these dangers may be reduced to a minimum. Thirdly, the foundation in suitable localities, by the city and by the State, of sanatoria for the treatment of early cases of the disease. Fourthly, provision for the chronic, incurable cases in special hospitals."

This conclusive testimony from Prof. Osler shows that the danger to man from animals is practically nil—a mere possibility—and that the real safeguards are education as to the nature of the disease, compulsory notification of cases of consumption, sanatoria for treating early cases and special hospitals for chronic cases. His intimation that a large proportion of adults have somewhere in their systems slight tuberculous lesions (which, we presume, under injections would occasion a rise in temperature) is not made the basis of any absurd suggestion that human beings should be subjected to the test, against which humanity would revolt. Nor is there any better reason for the attempt to force it upon cattle-owners.

The general lesson which the cattleman may gather from the foregoing statement by Prof. Osler is to discard or exclude from his herd any animal that may be in a visibly diseased condition, and by ample nutrition, pure food, air and water, sunlight and exercise, so build up the systems of the members of the herd, of whatever breed or type it may be, that they will be enabled to withstand the development or invasions of ill-health until their natural course of usefulness is run. In the face of scientific testimony like that of Prof. Osler, the utter folly and futility of the tuberculin-test crusade stands out in vivid perspective. In its original conception the elimination of animals with tubercles in their bodies may have been supposed possible. That would seem to have been the ultimate design. A recent elaborate treatise from a U. S. experiment-station professor discloses what has been in the mind of some parties, viz., the gradual enforcement of a system whereby tuberculin-testing by veterinarians would be enforced on every farm, and the carcasses of slaughtered animals be passed upon by bacteriological inspectors. How do the farmers of Canada or the United States relish such a prospect? The thin end of the wedge has been introduced, but we cannot think, in the light of what is now known, that any serious attempt will be made to drive it home, and by so doing completely paralyze the right arm of agriculture. We trust and believe that wiser counsels will prevail, and that the present useless and vexatious regulations will be withdrawn. The farmers of this country can readily see that its injurious effects would soon fall heavily, directly or indirectly, upon them, and that our now-reviving cattle-feeding industry would receive a setback from which it would be extremely difficult to recover. The Canadian Parliament is now in session at Ottawa, and it is there to crystallize in law and regulation the will of the people. We would therefore counsel farmers in all parts of the country to at once write their parliamentary representatives at the capital, urging upon them the immediate necessity of cancelling the tuberculin-test regulations.

A Poet's View.

About the FARMER'S ADVOCATE
I'd like for everyone to know;
But that would take a page or two,
And then the half would have to go.

It misses nothing on the farm.
It speaks of horses young and old—
Both how to raise and how to work—
And which is worth the most in gold.

For cows, it makes the line so plain
That any reader now may know
Just what to feed the cow for milk
And what to make the young calf grow.

The information, too, 'bout pigs
Is worth the dollar that we pay,
And many times throughout the year
'Tis worth far more just in a day.

It don't forget to speak of sheep,
And of the different kinds as well.
It points the breed, the size and shape
So plain that anyone can tell.

But then we can't keep on at this—
I see the list would be too long;
There's turkeys, hens, and geese, and ducks,
And how to grow them big and strong.

And then the grain is not forgot,
And implements are kept in sight,
And if there's anything we want,
It tells us where to get it right.

The Christmas numbers—Oh, no! No!
We dare not speak of them at all.
We could not justice do to them.
They're just magnificent—that's all.

Kinmount, Jan., 1901.

A. J. M.

STOCK.

Care and Feeding of Brood Mares and Young Horses.

To the Editor FARMER'S ADVOCATE:

Allow me to say in the outset that in my opinion there is no cast-iron rule to be laid down for feeding brood mares and young horses. I would always prefer to have in-foal mares doing light work in the winter, and right up to the day the foal is dropped; but on a farm, as a rule, that is impracticable, for the reason that most farmers have perhaps only one or two days a week that they have work to do, and then very often the work is not such as an in-foal mare should be compelled to do. After the fall work is done we usually allow our brood mares to run in box stalls which are not too warm and are properly lighted, always taking the manure out at least every other day, keeping them well bedded with dry straw and allowing plenty of fresh air to circulate. Turn the mares out for water in the morning, and always give them the use of the barnyard in the afternoon, unless it is very stormy. In that way they will generally get exercise enough. Our practice in feeding is to give the in-foal mares a small feed of oats in the morning, and a few boiled oats or barley, mixed with a little bran, at night, with a few roots during the day; also a small quantity of good hay twice a day, with whatever straw they care to eat. As to quantity, that depends on circumstances. Some mares will take more exercise than others, and some will require more feed than others. Therefore, it is very important that sound judgment should be used in the feeding of brood mares.

Foals should always be taught to eat, and be broken to lead by the halter before they are weaned. The first winter being without a doubt the most important in a colt's life, I say feed liberally with good feed—oats (whole or chopped), bran and roots in such quantities as the age and size of the animal requires. If you have any skim milk to spare, give the colt some to drink, or it is a good plan to mix the chopped oats and bran with it.

I don't think it a good practice to have two or more foals or young horses loose in the same box, for the reason that after they have been feeding together for a time, one is almost sure to become boss of the other, and will get more than his share of the feed, even if you have separate mangers to feed them in. I would always let them out in the yard along with the other horses, so that they will get plenty of exercise.

In my opinion there is nothing better for colts and young horses than good clean clover hay. It is needless to say that only the best should be fed. It is also important that all horses have free access to salt.

York Co., Ont.

JOHN GARDHOUSE.

J. W. CALLECK, Augustine Cove, P. E. I.:—
The FARMER'S ADVOCATE is a very welcome visitor—one I would not care to dispense with. It always brings a fresh supply of news, both instructive and reliable. May the first year of the new century be a prosperous one to the ADVOCATE staff, and to those whose interests it advocates throughout this fair Canada of ours—the live-stock interests, of which it is a faithful friend and champion.

Our Scottish Letter.

The wisdom of sundry old saws is being sadly discounted these days. We have been told that "a green Yule" makes "a fat kirkyard," but in spite of having one of the greenest "Yules" on record, the sexton has not been kept unusually busy. Some wisecracks have been telling us that "the green Yule" is only half the proverb, and it may be that they are right. The other half has something about "Pasche," or Easter; but what it is we do not know. Apart from wise saws of this kind, the season has been a favorable one for farmers. The lengthened period of open weather has enabled them to keep stock outside much beyond the usual time, and this has saved the fodder. The absence of frost is not a good thing, however, and unless hard weather comes soon, spring work may be greatly retarded, and the grub will be busy amongst the corn. There has not yet been a single day's skating in Scotland, and the men of the "roarin' game" have had no temptation to neglect their work.

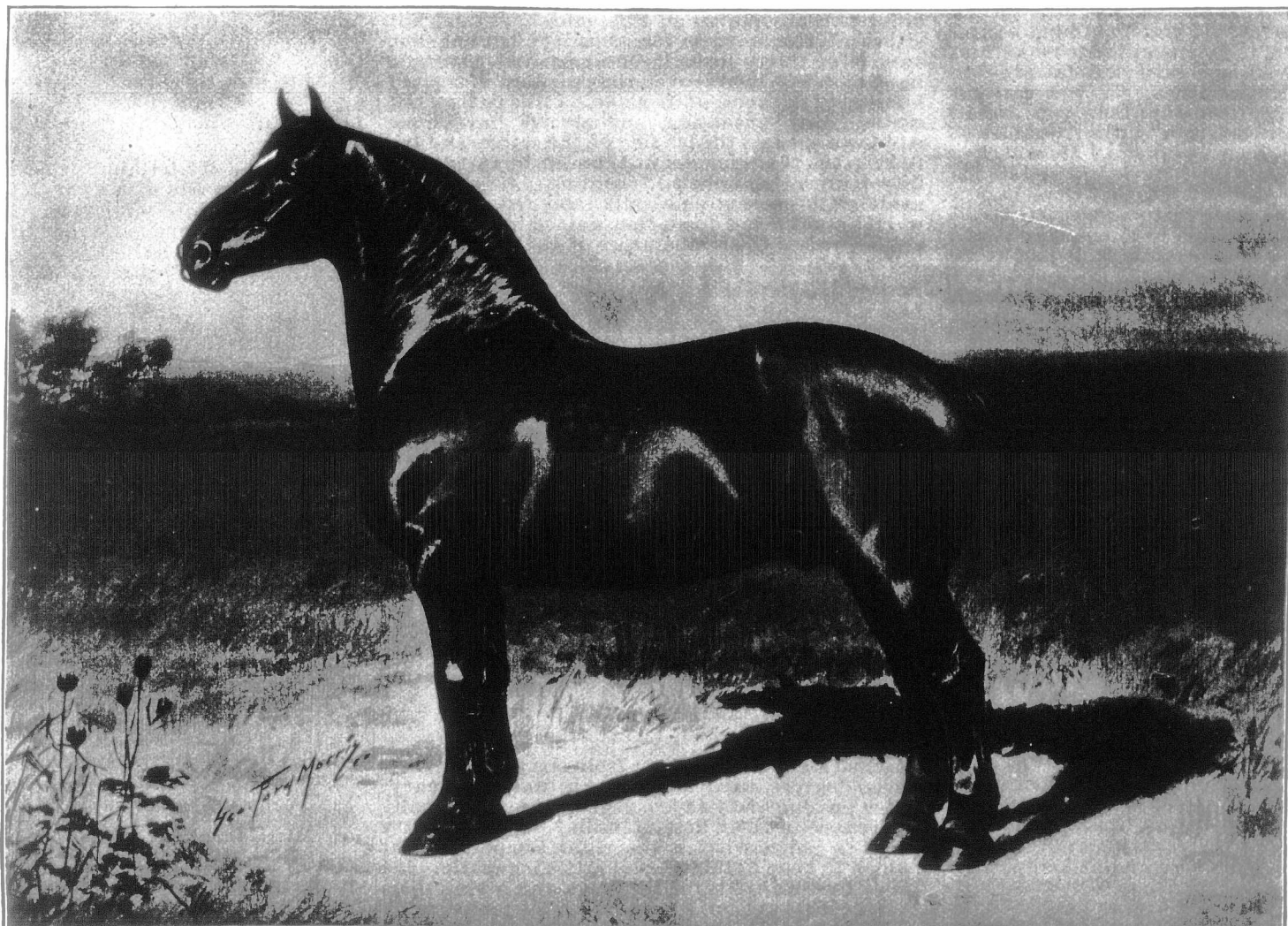
Interest at this season centers around such things as meetings of Farmers' Clubs and discussions on different themes connected with agriculture. The various teaching colleges also issue their reports about this time, and so seek to justify their existence as factors in agricultural improvement. Two subjects are dealt with this year in

and English wheat in the Lothians; but the rule does not hold with potatoes. The general impression is that potato seed off poor moss land does best in the fine red soils, where the best potatoes are grown. The Professor's explanation of this phenomenon was that the potato plant, if grown continuously on rich soil, became like the Epicurean—swollen, gross, and unhealthy. It was good for the Epicurean to be put for a season on short commons, to feed on plain fare and drink nothing but water. So, also, it is good for the potato to be subjected to a regime in which hardiness rather than luxury is its lot, and this is the reason why good results follow from the use of potato seed grown on high mossy land. It is a condition in this mode of treatment that the subject at first dealt with be a sound one, that the seed be healthy and capable of sustaining the rigors of the situation in which for a time it finds its habitat. Professor Wright's theory is plausible, and whatever the explanation, the fact is undoubted that the best potato seed is grown on poor mossy land. Such seed invariably produces healthy crops when grown on land of a different character.

Great discussions are taking place on the best kinds of oats. The West of Scotland College has conducted an elaborate series of experiments extending over several years, with the object of determining what kinds are most profitable alike in respect of grain and straw, and some years ago similar experiments were conducted in Aberdeen-

How the Smithfield Show Sheep "Died."

As a rule, sheep in wool do not give such a high proportion of carcass to live weight as cattle, but an exception must usually be made in this respect in the case of animals fed for the fat-stock shows. Of this we have a striking reminder in some details published by the *Live Stock Journal* regarding the carcass weights of a number of the exhibits which figured at the recent Smithfield Show. Some of the sheep there shown are represented as having dressed up to very close on 70 per cent. of carcass to live weight, the best performance in this respect standing to the credit of a pen of Southdown wethers shown by H. R. H. the Prince of Wales. These averaged 179 pounds live weight, and their carcass dressed 125 pounds apiece, so that their proportion of carcass to live weight worked out to 69.83 per cent. Next came a pen of Lincoln wethers, whose live weight was 377 pounds and carcass weight 256 pounds, a proportion of 67.90 per cent. of carcass to live weight. The general run of the others dressed from 62 to 66 per cent., though some fell to as low as 56. In the case of the lambs, the average percentages ranged from 55 to 60, though in one case a carcass dressing 64.78 per cent. of the live weight was shown. These were a pen of Shropshire lambs shown by Mr. P. L. Mills and awarded third prize in their class. Another pen of Southdown lambs dressed 63.33 per cent., but as a general rule the proportions of carcass to live weight in the case of



IMPORTED PERCHERON STALLION CASTELAR, 25048 (42688).

Winner first prize, World's Exposition, Paris, 1900. Winner first prize in class, and Championship, all ages. International Live Stock Exposition, Chicago, 1900. Property of Dunham, Fletcher & Coleman, Wayne, Du Page County, Illinois.

some of these reports—the best varieties of oats and the most useful and profitable method of setting potatoes. It is a moot point whether whole small potatoes or cut large potatoes make the best seed, and the Cheshire County Council authorities have for some time been striving to solve the problem. The result is very much *nil*, the advantage or disadvantage turning not so much on the size of the seeds or whether they are cut or whole as on the kind of the seed. White-blossoming potatoes appear to do best planted whole, but taking a series of years into consideration, there does not seem to be much difference between the methods adopted. The main thing is to get good seed.

At a recent meeting in Glasgow, the question was discussed whether change of seed in respect of roots or cereals was desirable. It is the usual practice to change seed, but no one ever actually investigated the reason why. The discussion on the point arose in connection with a paper by Principal Wright, of the West of Scotland Agricultural College, on "Some Hints in Profitable Crop Cultivation." The Professor advocated frequent change of seed and the ready trial of new varieties. He also advocated, as a general rule, the growth of seed from a better to a worse soil. This is the rule generally followed with respect to cereals, Lothian oats being preferred in the West

shire by Mr. Jamieson, F. I. C., of the Agricultural Research Association. While in both cases a good deal of solid instruction has been gleaned, after all, the main thing is to know what purpose is to be served by the crop and what are the conditions of soil and climate under which it has to be grown. For grain alone, an oat called Newmarket comes well through the ordeal, and a good all-round oat is Longhoughton, grown first at a farm of that name in Northumberland, whence it has been transferred to East Lothian, and there it does remarkably well. The favorite oat on highlands in the West of Scotland is Tam Finlay, not a great oat for grain, but the straw is excellent, and nothing beats it for fodder. Generally, the rule brought out in all the trials is: Given a great yield of grain, you have medium quality of straw. Given good eating straw, you have late ripening and moderate yield of grain. The earliest oat in the trials was Garton's new Tartar King; the latest, the time-honored Tam Finlay; and the medium, the favorite all-round average Potato oat.

"SCOTLAND YET."

JOS. CAIRNS, Lambton Co., Ont.:—"I received the Bible premium all right, and was more than surprised to receive such a handsome volume for securing only two new subscribers. Accept my best thanks. Will try to get some more."

the lambs fell below 60 per cent. The reports of the judges regarding the quality of the carcasses are very interesting. We subjoin a few. Regarding a pen of Cotswold lambs, the butcher who slaughtered them states: "These sheep died very well for kidney suet, but their carcasses cut up very fat and were more wasteful than was anticipated." All the Lincolns are described as having been "excessively fat." Southdowns seem to have pleased the butchers well, though in a few instances they are described as "possessing too much fat" and consequently being "wasteful." Of the Hampshires, the reports were very satisfactory. One butcher describes the pen slaughtered by him as "giving good flesh to mutton and very little fat at the back more than ordinary half-bred sheep," while another described a pen of Hampshire lambs as "full of lean meat and first-rate quality and not a bit wasteful." Another breed that has been favorably reported on in this connection is the Suffolk, which is described as showing "a goodly proportion of lean to fat," and as having "cut up well upon the block." The Shrops, as a rule, gave more fat than butchers care for, but the Oxfords, as a rule, died well, and the reports regarding them show that they gave a good average percentage of lean to fat. Of the cross-breds, too, the majority gave good mutton, though some pens are described as carrying more fat than butchers desire nowadays.

Buying and Feeding Export Cattle.

To the Editor FARMER'S ADVOCATE:

In reply to your inquiry re my system of feeding cattle and as to the kind of steers I prefer to put up for export, etc., I will say I generally get three-year-olds that will weigh twelve hundred and over, in good fair condition, but if I could get two-year-olds weighing 1,150 pounds and over, I would much rather have them—good, straight, smooth, beefy fellows, well sprung out on the ribs, with lots of room for their dinner. But these kind of cattle are hard to get. Farmers that raise these good cattle generally try to finish them. The beef breeds have steadily deteriorated in this Province since the dairying business has started. As a rule, they think any kind of scrub bull is good enough for their dairy cows. Fifteen or twenty years ago, it was no trick to buy up a few two-year-olds and have them weigh, in the spring, fourteen hundred pounds and over; now it takes a good bunch of three-year-olds to make those weights. But, no matter how careful one is in buying, after he gets his bunch home he generally finds he has a few that he would rather be without; at least that has been my experience.

As to the type of cattle, I would like low-down, short-legged, thick, beefy cattle, good along the back, good over the kidneys and well filled out behind the shoulders, with a pair of good hams; in fact, I would like them beef from the head of the tail to the horns. There is money in such a steer, money to the feeder, to the exporter, and to the butcher on the other side that gets him, and I may say here, that the Old Country people do not like them too fat. If you do not get a good bullock to start with, it is impossible to make him a first quality by feeding. Beef and fat are two entirely different commodities. If you can get them combined proportionably, then you are all right. I had a conversation with a wholesale butcher in Glasgow about a year ago. He said they did not want cattle too fat. He would sell to the different butchers throughout the city, half a carcass at a time, and their customers again would come in and ask for two-pence to three-pence worth of meat. If there was any fat on it, it had to be cut off, or their customers would go somewhere else. So too much fat on an animal is not wanted. When they want fat they can buy it there almost as cheap as we can here. About three years ago I got in a few fat heifers to ship with our cattle. The weighmaster said they were the fattest cattle he ever weighed. Well, those same heifers were the last of the bunch that were sold in Liverpool—too fat, too fat. You will often hear farmers wondering how it is American beef sells in the Old Country for one-half to a cent a pound more than Canadian beef. The American cattle are bred for beef, and, as a general thing, are fed from start to finish, and when they get to the Old Country will dress sixty pounds and over to the hundred live weight, while Canadians, on the other hand, average fifty-three pounds to the hundredweight. A Canadian steer does not make so much beef, and of poorer quality, so they can afford to pay more in Chicago for export cattle than they can do in Canada, even if they did not have any advantage in transportation rates. I do not think we will ever be able in Ontario to compete with the Yankees in beef cattle. There are too many butter and cheese factories here. As a rule, a first-class dairy cow will not raise a first-class beeper, unless she is of a milking strain of Shorthorn or other beef breed and bred to a bull of a beef breed. The beef type and the dairy type are generally nearly diametrically opposite in build and make-up. Now, as to my mode of feeding, I may say that I have not anything new to add to what has often appeared in the ADVOCATE, but I will give you the system I have been following of late years. When I put the cattle in, which is generally from the 10th to the 15th of November, I dehorn all those with horns on, and, if possible, keep them all together in the one pen. I would not put any cattle that had been dehorned, probably a year ago or longer, with the newly dehorned ones, as they would boss them around too much. I keep them in for a few days, till they heal a little, before I let them out. I generally open the silo whenever I put the cattle in the stables. I do not feed very much on the start, till they get used to it. I mostly mix some bran along with it, and they very soon get to like it. I mix all the meal that I feed with the silage. Always have a batch mixed up twenty-four hours ahead. I am feeding just now about three pounds bran, five pounds chopped oats and two pounds peas and barley meal per head per day (making ten pounds meal per head per day), about twenty-five pounds silage and all the cut feed they can eat up clean. My cut feed consists of two parts oat straw and one part clover hay. I feed the cut feed first, and then put the silage and meal on and mix all in their manger with a short-handled, four-pronged fork. The cattle are doing finely on it. I do not intend to feed any corn meal this season, as we have lots of corn in the silo. Last year the corn crop was excellent, having lots of well-filled ears. The variety I have planted these last few years are the Butler and Leaming. These have not quite so much stalk as some other varieties, but always a fair proportion of cobs. As the season advances, I may increase the meal ration to some of the thinnest steers, and may finish them off with a little oil-cake meal. I might mention here that when I mix the meal and silage together, I put on enough water to dampen all the meal thoroughly,

and add one-half ounce of salt per head per day. I am satisfied that when the meal is dampened and left twenty-four hours before feeding the cattle get more good out of it; it softens the particles and renders it easier of digestion. If one had the room and everything convenient, it would be the best way to mix all the cut feed, silage and meal together, and always have a batch mixed up twenty-four hours ahead, or a little longer would not hurt, just long enough till it starts to ferment. The cattle would eat more of it, and lick up the last particle of it. Unless you get a steer to fill himself, he will never make the gain that he should. The most of my fattening cattle are running loose; they feed better than those that are tied up, and gain faster. I have water in the stable for the loose cattle, which I consider a great advantage, as when they are feeding they will leave the manger, go and take a drink, and back again to their feed. The cattle that are tied up have no water in front of them. I have to turn them out once every day to get a drink. I also clean their stables out every day. The loose cattle are bedded with sawdust. I clean them out once a week, and haul the manure right out on the field, putting it in small heaps handy to spread in the spring. I think when the manure is put in small heaps it freezes solid, and there is no waste. The heavy rains and thaws in the winter do not affect it, but when the manure is spread during the winter, as soon as taken out of the stable, the most soluble portions of the manure get washed out and lost during the heavy rains that we have, and more especially when the ground is frozen solid. There seems to be quite a difference of opinion on this same question, but either of the ways is far ahead of hauling out twenty or thirty loads in one heap and letting it heat, as it has been proven that manure so treated loses forty per cent. of its value. I like to give the cattle good ventilation, and always have some windows open on the lee side of the stable, and try to keep the thermometer at between forty-five and fifty degrees Fahrenheit. According to experiments made with cows giving milk, and fed the same weight and kind of food, they gained in their milk as they raised the temperature of the stable till it

in a while are not in it with the large shippers. There are too many middlemen making a living out of them. The large shippers have an agent at the point of debarkation, also an agent on the other side, and they get the last dollar out of them. The spring of 1900 I was over with a shipment. I paid fifty shillings for the ocean space. That same space was bought by the large shipper for forty shillings. That was about \$2.50 on every bullock the first crack, and it is something like that all the way through.

WILLIAM MURDOCK.
Huron Co., Ont.

Care of Draft Breeding Stock in Winter.

As to stallions, it is best to have a box stall, and yard for exercise (that is, if they are not exercised every day on the halter). From the first of February until the season commences they should be walked out about three or four miles every day. As to feeding in the winter, I think it best not to feed them over three quarts of good oats and the same quantity of bran, morning and night, and about eight or nine quarts of pulped turnips in the middle of the day. Some prefer carrots, but I have not much use for them only for horses that are working hard or milch cows. I feed hay three times a day. About a month before he commences the route I feed boiled oats about three times a week, and when he commences the season I boil a little wheat with the oats. Some will ask, what quantity of grain? Of that the groom will have to judge, as there is so much difference in horses. The feet will have to be well looked after through the winter—well pared down at the heels. The shoes should be taken off soon after the season and left off until near spring—about six weeks before commencing his route again.

I never use a brush or comb on a stallion through the winter, but when the season commences you cannot give him too much of it.

My draft brood mares are either working or get exercise every day through the winter. I think they would be better working if the work is not too heavy. Brood mares lose more foals the beginning of the winter than any other time of the year. The reason is, I think, that they are left out too late in the fall and not fed enough grain when the grass is frozen. I generally commence feeding a little oats and mix a little wheat in it as soon as the grass gets poor in the fall. I think there is nothing like a little wheat for mares that are in foal. I never had a mare cast a foal when I fed a little wheat with the oats, and I feed the wheat and oats up to the ninth or tenth month. I am speaking now of mares that are working every day, for I do all the work on the farm with my brood mares. I feed some straw, but I don't like it as well as timothy hay. I find that neither clover hay nor straw is good for brood mares, but may do all right on it if they get turnips. I would not feed carrots to mares that are in foal, as I think they act too much on the kidneys. The colts will come stronger if the mares are working most of the time or have plenty of exercise.

Middlesex Co., Ont.

E. W. CHARLTON.



THE LATE MR. JAMES P. PHIN.

reached sixty-five degrees; from sixty-five to sixty-seven degrees, their flow of milk was stationary; after passing sixty-seven degrees they gradually decreased in their flow of milk. So it is pretty hard to judge what is the right temperature at which to keep a stable full of fattening cattle. If I were feeding cattle for the grass, and giving them a light meal ration, I would keep the temperature a little higher; that is, without sacrificing the ventilation. I have not had any experience in feeding salts, spices or drugs of any kind. I have more faith in a good bin of meal than in a load of drugs of any description.

When the cattle come into the stable in the fall, I generally cut their tail switches off, clip the long hair from along the back, and if there are any vermin or lice of any description on them I rub a mixture of coal oil and lard on to them. I generally find one application is sufficient.

Rotation.—The rotation of crops I follow is a four-year rotation. First year manure the land and put in hoed crop, principally corn, and balance peas. Next year I seed that down with a little spring wheat, a few acres of barley, and the balance oats. I sow a little over one bushel of oats per acre, and I may say that I have never missed a catch of clover since I have started to seed in that way. I got that pointer from Mr. Wm. Rennie, O. A. C., about six years ago. Third year clover hay, with second crop for seed. Fourth year plow down clover sod and put in oats. So every four years the land has a coat of fifteen or sixteen loads of manure per acre; it also has the advantage of the clover sod plowed down once every four years. By following this system I think I can keep up the fertility of the land, as I never sell anything off the farm that cannot walk off. Do I consider it any advantage for a farmer to ship his own cattle? If a farmer can get a fair price for his cattle when they are ready, I think he would do better to sell at home than run the risk of taking them over to the Old Country, but if there was a drop in the market when the cattle were ready, and buyers did not care to give a fair price for them, I certainly would ship and run the risk myself. But farmers and these small shippers that just ship out a load once

Death of Mr. James P. Phin.

Many readers of the FARMER'S ADVOCATE will learn with regret of the death, on January 24th, of Mr. James P. Phin, of Hespeler, Ontario, widely known as a prominent and successful importer and breeder of Shropshire sheep. Mr. Phin was born in 1841, on the farm known as "Kennaquhair." He was educated at the public school and the Rockwood Academy, and was for several years a successful teacher, being for three years principal of one of the schools in Waterloo County. On his marriage at the age of twenty-one, he bought the fine farm formerly owned by Mr. John Warner. On this he erected the elegant residence and modern outbuildings now known as "The Grange," making the place one of the most complete farm homesteads in Ontario. He gave the farm his personal supervision, farming it well on scientific principles until a year ago, when his son, George, assumed the management. Mr. Phin was closely identified with the stock-raising industry of the country, having been for many years a breeder of Shorthorn cattle and a successful exhibitor at local and central exhibitions. For eighteen years he was a celebrated sheep-breeder. Importing and breeding pedigreed animals, he made his Shropshire flock widely known. He took a lively interest in horticulture, and his large and well-kept apple orchard was admired by all who saw it. He was vice-president of the North Dumfries and South Waterloo Farmers' Mutual Insurance Company, a director and manager of the Guelph and Ontario Investment Savings Co., a Justice of the Peace for Hespeler for 30 years, a license commissioner for several years, and at intervals county councillor. He was twice married, nine children being the fruit of the first union, seven of whom are living, and of the second family of seven children, six, with his widow, survive him. He was an honorable, upright and intelligent man, a good citizen in every relation, highly esteemed and respected wherever known, and his career as a farmer and stock-breeder was eminently successful and creditable.

individual mutton carcasses in detail, is perhaps of less interest to the general public than to the exhibitors. If any exhibitor wishes to obtain a report on his own exhibit, he may do so by applying to PROF. J. B. REYNOLDS, O. A. C., Guelph.]

Carriage Horse Breeding.

To the Editor FARMER'S ADVOCATE:

SIR,—When attending the Canadian fairs last summer and fall, I was very frequently asked the question: "What is the best way to breed a good carriage horse, one with size, substance, good conformation, all-round action, combined with quality and a fair amount of speed, and a good temper?" Having had some experience along these lines and a somewhat intimate knowledge of all the coaching breeds, I would say that a very useful and very salable horse can be produced by a Hackney stallion and trotting-bred mare, more especially where speed is a consideration. The stallion should stand not less than 15 hands 3 inches high, with plenty of bone and substance, a clean head and neck well posed, good withers and deep, well-sloped shoulders and well-ribbed middle, a level top line, tail well set on and quarters round and full, supplemented by good legs and feet. He should be a good all-round actor, have some speed, and be thoroughly bred in Hackney lines. The mares should stand from 15 hands 3 inches to 16 hands 1 inch high, have good heads and necks (the more length of neck the better), be good roadsters and line gaited, and free from any tendency to spread or sprawl behind, that very serious defect in gait being very frequently found in trotting-bred horses, and always very objectionable in the carriage horse, and will considerably reduce the market value of an otherwise useful animal. My reasons for preferring a Hackney stallion to all others for producing heavy harness horses is mostly on account of his well-known ability to transmit all-round action, good carriage conformation, a rugged constitution, freedom from disease, either hereditary or acquired, and a happy faculty of keeping easy and maturing early. Horse-breeding along these lines will be found to give very satisfactory results, and if the produce on all occasions does not come up to the requirements of a high-class carriage horse, the owner will at least have the satisfaction of possessing a very useful general-purpose animal, and the waste material will be very slight. Excellent results will also be obtained in the production of heavy harness horses by the use of a good Hackney

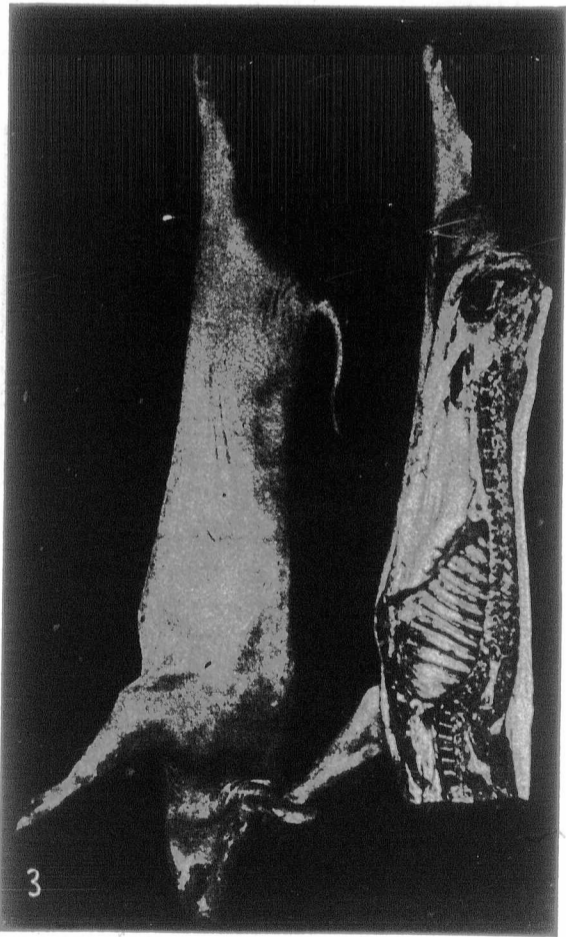


FIGURE III.—REPORT ON SWINE CARCASSES.

A lean old stag. Quite unfinished, and quite undesirable. Rated by the packers at 4 cents a pound. Note:

1. The lean ham and coarse, scrawny head.
2. The side, long enough, but altogether too light and thin.

stallion and mares sired by either Cleveland Bay or French Coaching stallions. This is an exceedingly happy combination, and will be found very productive of good results; in fact, many of the finest types of carriage horses that I have ever seen have been produced in this way. Of course, the Hackney trotter cross will be productive of more speed, but horses of majestic presence, beautiful proportions, grand heads and necks, high, graceful, all-round action, and the size and substance, without coarseness, that go to make up the perfect heavy harness horse of the type seen in London and other fashionable European capitals can be produced in this way. The production of the smaller type of harness horse

is much easier of accomplishment, namely, horses standing from 14 hands to 15 hands 2 inches high, and suitable for a brougham, Victoria, mail or park phaeton, dogcart or gig or any of the numerous runabout traps in use in the city. Nearly all sections of the country have on hand a supply of small mares that could be utilized for that purpose. I would suggest using trotting-bred mares with quality and speed, and if they should happen to possess some Thoroughbred blood, so much the better. Morgan mares are also well adapted to the production of this class of horse; in fact, as a breed I know of none better, as they possess all the requirements for mating with a Hackney stallion, in a marked degree, to produce the sort of horse that is always in demand and at remunerative prices. Horses thus bred will be found useful on the farm for all purposes, except that of heavy draft, and I may add that the finest farm team I ever saw were sired by the Hackney stallion, Brown Fashion, and from an imported Percheron mare. These horses were 16 hands high, weighed 1,400 pounds apiece, with handsome heads and necks, and were models of beauty and strength. They were iron grays, and carried beautiful coats all the year. So that while the half-bred Hackney has especial fitness for the ornamental display required for park and city driving, he need not be considered by any means a drone in the industrial life of the farm, and need not eat the bread of idleness for any great length of time, as he will be well matured at 4 years old, but can be worked at 3 if given fair care. The war in South Africa has opened up another field of usefulness for horses of this type, and for artillery and transport purposes no better animal exists, while a good cavalry horse can be produced by the use of Hackney stallions and half-Thoroughbred and Thoroughbred mares. Of course, the war is happily now almost at an end, but the enormous number of horses used up in this campaign will leave a great shortage of horses in Great Britain that will have to be supplied from elsewhere, and it is safe to assume that Canada will be a large contributor, hence the suggestion.

Shelburne Farms, Vt. WILLIAM WEST.

Successful Pig Raising.

I have been extremely successful in regard to raising pigs, and often have been asked to what I attribute mainly my success. I answer: A multitude of things. First and foremost, I use common sense. Then, I read a great deal. I have always carefully studied the ADVOCATE. After I read, I keep thinking and apply in my own case what I have learned. Another way I learn is by watching how and why others fail, and avoid the same pitfalls. Yet, beyond this there are, of course, practical things one must do every day, particularly the day it is needed to be done.

We will suppose that the critical time is over and that the farmer has a litter of good, healthy pigs, of well-bred stock, a few hours old. He thinks all is well. He congratulates himself that, having escaped the dangers that are so thick at the time of farrowing, he should have no further trouble. Every pig is lively and well-developed—not a runt amongst them. The mother pig shows no disposition to eat them and is careful not to overlie them. All should be well, but there are still always two great dangers right before the pig-raiser. Into these dangers he may very ignorantly run, but if he thinks a bit he can easily avoid them. Millions of pigs die annually because of these mistakes. The first is overfeeding the sow with rich, heat-producing feed. There is no one cause in the whole of hogland that occasions so much loss as overfeeding. Make it a firm and fast rule to always feed sparingly, if any, of corn for the first week. Corn is a great heat-producer. A failure to pay close attention to the matter of diet at this time will often result in fever. This fever dries up the milk, the insufficiency of which actually starves the pigs to death. Perhaps the pigs will not really die, but the result is nearly as bad. The sow loses appetite, runs down rapidly in flesh, the little pigs live but do not thrive. They keep dwindling down, and before weaning time the sow herself is like a skeleton. Instead of feeding corn, feed for the first week house slops and bran and just a little corn for a relish—perhaps one ear at a meal. Then, in the second week gradually increase, so that by the third week you may feed as heavily as you please, provided the sow and pigs have ample exercise.

The next great mistake is lack of exercise for the young pigs. If the sow is kept in a close pen and proves to be a good suckler, it is often the case that in two or three weeks the little pigs become too fat, take congestion and die. Ofttimes I have seen a farmer with a valuable litter of pigs. He sees them fat and healthy-looking, yet they die one after the other until the whole litter has disappeared. He had no idea what was the matter. He did not realize that want of exercise in the close, shut-up pen and lots of rich milk was causing the fatal disease. Guard against this by letting the sow and pigs have more room.

Still another point in the raising of wean pigs is cleanliness. They want a clean bed. This is very important. If allowed to sleep in dust they are quite liable to die of thumps, and if a wet place or

a manure pile they get mangy or contract colds and die.

But, we will suppose that the farmer has had forethought and has guarded against all these dangers, and the first four weeks are safely passed. The pigs are a fine lot and the mother is in good condition and having a good appetite. It is now time to begin to prepare for weaning. Make a pen near where you feed the sow and arrange it so the pigs can go in and out at pleasure, but let it be not accessible to the sow, and begin feeding with milk and soaked corn. The quantity must be very small at first and only what they will eat clean. Increase gradually, and by the time they are eight weeks old they will be eating enough so that they can be weaned without checking their growth. If,

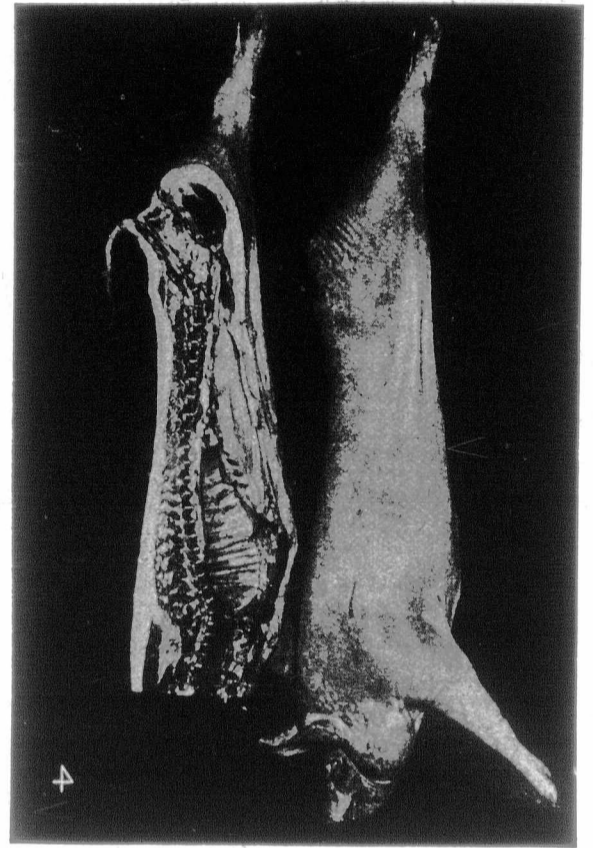


FIGURE IV.—REPORT ON SWINE CARCASSES.

A prize carcass. The sweepstakes for all breeds. Note:

1. The long, tapering ham, quite fat enough, as is shown by the left half of the figure.
2. The long side, and comparatively light crown.
3. The evenness and proper thickness of fat over the back.
4. All that need be said of the head is, that it is typical of the breed.

as is often the case, there are in the litter two or three pigs that are not quite up to the average, it will be good, both for the sow and them, to let them run with the mother a week or two longer than the others which are larger and better developed.

After weaning, feed liberally for four months. No matter what is to be the future destiny of the pigs, feed liberally just the same. Do not aim to make them fat, but aim to get all the development of bone and muscle that you can. The food should not be corn exclusively, for we want more of the flesh-forming foods, and they should have the run of pasture and be fed on bran chop with the corn. Exercise, a varied diet, with part bulky food and not too much corn, will give a profitable hog.

One great fault in the management is to keep too many hogs together in one shed or enclosure. From want of proper protection in the way of housing, hogs are very apt to crowd together in bunches during cold weather, and coming into the sheds wet and dirty, and being obliged to lie either on old and filthy straw bedding or on a wet and damp floor, their sweating and steaming soon produces a foul atmosphere, and the bedding, not being removed at proper intervals, gets rotten and adds to the contamination of the air. Being thus packed together in the building, the hogs, in a warm and perspiring condition, are next exposed to the influence of cold winds and wet weather by being turned out in the morning hours to run in the field among grass wet with cold dew or from rain or hoarfrost, or to be fed from troughs in the yard. Among the common consequences are congestion, cold or catarrh, and if the so-called hog cholera happens to be prevailing they are almost certain to contract that disease, as their systems, under such management, are rendered predisposed or susceptible thereto.

ROB. RICHARDSON.

Norfolk Co., Ont.

Curing Hams.

An exchange recommends the following recipe for curing hams: To 100 pounds of pork use 2 quarts coarse salt, 2 ozs. black pepper, 6 ozs. sugar and half oz. saltpetre; dissolve saltpetre in pint of hot water; mix all in a vessel large enough to lay one ham in, and rub each piece thoroughly, particularly where the leg was cut off; let lay on table three days, then rub again with the mixture; pack in a box; let lay from 12 to 14 days, then smoke. Light salted as they are, these hams keep well in summer if put up in tight, heavy paper bags and hung in a dark closet, or packed in bran or oats.

Care of the Stallion During Fall and Winter Months.

EXERCISE, CLEANLINESS, AND PROPER FEEDING.
To the Editor FARMER'S ADVOCATE:

SIR,—The increased prices and improved trade in almost all breeds of horses during the last three years naturally raises many points in their breeding and rearing, and one very important point is the care of the stallion during fall and winter months. Horsemen differ very much in their methods, and amongst a great many there is a strong tendency to reduce the condition until one almost fails to recognize the flashy horse of the first of May, and then depending upon March and April to

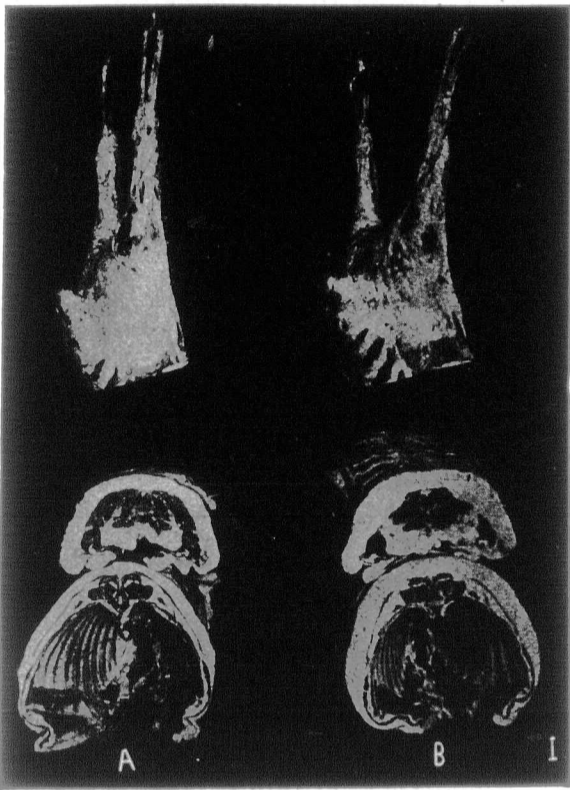


FIGURE 1.—REPORT ON SHEEP CARCASSES.

First and third prize, respectively, in the same class. Note:
1. The difference in the amount of fat. As between these two, B loses it chiefly on account of excess of fat. This animal had been prepared as a prize animal the year before, and had been kept over. Fed altogether too long to be profitable, either commercially or for prize purposes. The broad, heavy rump indicates fat throughout.
2. In the live class, B won second, and A won no prize. Here is a point for the judges in the live classes to consider.

bring him into shape for the season's work. My own experience is somewhat limited, but having close business relations with the old and noted horseman, Joseph Thompson, during the close of his career as an active owner and groom of stallions, I had good opportunities of watching his methods, and became thoroughly convinced that his ways had much to recommend them.

Exercise he considered absolutely necessary—not simply box-stall exercise, but what can be obtained from a good roomy yard. Cleanliness of the feet and legs is equally necessary, and never should be overlooked or forgotten. Would prefer shoes on the front feet. There should be some letting up of feed after the season's work. Boiled feed can now be dispensed with, but the condition should be well maintained with hay, oats, bran, some roots and cut straw sparingly used. Salt should never be forgotten. Regularity of feeding is one of the qualities of a good groom, and a fairly roomy and warm stall, comfortably bedded, should always land a stallion into March in good condition and health. Then carefully fed and handled from March to the close of the season, and there should not be much or any anxiety about his progeny, either as to strength or numbers.
Ontario County, Ont. WM. SMITH.

How Those Rapid-Gaining Pigs Were Reared.

SIR,—The mother of those eight pigs that made a gain of 1.75 lbs. per day from birth, which was reported in the ADVOCATE of Jan. 1st, was fed on light food before and after farrowing, consisting of bran, shorts, oats and barley chop about equal parts, moistened with whey and mixed twelve hours before feeding. When the pigs were about four weeks old they commenced to eat a little with the sow, at which time she was fed all she would eat up clean. The pigs were weaned at nine weeks old, and were fed the same as when with the sow, only the proportion of barley was gradually increased from the time they began to eat until ready to ship, at which time the feed consisted almost entirely of barley. I attribute the unusual gain in those pigs more to the wonderful milk-producing qualities of the sow than to any system of feeding. We had to let some of the pigs with her several times after separating, to relieve her udder. She is a very large, thrifty Yorkshire, and was bred to a Yorkshire boar, and is now with pig again to same boar, and will be due on March 10th. I will report their gain.
Lennox Co., Ont. R. M.

An Unreasonable Regulation.

To the Editor FARMER'S ADVOCATE:

SIR,—Just a few words in reference to a matter that may be of some interest to some of your readers in the East as well as many in the West. I refer to the tuberculin test as applied to thoroughbred cattle exported to the United States, or, rather, the new regulation regarding it. I do not propose to discuss the question of the test itself, more than to say that, so far as I am aware, it is generally admitted by those whose experience entitles them to speak with some authority that the test is not at all reliable. The question, however, that will soon begin to concern the breeders of Manitoba, and those in the East from whom they have been getting their stock, is what is to become of a large portion of our trade if things remain as they are? As you are aware, the recent new regulations adopted by the Department at Washington provides that vets. appointed by them shall do the testing, instead of allowing the work to be done by those appointed by the Dominion Government, as formerly. So far as that goes, I do not know that any serious objection should be raised by Canadians, especially by the Departmental authorities at Ottawa, who, I am told, did what they could to induce the U. S. people to adopt the test, but if this—to my mind, worse than foolish for the purpose intended—test is to be maintained, we need more conveniences for using it. My information is, that for the purpose of enforcing the terms of this restriction between the two countries at the present time, a gentleman residing at Buffalo, N. Y., has been appointed by the U. S. Government to attend to the whole business. Now, I submit that there is a small strip of Canada which is not convenient to that city, and those whose business interests are in that strip and sometimes need a veterinarian for the purpose will be unable to avail themselves of the services of the gentleman referred to. Therefore, other appointments should be made. It appears to me that those interested in the development of the West, and a business for which it is known to be so well adapted, those who are supposed to be the guardians of such interests, should stir themselves and have this important matter put in a different shape.
THOS. GREENWAY.
"Prairie Home Stock Farm," Manitoba.

Some Pertinent Suggestions.

To the Editor FARMER'S ADVOCATE:

SIR,—I write to commend the stand taken by your paper in regard to the tuberculin test, and to express my conviction that the resolution asking for the removal of the regulation requiring the compulsory injection of tuberculin in case of purebred imported animals adopted by the Dominion Cattle Breeders' Association, published in your Jan. 1st issue, was an eminently fair and reasonable one. As a scientific agent, it is not sufficiently exact to be relied upon, as numerous cases show, and since tuberculous lesions may exist in parts of the animal as not to be transmissible by contagion or otherwise, and as human consumption is not due to that source, and being of no benefit to animals, it is therefore useless. More than that, too much evidence has come to light of its injurious effects, mainly upon breeding females, in a way that stockmen know causes more actual loss than all our other live-stock ailments combined. Until the owners feel that they stand on safer ground, I surmise that there will be a very general disposition, as a matter of ordinary prudence, not to allow tuberculin injection into cattle, especially by foreign officers, who naturally desire the fad perpetuated. The international agreement which our Minister of Agriculture effected some years ago has been violated, and we witness the extraordinary spectacle of U. S. veterinarians now coming into Canada to make the test injections. Do our people realize the significance of this? I very much mistake the spirit and temper of British cattle-breeders if they permit the emissaries of a foreign country, of whose character they know nothing, to tamper with their stock. Unless I am much astray, the occupation of the itinerant temperature-raiser will soon be gone. Fortunately, this is a question out of the realm of party politics, and my humble advice to every farmer and breeder is to write at once to our representative in the Cabinet at Ottawa, Hon. Mr. Fisher, the Minister of Agriculture, urging the prompt withdrawal of the injurious regulations upon the importation of stock for the further improvement of our herds.
I remain, yours, etc.,
Oxford Co., Ont. B. C. A.

Cure for Ringworm.

DEAR SIR,—I enclose a recipe for ringworm in stock, which I have found very good, having used it four or five years. It only costs about 15 cents for the drugs, besides the lard, which a farmer generally has on hand: 2 ozs. Venice turpentine, 2 ozs. black sulphur, 4 ozs. lard.
Simcoe Co., Ont. ROBT. ROBERTSON.

Dogs vs. Sheep.

I have read several articles in the FARMER'S ADVOCATE regarding the best method of preventing dogs from killing sheep, or to protect farmers from this loss. Not having noticed any practical proposition, and knowing of the serious losses that have been sustained by the farmers of the Province of Quebec from this cause, and the large number who have given up this otherwise profitable industry of raising sheep solely from having their flocks slaughtered by dogs, and the large number of good farmers who would gladly go into sheep-raising but for this cause, I venture to make a few suggestions and to ask the FARMER'S ADVOCATE, which has already done so much for the agricultural class, to take up this question and keep it before the public until a law is passed that will protect this industry. It is generally admitted that whatever helps to make farmers prosperous in turn benefits indirectly all other classes. In order to lessen the number of sheep killed by dogs, I would suggest, first, that a tax be put on dogs in all rural districts as well as in cities and villages. This would thin off a good many worthless dogs. Second, that the same law be put in force here which they have in the United States, namely, that if a farmer has sheep killed by dogs, but is unable to prove whose dog killed or damaged them, he should be paid for loss sustained by the municipality (from the dog-tax fund) in which the loss occurred. In this way, all parties would be indirectly interested. The loss would not be heavy on any one, and we should soon see 100 flocks of sheep where we see but one under existing circumstances and present laws. Now, if a few leading farmers in each county in Ontario as well as in the Province of Quebec would inform their representatives not only in the Local House, but in the Dominion Parliament as well, that they wished these laws passed at the next session, it would probably be done. At all events, there is no possible excuse for not passing a law allowing indemnity, as stated in suggestion No. 2. I trust the FARMER'S ADVOCATE and its many readers will take this matter up, and that we may hear from some of our Ontario farmers on this subject.
Brome Co., Que. H. E. WILLIAMS.

The Battle with Bacilli.

It is a fortunate thing for the American public that it has, to a certain extent, freed itself from the traditional magic of print, and no longer believes absolutely in the truth of any and every thing which it reads in the newspapers. If we are to believe the yearly crop of "scare articles" concerning germs, microbes and infection, we must not hang on car-straps, we must not kiss, we must not drink milk, we must not be shaved, we must not eat pork,

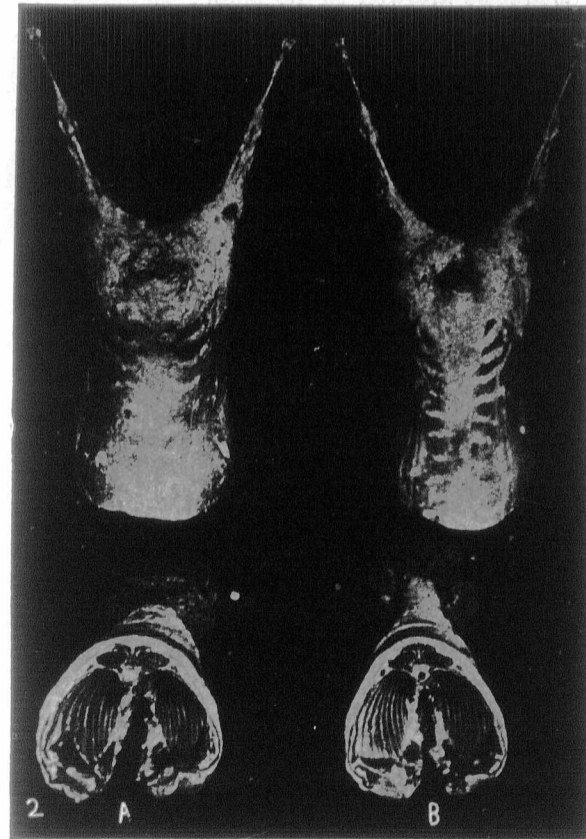


FIGURE 2.—REPORT ON SHEEP CARCASSES.

Of these two, B is too thin to compare favorably with A. A is not too fat, and the fat and lean are fairly well mixed.

we must not wash in hotel lavatories, we must not write telegrams with the pencils in the telegraph offices, we must not lick stamps, we must not use opera glasses, we must not shake hands with people until we know that they have been "sterilized," we must not telephone, we must not lean our heads back upon the seats of railroad cars, we must not go into swimming baths, we must not—but the list is interminable. A faithful obedience to instructions would paralyze every branch of human industry and stop every effort for pleasure; we should sit idly, swathed in antiseptic bandages, breathing a sterilized and purified air, while we waited for starvation or the crack o' doom. It seems singular to the unsentimental mind that so much is said about antiseptics and so little about cleanliness.—H. G. Rhodes, in Philadelphia Post.

Abortion and Carbolic Acid.

SIR,—I know how very easy it is for a man to criticise and find fault, but there is one paragraph in Mr. Rice's letter on the subject of "The Administration of Carbolic Acid" that should not go unchallenged to the readers of your paper. I have no desire or intention to enter into a discussion on the subject of abortion in cattle. There are a great number of able men in Great Britain, Denmark and Germany who have and are at present making daily observation and experiments on this very obscure disease, so that I shall not attempt to describe or in any way touch the subject, only to say that carbolic acid was tried for every contagious disease twenty years ago and failed in every instance to control or prevent infection by internal administration. Therefore, I desire to draw your attention to one or two very misleading statements in his letter.

In the December issue, page 681, "he had tried carbolic acid for milk fever, and being a student and keen observer, made a study of the trouble, and after having found carbolic acid good to prevent abortion and also to hasten the complete delivery of a retained afterbirth (and why not the foetus?), gave it a trial for the prevention of milk fever, and found it a real success." On page 44, January 15th, 1901, he makes the following remarks: "I have received a number of letters; this must be my reason for writing upon this subject, because I cannot say that I have had any great experience with abortion (happily)." Then he goes on to quote a Mr. William Watson's ideas (now deceased). What I would wish particularly to point out is the fact that this gentleman first of all asserts that he has cured abortion, and in the next breath says he has had no experience in the disease. The harm that may arise from such a rash and unconsidered statement is incalculable. Carbolic acid is a virulent poison, and even so small a dose as 20 drops three times a day will cause indigestion, and as he very naively puts it, "giving any cow a few drops of carbolic acid will do no harm (not to his cows, but what about his neighbor's?), no matter how long she may be bred, and it may do a world of good." In the last paragraph: "If trouble were feared while the cattle were in the pasture, I have mixed diluted creolin with the salt. They could not get an overdose of the medicine, because they would not eat enough, and if some will not eat any, but only smell it often, it will do some good." What I desire to say is, that an experienced breeder should be more careful of his statements. There is no doubt that some breeders will rashly try this method, and perhaps with unfortunate results.

SEMPER PARATUS.

Appreciation.

DEAR SIR,—On the principle that men should not first be allowed to die before we speak of the

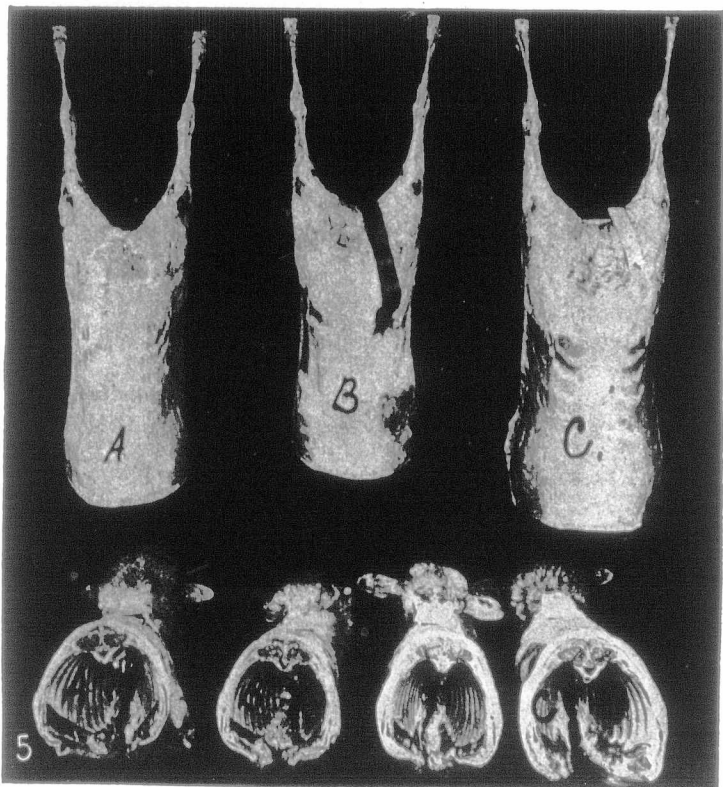


FIGURE III.—REPORT ON SHEEP CARCASSES. A choice lot of lambs. Any one of them apparently worthy of a prize. The decision was given in favor of B, on account of the better mixture of fat and lean over the ribs. A is a little too thin.

good they are doing, I have decided to drop you a line with reference to the FARMER'S ADVOCATE. The thought was suggested by the amount and excellence of the matter contained in the issue of Feb. 1st. In the midst of duties almost overwhelming, I spent nearly a whole evening in taking thoughts out of that issue, not with the shears, but with the pen. I may say that it is my custom thus to take thoughts out of all the leading agricultural papers published on the continent. Gauged by this standard, and it ought to be a high standard from which to judge, I find the ADVOCATE more useful than any of the others. Your Christmas number I regard as the most valuable paper of the kind ever issued on the continent. Go on in the good work you are doing, and may you be much prospered in it.

Truly yours, THOS. SHAW.
St. Anthony Park, Minn., Feb. 8, 1901.

FARM.

Spelt, Spelts or Speltz Wheat?

BY WM. SAUNDERS, DIRECTOR DOMINION EXPERIMENTAL FARMS.

Many inquiries have lately been made by correspondents of the Experimental Farms as to the probable usefulness of spelt wheat in different parts of the Dominion.

This variety of wheat is known to botanists as *Triticum spelta*, and is distinguished from other wheats by the adherence of the chaff to the kernel and by the brittleness of the rachis or central stem of the head, on which the spikelets are set. For these reasons the grain cannot be threshed like ordinary wheat, but requires special machinery to separate the kernels from the chaff. This is a very ancient form of wheat. Hackel, in his book on "The True Grasses," says "spelt is one of the oldest grains in cultivation; that in early times it was much cultivated in Egypt and Greece, and subsequently in Roman colonies." It is three times mentioned in the Bible. In Exodus, 9th chapter, 31st verse, we read, "but the wheat and spelt were not smitten, for they were not grown up." The other references are in Isaiah, 28th chapter, 25th verse, and in Ezekiel, 4th chapter and 9th verse.

Within more recent times the cultivation of spelt wheat has greatly decreased, and in most countries has been almost or wholly abandoned. It is still, however, grown to a considerable extent in hilly and mountainous districts in some parts of Germany, Switzerland and Northern Spain.

Hackel says, as the results of experience in Europe: "Spelt has undoubted advantages over naked wheats when grown upon poor soil and with moderate culture. Its demands are less, it is more certain, liable to fewer diseases, and not at all subject to the attacks of birds." He also says that "upon better soil and with reasonable cultivation, the returns are better from common wheat." The late Henry Vilmorin, the well-known French authority on cereals, in his work on wheats, after enumerating the different forms, bearded and beardless, of spelt wheats, speaks of them as being very hardy, remarkably proof against all diseases, enabling people on poor lands and in hilly regions, where other wheats could not be successfully grown, to obtain grain, and subsequently flour. For this reason, he says, they deserve the attention of the agriculturist.

The spikelet of the spelt wheat usually contains but two kernels. These are rather narrow and elongated in form, brittle and ricily in character; in this respect resembling goose wheat.

Among the first importations of foreign wheats made in the spring of 1887 for test on the Dominion Experimental Farms were two varieties of spelt wheat. These were tried at the Central Farm for two years, but the results of their growth here were not encouraging and their cultivation was discontinued.

In the autumn of 1899, when visiting the Experiment Station at North Dakota, U. S., I learned that spelt wheat was grown in some parts of that State as a substitute for barley, and was said to be more productive. Having secured a supply of seed, I arranged for a test to be conducted at all the Dominion Experimental Farms, which was carried out last season with the following results:

Central Experimental Farm.—Sown May 1st; ripened August 18th; time to mature, 109 days. Made strong growth; straw bright, but rather weak and slightly rusted. Length of straw, 30 to 34 inches; length of head, 2 to 3 inches; yield of grain, 2,000 pounds per acre.

Experimental Farm, Nappan, N. S.—Sown May 26th; ripened Sept. 8th; time to mature, 105 days. Growth medium; straw moderately stiff, 34 inches long, slightly rusted. Length of head about 2 inches; yield of grain, 2,640 pounds per acre.

Experimental Farm, Brandon, Man.—Sown April 26th, with a similar plot of Red Fife alongside on April 28th. Both ripened on August 21st, the spelt taking 117 days to mature, and the Red Fife 115 days. Yield of spelt wheat, 2,740 pounds per acre; Red Fife, 1,380 pounds.

Experimental Farm, Indian Head, N. W. T.—Sown April 13th, on clay loam; ripe Sept. 10th; time to mature, 149 days; yield of grain, 1,320 pounds.

Experimental Farm, Agassiz, B. C.—Sown May 11th; ripe August 18th; time to mature, 99 days. Made a strong growth, and did not appear to be subject to either rust or smut. Length of straw, 48 in.; length of head, 2½ in.; yield of grain, 1,340 lbs. The weight per measured bushel of spelt wheat ranges from 40 to 45 pounds, but as there seems to be no definite standard for this grain, the results of our experiments are given in pounds.

Comparing the yields of spelt wheat at the different Farms with the average given by the best six varieties of six-rowed barley at each of these Farms for the year 1900, we find the following:

	Lbs. Per Acre.
Ottawa—Average yield of six vars. barley	2,792
Average yield of spelt wheat	2,000
Difference in favor of barley	792

	Lbs. Per Acre.
Nappan, N. S.—Average yield of six vars. barley	2,725
Average yield of spelt wheat	2,640
Difference in favor of barley	85
Brandon, Man.—Yield of spelt wheat	2,740
Average yield of six vars. barley	1,902
Difference in favor of spelt wheat	838
Indian Head, N. W. T.—Average yield six vars. barley	2,320
Yield of spelt wheat	1,320
Difference in favor of barley	1,000
Agassiz, B. C.—Average yield of six vars. barley	1,967
Yield of spelt wheat	1,340
Difference in favor of barley	627

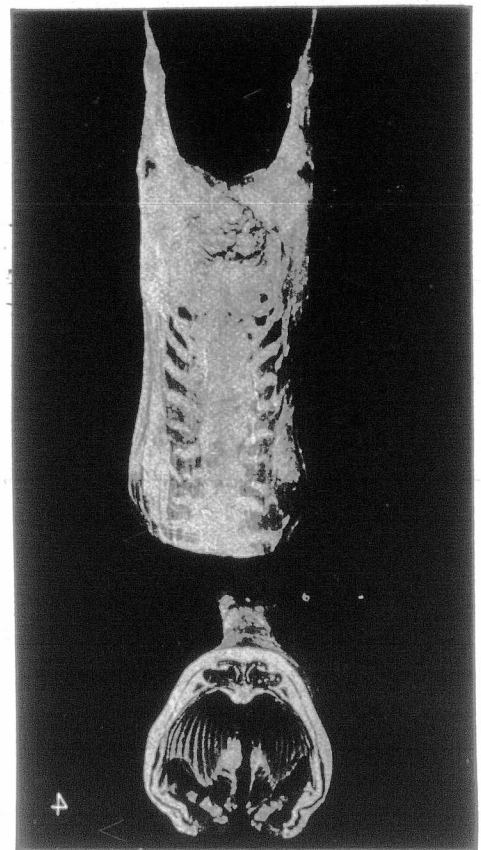


FIGURE IV.—REPORT ON SHEEP CARCASSES. A prize carcass. Sweepstakes over all breeds. The live animal and the dressed carcass won at Chicago and at Guelph, in December, \$127 in prize money.

Spelt wheat will be further tested, and it may be found of value in some parts of our great country, but the experience had in 1900 at the Dominion Experimental Farms seems to indicate that spelt wheat on the average is inferior in productiveness to the best varieties of six-rowed barley.

A Handy Wire Tightening Device.

In a recent issue is described a method of stretching wire in building fences by the turning of the wheel of a waggon anchored to a stake in the ground. We have a more simple and effective plan. After the wires have been reeled off and lying on the ground, take an ordinary drag boat, put stones enough on it to make a tidy load for one horse. A loop of rope a few feet long is hitched on the wire and put on an upright iron pin or bolt in the rear bar of the boat; then drive on the horse and the strain of the tightening wire stops him, while the load of stones holds the boat to the place with the wire tight. After it is stapled to the posts, with a stick or the hammer handle spring the rope from the iron pin and hitch on to the next wire; a few steps forward and it is tight also. One hundred and fifty yards at a time can be done nicely. Always put the top wire of a fence on first. Macdonald Municipality, Man. A. DRYDEN.

Spelt Once Again.

To the Editor FARMER'S ADVOCATE: SIR,—"With your permission, I will give you my experience with this cereal. Last spring I imported 45 lbs. from the John Saltzer Co., La Crosse, Wis. I sowed it at about the rate of five pecks to the acre, alongside of oats. The spelt came up first and kept on growing ahead of the oats, and yielded me 40 bushels clean grain. I had no trouble whatever threshing it. I chopped two bags, and it made nice, mealy chop. I am going to try it with young pigs to see how it will feed. As a soiling plant I think it most valuable, as it is much more leafy and remains green longer than oats. I will try it with vetches this spring and report results. Oxford Co., Ont. H. BOLLERT.

Coincidences in Horse Measurements.

In nine cases out of ten it will be found that the height of a horse at its withers is within a small fraction of 2½ times the length of its head. It is very rarely that a horse's height is 2½ times the length of his head. In the same connection it is interesting to note that the length of the head of a horse is almost exactly the same as that from the stifle joint to the hock, and from the point of the hock to the ground.

A Commodious Cattle Barn.

The illustration appearing on this page shows the cattle barn on the farm of David Jackson, of Newdale, Manitoba. This entire barn is devoted to cattle, as he has, in addition to it, a large horse stable and a granary, which are built at considerable distances apart. This barn is 112 feet by 38 feet, 9-foot stone basement wall, with natural bank along the north side, from which there are two driveways into the barn. The frame superstructure has 16 foot 8x8 posts, 26-foot 8x10 purline posts, and the whole space is available for the storage of hay and fodder. A large water tank is situated on this floor, a grain crusher stands 8 feet above the floor, with a hopper on floor level, from which it is elevated to bin at top of barn, with self-feed, into the crusher, and the chop falls into a bin in feed passage below. Pump and crusher are run by geared 14 foot windmill. The ground floor is laid out with an 8 foot passage running lengthways of the entire stable, with a row of cattle on each side, facing the outer walls. This wide passage permits a team and wagon or flat sled to be driven right through the stable, to take the manure direct from the stable to field or heap. Four-foot feed passages run the full length of the stable, in front of cattle, with water troughs above the mangers, which are supplied by pipes from the water tank on the upper floor. The troughs are provided with covers, to keep them clean and to allow the cattle to drink at the will of the feeder. The floor is splanked throughout, and the stalls are double, 6 feet wide, with accommodation for 69 head of mature cattle. As will be noticed, the south side of the stable is well lighted with a number of good-sized windows, which also provide ventilation, but improvements are being planned in this particular. The herd consists of Shorthorn grade cows, and a pure-bred Ayrshire bull is used.

Farmers' Institute Field Notes.

BY THE SUPERINTENDENT.

The Institute delegates who have been addressing meetings and introducing discussions in every county of the Province of Ontario this winter have returned home to get ready for the February sessions. Without exception, they say they have had better meetings on the whole this year than in previous sessions.

ALONG THE ST. LAWRENCE.

Mr. Henry Glendinning, who has been in the dairy counties of Hastings, Addington, Leeds, and Frontenac, says that the people in the West do not appreciate what these counties are doing, particularly in dairying. We talk about Oxford and Middlesex, and our minds become prejudiced in favor of the farmers of these districts. We forget that these people in the Western Peninsula have had superior advantages ever since the early settlers hued out homes for themselves in what was known in those days as the old "Huron Tract." We forget that the people of the St. Lawrence have had to come to the western part of the Province for the foundation stock of their herds. We forget that dairying all the year round would scarcely be possible without summer feed in the form of either ensilage or soiling crops.

We forget that last summer, when, in order to keep up the milk flow, the Western farmer had to take his cattle off the dry pastures and feed them in the stables, the cattle of the St. Lawrence district were wading in pasture up to their knees. The district through which Mr. Glendinning passed has contributed a large per cent. of the butter and cheese that went to make up the twenty-five million dollars' worth of exported products during the year 1900.

FEEDING RATINGS.

Mr. Glendinning says that notwithstanding the fact that his subjects as advertised cover quite a broad field, the one entitled "Feeds and Feeding" was called for most frequently and discussed most thoroughly. "My charts," said Mr. Glendinning, "which showed the nutritive value of the different stock foods were most closely scanned. It was found to be almost invariably true that as each successful feeder explained just what he was giving each cow each day, and then compared it with the scientific basis furnished by the speaker, they were in perfect harmony."

Continuing, Mr. Glendinning said that dairymen were fast finding out the value of different foods from an economic standpoint. Timothy has had its day, and the different kinds of clover are entering into almost every rotation.

WOMEN'S INSTITUTES.

Miss Blanche Maddock, of Guelph, who accompanied Mr. Glendinning, has nothing but the highest words of praise to say of the progress of Women's Institutes. "The women met and asked me to organize a Women's Institute in almost every riding," said Miss Maddock. "They see their husbands using improved machinery and thereby lessening their labor on the farm. They see cash in the form of bank checks coming in from the creameries and cheese factories every month, and

they begin to see the necessity of improving their home surroundings."

One lady writes me that since Miss Maddock visited their section of the country several ladies had said to her: "Why did we not think of this before? We had thought we knew all about house-keeping, and we believed that cleanliness was not only next to godliness, but was pretty nearly everything. We have scrubbed our floors until they were fit to eat from, and then this young girl comes along and tells us, in her bright and cheery way, that there is no use spending our energies and wasting our lives in this way when we do not propose to eat from this floor anyhow."

"Why use heavy pots and pans," said Miss Maddock, "when lighter ones are just as cheap and just as durable? Why put up with an old stove when a new one of modern design would do the work with half the fuel? Why worry and spend part of almost every night making, mending, starching and ironing white dresses for our children, when pretty, bright-colored patterns can be had which only require half the labor?"

Such letters as this are coming in almost daily from women who have listened to one or other of our lady delegates now in the field.

IN SIMCOE, GREY AND DUFFERIN.

Mr. A. W. Peart, of Burlington, and Mr. J. E. Meyer, of Kossuth, passed through the city yesterday on their way home from Division G. "On the whole, we had good meetings," said Mr. Peart. "Mr. Meyer's work on poultry was especially acceptable, and I am sure the good people in the north have taken home many practical ideas on this subject. For myself," said Mr. Peart, "I was called upon at almost every meeting to discuss the 'Management of Soil.' Here I found every one interested. Some places they wanted 'Fruit,' other places they asked for 'Insects and Fungi,' occasionally 'Wheat-growing,' but everywhere 'Soils.' I tried to show them," said Mr. Peart, "exactly what they were losing in dollars and cents from the growing of certain crops. I also tried to point

poultry meetings and given instruction to more than 5,000 farmers and their wives and daughters.

Mr. A. G. Gilbert has charge of the meetings in the district east of Toronto. Mr. G. R. Cottrell and Prof. Graham are covering the Western Peninsula, while Mr. J. E. Meyer has addressed 20 meetings north of Toronto. All of these gentlemen agree on the following points:

- 1st.—Our home markets are glutted with a lot of poor, scrawny fowl.
- 2nd.—There is an unlimited demand for plump young birds.
- 3rd.—Merchants in Toronto and Montreal are paying as high as 10 cents per pound for chickens properly fed and dressed.
- 4th.—A flock of chickens properly handled would return to their owner at least one dollar a head per year.
- 5th.—A hen is not a profitable animal on the farm after two years of age.
- 6th.—Pullets are the most profitable winter layers, but they must be hatched early.
- 7th.—During the laying period, to get the best results, hens must be made literally to work for their living. Whole grain should be scattered each day in the litter, so that in hunting for it the hens will get exercise, keep healthy, and fill the egg basket.
- 8th.—Ground bone is the best form in which animal food can be fed to laying hens. If this cannot be obtained, meat scraps from the house and an occasional liver give good results.
- 9th.—Grit must be supplied in some form, as, in the absence of teeth, it serves to grind the food in the gizzard.
- 10th.—Laying hens must have access to some form of lime, from which to manufacture shells for their eggs.

IN THE OTTAWA VALLEY.

An Institute officer in North Renfrew sends in the following:

"Our Institute meetings this year have been successful indeed. You sent us only one speaker, but he has proved a host in himself, and we hope to have the pleasure of his company another year." The writer goes on to say: "The speaker advertised was Mr. Duncan Anderson, of Rugby, Simcoe County, and he proved to be a thoroughly practical Canadian farmer, capable of setting forth his experience in a common-sense, everyday way, which took well with his audience. We have no doubt a brief sketch of his life will be interesting, not only to those who heard him, but also to those who may, we hope, hear him on a future occasion. Mr. Anderson was born in Glasgow (a fact patent to everyone who hears him speak and knows the 'Glasca tongue'), and came to this country with his parents in 1862. His father took up land in the Township of Oro, County of Simcoe, on which farm Mr. Anderson now resides, besides owning another in the same township. When young, he assisted in clearing the timber, stumps, etc., off the home farm. He has done every kind of work from swinging the old-fashioned cradle to running the modern binder. Beginning with

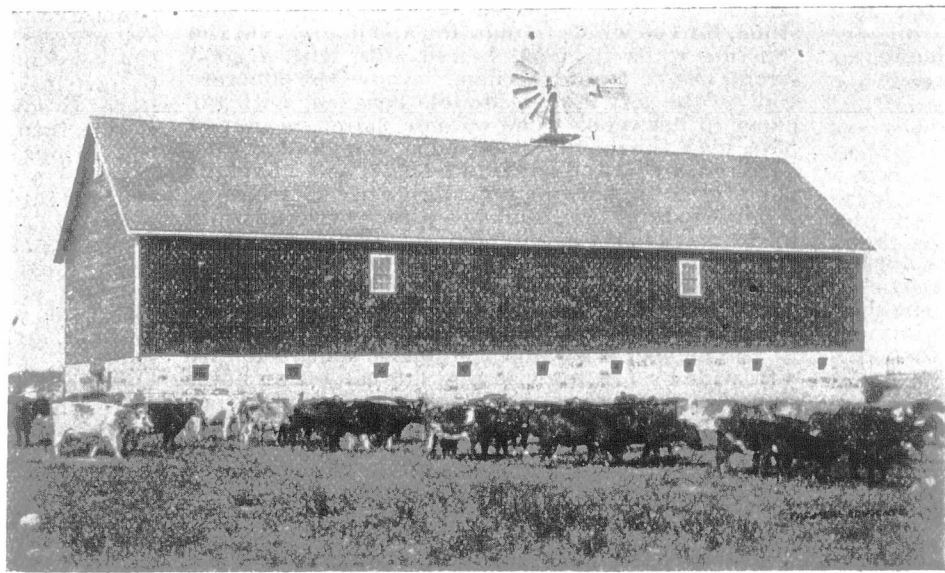
a few common cattle, he has now a select herd of good milking, registered Shorthorns, and a flock of high-bred Leicester sheep, besides a number of well-selected hogs. With only a common school education received in Scotland, he has so improved himself by home study as to be able to state his views in a clear, lucid manner."

Mr. Anderson firmly believes in keeping up the fertility of the soil by the use of stable manures and green clover. Three points he emphatically insists upon:

- 1st.—You cannot make the seed-bed too fine.
- 2nd.—You cannot keep the fertilizers too near the top.
- 3rd.—It is better to wait until the ground is warm in the spring before planting.

Mr. Anderson also says: "Farmers plow too deep and too often. In cultivated crops, the surface soil has to be kept constantly stirred, but you waste your time and energy and often do much harm by plowing the average farm over and over again, each time turning up some poor soil from below and thereby bringing down the fertility of the surface. Probably most farmers," said Mr. Anderson, "make most of their money nowadays by their by-products. With us at home, poultry has become one of our sources of revenue. We have made a bargain with the women folks of the house that they are to have all the products accruing from the poultry trade if they pay for the feed. Last year they had 99 hens, and the amount realized from the sale of eggs and chickens was \$110.30. The cost of feed and loss was \$35.45, leaving a net profit of \$74.85." This he claimed was a good investment.

That winter is the season when farmers find most time for reading and writing is evidenced by the many letters received at the office of the ADVOCATE expressing appreciation of the paper, and by the rush of contributions on practical subjects for publication, many of which we are compelled to hold over for lack of space in present issue.



EXTERIOR VIEW OF BARN BELONGING TO DAVID JACKSON, NEWDALE, MAN.

out what was to be gained by the growing of clover and other leguminous plants."

NITROGEN.

"Compare a crop of clover," said Mr. Peart, "with a crop of wheat as it affects the fertility of the soil. If you plow under a crop of clover that will produce two tons to the acre, you add to your land exactly 90 lbs. of nitrogen. This nitrogen is appropriated from the free nitrogen of the air, and costs the farmer nothing. The wheat plant has not the power to do this. Nitrogen is worth, in the commercial world when you go to buy it in the shape of a fertilizer, about 18 cents per pound. You have here, then, a gain of \$15.20 per acre. Take a crop of wheat, on the other hand, and you remove from your soil two pounds of nitrogen for every bushel of wheat and the straw which accompanies it. At 20 bushels to the acre, you therefore take from your land 40 lbs., which, at 18 cents, amounts to \$7.20. You have as a balance against this 20 bushels of wheat at the market price. This is the foundation principle of what is known as the 'Norfolk Rotation,' which is so popular in the Old Country. It is a four-years' rotation with roots, barley, clover and wheat in the order named. Many English farmers, by following this rotation, have not only retained the fertility of their farms, but have actually increased it, although in constant cultivation for hundreds of years."

POULTRY.

One year ago last December the Provincial Winter Fair offered prizes for dressed poultry at their show held in the City of London. They also arranged with Prof. Graham, of the Agricultural College; Mr. J. E. Meyer, of our Institute staff; and Prof. A. G. Gilbert and his estimable wife, of Ottawa, to give practical talks and demonstrations on the different phases of the subject, with a view to improving this industry in Ontario. Our eyes were then opened to the possibilities of the poultry industry. Acting under the instructions of the Minister, we have this winter held practical

A Beef Ring for 20 Members.

Enclosed please find chart which I use for cutting up beef for a ring of 20 members. I have used it for three years, and it has given the best satisfaction of any ring in this locality. Several applicants have asked me to give my chart, and to explain how to run it. I think it will be readily understood. It is run just the same as the one for 16 members. Our rules are just the same as for a ring of 16 members. The only difference is, we have the members furnish a basket or cotton bag to put the beef in when cut

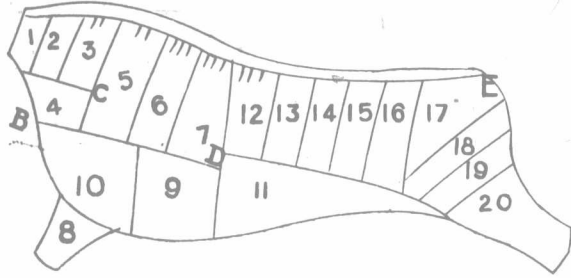


CHART FOR BEEF RING OF 20 MEMBERS.

up. Then we hang it up, with their name on it. You will see by my chart that the beef will have to be quartered a little differently from yours for cutting the beef up in 40 pieces. To give each party a boil and a roast, it must be divided after the beef is cut down in halves. You must cut it across between Nos. 7 and 12, leaving four ribs on the hind quarter. After laying the front quarter on the table for cutting up, you will cut off front shank, No. 8; then cut from line B, making two pieces (Nos. 10 and 9); then take off neck, No. 1; then take roast No. 7 (3 ribs in it); roast No. 6 (2 ribs); roast No. 5 (2 ribs); then cut across to line C, taking piece No. 4 (boiling piece); then No. 3 (2 ribs in it), leaving piece No. 2. After cutting up the two fore quarters, you will let down the hind quarter on the table, and cut from line D, leaving flank, No. 11; then cut roast No. 12 (3 ribs in it); then follow along No. 13, 14, 15, 16; then cut across line E (rump roast), No. 17; then cut off Nos. 18 and 19, leaving hind shank, No. 20.

This is a table to put the pieces for each one:

Nos. 1 and 18	Boil and roast.
" 2 and 16	" "
" 3 and 12	" "
" 4 and 13	" "
" 5 and 17	" "
" 6 and 20	" "
" 7 and 11	" "
" 8 and 15	" "
" 9 and 14	" "
" 10 and 19	" "

The weight of the beef is supposed to be not less than 400 lbs., and not to exceed 500 lbs., all to be cut up and divided into 20 shares. I think the beef should not be less than 450 lbs. It cuts up in much nicer pieces.

JOHN I. BALSDON,
Ontario Co., Ont.

Dominion Grange Convention.

The annual meeting of the Dominion Grange was held at Toronto on January 30th and 31st. Worthy Master Jabel Robinson, M. P., conducted the various sessions. Reports of the various Granges in licited that renewed interest is being taken in Granges by members throughout the country, and that many dormant Granges are being resuscitated.

The Master in his address reported that the ranks in the Grange in the United States are being filled by thousands; in Michigan alone 100 new Granges have been formed during the past year. The Grange in the United States is endeavoring to put down trusts, combines and monopolies, and injustice in every form. "It is patent," said the Master, "that the Government can do little in the way of making the farmers rich—this depends on their own skill and energy. But the Government can see that the farmer is not robbed by wealthy corporations by being discriminated against by transportation companies." Mr. Robinson referred to excessive railroad rates, and asked the members to support a demand for a railroad commission. The great value to the country of the Agricultural College was dwelt upon, and a strong plea was advanced for free rural mail delivery.

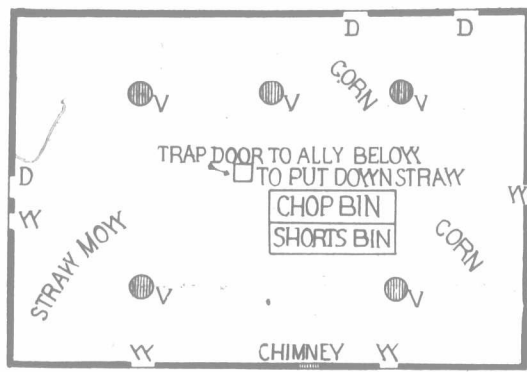
The committee on legislation reported that the Minister of Railways had announced that the Government will appoint a permanent railway commission to deal with all matters of freight and passenger rates before the companies will be permitted to collect the same from the public. It was deemed that the country is not as a whole ready to adopt a system of rural mail delivery, but that the Government should try the experiment in a few sections in order to learn its ultimate advantages. Other matters of more or less importance were dealt with. The next annual meeting will be held in Toronto, early in February, 1902.

The election of officers resulted as follows: Worthy Master, Brother Jabel Robinson, M. P., Middlemarch (re-elected); Worthy Overseer, Brother John McDougall, Milton (re-elected); Worthy Secretary, Brother William F. H. Fisher, Burlington (re-elected); Worthy Chaplain, Brother W. Oke, Whitby; Worthy Treasurer, Brother J. Fallis, Newbridge (re-elected); Worthy Lecturer, Brother Henry Grose, Lefroy; Worthy Steward, Brother Samuel Goodfellow, Duncan; Worthy Assistant Steward, Brother W. W. Lane, Blenheim; Worthy Gate-keeper, Brother W. Gray, Londesboro; Lady officers: Ceres, Sister Mrs. E. Brown, Whitby;

Pomona, Sister Mrs. W. Gray, Londesboro; Flora, Sister Mrs. J. Robinson, Middlemarch; Lady Assistant Steward, Sister Mrs. W. W. Lane, Blenheim. Auditors, Brothers J. C. Chapman, St. Thomas, and O. W. Quantz, Painswick. Executive Committee, Brothers George E. Fisher, Freeman, and Hy. Glendinning, Manilla.

A Model Hogpen.

SIR.—Having seen some plans of hogpens in late issues of the ADVOCATE, I thought I would send you one of my pen, built in 1899 on a concrete foundation, 50 ft. long by 32 wide, and about 16 ft. from ground to eaves. The concrete is about 3 1/2 ft. above ground, 8 ins. thick, set on a 16-in. base in the ground. It was put up under the supervision of Mr. Hagar, with Battle's Thorold cement. Troughs and floors are of the same material, with a 1-ft. by 5-in. wall between each pen, on which the partitions rest, with slide doors between eight of the pens. The partition next the boiler is concrete, 3 1/2 ft. high, 5 ins. thick. The floors slope from troughs back to one corner of each pen. The wet is soaked up by litter of straw and sawdust. The troughs are made in two different shaped moulds, about 12x14 ins.



LOFT OR UPPER FLOOR OF MR. ED. V. DECKER'S PIGGERY.

wide, and from 5 to 6 ins. deep. It took sixty barrels of cement, mixed with lake gravel and stone, for the whole foundation and floors. On the concrete walls are good hewed sills, with a good strong hewed frame on them. Above the concrete wall to the loft floor is double boarded, with tar paper in between. The outside siding is planed pine, with the cracks all battened, and painted with two coats of oil and oxide of iron. There are eight windows in all, with six 10x14 lights in each window, six downstairs and four upstairs. The end ones upstairs are in the gable ends, and are never opened. The pens are about 8 ft. high in the clear, and the measurements are from outside of wall to center of partitions. Each pen will hold from fourteen small to eight or nine pigs fit for market. The two doors at the ends of alley and the one on south side are 4 ft. wide by 7 ft. high, so that one can take a horse and stone boat through, if so desired, to clean out pens, but I always clean out through windows and hog doors about once a week. The hog doors only come up to the sill, and the windows are above the sill. I have five ventilators, made of 8-in. galvanized iron pipe, which extend from pen ceilings out



GROUND FLOOR OF PIGGERY BELONGING TO MR. ED. V. DECKER, ELGIN CO., ONT.

through the roof. They are marked V in plan. Doors are marked D, windows W, troughs T. The two doors on north side of loft plan are for throwing corn in, and the one on west end for putting in straw. My roots I keep in barn cellars about 200 ft. from pen, and I do not find it very much trouble to bring a basketful down night and morning when coming to the house. Then one pulper answers for both cattle and hogs; but if one desired he could use one pen for roots, as it very seldom freezes in my pen. My pen is built on the level ground, for I do not think that many farms would supply a bank like Mr. Gier speaks of, especially around here. I consider concrete better than stone or brick, for I think it is cheaper, drier, and hogs will not gnaw it as much. The grain is let down from bins in loft by chutes into mixing tank. As to cost, that will vary very much. My piggery cost about \$300, besides my own labor, and I got all the rough lumber and timber and stone on my own farm, and the gravel off the lake beach. The fronts of pens are on hinges, so when I want to move pigs from pen to pen, I just swing them up and run the pigs along the alley, which is 1 ft. wide, and plenty wide enough.

Elgin Co., Ont.

ED. V. DECKER.

Can Chess Originate from Fall Wheat?

BY PROF. JAMES FLETCHER, BOTANIST, EXPERIMENTAL FARM, OTTAWA.

There is perhaps no popular error which has gained such wide credence among farmers in this country as that the distinct and characteristic grass known as chess (*Bromus secalinus* of Linnæus) can, under certain adverse circumstances, originate from the seed or injured plants of fall wheat. Two excellent letters appeared on this subject in the FARMER'S ADVOCATE for November 15th, by Mr. H. Pettit, and December 1st, by Mr. J. H. Jull. I also have received a great many letters on the subject, and at the request of the Editor I submit herewith some facts concerning experiments which have been carried on here at the Central Experimental Farm year after year for the last nine years. During this time the plots where the plants of fall wheat and chess were growing side by side have been examined by many thousands of farmers, a large proportion of whom believed, previous to their visit, that chess could be derived from fall wheat. In this country, the idea that one well-known plant can change into some other plant seems to be restricted to the supposed change of wheat into chess, and among a very few, from chess back again to wheat. The idea of such changes, however, is not a new one, for in Europe, since early times, various similar changes were thought to be possible. In Sweden, and some parts of England, chess was at one time thought by some to be degenerated rye; the poison darnel, one of the rye grasses, to be degenerated wheat or rye; and the very name rye grass for the *Lolium* seems to have its origin in this belief. Some farmers objected to sow Italian rye grass, believing it was sure to turn into quack grass. It was even thought that the various small grains were convertible into each other in a certain progressive order: wheat into rye, rye into barley, barley into rye grass, and rye grass into chess. In this free country, where belief is untrammelled even by reason, we go at one step from wheat to chess. In the English agricultural journals of a number of years ago were explicit directions for transforming one kind of grain into another, and in the *Journal of Agriculture* for 1861, page 321, a case is cited in which these directions were followed. In June, 1855, a few rows of oats were dibbled in in a garden. The plants were cut down in the green state twice during the summer and were protected from frost in the winter. Several of the stools survived the winter, and in the summer of 1856 produced several ears of barley. No longer ago than 1885, Mr. C. S. Read, a well-known farmer, agricultural writer, and member of Parliament, stated (*Gardener's Chronicle*, 1885, page 533) that he had known oats (which were kept cut during the first year and protected by a covering of straw during the winter) to produce the next year other kinds of grain; in one case wheat, in another, rye, and in another, barley. The editor of the journal in which this report is published, who is also a botanist, states naturally enough that he is astounded that such beliefs should still be held by persons of intelligence (A. A. Crozier: Popular Errors About Plants). Every practical Canadian farmer will know, when reading the above statements as to the change of one kind of grain into another, that although the statements were made in good faith, such statements are absolutely erroneous, and they can prove for themselves with very little trouble that although so widely accepted, the popular belief that fall wheat can be changed into chess is equally without foundation; and the strangest thing to me, I must confess, is that so few of the very large number who inquire about and profess to be interested in this subject will do anything in the way of experiment to learn what the true facts of the case are. I have over and over again offered the seed of chess to those who profess to believe that that grass is, to use the often-repeated term, "a bastard grain," which some say will not grow from its own seed, or if it will grow, will not produce similar seed. It is very seldom that this offer is accepted, and of those that do accept the seed, few sow it and report the results. Owing to the widespread destruction of fall wheat last autumn by the Hessian fly, a discussion of this subject is now timely, for doubtless much chess will be noticed in the fall-wheat fields next season, not because the wheat plants having been injured by Hessian fly have been changed into chess, but because chess seed was either sown with the wheat or was lying in the ground from a previous crop, and owing to the destruction of the wheat plants, the chess will have room to develop luxuriantly. Chess is a well-known wild plant or weed in Europe, and, like many other weeds, has been accidentally introduced into the country. It is one of the Bromo grasses, of which there are many species, no less than a dozen of which are native in North America. The valuable



CHESS.

perennial grass, Awnless Brome, is among the best known. Chess, however, is not a perennial, but, like fall wheat, is a biennial plant, or rather what is now called a "winter annual." The seeds germinate in the autumn of one year, and the grain ripens during the following summer. Chess is known to be more hardy than wheat, and frequently, when wheat is killed out, the chess remains uninjured; for this reason, having more room, it stools out and forms vigorous plants where, had the wheat plants lived, it would have been crowded and only a few weak stems would have developed, which might then have been easily overlooked. I have in my collection of dried plants just such crowded chess plants, only 2 or 3 inches high, bearing mature seeds, and, on the other hand, in good soil, with plenty of room to develop, chess plants will frequently grow 3 feet high, with fifteen or twenty stems, bearing large panicles with many seeds.

It is sometimes stated that chess and wheat have been found growing on the same head, and specimens have frequently been submitted to botanists for examination. In every instance it has been shown that a spikelet of chess had merely been caught between the chaff scales of the wheat head, and with care could be separated without breaking. Three such specimens have been sent to me here during the last twelve years, and some years ago a similar specimen was sent to the FARMER'S ADVOCATE, of which a figure was published. The slender stalks of the spikelets of chess render this accidental occurrence very easy, as anyone will find upon trying it when the two plants are in a green condition. Again, it is said that chess and wheat have been found growing from the same root. It will be easily understood that where wheat containing chess seed is sown with a drill, the plants grow up so closely together that they intertwine their roots, and at first sight have the appearance of having grown from the same seed. That this is not the case may be easily proved by anyone who will carefully wash out from the roots all the earth, when not only will the two plants be easily separable, but in most cases the old seeds, of entirely different appearance, from which the chess and wheat grew, will be found attached beneath the center of each plant. The grain of wheat will be shrunken, but easily recognizable; the chess seed, owing to the husk which remains attached, will have changed but little in appearance. I draw special attention to this because anyone finding chess growing in fall wheat next summer can prove for himself what will certainly be the case, that every plant of chess he can find grew from a chess seed and not from a grain of wheat. As frequently the rootlets of plants will penetrate any hollow object lying in the ground, some care may be necessary that mistakes are not made from this cause. The position of the exhausted seed from which a plant has grown may be easily studied from young plants of corn, wheat or barley. These seeds are firmly attached beneath the center of each plant. Old seeds lying in the ground will be found to separate easily from the rootlets and, as a rule, to be some distance from the base of the stem. The following are some of the causes which are given for the alleged degeneration of fall wheat into chess:

- (1) Sowing shrunken seed.
- (2) Sowing in a certain time of the moon.
- (3) Injury by Hessian fly.
- (4) Eating off of the plants by stock or by fowls.
- (5) Trampling by animals or injury by passing vehicles.
- (6) Drowning out by water lying on the ground in spring.
- (7) Freezing out in winter or heaving by frost in spring, so as to "cut off the taproot."

None of these causes, however, can have the slightest effect in bringing about the change of one of these plants, which are distinct species, into the other, as I have proved by experiments here at Ottawa, which have been carried on year after year and have been watched by hundreds of farmers who knew of the experiments and have come periodically to examine them. In the first place, plump, shrunken and even broken seeds of fall wheat have been sown and never produced anything but wheat. Seeds have been sown (for experiment's sake) at all times of the month. Plants injured by Hessian fly, but not killed, have been marked and watched carefully. One hundred grains each of chess and fall wheat have been sown in September and each grain marked with a label. In the spring, twenty-five plants were trampled into the ground; twenty-five were twice cut down with a pair of scissors, in imitation of stock eating them off. Part of these plants had the snow shovelled off them during the winter two or three times, and a small plot was sown on a bed where it was known that water would lie for two or three weeks in the spring. In this last case, many of the plants were always killed out. These experiments, as stated above, have been repeated every year for nine years, and are still going on. The results may be summed up by saying that in no instance has the least change been discernible. Chess seed produced chess, and fall wheat, whatever treatment it might have received, produced fall wheat and nothing else.

In reply to the contention that chess cannot be grown from its own seed, I will merely state that the chess I am now growing has been cultivated year after year from the same stock with which this experiment was begun nine years ago, and

further, that chess is one of the recognized fodder grasses in France and Germany, of which the seed is regularly advertised for sale. On this continent chess is largely grown for fodder in the State of Oregon. Correspondence with Prof. Moses Craig, of the Oregon State Agricultural College, is printed in my annual report for 1892, from which the following may be quoted: "In reply to your letter, regarding the use of chess as a fodder plant, I would say that in this county it grows well and is considered by most farmers to be as good as timothy, selling readily at \$12 a ton. This applies mainly to the hill regions, as in the valleys other grasses can be profitably grown. It endures the dry, dusty summer much better than timothy, and is often sown in freshly-cleared land, where it makes a good stand. In the ranches of the Cascades, when mixed with wild oats, it forms the entire food of cattle. I think that chess grows much better on alkaline land than do timothy and other tame grasses." As stated above, chess is a winter annual, like fall wheat; therefore, if seed is sown in the spring, few if any of the plants will flower that year, but if sown in September, all the plants will flower the following summer. There is only one remedy for chess—to sow clean wheat in clean land. If this be done, there will be no trouble with chess; but clean seed wheat is a much rarer thing than most farmers think, unless it has been hand-picked, grain by grain. It must not be forgotten also that seeds of chess will remain in the ground for several years.

In conclusion, let me quote the following from Prof. Scribner, the head of the Division of Grass and Fodder Plants of the United States Department of Agriculture, and the highest authority on the subject in America: "The idea that chess is degenerated wheat has no foundation whatever in fact. Only chess seed will produce chess. Chess and wheat are only remotely related, and they belong to quite different tribes in the grass family. Wheat is less likely to change into chess in a single generation than into the more nearly-allied oats, or than wheat is to change into barley, with which it is very closely related."

And now, sir, I do not hope in the least to convince anyone by what I have written that chess does not originate from fall wheat, but I do hope that I may have indicated lines of investigation by which every one can prove it for himself, and from which, if carried out, no other possible result can follow. Chess can no more grow from fall-wheat seed than a rose or any other plant can grow from an onion seed. If any of your correspondents would like to test for himself whether chess seed will grow and produce chess, I shall be glad to send a sample of seed to all who apply, as long as my supply lasts.

[EDITOR'S NOTE.—Since asking Dr. Fletcher to write on this subject, we have received a number of well-written letters, discussing the question pro and con, most of the writers being very confident of the soundness of their conclusions. As their publication would take more space than the overcrowded state of our columns and the importance of the subject would appear to justify, we append, as an acknowledgment, the names of the writers, and trust that Dr. Fletcher's article may be accepted as authority. Our correspondents on this question are: Messrs. George Sexsmith, A. Potts, Thomas Dunlop, S. K. Ruddell, J. W. L., D. R. Marr, J. J. Wilson, J. H. Mitchell, T. Collins, R. Bullock, and J. Bobier.]

Nova Scotia Farmers' Association.

The Nova Scotia Farmers' Association convened at Kentville, for its fifth annual meeting, on Jan. 30th, the last session closing Friday evening, Feb. 1st. It had been expected that Hon. Sidney Fisher and Mr. F. W. Hodson, Dominion Live Stock Commissioner, would be present, but owing to the death of Her Gracious Majesty Queen Victoria, they were unable to attend, and the Association was thrown largely upon its own resources, and the success of the meeting showed the ability of Nova Scotia farmers in such an emergency.

President Wm. Corning, in his opening address, said in part: "The agriculturists of our Province have had a fairly prosperous year. The western section has been blessed with one of the finest seasons ever known. Crops were good, and owing to the very large number of tourists visiting the country, prices were firm, and every production of the farm was in good demand, especially poultry and the products of the dairy. . . . Through the courtesy of Mr. F. W. Hodson, I, with other delegates from the Maritime Provinces, had the pleasure of visiting the Ontario Fat Stock Show at Guelph, the Agricultural College, and the Experimental Farms. The object of this delegation was, I think, to more thoroughly unite the agricultural classes of the Dominion. The difference in the agricultural standing of Ontario and the Maritime Provinces is not, in my judgment, so much in natural advantages as in education. If this be correct, then it would seem wise for us to largely bend our energies in this direction. This should naturally increase our interest in our own agricultural and horticultural schools and in every other line of work that has for its end the better educa-

tion of the farmers. I should like to call your attention to one other point that impressed itself upon my mind more than any other thing while in Ontario, and that was the class of men who represent the farmers in the Governments of the country and are leaders of public opinion, and have been very large factors in placing the agriculturists of Ontario in the high and important position they occupy to-day. I refer to such practical farmers as the Hon. Sidney Fisher, now Minister of Agriculture; Hon. John Dryden, Dr. Mills, Prof. G. E. Day, and others. In this part of the Dominion, while we are fortunate in having a few such representative men as our Hon. Mr. Black, and others, yet it appears to me that our profession has not that standing and influence which the magnitude of its interests requires and has a right to demand."

A paper by Mr. F. W. Hodson, on the "Organization of Farmers' Institutes and Live Stock Associations," was read by Mr. R. Robertson and discussed at length. Mr. Macoun spoke in support of the system as it obtains in Ontario, and all who are acquainted with its work there gave it great credit for what it has accomplished. Yet it was thought by the Association that definite action could not well be taken on the matter at this time, and further, that, with our present system of bonusing agricultural societies, the Ontario system would need to be considerably modified before being adopted here.

A paper on "How Best to Maintain the Fertility of Our Orchards and Farms," by Mr. John Donaldson, of Port Williams, was most practical and interesting. Mr. Donaldson believes that commercial fertilizers at fifty dollars per ton are too expensive for most farmers, and he advocates a larger use of mill feeds for stock, and the consequent increase in the amount and value of the manure produced. He gave figures to show that he is carrying out his ideas on his own farm, and his well-known success in farming gave emphasis and weight to what he said.

The Provincial Exhibition received a large share of attention. Mr. J. R. Wyman presented the report of the exhibition commission, speaking of the success of the Exhibition as an agricultural and live-stock show. The transportation service had been greatly improved, as well as the grounds, and he urged that every member of the Association give his hearty support to the enterprise. Mr. Logan, the other representative of the Farmers' Association on the exhibition commission, spoke briefly in further discussion of the report. He said that exhibitions were not run to make money, but to educate the people, and he insisted that the financial result of the exhibition compared favorably with that of any other held in the Dominion. President Corning said that some persons were agitating for a biennial exhibition, but he thought if the question were studied carefully it would be found that exhibitions are largely a failure unless held annually. What was needed was more united action among the farmers in support of the exhibition. It was felt that the freight rates on exhibits carried by the Dominion Atlantic R. R. were not as liberal as they should be, and a committee was appointed to interview Mr. Giffins on the subject. After waiting upon him and discussing the matter, they reported that he was willing to make this further concession; that upon all live stock carried by his road to the exhibition at Halifax and receiving no prize or prizes, he would refund the amount which had been paid for the carriage of such live stock; but that upon live stock which secured prizes there should be no refund of the freight paid, namely, one fare for the round trip.

In discussing the prize list, it was felt by some that the standard breeds of cattle, as Shorthorns and Ayrshires, should receive larger prizes in the different classes than those herds which are of little importance in the Province, as the Devons and Galloways. A resolution was introduced urging the commission to take action in accordance with this idea, but the matter was finally dropped without a vote being taken.

On the last evening of the meeting a memorial service was held in memory of Her Gracious Majesty the late Queen Victoria, during which a large number of members paid sincere and heartfelt tribute to her many virtues.

The election of officers resulted in the choice of the following: Pres., G. C. Lawrence, Port Hastings; 1st Vice-Pres., John Donaldson, Port Williams; 2nd Vice-Pres., S. J. Moore, Shubenacadie; Sec.-Treas., Chas. R. B. Bryan, Durham.

Sewer Pipe to Exclude Surface Water from Wells.

To the Editor FARMER'S ADVOCATE:

SIR,—I see an inquiry in Jan. 15th ADVOCATE re excluding surface water from well. A number of wells in this locality have been lined with sewer pipe: some with 18-inch and some smaller. I do not see why they would not answer in L. G. Troup's case. He would need to fill the collars at the joints with cement, and also cement around bottom of first pipe where it joins the rock, else the surface water might work through the joints.

I have been taking the ADVOCATE for over 20 years—in fact, was brought up on it, and have not yet learned to do without it.

Ontario Co., Ont. F. R.

DAIRY.

Creamery Buttermaking --- The Creamery Described --- Pasteurizing the Cream.

BY J. W. HART, KINGSTON DAIRY SCHOOL.

It has been a great source of satisfaction to our dairymen that prices of dairy produce have ruled so high for the season now about closed. At the same time it is a matter for regret that the butter exports have fallen off so materially. The exports of butter for this year of 1900 will be two million dollars less than in 1899. At the same time the importance of our butter industry is not measured by the exports to the same extent as is the cheese manufacturing business. With the majority of our people butter is a necessary adjunct to the daily diet, while cheese is partaken of more as a luxury and is not found on the regular bill of fare.

There can be no doubt but that the quality of our butter is steadily improving, and with this improvement in quality we naturally expect a greater consumptive demand. Again, with the greater industrial prosperity prevailing during the past season, the per capita consumption of butter has been largely increased. The high relative price of cheese has tempted the combination butter and cheese factories to manufacture cheese instead of butter. If the farmers fully appreciated the high feeding value of the skim milk as compared with whey, they would usually find it to their advantage to have butter made rather than cheese during the fall, winter and early spring months. Especially is this true where the calves are being raised. By means of separator skim milk, the calves can be fed much more economically and quite as satisfactorily as if they were allowed to take the milk in nature's own way.

It has been said that there are two classes of farmers—those who consume at home what they cannot sell, and those who sell what they cannot dispose of at home. We sell our cheese because we do not care to eat it, while we eat nearly all of our butter because we esteem it so highly as an article of food that we do not care to sell it. As an indication of present home requirements, it is stated that in Montreal about 550 packages of butter, averaging 60 lbs. each, are consumed daily. In Toronto probably as much more is eaten, and it is this growing local demand for creamery butter that is largely responsible for the falling off in exports. While the value of milk and the products manufactured from it is being better appreciated than formerly, there is still room for a great deal more of our milk supply to be economically consumed in our homes. Prof. Atwater, the eminent American authority on nutrition, states that a quart of milk contains as much nutriment as a pound of the best beefsteak. There are yet too many homes where milk is regarded as a luxury instead of being appreciated as one of the best and cheapest tissue-building foods that can be obtained.

The patrons of our winter creameries sometimes state that it costs too much to produce milk in winter, and I know a number of farmers allow their cows to go dry rather than milk them during the winter months, on account of the expense. Others, again, who are making a study of the business, find many ways of reducing the cost of production and report that they find the production of winter milk profitable. How can we reconcile those conflicting statements, and how can we induce those farmers who are not producing milk economically, and those whose cows are standing in the stable idle and a source of expense to their owners, to so breed, feed and handle their cows as to produce cheap milk? There is no doubt but that corn silage forms the basis of the cheapest winter food, and milk is produced more economically where it is part of the ration. I say a part, for no intelligent dairyman will feed corn silage without bran, pea meal, clover hay or some other available feeding stuff rich in protein. Corn silage supplies the heat and force-producing part of the ration, while the clover hay, bran, pea meal, etc., are needed for the sustenance of the cow's body and for the growth of the calf. A great deal of the prejudice against silage is on account of this fact not being appreciated, the silage being fed without any knowledge of its composition and its uses in the animal body, and the proper feeds not being given along with it to form a balanced ration. It is true that some of the owners of milk-condensing factories object to the use of silage, but the cause of their opposition to silage feeding is on account of the stables being badly ventilated and the milk left setting in the stable after it has been milked. Where silage is properly fed we get a much finer quality of butter in winter at less cost as compared with dry feed.

The inevitable effect of the high price of cheese prevailing during the past season is to cause a large stream of milk to be turned in that direction. This in its turn will bring about a scarcity of butter, so that we are likely to have a reaction in favor of buttermaking. Already there are signs that there will be a great scarcity of good butter before the grass springs again.

THE CREAMERY.

The tendency to build small and poorly equipped creameries should be discouraged. These cannot be operated with profit to anyone, and are a constant source of loss to all interested; in fact, the decline in winter buttermaking can be traced

to these small concerns where the output is not large enough to enable them to hire a thoroughly-skilled buttermaker. Where one large and modern creamery, in charge of a good buttermaker and properly equipped with a buttermaking outfit, having its outlying skimming stations, and in which could be made the finest grades of butter at the lowest possible cost, would be a profitable investment, we often find a number of small and inferior plants grafted on to as many small cheese factories. Hundreds of such plants scattered all over the country, the most of them closed for the lack of patronage, attest the folly of attempting to carry on the business of creamery buttermaking in small and poorly-equipped creameries. Rather than adopt this style of creamery buttermaking, let us go back to private dairy, where at least everything was under the control of one responsible person. We have, however, a number of successful creameries—and I am glad to say that the number is increasing—where skilled buttermakers are employed and where the butter produced is of the very best quality.

In building a creamery, we should have sufficient faith in the permanency of the business to erect a neat and substantial building. The building should not be set up on piers or cedar blocks, but put on a solid stone foundation. The floor should be of cement. A good cement floor is practically indestructible and will prove the cheapest in the end. In the buttermaking department of the Kingston Dairy School, the wooden floor had been laid about six years. Under the separators it had rotted so badly that it was necessary to replace portions of it in four years. It was no ordinary wooden floor. The joists, three by eight inches, were laid 12 inches apart, and the best quality of 1½-inch pine flooring, tongued and grooved, was used. To preserve it and add to its appearance, it was always kept well oiled, but when it was taken up it was found that some of the joists had rotted completely away. Last summer it was entirely removed. In laying our cement floor it was necessary to fill in about three feet; large stones were used, and these were well hammered down. These stones were laid to within six inches of the old floor line; next a layer of concrete was spread to the depth of 4½ inches. This concrete was composed of one part best Portland cement, three parts sand and five parts rock broken to pass through a 2-inch ring. Before this had thoroughly dried, the surface course was laid. This surface course was 1½ inches in thickness and consisted of one part best Portland cement and two parts crushed granite, mixed dry and afterwards mixed with water. This left the surface of the finished floor one inch below the level of the old floor line, which allowed the edges of the floor being raised to the old floor level to throw the water away from the walls. The floor slopes to ample gutters, and these gutters are connected with trapped drains. The contract price of the floor was \$2.00 per square yard, and so far it has given complete satisfaction. In laying a new floor, the walls for some distance above the floor should be of stone or brick, so that in the daily scrubbing the walls would not be constantly wet and thereby decay in a short time. If stone were plentiful, I should like to have the stone foundation walls continued up as high as the window sills. In many factories there is more water on the floor than is necessary; some slop is unavoidable, and the building will be damp unless it is properly ventilated. The ceiling should be quite high, at least ten feet, and the ventilator should run from the making rooms up through the highest part of the roof. These ventilators can be provided with slides operated from the floor, so that the air inside can be kept comparatively dry at all times. In some cases where a creamery plant has been installed in a cheese factory, the partition between the boiler room and the factory proper has been taken away in order to utilize the heat from the boiler in warming the room. The dust, ashes, smoke and smell of grease from the engine room will not improve the quality of the butter, and some other means of heating the building, preferably steam pipes or radiators, should be used. All the machinery should be the best of its kind, and should be arranged with special regard to saving labor. With economy of production we want economy in manufacturing, so that the largest possible net returns will go to the man who handles the cow.

PASTEURIZING THE MILK.

At the Kingston Dairy School our custom is to pasteurize the whole milk. In some cases we have brought the milk up to boiling point and have failed to discover any injury to the cream or butter owing to the high temperature. Up to within a short time ago our practice was to cool the cream as soon as separated down to 50 degrees or lower. I do not find, however, that there is any advantage in cooling it so low, and am satisfied if it is brought to 70 degrees and the starter at once added, we not only save ourselves the trouble and fuel required to heat the cream to ripening temperature, but get the process of ripening completed earlier in the day and do not have to attend to the cream at night. Our practice is to take rather rich cream from the separator, say about 40 per cent. fat, and to use quite a heavy starter. By this means we get the cream ripened in six or eight hours and can allow considerable time to elapse before churning it the next morning. In winter, when we are troubled with

stable taints, by all means take a heavy cream and ripen with an ample starter. By having the cream held a long time at a low temperature we get that firm waxy butter so highly esteemed by the trade. A great advantage in pasteurizing the milk is that we are enabled to return the skim milk sweet to the patrons. We also get more exhaustive results in separating and churning. At the same time, I cannot say that there is an increase in the butter over handling raw cream, probably owing to the fact that the butter made from pasteurized cream contains less moisture. Between Nov. 19th and 30th, in the dairy school, we received 26,956 lbs. of milk, which contained 1,226 63 lbs. of fat, from which was churned 1,384 lbs. of butter, being 112 lbs. of butter to 100 lbs. of fat in the milk. This I think rather a good average, as all the butter was made into pound prints.

In Scandinavian countries, pasteurizing is almost universally practiced, and we know that their butter brings the very highest prices in the British market. In Denmark their custom is to heat the milk to about 90 degrees for separating, following which the skim milk and cream are separately pasteurized. To prevent the spread of tuberculosis, the law compels the pasteurization of the skim milk. In Norway and Sweden the practice is to pasteurize the whole milk, as we do the most of the time at the dairy school. We cannot expect that our creamery butter will supplant the Danish so long as we continue to export butter made from raw cream during the winter months. In the local markets, too, we find the pasteurized creamery butter very much sought after.

From a national standpoint there is another phase of the export business to which we shall be compelled, by the diminishing fertility of our farms, to pay more attention. To maintain soil fertility, we must return as large a proportion of the fertilizing constituents of the crops as possible to the land. In making and selling butter, we may practically retain on the farm all of the fertilizing constituents utilized during the process; while in selling cheese we are removing some of those valuable materials—less rapidly, it is true, than in selling grain, but still amounting in value to about \$20.00 for each ton of cheese made, or, in other words, 10 cents for each 100 lbs. of milk manufactured into cheese. In contrasting the returns from butter and cheese, this great drain upon soil fertility is scarcely ever taken into consideration, while the increased feeding value of skim milk over whey is also rarely taken into account. The farmer of the future will pay more attention to the value of these by-products, and will not measure his returns entirely by the size of the check he gets from the factory or creamery.

The Cow's Own Testimony.

Patrick O'Sullivan, one of the average farmers of Ordinary township, went down to his barn lot the other morning to milk his one cow, which he considered a great milk-producing machine, and which would give an abundant flow until cold weather arrived, says *Farmer's Voice*. Then she didn't do so well, and Pat didn't know why. So he asked her, and this is what she said:

"I can secrete milk and yield it to you in normal quantities so long as I am comfortable, having clean quarters and decent water, as well as good bedding and protection from cold and rain and snow. You have supplied me with none of these, and the result is I cannot keep up my usual production of milk, no difference how much and what you feed me. This decrease in milk is no desire of my own; I don't begrudge you my milk; it makes no difference with me how much milk you get; I have no interest whatever in giving you a reduced yield for your feed. The point is simply this: I am a cow endowed with certain nature-given peculiarities, habits, characteristics; I am governed by these things which constitute me; I can't master them—they master me. The thing for you to do is to study them and then act as you think wise. If your efforts are not in vain you doubtless will see me turning out more goods. I can't help it. It's a way nature has. It's nothing to me. It's all with you. That's all."

And Pat said, "Begorra, that cow knows more than meself." And she did.

Ayrshires as Milkers.

Where quantity rather than quality of milk is the object to be aimed at it is very hard to beat an Ayrshire cow of a good milking strain. Though of comparatively small size, animals of this breed are remarkably deep milkers. Where a good price can be obtained for new milk, it is not considered an unusual result for a cow of this breed to give milk to the value of 10s. per week, or over £25 per annum. One of the great points in favor of Ayrshires is that they are comparatively hardy, and in addition to this, very thrifty cattle, and are consequently adapted for being kept on light lands which do not produce sufficiently good grass for carrying heavy stock such as Shorthorns and Red Polls. Like all deep milkers, however, Ayrshires are, of course, heavy feeders, and when cows of this breed are being specially kept for milking purposes they must be fed with unstinted liberality. As it is from the food that the milk is manufactured, it follows, as a matter of course, that in the absence of an abundance of food good milking results cannot be looked for.—*Farmer's Gazette*.

Scotch Woman's Way of Feeding Calves.

In the dairy department of the *Scottish Farmer* a very practical article, written by a lady, we take it, from the signature, appears, from which we take extracts, omitting the rather able and interesting introduction treating of the composition of milk and its value as a food.

"Let us now suppose you have got the calves, and they must be fed. When the youngster is born it must have milk, and that milk must be its mother's own first milk, unless she is in such a state of health that it is not wise to give it. Some few farmers even now do not always give this milk to the calves; but, as it acts medicinally on them, they ought to have it. If they cannot, give them a moderate dose of castor oil; but the milk is by far the best thing for them. Do not, on any account, leave the calf all night without milk, because it happens to come into the world at an inconvenient hour; if you do you will most likely have considerable difficulty in getting it even to suck. It may be days before it can be got to take food properly at all, and such a check at this time will probably throw the calf permanently backward in its growth. Feed your calf as soon as it begins to look about it and attempts to rise. It is assumed that in all dairies the calf is removed some distance from its mother as soon as it is born. It is best not to let her see it at all if it is not to remain with her, or she will probably fret after it. If she frets, the milk supply and her health may suffer, and we must, in all our dealings with our dumb servants, be as humane as circumstances will permit. Calves are not generally fed as often as they should be. They will usually do better and be less likely to scour if they are fed often and in small quantities, beginning with about $\frac{1}{4}$ of a gallon, or a little less, divided into at least three, and, better, four meals a day for the first few days. Three meals a day should be kept up for a fortnight at least; better a month, or even longer, though, if hands are short and work heavy, the number of meals may be reduced to two after the first week or so. The quantity of milk should be increased till when the calf is five or six weeks old it should be getting two gallons a day; after that the increase may be slower, up to 2 $\frac{1}{2}$ gallons at three months. If the calves are well grown and strong, a change may be made in their diet when they are a fortnight old; if they are small or have received a check, they must have their mother's milk, or that of another recently-calved cow, for a month or six weeks.

"We will suppose now the calves are ready for the change in diet, from a fortnight to a month old or older. If they are ready at two weeks old they have really had very little milk, as the mother's milk is not fit to use for churning for at least a week, or for cheesemaking for ten days after calving. What the change will be will depend on what you have to give them; let us say you are separating or skimming your milk and have plenty of skim or separated milk. Separated milk is preferable, as it is available for use while quite sweet; skim milk is apt to be turned sour before it is creamed in warm weather. In separating or skimming you remove the fat and that only from the milk; therefore, to make suitable food, that fat must be replaced by some other easily-digested fat. Cod-liver oil does very well. Well-scalded linseed meal does well, or even well-made porridge. It requires, however, a good deal of skill and care to use these properly. For this reason you cannot do better than use one of the calf foods made for the purpose by those who have studied the question thoroughly and have means to get and prepare the best and most easily digested mixtures. There are several of these on the market, one of the best known of them is Bibby's Cream Equivalent. Whichever of them you choose, be sure to follow the instructions given with it carefully and exactly or you cannot expect success. Many farmers are extremely careless on this point. Having prepared the food according to instructions, mix a little—not more than say a tablespoonful—into about one pint of separated milk for each calf. Make this up to the usual quantity with whole milk and give at blood heat—about 90 degrees Fahr. The temperature should be taken with a thermometer, as it is important that it should be nearly correct. From this gradually increase the quantities of separated milk and calf food, and decrease the whole milk, till in a week's time you are giving no whole milk. The quantity of calf food will depend on what food you are using, and you must work according to instructions. If you are using linseed meal, increase it up to one pound per day when the calf is two months old. Of course, every feeder knows that different animals require different amounts of food. Some will safely take more than this; others will be better with less. The animal's condition must, therefore, be carefully noted, and the feeding regulated accordingly. If you are churning whole milk, and thus have no separated milk, buttermilk, if not too sour, will do very well. Used as above described, many good calves are reared in this way.

"The change being thus gradually made, the calves receive no check, and they take quite kindly to the buttermilk. Sweet scalded whey may be used where it is the only available thing, but as it is deficient both in fat and nitrogen, it is not a good food, and is best used with one of the calf foods meant to replace more than merely the cream, or with well-made oatmeal porridge. The calves

may be weaned at about 2 $\frac{1}{2}$ to 3 months old, if necessary, but it is best to give them their drink longer. Indeed, where there is plenty of separated or butter milk, let them have it up to six or even eight months old, if they will take it, but they will generally refuse it when they get to grass. Give them a bunch of sweet hay to nibble at when they are a few days old; some calves start to nibble very young. When they are eating freely they may have a little linseed or Bibby cake. This, however, is not really necessary if you do not want to force them in any way, though they will well repay you for it. Do not put them out at all till they are about six weeks to two months old, and in districts where 'hooise' is common they are better not out at all the first summer."—*Florence E. Sexton.*

Facts Concerning the Cheese Industry.

EXPORTS OF CHEESE FROM THE UNITED STATES AND CANADA.

Year.	Ratio U. S. to Canada.	United States. Pounds.	Canada. Pounds.
1870	10 : 1	60,000,000	6,000,000
1880	—	127,000,000	40,000,000
1890	1 : 1	95,000,000	94,250,000
1895	—	60,000,000	146,000,000
1898	1 : 3	46,000,000	150,000,000

The exports of cheese from the United States have fallen off, for several reasons, the principal one of which was that our manufacturers endeavored to make a cheap cheese, and after a time a spurious one known as "filled cheese." The effect of the manufacture of filled cheese was most degrading, doing immense harm to both foreign and home demand. Wisconsin took up the matter, and passed a law prohibiting the manufacture of filled cheese. The United States followed this example in spirit by placing a tax of two cents per pound on all filled cheese, thus practically prohibiting its manufacture.

While many American cheesemakers were studying to produce cheap cheese or filled cheese, the Canadian cheesemakers continued to educate themselves, and allowed nothing but pure goods to be made. In Canada there are many dairy schools, supported by the Provincial Governments, and many traveling dairy instructors are employed. The little Province of Quebec, for example, spends twice as much money annually on dairy instruction as does the State of Wisconsin. She not only supports a dairy school, at larger expense than does Wisconsin, but employs summer traveling teachers to give instruction in the factories. Where Wisconsin employs two traveling cheese instructors in the summer time (through the State Dairymen's Association), Quebec employs twenty-eight traveling cheese instructors doing similar work. The Dominion Government also pays a bonus to factories and storage houses equipped according to Government specifications.

While America's cheese exports have fallen from a maximum of over \$10,000,000 annually to less than \$4,000,000, Canada's exports have gradually increased until they now amount to over \$16,000,000 annually.

Because of the demands of the great cities for fresh milk, the manufacture of cheese is falling off in the State of New York, which was once the great producer of that article. Wisconsin has now the opportunity of taking up the business as New York drops it and greatly extending it. There is almost no limit to the amount of cheese which can be produced in our State if we will but direct our attention to the production of goods desired by the consumers. Wisconsin now manufactures about \$6,000,000 worth of cheese annually. We could easily double or quadruple the production. American Swiss cheese is largely made in Green County and the district 'round about. Something like 10,000,000 pounds of Swiss cheese is annually shipped from Green County. Brick cheese is largely made in Dodge County. In the other portions of the State, notably the lake-shore region north of Milwaukee, the Cheddar variety of cheese prevails.

Northern Wisconsin is destined to be the great cheese district of the United States, if the industry be properly fostered. The mild summer temperature, the abundant cool waters and the presence of grasses and clovers everywhere on lands when cleared of forests offer a combination for the production of cheese which is not equalled elsewhere in our whole country.

Dairying is one of the safest and most abiding of all agricultural industries, and every good citizen interested in the upbuilding of our commonwealth should use his influence at all times in its behalf.—*Wisconsin Experiment Station.*

A Good Milking Shorthorn.

Mr. H. B. Murray, Antrim Co., Ireland, in the *Farmer's Gazette* gives the following milk record of a pure-bred Shorthorn cow, now ten years old:—"On the 1st of July, 1899, she gave birth to twin heifer calves, which were reared in the usual way—new milk for six weeks, then gradually brought on to skim milk, with meal, etc. They would now readily sell for £10 each. From the date mentioned till July 1st, 1900, the cow yielded 11,752 lbs., or 1,175 gallons, of milk, and she continued in the dairy till August 12th, giving a further 420 lbs. of milk. Her highest yield in the day was 51 lbs. On the 4th of October, 1900, she produced a heifer calf (her eighth calf); since then she has been milking nearly as well, though her highest daily yield has been 48 lbs. In the 13 weeks she has given nearly 4,000 lbs."

Dairying Up to Date---II.

BY GEORGE RICE.

WATERING COWS—VENTILATION—EXERCISE.

We might divide dairymen into three classes for illustration: Those who continue to winter their cows on straw, with hay in the spring, to keep them from the condition known as "lifting," and requiring a couple of months on grass to recuperate, by which time flies and heat are so bad that cows under these conditions cannot be expected to average above \$20 to \$25 at the factory, just about what their board bill would come to for the year under this sort of feeding. Another man will winter his cows somewhat better, feeding more hay, and thus adding to the cost. Still, as they are in the spring in better "heart," they are in shape to do better work. The food bill may be \$30 to \$35, and the return \$35 to \$40 per cow. But a strictly up-to-date dairymen makes a far better showing. He may feed his cows \$40 to \$45 worth of feed, and receive in return \$60 to \$80, and even more. That is a handsome return for the intelligence he uses.

It is of up-to-date dairying that we are writing, to get the greatest possible return. And to do so, it is best to have the cows calve in the fall. I consider July and August the very worst months to have cows calve, and October to December the best. But cows calving at this time need good care, and to be kept out of the cold. This is all-important, even of more importance than feed, because the feed is bound to be wasted if proper care is not taken. A cow calving in the fall, well cared for and watered, will give a large quantity of milk during the whole winter, and be in fine condition, so that when she strikes grass in the "balmy month of May," it is for all the world like retapping a tree in the sugar bush—it causes a fresh "run." I get more milk, and especially butter, from a cow having her fresh in the winter and on winter food. But I know of no way of increasing a cow's milk flow after she has been milking five or six months but to put her on good grass. The grass is so very stimulating that I have had cows run up in their milk flow 18 lbs. a day in a week or ten days, and that too from cows that have had the very best care and most succulent food throughout the whole winter. It is not likely that a cow that has not had such good care would show such an increase, as she would be poor and partially dry, and so not able to respond.

In the winter care of cows giving milk, I consider that water is of the first importance, and it is too often the most neglected, all because there is no general knowledge as to the vast amount of water a good dairy cow requires. Well, I have some figures and facts to give upon that point. And as an "eye-opener," I will say I have given a cow 200 lbs. (two hundred pounds) of water every day for a week, when she made 572 lbs. milk and 25.1 lbs. butter. This seems an astonishing amount of water. Well, take another case—a cow calving in December: I find in November this cow, being dry, would not drink over 40 to 50 lbs. of water daily, but when she drew near calving time she required more water, 75 to 100 lbs. daily. After calving she required 125 to 150 lbs. water daily. This is a cow of a 60-lbs.-milk-a-day capacity. It would be hard to give the exact amount any cow might require of water daily, but I find the amount of water required bears a close relation to the amount of milk given; and a cow four or five months in milk does not require as much water as she did when fresh. I want my cows to drink all the water I can induce them to, by giving them water often and not too cold, not below 50 degrees (60 or 70 degrees is better), and I don't want a cow to have over 30 lbs. water at any one time. By giving attention to the water supply, we get more milk when fresh, but it also greatly helps to keep up the milk flow. Again, too much water given at one time will make a cow scour. A friend was in my stable the other day, and complained of his cows scouring, and wanted to know what to feed them. On learning his way of watering, I was sure it was not the feed, but the way of watering, as his cows were watered three times a day, but sometimes they drank two and three pailfuls, and probably the next time very little, and it is just this seesaw watering that causes trouble and sets a cow scouring, when she is bound to soon shrink in her milk. Another peculiarity of cows is that they want water after feeding, even when fed on the most succulent food. And a knowledge of this trait means money to the owner, because if a cow does not get the water in sufficient quantity and at the right time, she does not do so well, cannot digest and assimilate her food.

Considering the amount of water a cow requires, and the time when she requires it, it is of course bad practice to water only twice a day at a large tank outside, as sometimes she may take too much and at other times not enough, and if, in addition to this, the water is ice cold, a cow will soon become "discouraged." Hence, I say, the first thing to do in commencing winter dairying is to put a little common sense into the cow's water supply.

Now, from the amount of water a cow drinks, not to mention the succulency of her food, and her motherhood, it should be unnecessary to say that a cow wants to be kept warm and comfortable, and this can only be done here in winter by keeping her in a warm, well-ventilated and well-lighted stable. (I shall probably describe an up-to-date stable later.)

There seems to be a general belief that a cow won't do well without exercise. Now, if you study

the cow and her habits, it will be found that a cow can't do well *with* exercise. She is not built that way—not for speed, nor yet is she a fur-bearing animal, but she wants to be kept quiet and contented, to chew her cud and “work over” her food. Now, to prove that a cow does not want exercise, just take her out after she has been fed the necessary feed to make a large quantity of milk, and I guarantee before the cow has walked a quarter of a mile she will puff and scour. But if I have a cow, just before calving, with a caked under, and inclined to be constipated on light feed, then, besides giving salts, etc., I take her for a walk of a mile or so; that moves the bowels and reduces the udder. I never milk before calving, rather exercise.

A cow to do well requires fresh air certainly, not only on fine days, but every day, and night too. In fact, I find that in testing cows, they do not do so well in murky weather as on bright, clear days. Now, to have fresh air at all times, we must either keep the cow out all the time, or else put her in a stable that is well ventilated.

We might as well try to hatch eggs without heat as to try to produce milk profitably without heat, and the only way to have the necessary heat is to have a warm stable, and it is just as easy and far more profitable to bring fresh air into a stable to the cows than to turn them out to get fresh air. It is a very easy matter to let fresh air in, and not very hard to get the foul air out without taking all the heat out. All that is required is a tight box for ventilation, extending from three or four feet from the floor, and thus three or four feet lower than the ceiling of the stable, so as not to take the heat out, and extending to the roof of the barn, the number and size depending upon number of animals. An up-to-date dairyman gets his big return from breeding and developing a good dairy (1st paper); giving her proper care, water, heat, etc. (2nd paper); feeding properly (3rd paper to follow).

Dairying in British Columbia.

In visiting British Columbia last fall, in the interests of dairying, I was somewhat surprised at the backward state of that industry in most of the sections which I visited. It is quite evident that there has been a lack of interest in this important branch of agriculture, except by the very few who have gone more or less extensively into it. As far as climatic and other conditions go, it is an almost ideal country for buttermaking. The summers are never excessively hot, the nights are always cool, thunder and lightning are almost unknown, pastures are luxuriant in nearly all the valleys, the water is good and the winters mild, and what is still more important, the demand is good and prices are high.

My first experience was on Vancouver Island, which for the greater part is mountainous and rocky, very similar to the mainland, and the arable land is found in patches and valleys of greater or less extent, but always surrounded by the everlasting hills. In a trip from Nanaimo, on the eastern shore of the Island, 56 miles by stage to Alberni, on the western slope of the Island, there is practically no farming land to be found until the Alberni valley is reached. This valley is quite extensive, but is heavily timbered, and the clearings are small; and although grass grows on the cultivated land in such luxuriance as is seldom seen, there is but little dairying, as the farms are so small that the few cows which are kept have to roam the woods for a living, and if they can be found twice a day to be milked, all well and good, but if not, they go unmilked. Many follow the practice of letting the calves suck the cows, but they are penned up at home, which is a sure way of bringing the cows home. The calf is first allowed to take a share and then tied up where the cow can fondle it, while the milker takes what the calf has left. This is practiced by many farmers, and the results in butter, we may be sure, are very meager indeed.

On my return to Nanaimo, I took steamer for Comox, which is situated about 150 miles from Victoria, up the Island. Here I found quite a large tract of fine farming land, and I found more dairying here than in any part which I visited. The President of the Farmers' Institute, Mr. McPhee, drove me several miles through a fine farming section, and I had the pleasure of forming the acquaintance of a very progressive and successful dairyman, Mr. Urquhart, of Courtney. Mr. Urquhart was at the time milking 37 fine pure-bred and grade Jerseys, and through his courtesy and kindness I was allowed to see his books, which showed that in ten months from January 1st, 1900, his cows had produced 12,100 pounds of butter, and he was confident that he would make at least 2,000 pounds more before the end of the year, making a total of at least 14,000 pounds for the year, from an average of 35 to 40 cows in milk. The price was down to 20 cents during the month of June only, then it rose to 25 cents, and at the time of my visit it was 30 cents, and Mr. Urquhart expected a further raise in a short time to 35 cents per pound f. o. b. at Comox, as his butter is nearly all shipped by steamer to Nanaimo. His books showed that the snug sum of \$2,969.35 had been received in cash from one merchant in Nanaimo for butter during the year 1899, besides his local trade. Mr. Urquhart farms 110 acres and raises all his feed, except an annual expenditure of \$200 for bran. He has also sold about \$800 worth of hogs during the year. Anyone who is in love with dairying ought to be satisfied with the conditions as they are to be found in that favored locality, for the climate is beautiful,

roses being in bloom nearly all the year 'round, grass grows very luxuriantly, and where clover gets a hold, it stays until it is rooted out, three or four tons of cured hay per acre being a not unusual crop. Corn is but little grown anywhere in British Columbia, but I found a few patches in this locality which had done fairly well. There is considerable enquiry about it everywhere among the farmers, and a great diversity of opinion as to its adaptability to the climate of British Columbia. I found one silo in the Comox district which was just being filled, or partially filled, with corn which had lain for weeks during the wet weather and which would not give either the owner or his cows a very favorable impression of the qualities of corn silage.

From Comox I returned to Victoria, and then, in company with the Deputy-Minister of Agriculture, who is also Superintendent of Farmers' Institutes, we went up the mainland about 300 miles to Kamloops and Salmon Arm, thence down the Okanagan valley, through Armstrong and Vernon, to Kilowna. The trip from Vernon to Kilowna by steamer, 30 miles, is a charming one. The beautiful Okanagan lake, 90 miles in length, deep, but narrow, is hemmed in on both sides by towering mountains between the points named, but on reaching Kilowna we soon saw evidences of being in one of the most fertile valleys of British Columbia. A rig being procured, we drove out several miles and had the pleasure of inspecting some of the tobacco-curing houses for which this valley is noted, as they claim to grow a superior quality of tobacco, which is all manufactured into cigars at Kilowna. Not being a user of the weed, I was not in a position to judge of the merits of the products of this industry, but I was told that they were equal to any grown in the tobacco districts of Pennsylvania, which, of course, I had to take for granted. Besides the tobacco, this valley is noted for its superior prunes and apples, and of the qualities of these I was able to form an opinion without having to take it second-hand. Their prunes are superior to anything I have ever seen elsewhere, and prune-raising is a profitable business, their best weighing from 40 to 50 to the pound, which sell wholesale at 8 cents per pound. Their apples are of immense size, but they are much coarser in the grain than are the apples of Ontario. Great crops of potatoes and timothy hay are grown here and shipped out to the mining towns, and although pasture without limit can be grown, yet dairying is one of the “infant” industries not yet able to walk alone. Farmers seem to think that these lands are too valuable to pasture cows upon, and the cattle are relegated to the mountains, but I will venture to say that not a farmer in the whole valley is making more off his acres than the gentleman I quoted in the Comox district. On our return to Vernon, we took a trip up the White valley, nearly 20 miles, and passed through the beautiful ranch belonging to Lord Aberdeen, which is a sight worth seeing, with its beautiful orchards and hop yards of about 200 acres in extent. The orchards comprise 115 acres, are eight years old, and last year produced about 300 tons of the largest and finest apples I ever saw anywhere. The ranch comprises about 11,000 acres, but much of it is mountainous and rocky, but the cultivated land is farmed to perfection. Irrigation is carried on quite extensively in part of this valley, and here, as elsewhere, great crops of timothy hay are grown, this being the staple crop at the upper end of the valley, which all has to go to Vernon for shipment. No dairying is to be found here, as the farmers seem to have got into a rut, and they are going to stay there for some time to come. Taking the situation as a whole, I think it would be hard to find a country in the world where a man would be as safe in pinning his faith to dairying as in British Columbia, for the conditions cannot be excelled, and prices are high and likely to rule high for years to come. Hog-raising and poultry-raising, which go hand in hand with dairying, are also exceedingly profitable, as there is a fine home market for both these products. Fresh eggs were worth anywhere from 25 to 40 cents per dozen when I was there. There is one drawback, however, to the poultry business in most localities, on account of the proximity of the mountains to the farming lands, which are always a refuge for wild animals which like a piece of toothsome chicken, and this will always be more or less of a menace to this industry in certain localities.

J. STONEHOUSE.

Shorthorns as General Purpose Cattle.

As general-purpose cattle the Shorthorns are without a rival. Other breeds have their special points of merit, but for “all-round” excellence the Shorthorn stands alone. This is one of the secrets of the great popularity of the breed all over the world. With farmers and dairymen generally Shorthorns of a good milking strain are special favorites. Animals of this type are not only deep milkers, but when their period of lactation comes to an end and their milk supply falls off, they possess such a well-developed aptitude for laying on flesh that but little difficulty is experienced in getting them into suitable condition for being sold as beef. There are many who hold that it is a mistake to aim at getting the two qualifications of milk and beef production in the same animal, but the experiences of some of our best dairymen do not go to support this contention. So long as the milking properties of the Shorthorn are properly cultivated, so long will the breed hold its own as the best general-purpose breed in existence. *Agricultural Gazette.*

ENTOMOLOGY

Silk Culture in Canada.

(Second Article.)

These are not magazine articles written to please the ear, but they deal with what the writer knows to be facts, and are written in the thorough belief, reached after very careful experiment and extreme inquiry, that silk culture can be, and some day will be, an important and profitable industry in Canada, and one very especially for the benefit of the old and infirm and for households where the family is large and the income small. How it is to be established, and who is to do it, the writer does not know. His sole duty at present is to tell what he knows. From personal experience, he knows that silk of fine quality can be produced in Canada, and believes that in every part of the country where the mulberry or osage orange will grow it can be produced profitably.

In the issue of the *ADVOCATE* of Dec. 1st last, in which the first of these articles appeared, there was a report of a discussion on this subject at the meeting of the Entomological Society, in London, in November, and it was stated that the conclusion reached by the experts there was, that while silk could be raised in some parts of Canada, it could not be done profitably, because even the poorest of our people could not compete successfully with the cheap labor of silk-raisers in different countries in the world. This conclusion is not new, nor is it, perhaps, correct. We in Canada can and do compete profitably with the cheap labor of all the world in the production of every other thing that can be produced in this country, and it remains for those who say that silk production is an exception to show why it is. For centuries silk has been produced in Europe and in Asia, the worms being fed and the silk reeled by the hands of people, old and young, who had no thought in the doing of it beyond the fact that their labor would result in the acquisition of enough poor food to keep them alive a little longer. They have little intelligence, and could not be expected to improve the breed of their worms, or to desire to see machinery take the place of hand labor in the reeling of the cocoons. We in this country have intelligence, and just as surely as we can and do improve the breed of our cattle and other things, so we can and will improve our silk worms, and for the same labor we can, after a few seasons of intelligent culture, reap a harvest of silk not thought possible to-day, and as for reeling machinery, in the United States in the seven years in which experiments in silk-raising were made, each year saw improvements in the reels, and had the experiments not ceased when they did, we would by this time have had much more perfect machinery, which would have reduced the cost of reeling so much that even the very cheapest labor anywhere could not compete with it.

As has been said, experiments were made in the United States for seven years, viz., from 1884 to 1891, the experiments being under the direct supervision of the Government at Washington, and any person living within reach of a public library in any U. S. city can see what the results were by consulting the “Annual Reports of the Department of Agriculture” for the years named above. An excellent quality of silk was produced over nearly the whole country. Electric silk reels were set up and remained in operation for several years, and improvements in these reels were constantly being made in the direction of economy and efficiency. But owing to the expense of reeling, those in charge of the experiments could not pay enough for them to induce the people to raise the cocoons, though it was found that the mother and children of an average American household could, almost without the help of the men, produce enough silk to net them from twenty-five to forty dollars for their five or six weeks' work of feeding and caring for the worms, and that without interfering with their other duties. The experimenters saw that if a protective duty of say one dollar a pound on imported raw (reeled) silk could be imposed, they would succeed, and an earnest effort was made to induce Congress to give them this protection, but it is plainly said that because of the influence of American silk importers, whose business interests were at stake, Congress failed to give them the help needed, and the experiments came to an end on June 30th, 1890, and there are now, a letter from Washington says, no silk-reeling establishments in the United States.

No one should say that fortunes can be made by silk-raising, and the writer wants to keep within conservative bounds in speaking of it, but his opinion is that there is a little money for a great number of people in it and a fortune for the man or men of brains and means who will buy the cocoons and reel and manufacture the silk. A protective duty, as indicated, might be necessary at first, and no doubt that could be obtained, as no silk is reeled or manufactured in Canada, and, consequently, no business would be injured; the writer thinks in a short time it would cease to be required.

Any one of your readers (who has a mulberry tree within reach) who would like to try raising silk, can have some silkworm's eggs by sending a stamp, to pay postage, to the undersigned, and it will be necessary to make application soon, so that the eggs may go through the mail while the weather is yet cold. He will be glad to correspond with anyone interested in this subject.

Essex Co., Ont.

W. M. FLEMING.

GARDEN AND ORCHARD.

Remedies for San Jose Scale.

DEAR SIR,—In reply to your enquiry for my estimate of the relative value of the various spraying remedies which have been used for the destruction of the San Jose scale, and particularly in regard to crude petroleum as compared with whale-oil soap, I may say that my conclusions are drawn not only from the results obtained from the use of these remedies in Ontario last spring, but also from visiting infested sections in Ohio, Maryland, New Jersey, and New York, at the close of the season, closely examining the work done and talking with the people.

The effect of *whale-oil soap* on fruit trees is very beneficial indeed. It destroys fungus, and is an almost perfect remedy for leaf curl. The bark is cleaned and loosened, which greatly facilitates circulation and growth. Trees upon which the soap was used are much improved in vigor and appearance. Soap does not in any way injure trees, and is consequently safe to recommend for general use. If used after the buds begin to swell, there will be no injury, but if used before the frosts are over, it will certainly destroy the blossom buds of tender varieties, being much more injurious to buds than crude petroleum applied at this season. The soap used at full strength, and properly applied, checked the scale severely, and infested orchards which were treated with soap last spring have now a great advantage over orchards which were similarly affected, but not treated. The soap we used last year, even when a full strength solution was carefully applied, left too many of the scales alive, which before the end of the season entirely restored the degree of infestation which existed when the treating was done, and generally much more, for soap, even when recently applied, offers very little resistance to re-attack. The larva will fix upon it, mature and reproduce without any apparent inconvenience from the soap. Whale-oil soap, to be effective as an insecticide, must be used at full strength, say 2½ lbs. to the imp. gallon of water, and every part of the tree must be saturated.

Crude Petroleum, being strong medicine, must be carefully used, and should not exceed in quantity what is necessary to penetrate incrustation. Every part of a tree must be reached, but no part should be covered by the spray a second time, and a light, even and perfect application secured. The parts most likely to be missed are the upper side of the branches, the twigs, and deep crevices in the bark, which should have special attention. It is safer to use crude oil diluted to say 25% with water, the only advantage of the water being that it assists greatly in distributing a light covering of oil. Crude petroleum is much more destructive to insect life than any other remedy I have tried, and it not only kills nearly all of the scale, but protects the old wood of the tree during the balance of the season, for no scale can live on an oil-treated bark, and on trees carefully treated, larva from any overwintered scale remaining alive must find accommodation in crevices which escape treatment and on the young growth. There are in Ontario some splendid examples of smooth-barked Japan plum and other trees, which were so badly infested as to be incrustated, being so cleaned up by a single application of crude oil that it is now difficult to find any live scale on them. In sections where crude oil has been extensively used many trees have been killed, but in all such cases which I enquired into there was unmistakable evidence of an overdose having been administered either through carelessness or the imperfect working of the pump used, an intermediate or other unsuitable oil had been used, or the trees, being weakened by scale, borers, frost, or some other cause, did not successfully resist the treatment. I am much impressed with the advantage of keeping up the vigor of orchards as the only means of fortifying against an attack of scale and fitting them for treatment, which is especially necessary with tender varieties, such as peaches, etc., in which the margin between what the tree will withstand and what is necessary to kill the scale is much narrower than that in pears and apples. The London Spramotor combination pump is the only pump I have used which will give satisfactory results in applying mechanical mixtures of oil and water. Crude-petroleum treatment costs only about ¼ of the cost of thorough soap treatment, and is very much more effective in controlling the scale. I have no hesitation in recommending a 25% mechanical emulsion for apples, pears, and the hardy varieties of plums; but if this mixture be used on peaches, etc., there should be special pains taken to make a light application. For such trees, many would prefer whale-oil soap, but if my peach trees were infested I would use crude oil.

I have used a combination of soap in the proportion of 1 lb. to the gallon, with 18% of crude oil, with good results. By varying the proportions any strength can be secured, which would make the mixture suitable for any condition of trees.

Kerosene in winter or spring treating did little in checking the scale, and seriously injured the trees. It may be used more satisfactorily in summer, in the proportion of 10% with water for killing the young scales.

Yours, etc.,
GEO. E. FISHER,
Chief Inspector.

Halton Co., Ont.

P. S.—I shall be pleased to report upon any suspected specimens of scale which may be sent to the FARMER'S ADVOCATE.—G. E. F.

San Jose Scale Inspection.

On Friday, February 1st, a deputation, representing the Ontario Fruit Growers' Association, submitted the following recommendations to Hon. John Dryden, Provincial Minister of Agriculture, which will be duly considered during the present session of the Legislature:

1. That a system of inspection be carried on in all suspected districts, with a limited number of suitable assistants.

2. That every grower in suspected districts be required to inspect his own trees during the months of November and December in each year, and to report to the inspector not later than the 1st day of January following, on suitable blank forms to be furnished, that the work had been carefully performed, together with a statement of the condition of the orchard at the time of inspection.

3. That, as the work of treatment is still in an experimental stage, the Government should make suitable material, both whale-oil soap and crude petroleum, available to the people on the same terms as supplied to growers last year.

4. That in isolated sections where the scale is found to a very limited extent, the treatment of the trees be carried on by and at the expense of the Government, under the direction of the inspector.

5. That, with regard to nursery stock, the most careful measures be continued to properly protect the purchaser from infestation from this source, and to this end all fumigation be done under the supervision of the Government, and official certificates be issued to accompany each shipment.

Hon. Mr. Dryden suggested that in order to secure the enforcement of precautionary measures, the Association appoint a committee of three to co-operate with the Department, particularly in the placing of suitable spraying material within reach of the public.

Meeting of Nova Scotia Fruit Growers.

The 31st annual meeting of the Nova Scotia Fruit Growers' Association has passed into history. In point of attendance, and in the interest shown in the discussion, it was one of the best ever held by this Association, though there was great diversity of opinion on most of the subjects considered. The transportation problem, spraying and agricultural education were the three principal questions discussed, though there were a number of others of considerable importance.

President J. W. Bigelow, in his annual address, stated that he could find no record of any export of fruit grown in North America in 1801, which has developed in the last century to a product now valued at over four hundred million dollars a year. In Canada the annual value of fruit grown may be safely estimated at eight million dollars, and in Nova Scotia it has passed the one million dollar mark annually. The past year has been one of the most disappointing and unprofitable for fruit culture in Nova Scotia ever recorded. Starting in June, with abundant blossoms, our apple crop developed unfavorably, with a yield of less than 300,000 bbls. of inferior fruit, one-half of which never should have been marketed, and one-third of which was lost in drops and culls; and having to compete with a good crop of superior fruit from U. S. and Ontario, as well as Europe, in foreign markets, the price has ranged from 0 to \$2 per barrel, and in many cases money has been remitted to pay expenses. A number of unfavorable conditions conspired to render this year's fruit business unfavorable: 1st—An unusually mild winter, with frequent cold changes, injured the fruit buds. 2nd—A cold, wet May produced an increased fungous and insect development. 3rd—A terrific wind storm, on the 12th September, destroyed one-fourth of the best of the fruit, and injured both trees and fruit. 4th—An unusually severe frost, early in October, injured the fruit and produced a skin rot. 5th—The worst class of steamers ever employed in the carrying trade, cooked and practically destroyed the fruit during the 15 to 20 days cargo was in transit. The plum crop, where carefully cultivated, was abundant, and is estimated at twelve thousand baskets (10 lbs. each). Pears were a good crop, and of fair average quality. Peaches, strawberries and other berries were a good crop, and brought remunerative prices.

The 200 bottles of fruit in acid, and 80 boxes and 30 barrels of Nova Scotia fruit sent to Paris Exhibition, and exhibited in cold storage by the Canadian Government, proved to be one of the most important and attractive exhibits of food products of the world there shown, and our Nonpareils and other long keepers were shown, after being twelve months in cold storage, perfect in flavor and keeping quality. The exhibit of food products from Canada at Paris has developed our trade to all parts of the world, and orders for Canadian apples are now being filled from almost every country. The bottled fruits shown at Paris, supplemented by 75 Cochran cases of this season's crop of apples, will be staged in the exhibit at Glasgow, Scotland, from May 1st to Nov. 1st, 1901.

The School of Horticulture is progressing most favorably under the able direction of Prof. Sears, with 61 students, representing nearly every county in the Province, and many from N. B., P. E. I. and England. Prof. Sears' lectures through the Province, on practical points of fruit culture, are developing an interest in fruit culture of great

value, and the fact is being demonstrated that every county can raise superior fruits in favorable localities. It has been found necessary, in order to successfully conduct experiment work, to extend the grounds, and C. R. H. Starr, Esq., has donated a piece of land joining the school grounds, for ten years, at the nominal rental of \$1.00 per year, with the privilege of purchasing. By careful management the expenses of this work have been kept within the income, and when the Government fully realizes its value and importance to the whole Province, it will be induced to increase the grant and extend the work. Most of the graduates of this school are either successfully prosecuting fruit culture on their own account, or are receiving large salaries in horticultural work—noticeably, E. Higgins, C. Blair, S. Hooper, Miss Morse, Miss Watts—and there is an increasing demand for graduates at the highest salaries paid any profession.

Transportation.—This difficulty is now more disastrous to the N. S. shipper than at any time in twenty years. The following important facts may assist us in removing the difficulties: 1st. That the Halifax and St. John merchants have had and always will have sufficient influence with any Government to subsidize a line of boats to London for their own benefit even if they are totally unfit to carry apple cargoes, or whether they carry any apples or not,—hence fruit-growers need no longer contest the subsidy question. 2nd. The line subsidized this year by petition from and for the benefit of fruit-growers, from Annapolis, has given the worst service of any in the trade for twenty years. 3rd. All attempts to combine fruit-growers to form a shipping company for their own interests have failed. A commissioner appointed by the Government to inspect all steamers carrying apples, with power to prevent shipment of inferior fruit in unsuitable vessels, improper stowage, etc., would remedy much of the wrong complained of, and would this year have saved fruit-growers in N. S. over \$100,000.

The President suggested establishing branch Associations in every county (the first branch is now being organized in Antigonishe), as has been successfully accomplished in Ontario and the U. S. To carry out this and other useful work, it is necessary to increase the Government grant from the paltry sum of \$300 to at least \$1,000.

We have estimated the value of the fruit industry to N. S. as follows:

1. Annual value of fruit crop, average about.....	\$1,000,000
2. Net receipts for apples sold in G. B., 1899 crop.....	800,000
3. do. do. 1900 do.....	200,000
4. Value of orchards now bearing, 9,000 acres, at \$500 per acre.....	4,500,000
5. Annual additional value to permanent wealth of Province by young orchards, 5,000 acres, at \$200 per acre.....	1,000,000
6. No. of men employed in fruit culture, 7,000.....	
7. No. of men employed in barrel and box factories, nurseries, fertilizer and other industries required by fruit culture, 4,000.....	
8. Freight paid for fruit to railroads.....	60,000
9. Freight paid steamboats for do.....	200,000

In the matter of *transportation*, the fruit-growers feel that two points should be remedied: First, they consider that the rate paid on apples is too high, owing largely to the place which apples are given in the present classification of freight. The meeting took action upon this phase of the question by passing the following resolution, which was introduced by Mr. Peter Innes, Vice-president of the Association: "Whereas the freight classification of apples by the railways of Canada was fixed at a time when the production was small and prices high; and whereas since that time production has enormously increased, while prices have been continually falling; and whereas in Western Nova Scotia apple-growing has become a great staple industry, averaging 500,000 barrels a year; and whereas the said classification has to be submitted to and approved by the Governor-in-Council, therefore Resolved,—That this Association, recognizing that the present classification does not suit the altered circumstances, and is oppressive to the apple growers and shippers of the Province, do respectfully memorialize the Governor-in-Council to take the subject into early and favorable consideration, it being suggested that, in the opinion of this Association, apples should be placed at least on an equal footing with flour." The second matter of transportation which received attention was in reference to the character of the steamers which are allowed to carry freight upon the subsidized lines running between London and points in Nova Scotia. It was shown beyond any question, that the vessels which have this year been carrying apples from Halifax and Annapolis have, in some cases, been unfit for such a purpose, and have furthermore been allowed so free a hand in the matter of when they should leave port, how the fruit consigned to them should be handled, and how other freight, such as deals, should be stowed in connection with the apples, that great damage has been done to the fruit. Secretary S. C. Parkersaid he had personally examined the account of sales of more than one thousand barrels of Gravensteins, and they would not average 10 cents per barrel net. It was felt by all that some action should be taken which would remedy this state of affairs in future; that steamers which are subsidized by the Government should be rigidly inspected, and so supervised as to insure the proper handling of the fruit, and such a system of ventilation as should give the greatest possible assurance of the apples carrying satisfactorily; and, furthermore, that the failure of the

steamship companies to meet the above requirements should be deemed sufficient reason for the withholding of the subsidy. Prof. Robertson said that this plan had already been adopted by the Government to a certain extent, but that our difficulty had been, the present season, that freight rates were so high and suitable vessels so scarce that steamship owners were not as amenable to this form of moral suasion as in ordinary years. Some of those present favored the abolition of all subsidies to steamship companies, while others thought that poor and dishonest packing was the great cause of the difficulty; but the great majority, while admitting that some of the first was not packed as it should have been, considered the steamships as largely responsible, and favored the appointment of an inspector for each port from which apples are being exported, who should have power to see that fruit was properly handled, properly stowed in the vessels, and to examine fruit which he had reason to suspect was fraudulently packed, and condemn it if necessary.

The subject of *spraying* was given an entire session for discussion, and even then the interest was not exhausted. No particularly new features were brought out, but it was evident that in many cases spraying had not given as satisfactory results in 1900 as could be desired. Yet every one who took part in the discussion expressed himself as determined to continue the practice; one man saying, in reply to the question whether he intended to persevere, "Yes, or go out of the fruit business." But it was very evident that during such a season as last year, when there is so much rainy weather during the early part of the season, the early spraying is all-important. An example illustrating this fact was given. Two men sprayed their orchards; one twice, the other three times. The first man sprayed once before the blossoms opened, the other not till they had fallen. The result was that the man who began early and only sprayed twice had better fruit than the man who sprayed three times, but didn't begin till after the blossoms fell. Doubtless different weather would have modified this result, but it seems probable that the early spray is always of great importance.

The subject of *agricultural education* came in for a good deal of discussion first to last. It was reported from what was considered a reliable source, that the Governments of the three Maritime Provinces had agreed to establish an agricultural college, and the Association passed a resolution congratulating the Nova Scotia Government on this movement, and urging that the new institution be of sufficient size to accommodate at least two hundred students.

One of the most interesting features of the meeting was the *fruit exhibit*, consisting of over two hundred plates, mostly apples, but a few pears and quinces. Besides a fine showing of all the standard varieties, there were several sorts new to the Province. Mr. Frank Kenney, of Gaspereaux, showed a fine plate of Gano, the red sport of B-n Davis, and it would seem that if Nova Scotia is to grow either of these apples, the Gano is preferable, since bright and attractive color constitutes a very large proportion of the desirable points of both varieties. Mr. J. Elliott Smith showed a plate of handsome Mackintosh Red, the fine appearance of which raised the question whether the Fameuse type of apples, which were driven out of cultivation by the black spot, might not again be profitably grown now that spraying has subdued the black spot. The prizes offered consisted of handsome diplomas, with a number of valuable books on horticultural subjects, for some of the most important awards. The prizewinners were as follows:

- 1—Best exhibit of apples, county west of Halifax (excluding King's, Hants and Annapolis)—1st, Yarmouth Agricultural Society.
- 2—Best exhibit of apples, county east of Halifax (including Halifax district, excluding King's, Hants and Annapolis)—1st, Durham Agricultural Society, Pictou Co.; 2nd, Antigonish Fruit Growers' Association.
- 3—Best exhibit of apples grown on one farm—1st, A. C. Starr, Starr's Point.
- 4—Best exhibit 5 commercial varieties apples, grown on one farm—1st, A. C. Starr, Starr's Point; 2nd, A. C. Johnson, Wolfville.
- 5—Best plate Baldwins—1st, G. H. Starr, Starr's Point; 2nd, J. A. Caldwell, Gaspereaux.
- 6—Best plate Banks—1st, A. H. Johnson, Wolfville; 2nd, J. Elliott Smith, Wolfville.
- 7—Best plate Blenheims—1st, S. C. Parker, Berwick; 2nd, G. E. De Witt, Wolfville.
- 8—Best plate Ben Davis—1st, Chas. Fitch, Wolfville; 2nd, A. C. Starr, Starr's Point.
- 9—Best plate Fallwaters—1st, A. C. Starr, Starr's Point.
- 10—Best plate Golden Russet—1st, D. Collins, Port Williams; 2nd, A. C. Starr, Starr's Point.
- 11—Best plate Gravensteins—1st, A. C. Johnson, Wolfville; 2nd, S. C. Parker, Berwick.
- 12—Best plate King—1st, J. A. Caldwell, Gaspereaux; 2nd, R. W. Starr, Wolfville.
- 13—Best plate Nonpareil—1st, Chas. Fitch, Wolfville; 2nd, G. H. Starr, Starr's Point.
- 14—Best plate Ribstones—1st, Chas. Fitch, Wolfville; 2nd, J. Elliott Smith, Wolfville.
- 15—Best plate R. I. Greenings—1st, Chas. Fitch, Wolfville; 2nd, A. C. Starr, Starr's Point.
- 16—Best plate Spy—1st, S. C. Parker, Berwick; 2nd, J. S. Martin, Wolfville.
- 17—Best plate Starks—1st, A. C. Starr, Starr's Point.
- 18—Best plate Wagners—1st, A. C. Starr, Starr's Point.
- 19—New commercial apple, Ontario—J. Elliott Smith, Wolfville; Mann—A. H. Johnson, Wolfville.
- 20—New dessert apple, Mackintosh Red—J. Elliott Smith, Wolfville; Cox Orange—R. W. Starr, Wolfville.
- 21—Plate pears—1st (Lawrence) Gay Goddard, Grand Pre; 2nd, (Vicari) R. W. Starr, Wolfville.
- 22—Collection cranberries—J. S. Bishop, Auburn.

Officers were elected as follows: President, J. W. Bigelow, Wolfville; Vice-President, Peter Innes, Cold Brook; Secretary, S. C. Parker, Berwick; Treasurer, Geo. W. Munro, Wolfville.

POULTRY.

The Turkey and its Management.

The raising of the turkey for marketing and exportation purposes, both dead and alive, is now becoming an important branch in the trade of this country, and is, I think, deserving of some notice.

First, the breeds, feeding and care of the breeding stock; next, the raising and care of the young. There are several standard breeds of turkeys, the Bronze, the White Holland, the Narragansett, the Black, the Buff, and the Slate. The first two varieties are the best known. Turkeys differ from other classes of poultry in many ways. The domestic turkey is but few removes from its wild ancestors, and much of that wildness still remains. They cannot be confined profitably, and the larger the flock the greater the disposition to roam. I have found them so at least.

I now come to the feeding and care of the breeding stock. The first thing to do is the selection of the stock. The breeding stock one starts with should be large, strong, and not related. Do not try to economize on the price of the first stock bought, for their offspring will grow up like them. Be very careful to guard against overfeeding the breeding stock. It is very important to keep the turkey in a healthy and vigorous condition. There is considerable loss occasioned each year by having the breeding stock diseased and not fit for breeding purposes. Most of this is brought about by overfeeding. What the breeding stock need is the bone and muscle rather than fat, and they should be fed with this object in view, being supplied with good, strengthening food, which will aid in forming a large, strong frame. In cases where this is neglected, and the turkeys are allowed to become very fat at the breeding time, the eggs laid are small and not always properly fertilized. If hatched at all, the chicks will not be strong and healthy. For new blood, it is well to procure from a distance. In procuring a gobbler, aim to secure one that is strong and vigorous. It is better to use turkey hens two years old than to depend on pullets. The hen likes a secluded spot for her nest, so those who are in this line should prepare a place where she can slyly make her nest and deposit her eggs unknown. It is better to nest on the ground, and the eggs hatch better if exposed to the earth's moisture. Place old barrels on their sides, put hay and leaves carelessly inside for them to lay on, and when the time arrives she will make her nest, and in such a way that the eggs will not get chilled. It not infrequently happens that the hen will not take to the nest prepared for her. She will likely seek a nest in the woods, if it is near by. It is dangerous to move the nest once the hen has started setting, as she is liable to leave it.

I now come to the raising and care of the young. The young chicks should not be disturbed for 24 hours after making their appearance. After that time they will be quite strong and hungry. I then remove them to a clean, airy, roomy coop, and give them their first meal, which is of boiled hen's eggs. Stale wheat bread and crumbs, just moistened with milk, can be given afterwards. This feed should be continued for two weeks, occasionally giving them curd. Make the food sweet and wholesome. All food must be cooked until they have thrown out the red on their heads. Feed them five or six times a day, just enough so they will eat it all up. Whole wheat boiled to bursting makes one of the best foods for young turkeys. They should also be given a little green food and gravel or other grit. After they are three months old they may be given cracked grain, wheat, corn, and such like, but no whole grain until they are five or six months old. The coops must be kept dry and clean and the young turkeys kept out of the dew and rain until they are full feathered. Dampness and filth will kill them as sure as a dose of poison. Many lose their turkeys by keeping them too closely confined. They must have a good range in order to become strong and active. Do not keep them shut up after the dew is off, except on rainy days. One thing you should always do is to encourage the mother to return early with her brood. This can be accomplished by feeding them at six o'clock every evening. A turkey looks upon home as a place to get something to eat. If they are not encouraged to come home early, the young become sleepy and often get lost or destroyed. Another essential point is to keep them clear of lice. Their worst enemy is the gray louse. Look for these in the feathers of the head and under the throat close to the skin. When these are found, dust the mother and her brood well with good fresh insect powder and rub one or two drops of sweet oil into the feathers of the head and neck. Do not use more than two or three drops of grease, for it is a dangerous article to use on young poultry of all kinds, as I have found out by experience.

I think the Bronze turkey is certainly the market bird. They are quick growers, excellent for table use, and immense in size. They will bring the same price per pound in the market as other breeds, and in a flock of, say, twenty-four you will get from twenty-five to seventy-five pounds more in weight from the same age and feed as from any twenty-five turkeys of any other variety.

I write this to give the farmers' wives an opportunity of knowing how they can make from five to fifty dollars more a year than they can do by breeding scrub or badly inbred stock of any variety.

FARMER'S WIFE.

Fertile or Infertile Eggs, Which?

I have seen and heard a great deal of discussion in reference to the keeping qualities of fertile or infertile eggs. Now, as the proof of the pudding is in the eating, I made up my mind that the best way to prove the right and wrong of the matter would be to put the theory to the test. Now was my chance—I had a hen wanting to sit. I took three infertile eggs, and with ten fertile eggs placed them under the hen. For fear there might be a mistake, I took care and marked the three eggs. After the hen had set the allotted time, I found the fertile eggs had turned to ten chicks, the infertile still remaining eggs. I examined them carefully by the aid of a lamp, and found them as clear as the day they were placed under the hen. Not satisfied with the test, I reset the hen and placed under her the same three eggs, and they remained under her for three weeks longer. At the end of six weeks I examined them, and found them as clear as the first day I put them under the hen. Still I was not satisfied. The eggs were carried to the house, and the goodwife was requested to cook them, with the request to be careful to break them in a dish before putting in pan to cook, as they had been under a hen. Soon breakfast was called. What about those three eggs? One had a streak of blood through it, the other two were all right. Well! Whew!! My resolution nearly failed me. I must confess, Mr. Editor, to a sickly feeling in the pit of my stomach. Well, men have died in the search for truth, and no scientific research has been made without a sacrifice. After fortifying myself with such thoughts as the above, and with a determination to do or die, I closed my eyes and bolted the first mouthful of egg that had been under a hen for six weeks. I must confess that though the thought was unpalatable, and the egg was eaten with the expectation of losing it and breakfast, I found it (the egg) was as pleasant as any fresh-laid egg I had ever eaten, so I ate the other without any squeamishness. I would like to know if any of the *ADVOCATE'S* readers have ever tried a fertile egg in the same way and could say that it tasted fresh. We know the results, from sad experience, of handling fertile eggs that have been under a hen for three weeks when it failed to turn to a chick. It is not necessary to stop and cook or taste them, the smell is enough!

One thing I am convinced of is that infertile eggs will keep when fertile will not. We do not pack eggs in the summer or fall, as we endeavor to have our hens lay all winter, but if I did I would separate my hens from the male birds and pack only infertile eggs.

J. B. POWELL.
Eastern Assiniboia.

Tender and Tough Turkeys.

Sir Courtney Boyle, permanent secretary of the Board of Trade, London, recently delivered a lecture on Method and Organization in Business, in which he told the following story:—

Not very long ago there came to a large poultryer's shop a gentleman who stuttered, and he said:

"I-I w-want to s-see some t-turkeys."

He was shown some.

"Some are t-tough and some are t-tender?"

The shopman admitted the fact.

"I-I s-suppose there is a d-difference in the price?"

He was assured there was none.

"I-I k-keep a b-boy's school: would you," with a wink of the eye, "m-mind p-picking out the t-tough ones?"

The tough ones were taken out and put on one side.

"C-can you m-make any d-difference in the price?"

This was refused.

"Then I will t-take the t-tender ones."

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.]

Legal.

LANDLORD AND TENANT.

J. B., Middlesex Co., Ont.:—"1. A bought a village lot some years ago for taxes, etc. He died without a will, and the lot is mentioned in widow's administration papers. She rented the lot for taxes and roadwork, and now people tell her that the man can keep the lot after a certain number of years (7 or 10 years). Can he?"

"2. A similar case in Muskoka, when a widow rented a small farm for roadwork and taxes, and people tell her the man can keep it after a number of years. Can he legally retain possession of it? In both cases there are no writings in way of lease."

[1 and 2. No. But while in neither case would the tenant be legally entitled to continue in possession after the expiry of due notice to quit, given him by his landlady, and certainly could not acquire title by length of possession as against her, she ought to have from him a written acknowledgment over his hand and seal of the fact and terms of the tenancy, and the same duly witnessed, as otherwise she might, after the lapse of years, find herself without the evidence necessary to protect her rights in the premises. A lease in the ordinary statutory short form ought to be executed by the parties for their mutual protection.]

TENANT TAPPING TREES.

A. R., Huron Co., Ont.:—"I am tenant on a farm on which there is a good maple sugar bush. Can the landlord prevent me from tapping the trees in order to use the sap in making syrup, on the ground that it will injure the trees?"

"2. The lease contains no stipulation on that point, nor was it ever mentioned. Is it usual to insert such a proviso in a farm lease?"

[1. He is not in a position to legally do so, provided you do not tap the trees in such a manner or to such an extent as would tend to their permanent injury.

2. It is not usual for such leases to contain more upon the point than the usual statutory covenant by the lessee, "not to cut down timber," which has the effect, according to the extended meaning given to the words by the "Act respecting short forms of leases" of a covenant on the part of the tenant that he "will not at any time during the term hew, fell, cut down or destroy, or cause or knowingly permit or suffer to be hewed, felled, cut down or destroyed, without the consent in writing of the lessor, any timber or timber trees, except for necessary repairs or firewood, or for the purpose of clearance as (in the lease) set forth." It cannot be said that, as a matter of law, the tapping of maple trees, though tending possibly to shorten the life of and eventually destroy the trees, amounts to a breach of the covenant referred to, but it would be a question for the jury having regard to the circumstances in the particular case whether by the tapping done in such case the tenant was to be considered as having broken the covenant.]

Veterinary.

DISCHARGE FROM NOSTRILS IN FAST PACING FILLY.

R. W. C., Grey Co., Ont.:—"Perhaps I am intruding on your good nature by asking so many favors, thanking you for your kind reply to my last letter. I have one of the best bred and promising pacing fillies in the country. I would like a little advice from you. I feed 3 pints of oats, 1 pint of bran, 1 tablespoonful of salt three times a day, and hay. I boil 2 pints of oats, 1 pint of wheat, 1 cup flax two to three times a week; in this I put 1 teaspoonful of the mixture: Sulphate of iron, 1/2 lb.; sulphate of soda, 1/2 lb.; gentian root, 1/2 lb. How does this act on the wind? She has a little white discharge from the nostril, no cough; has two wolf teeth, and the lamers. She is rising four years; good natural pacer; requires no hobbles. What would be good for her wind, and that discharge?"

[Little fault can be found with your manner of feeding, except that I don't consider it wise to force a colt to eat 3 tablespoonfuls of salt daily. Horses require a certain amount of salt, but it is generally considered better to have a lump of rock salt in the feed box, where they can have access to it at all times, than to force them to take given quantities in each feed. If rock salt be not on hand, common salt can be kept in a separate box. I also consider that for fast work you probably give too much bran. I prefer feeding oats by themselves, and giving a soft feed about twice weekly; giving a limited amount of good timothy hay night and morning, no hay at noon. The boiled feed you mention is very good, but I would give only half the quantity of wheat and add a little bran. I do not understand why you give the powders you mention. The prescription is a very good tonic, but evidently she requires no toning, and it is not good practice to give a horse drugs unless he needs them, therefore I would discontinue giving the powders. You do not state how long she has had the discharge from the nostrils, but I presume it has become chronic. The food you have been giving would have no injurious effect upon her wind, unless you subjected her to fast work shortly after a meal, when the stomach is full. For the discharge I would recommend the following: Sulphate of copper, 3 ozs.; arsenious acid, 2 drs.; digitalis, 1 oz. Mix and make into 24 powders. Feed a powder every night and morning in dampened oats. If necessary repeat the prescription. It is probable the wolf teeth do not do any harm, but they are supernumerary and should not be there, and should be extracted. Do not knock the crowns off, leaving the fangs there; have them drawn.]

J. H. REED, V. S.]

TUMOR IN HORSE'S NECK.

Z. Y. X., Vernon, B. C.:—"Ten-year-old horse. For the last eighteen months or so has had a hard lump (varying in size at different times from a bean to a hen's egg) in the muscles of the neck just inside the point of shoulder, and a couple of inches higher up. It is very painful on pressure, and of late keeps him a little lame. He has done no work this winter. Have blistered it, but that does not appear to do it any good. What treatment would you recommend?"

[The growth described is a tumor, and blistering will not remove it. It requires a surgical operation. The growth must be dissected out. It is possible a small amount of pus may be found in it. From your description, I cannot make out exactly the location of the growth, but if not quite close to the jugular vein, any man who is handy with a knife can safely operate. If close to vein, great care will need to be exercised to avoid wounding the blood vessel. After the operation, treat as an ordinary wound. Use some good antiseptic—none better than carbolic acid one part, water sixty parts.]

J. H. REED, V. S.]

SKIN IRRITATION IN HORSES.

G. C., Simcoe Co., Ont.:—"Some of my horses are troubled with an irritation in all their legs. They are continuously biting and scratching them. They pound their hind feet on the stable floor and rub their tails against the fence or any obstacle they can get to. They have been troubled this way for about a year, sometimes worse than others. In winter they run idle and are fed in the following way: Morning feed consists of a small feed of well-saved hay (timothy and clover mixed), a pailful of cut oat straw, three pounds of oats and one pound of bran, with a small pinch of salt, all mixed together. After breakfast, if the day is fit, they are allowed a couple of hours out for exercise. At noon they are fed much the same as morning. After noon they are again allowed exercise. In the evening they are again fed the cut straw, oats and bran, and last thing at night they get a feed of pulped turnips, a small bite of hay and clean wheat chaff to pick at during the night. Care is taken that all the feed they get is pure and free from must. I also feed them some salts and sulphur. They are allowed all the pure well water they wish to take. In summer, when working, they run out on pasture at night, and during daytime are fed liberally on well-cured cut hay mixed with oats and bran, all the uncut hay they wish to eat, and green cut corn when it is in season. Their stable is stone basement, well above ground and well ventilated, plank floor. Our hens have free access to the horse stable in daytime, but we cannot find any hen lice on the horses, and they are fat and sleek the whole year round. My neighbors' horses are also troubled with this same irritation in their legs. Some of them stock up, become scurfy, and the hair becomes loose and will rub off. We bathe their legs with tobacco juice, which gives relief for a few days. Can you tell what the trouble is and how to effect a cure?"

[Some horses, especially those that are known as beefy limbed, with considerable hair, especially of a coarse character, are predisposed to such conditions as you describe, and many horses are affected with an itchiness about the roots of their tails. I would advise the following treatment: Feed nothing but a little bran for about 18 hours, then give each horse a purgative of from 6 to 10 drs. Barbadoes aloes (according to his size) and 2 drs. ginger, made into a bolus with a little treacle or soap, or else shaken with a pint of cold water and given as a drench. Give chilled water in small quantities and nothing but bran to eat until purgation commences. Then feed hay and small quantities of grain, unless the horses be working, when you will require to feed grain according to the work they are required to do. After the bowels have regained their normal condition, give the following powders: nitrate of potash, 3 ozs.; sulphur, 6 ozs.; arsenious acid, 4 drs. Mix and make into 24 powders, and give a powder every night and morning in damp food. If he will not eat the powders, they must be given either in the form of a bolus or as a drench mixed with a little water. Keep up the administration of the powders for at least two weeks, longer if necessary. Wash the affected parts thoroughly with strong, warm soft-soap suds, in order to remove all dirt, scuff, etc., and then rub well into the parts twice daily the following lotion: bichloride of mercury, one part; soft water, 500 parts. If there be much long hair on the legs, it will be difficult to get the lotion onto the skin, but it must be done, or little good will result, and it is unsafe to clip the legs at this season. Apply the lotion to the tail too.]

J. H. REED, V. S.]

STRANGLES IN COLT.

H. B., Cumberland Co., N. S.:—"My neighbor has a fine 3-year-old colt that took the distemper. It was sick about a fortnight, when it took worse, frothed at the mouth, slobbered and drooled a lot. It would stand and breast the manger, like a horse hauling a heavy load, or stand with its head in the corner of the stall and shove till its eyes were swollen. What is the trouble, and is there any cure?"

[The probability is, the colt has what is known as irregular strangles or distemper, in which an abscess or abscesses form in various parts of the body, and if they cannot be seen, of course their existence can merely be suspected. If you have a veterinarian convenient, you should get him to examine this colt; if not, feed 3-dram doses hypsulphate of soda three times daily, and endeavor to keep up the animal's strength by feeding whatever it will eat. If it will not eat much, it might drink sweet milk and eggs. If any visible abscesses form, open and allow the pus to escape.]

ECZEMA IN STEER.

T. S., Elgin Co., Ont.:—"I have a yearling steer that is very bad all over the body with a very rough and scabby skin. You can pull the hair off in chunks, but no blood appears on the skin. It rubs itself very much. It feeds well and is doing well. I cannot find any lice. Will you kindly let me know through the Veterinary column of the Advocate how to treat the same?"

[Give the steer a purgative of about one pound Epsom salts dissolved in a quart of warm water. Wash the body thoroughly with warm soap suds. Keep in a warm stall after washing. Then apply daily either McDougall's Sheep Dip, as directed on the package for such purposes, or the following lotion: Creolin, 1 part; water, 60 parts. Feed lightly, and give purgative when necessary.]

J. H. REED, V. S.]

MAMMITIS OR GARGET IN COW.

J. C., Peel Co., Ont.:—"I have a cow that has one quarter of her udder very much swollen and inflamed. The first I noticed wrong was just after milking. She was trembling as though she were cold. On examining her, I found her udder as stated above, with the veins of that quarter standing out like whipcords, and very sore. She has been milking about three months. Am feeding ensilage with cut straw, gallon of chop (peas and oats, equal parts by weight), one-half gallon of bran and one-half pail mangels night and morning. Cows are watered twice a day in stable, turned out only on very fine days for a short time. Had another cow affected the same way about a month ago. She is better, but gives no milk from the affected quarter. Please let me know the cause and cure."

[The trouble is mammitis (inflammation of the udder), often occurring after calving, generally with good milkers. Cold drafts are frequent causes of this trouble. The treatment should be prompt and energetic, in order to save the udder from permanent injury. Give a purgative of two pounds of Epsom salts with half an ounce of ginger, dissolved in warm water. Bathe the udder twice daily for thirty or forty minutes with warm water in which the hand can be borne. Rub dry and apply belladonna ointment or goose oil, well rubbed in. Continue giving nitrate of potash in teaspoonful doses twice a day in feed if she will take it, or in a drench. Reduce the grain diet to a simple warm bran mash. Milk out the quarter frequently. Keep the cow warm and away from drafts, and take the chill off all the water she drinks.]

CEREBRO-SPINAL MENINGITIS IN HORSES.

R. M., Huron Co., Ont.:—"My horses lost the power of swallowing. Apparently they were in no pain. They laid down considerably for about 12 hours, then lost the use of hind legs, and in 12 hours died. One day after, a 2-year-old took the same disease, but lived for four days and then died. I had three more in the same stable. Two young horses I removed to another stable; the other one, an aged horse, I left in the same stable. It is about three weeks since the first two died, the other three apparently being all right. Would an ill-ventilated stable cause it? I fed hay and cut straw, with a little ensilage and a gallon of chopped oats twice a day, and a cupful of turnips at night, to each horse. I turned them out twice a day. What do you suppose caused it? Would there be any cure?"

[Your horses died from a disease called cerebro-spinal meningitis. It is caused by poor ventilation, especially if the surroundings be damp; water in which there is decaying animal or vegetable matter, especially water into which liquid manure may enter; food of poor quality; decaying cornstalks, etc., etc. Silage of poor quality might cause it. In this disease, the first symptom generally noticed is an inability to swallow. Paralysis of the limbs usually follow in a variable time, and death is the usual result, although a recovery sometimes takes place. The form usually seen in horses is not generally considered contagious, but what causes it in one animal may cause it in others under similar conditions. It is a disease that requires professional treatment early, as each case requires treatment according to the peculiar symptoms presented. I would advise you to have a veterinarian investigate your premises, water and food, and ascertain, if possible, the cause of the outbreak. Unless you get at the cause and remove it, you will be liable to another outbreak at any time.]

J. H. REED, V. S.]

ABORTION IN HEIFER.

J. W. N., Westminster, B. C.:—"A 2-year-old heifer, coming due to calve in the spring, about a month ago commenced to make bag, and the last three days the udder grew more than it had altogether and had half a gallon of milk, and she had a calf, alive, with no hair on it and not more than one-third grown. She seems all right and is milking nicely. The mystery with me is, why she would make bag and have milk at that time of pregnancy?"

[Abortion is caused in many ways. It is probable in the case of your heifer it was from an accident, as a fall, slip, blow, or something of that sort. It is also not unusual in such cases for the lacteal apparatus to become active. The disjunction between the foetal membranes and the maternal mucous membrane is frequently accompanied or followed by activity of the said apparatus. It is also probable the heifer will continue to yield milk in nearly as large quantities as though gestation had continued to the normal period.]

J. H. REED, V. S.]

LUMP ON HEIFER'S LEG.

M. V. M., Bruce Co., Ont.:—"I have a valuable heifer with a lump just above her hoof on the front foot; is not attached to the bone; is about the size of a small hen egg. Should the lump be cut off, or will it leave of its own accord? The animal is not lame."

[If the lump has a constricted neck, it can be removed by tying a fine strong string tightly around it and allowing it to slough off, or it can be cut off with a knife or a pair of shears. If it has a broad base, it will have to be dissected out. The better and quicker way is the use of the knife. Treat the raw surface, after operation, with carbolic acid one part to sixty parts water.]

J. H. REED, V. S.]

COLIC—LAME HORSE.

SUBSCRIBER, Wolseley, Assa.:—"1. We have been bothered a lot this fall with colic, or colic pains, in our horses. They have run out in the day and been fed straw at nights, with perhaps three quarts of oats. Some of the oats had heated a little, but we thought the feed was too light to do any harm. Our horses are in good order and seemed to enjoy picking out during the day. What would you think was the cause, and what could be done to prevent it? What can be done to musty or heated oats to make them safe food?"

"2. One of our horses came in very lame behind the other night. The only thing we could find wrong was a crack across the front of the knee joint. Since then he has not improved, and the lower part of the leg has swollen up. What would be the cause and cure?"

[1. Improper food is evidently the cause of the colicky pains in your horses. Rations of frozen grass, straw and musty oats are not only in-nutritious, but are more or less poisonous, and when we consider that the digestive organs of the horse are not made of iron, either cast or malleable, it should not be a matter of surprise if such food were the cause of something much more serious than colicky pains. Change the diet to food of good quality, and the colicky pains will surely disappear. The boiling of musty oats, or exposing them to a strong heat, 190° Fahr., will, to some extent, destroy their noxious properties, and will make them more safe food.

The crack across the front of the joint would indicate that the trouble is probably due to some local injury or irritation. Would advise you to keep the animal in the stable. Prepare him for a dose of physic by feeding exclusively on bran mash for at least sixteen hours, and then give Barbadoes aloes, seven drams; calomel, one dram; ground ginger, two drams; syrup sufficient to form a ball. Apply the following liniment to the leg twice a day and use a bandage: glycerine, six ounces; creolin, half an ounce; tincture of opium, four ounces; acetate of lead, one ounce; water, five ounces. W. A. DUNBAR, V. S., Winnipeg.]

PROBABLE RUPTURE OF BLOOD VESSEL.

A. J., York Co., Ont.:—"Cow calved at half-past ten o'clock; had to assist her. Gave her a pail of scalded bran at eleven o'clock, which she ate at once and appeared to be all right, and was dead and stiff next morning at six. When opened, the stomach was grown to back about six inches wide on each side back, full length of stomach."

[The post-mortem appearances given do not in the least indicate the cause of death. Nothing is said about the appearance of any organ but the stomach, and the condition in which it was found would not cause sudden death. The probability is the cow in calving (you say she had trouble and had to be assisted) ruptured a blood vessel, not large enough to cause immediate collapse, nor even cause any apparent distress, but the internal bleeding continuing would, of course, cause death in a few hours. If this were the cause a post-mortem examination should have revealed a large amount of clotted blood, probably in the womb, possibly in the abdominal cavity or enclosed in the intestines. But this might not be noticed by a person not accustomed to post-mortem examinations.

J. H. REED, V. S.]

MARE FAILING IN FLESH.

SUBSCRIBER, N. D. de Lourdes, Man.:—"I have a six-year-old mare, very little used; am feeding her well, good hay, oats and chop three times a day. She is failing in flesh, although she eats well. She does not seem feverish, but grinds her teeth and slobbers. Please give cause and treatment."

[Have your mare's mouth and teeth thoroughly examined. Examine beneath the tongue and see if there are any sores caused by spear grass. If you cannot discover anything wrong with the teeth or mouth, we would advise you to prepare the animal for physic by feeding exclusively on a bran-mash diet for at least sixteen hours, and then give the following dose: Barbadoes aloes, seven drams; calomel, one dram; powdered ginger, two drams; soap sufficient to form a ball. Continue the bran-mash diet until physic has ceased to operate. After this, give in food, night and morning for ten days, sulphate of iron, one dram; soda bicarb., nitrate of potassium and powdered gentian, of each, two drams. W. A. DUNBAR, V. S., Winnipeg.]

WARTS ON UDDER AND TEATS.

W. R. A., Dundas Co., Ont.:—"I would like to have you give through the ADVOCATE a cure for warts on cattle, as I have a heifer coming two years that has some large lumps that look like warts that seem to be full of blood, with some smaller ones on the udder and teats, which, if not cured or removed, will prevent milking?"

[Such warts as have constricted necks can be clipped off with a pair of scissors, and the raw surface thus made dressed with a little butter of antimony applied with a feather once daily for three applications, after which a little carbolic oil. 1 part carbolic acid to 50 parts sweet oil can be used as a dressing twice daily until the parts heal. For those that have broad bases use butter of antimony applied as above every day. This corrodes the surface of the growth, and occasionally you will be able to pick a scab or scale off, which gives the dressing a better chance to act. This is a slow method of removing warts, but when the knife or shears cannot be used it is the best.

J. H. REED, V. S.]

SWELLING OF LEGS. WITH INCIPENT DIARRHEA.

FARMER, Essex Co., Ont.:—"A horse nine years old, when standing in the stable for a couple of days his hind legs swell and his bowels act too freely, and he is not doing well for the feed he is getting. He feeds well on good hay and oats three times a day. If he is out every day, he seems to be all right. What treatment would you advise? Please tell me what can be done, in next issue of FARMER'S ADVOCATE."

[It is probable your horse does not properly masticate his food, which would account for the diarrhoea, or it may be there is some foreign body in the intestine, which also would account for it. Have his teeth examined, and if necessary dressed. Give him nothing to eat for 12 hours except a little bran, then give a purgative of say 8 drs. aloes, 2 drs. ginger, either as a ball or mixed with a pint of cold water as a drench. Feed nothing but bran until purgation commences, then feed good hay and a little grain. Give, after purgation ceases, the following: Nitrate of potash, 4 ozs.; bicarbonate of soda, 6 ozs.; ginger, 4 ozs.; arsenious acid, 4 drs. Mix and make into 24 powders, and give one every night and morning in damp food. Repeat the prescription if necessary. J. H. REED, V. S.]

VENTRAL HERNIA IN MARE.

H. P., Pictou Co., N. S.:—"A fine mare, while working in the woods, slipped, falling on her side on the end of a limb of a tree. About an hour after a small lump appeared on her side, about half the size of a hen's egg, directly below the end of the sixth rib from the shortest one. I put on a bandage and small pad of cork to press in the lump, which I kept on for ten days, then took off the pad and put on a wide bandage tight, which is still on. Do you think it a rupture, and did I treat it right?"

[There is little doubt that the mare has ventral hernia (rupture caused by an injury). Whether or not this exists can be told by manipulation. If rupture exists, the opening through the abdominal walls can be felt, and careful manipulation will in most cases return the intestine into the cavity. There are different ways of treatment. I have found fair success from trusses such as you have used, and from clams. The latter can be successfully applied only by an expert, as there is danger of enclosing some of the intestine. You had better continue with the truss. It should have a pad to press directly over the tumor. The intestine, of course, must be returned into the abdominal cavity and the truss then applied with pad directly over the tumor to prevent protrusion of the intestine. Cases of this kind are hard to cure. It is probable your mare's usefulness will not be interfered with, but time alone can tell whether she will ever be all right. J. H. REED, V. S.]

FOUL IN FEET AND SOME OTHER TROUBLE IN COW.

W. R., Norfolk Co., Ont.:—"A cow's breath has a very bad smell. Her feet are all sore, and in the split are scabs that are so sore that she lies down quite a bit of the time. I tried Epsom salts, and that did no good; then I tried sulphur, and that was no better. I looked in her mouth and her teeth are all right."

[The trouble with your cow's feet is certainly foul in feet. Poulitice with boiled turnips until you get them nicely softened and all scabs and scales removed, then apply a little butter of antimony with a feather once daily for three days, after which dress three times daily with the following: Carbolic acid, 1 part; sweet oil, 60 parts. It is impossible to say what the cause of the foul breath is without a personal examination. The odor may come from the lungs or from the stomach. You might try the following for a couple of weeks: Give 3 drams pulverized hyposulphite of soda in a mash three times daily. I would advise you to have her examined by a veterinarian. J. H. REED, V. S.]

BLEMISH ON COLT'S FOOT.

J. A. K., Middlesex Co., Ont.:—"I have a two-year-old colt that had his foot cut on a disk harrow about four months ago. The cut is on hind foot, about two inches above hoof. When cut, a piece of skin about the size of a silver dollar was left hanging, and which I got removed. The cut took about three months to heal, and left a callous and has not haired. I tried to blister, but it has not taken effect. Can I remove this blemish, and how?"

[The scar cannot be removed, because the hair roots have been destroyed and cannot again be made to grow. If there exists a high callous lump, it can be burned down partially with acids by a veterinary surgeon.]

Miscellaneous.

WHAT KIND OF ROOFING?

R. W. LITTLEJOHN, Kent Co., Ont.:—"Will you please tell me what you think of metal shingles for roofing a barn, or would you prefer cedar shingles? Have you had any experience with mica roofing or any of the paper roofing advertised?"

[None of our staff have used the forms of roofing referred to, but have heard them all highly spoken of by those who have. What has been the experience of our readers with them, including such points as durability, price, cost of laying, compared with shingles or slate, etc.?

BARN PLAN WANTED.

A. E. S., Westmoreland Co., N. B.:—"Will you please give me a plan of a barn about 75 feet long and 36 feet wide, 15-foot posts, with basement? I would like to keep cattle in basement, and also keep manure under cover. Would like a few horse stalls over basement, and let manure go through floor and mix with other manure below. I want a place to hold about 1,000 to 1,500 bushels of roots. The manure shed might be limited, as I propose hauling it out say once a week. Can you give me a plan of such a barn that will stable as many cattle as convenient, and the best method to feed and water, with plenty of light and ventilation?"

[We would direct attention to the barn plan that appears in our issue of January 15th, page 45, which is 75 feet long by 36 feet wide. We believe that plan will answer the purpose, modified in some of its details. Instead of putting the horse stalls across the end of basement, it could be placed in the same position on the upper floor. One could then utilize a portion of that end of the basement space for manure shed. This should be separated from the cattle stable by a tight wall, to keep the smell of the heating manure out of the stable. In Ontario Province the manure shed is passing out of favor, as the manure is being hauled directly to the field as it is cleaned from the stalls each day. For this it is better to have an 8- or 9-foot passage behind cattle, in order to drive through with a wagon, sleigh, cart, or boat. For a root-house, one could utilize the space beneath the driveway to the barn floor above, marked box stalls. The best plan we have seen for building root-house under the driveway consists of an arch, described in the FARMER'S ADVOCATE for November 15th, page 653. To build the arch there described requires wooden arch frames to set up and cover with boards on which to build the bricks. The wooden arch frames can be dispensed with, however, by building a strong, level platform across where the arch is to commence, and pile on moist clay in oval shape. The bricks for the arch would be set on the clay, and when the mortar became firm, the platform and clay could be removed. We will gladly give space to suggestions by readers that will help Mr. Simpson to plan his barn.]

CEMENT WALLS.

J. F., Peel Co., Ont.:—"Have you seen any barns built on concrete foundation walls? Do you think that they are better in every way? I have been canvassed by an agent for cement. Could you throw any light on the subject for me?"

J. C. K., Norfolk Co., Ont.:—"Is a wall made of concrete cement as good for a pigpen as a double inch wall of boards with felt paper between?"

J. E. J., Lennox Co., Ont.:—"I am thinking of raising my barn and putting a cement wall under it, and I would like to have your advice as to which cement you would recommend, Queenston or Thorold? Do you think there is any difference in their quality or price?"

[In point of appearance, durability, and economy in outlay, we know of no stable wall equal to one properly constructed of cement concrete, where the materials are reasonably accessible. We have repeatedly published complete instructions, and pamphlets covering the subject fully can be obtained from the John Battle Estate, Thorold, Ont., or Isaac Usher, Queenston, Ont. Our readers report both of these cements giving excellent satisfaction when used according to directions. As we understand it, both are "rock cements," made in a similar way. As to cost, write the manufacturers or enquire of their local agents. It is very important that good, clean, sharp sand and gravel be used. For walls, one part cement to five or six of sand and gravel are recommended, and for floors where there is a good bottom and a fine quality of gravel available, three inches mixed one part cement to three of gravel is approved. Many superior floors, however, are made with the bottom four inches one to five or six, and about an inch surface mixed two parts fine gravel or sand to one of cement. The material should be mixed dry thoroughly first and then wet, and when laid, be made not too "sloppy." In walls, field stones or old brickbats may be freely used for bedding-in the inside, thus saving expense, but they should not reach the outside. For hogpen walls, six inches in thickness is said to be heavy enough, and for barns, about ten or twelve inches. As to the comparative cost of cement, with double board and paper between walls, which many men like, that will depend upon localities. Where possible, it is a good plan for parties intending to build to visit some of those who have had such structures in use, where useful hints are always to be picked up.]

GOOD PEN—AQUATIC SEPARATORS.

T. S., Huron Co., Ont.:—"The Fountain Pen came to hand; it writes the best of any I ever tried. Many thanks."

"Do you know anything about the Aquatic cream separator?"

[For the result of a careful test made by our staff of one of these so-called separators, see FARMER'S ADVOCATE, page 540, Sept. 1st, 1900, and you will not likely waste any money buying one.]

RECIPE FOR DYEING SKINS WANTED.

B. PALMER, Algoma, Ont.:—"Would some reader kindly give me a recipe for dyeing skins, pelts, etc., a brown or black color?"

SIZE OF SILO FOR SIX ACRES OF CORN.

J. H. M., Prosperity, Ont.:—"I hope to get you a few new subscribers. Please say through ADVOCATE what size of silo would be required for six acres of good corn? Would you advise me to use tongued and grooved hemlock?"

[Six acres of average corn land should yield about 90 tons of crop. This would require a round silo 14x30, 15x26, or 16x22 feet. We would advise the medium dimensions, if outside exposed to winds, as the higher structure is more liable to be toppled over. So long as the planks are sized so as to fit closely from top to bottom, there is no need of tonguing and grooving; in fact, when the planks shrink after the silo is emptied, the tongued and grooved boards are not easily pressed into position again. Hemlock lumber is not so satisfactory as pine, as it tends more to warp and check, and thereby become useless to exclude the air. Painting round silos outside and in is now strongly recommended, as it preserves the lumber and excludes the air. All round silos outside should have a firm roof and be stayed to a substantial support. A cement silo will cost more at first, but be more economical in twenty years.]

APPENDIX AYRSHIRES.

J. W., Frontenac Co., Ont.:—"I have for a number of years been breeding Ayrshire cattle, each in its turn been duly pedigreed and registered. I recently sent two of those pedigrees to be registered, one being duly recorded, the other has returned to me in the same state I sent it, the secretary stating he cannot record it, as it runs into what is called the appendix of the herdbook, which has been done away with. Is none of the stock recorded in this part of the book to be classed as pure or fit for registration any longer? If not, kindly state why?"

[At the annual meeting of the Dominion Ayrshire Breeders' Association at Toronto, February 10th, 1898, it was resolved to discontinue the registration of animals in the appendix of the herdbook. On the occasion of the amalgamation of the Dominion and the Canadian Ayrshire Breeders' Associations, consummated in the same year, as we understand it, the pedigrees in the appendix of the Dominion book which do not trace in all lines to known imported ancestry were discarded and declared ineligible to the herdbook under the new order of things. It is possible and probable that most of the animals in the appendix were pure-bred and good cattle, but the fact of their being placed in the appendix, and not in the body of the herdbook, implied the lack of sufficient evidence of their descent from imported pure-bred stock to justify their being admitted to the book proper.]

BITTER CREAM.

SCRIBBLER, Simcoe Co., Ont.:—"Please explain through your columns why cream becomes bitter after standing until the third or fourth milking, the milk being only slightly sour, and set in shallow tins nearly new, in a cool, well-aired pantry? The cows are fed nothing that would taint the milk except Graystone turnips."

[Bitter milk is due to a number of different causes, such as the nature of the feeding stuff used, but it is most probably due to bacterial life. If the bitter taste is present immediately after milking, and does not increase as the milk is kept, the food is the cause of the trouble; but if the bitterness increases with time, then it is due to micro-organisms. Cows long calved occasionally give milk quite bitter, and when this is the case, about the only means of meeting the trouble is to allow her to dry off. It would be well to change the cows' food somewhat, decreasing the turnips fed and giving liberal quantities of bran slop with good hay. Also scald all vessels thoroughly in which the milk is contained. If these fail, then dry the guilty cow.]

APPRECIATION EXPRESSED—HENHOUSE FIXINGS.

S. H. WEBBER, Huron Co., Ont.:—"We received your beautiful Christmas number, and were very much delighted with it. It is truly a work of art. Your paper is greatly appreciated here."

"1. There is a small V-shaped trough placed against the wall of a henhouse. How can it be fixed so that the fowls cannot get into it with their feet?"

"2. Could you give me a description of a cheap water fountain for hens?"

1. Place a slatted rack in front of the trough, through which the hens can push their heads and eat, but cannot themselves get through.

2. Take a tomato can or one similar, having the top removed, and punch a small hole in the side half an inch from the open top. Now nearly fill the can with water, lay a tin plate upside down on the top, and turn it quickly over. The water will remain as high in the plate below as the top of the small hole in the can. The can must be air-tight above the hole.]

CENSUS COMMISSIONERS.

J. L. S., Simcoe Co., Ont.:—"I see by your paper that Mr. Archibald Blue has the general direction and supervision of the next Canadian census. Can you give me his post-office address, as I wish to become an applicant for taking the census in my own division?"

[Mr. Arch. Blue, Chief Census Commissioner, Ottawa.]

REPORT OF AGRICULTURE AND DAIRYING.

E. C. F., Compton Co., Que.:—"To whom should I write to obtain a report of agriculture and dairying at the Ottawa Experimental Farm?"

[Hon. Sydney Fisher, Minister of Agriculture, Ottawa.]

TO RID LAMBS OF TICKS.

J. A. D., Algoma Dist.:—"I find some ticks on my last year's lambs: what would you advise me to do to rid them of them?"

[If one has a sheep pen that can be made comfortably warm, it would be most satisfactory to dip the lambs in one or other of the sheep dips advertised in the FARMER'S ADVOCATE. They are all good, and full directions for use go with each can sold. The lambs should be rather closely housed until they are nearly dry. A more pleasant method of treating the lambs at this season is to open the wool on the neck, breast, sides and belly, at intervals of about two inches, and dust in pyrethrum, a yellow powder known as Parisian insect powder. This will destroy most if not all of the ticks. It would be well to have them all dipped when the warm weather arrives.]

CLYDESDALE JUDGING—LIVE-STOCK ALMANAC.

NEW SUBSCRIBER:—"1. Where and how can I obtain a copy of the Live Stock Journal Almanac? 2. Give the scale for judging Clydesdale horses?"

1. Vinton & Co., 9 New Bridge St., London, E. C., Eng. Price, 1s. 4d. About 40 cents sent would cover extra postage.

2. We know of no scale of points for judging Clydesdales.]

MARKETS.

FARM GOSSIP.

Beet Sugar in Ontario.

The Beet Sugar Association of Ontario met in convention in Toronto, on February 7th, chiefly for the purpose of discussing the establishment of the beet-sugar industry in Ontario and arranging the matter of approaching the Governments, both at Ottawa and Toronto, for aid, by way of bounties, to the industry. The convention was made up of municipal officers and representatives of Boards of Trade from many sections of the Province. On the day following, a large and influential deputation waited upon Premier Ross and his cabinet and petitioned for financial aid. No specific sum was mentioned, although a half cent per pound bounty was suggested as necessary in order to tide the manufacturers over the initial stages. It is claimed that when once factories are established, the farmers will receive the advantage of the bounty by having a market for their beets. Premier Ross, after hearing their remarks, informed the deputation that the Government had been quietly looking into the condition of the industry in Michigan and the possibilities of producing suitable beets in Ontario, and they had come to the conclusion that something should be done to foster the production of our own sugar at home. He concluded that the sum set apart would be considerably less than \$100,000, asked by Toronto Board of Trade, and this would not be given if only a single factory were started. The grants would be conditional on the establishment of the industry in various parts of the Province. A hopeful deputation went to Ottawa to consult the powers there, but at this writing the results are not known to us.

The officers for the year are: President, John Parry, Dunnville; First Vice-President, J. M. Shuttleworth, Brantford; Second Vice-President, B. B. Freeman, Warton; Third Vice-President, T. A. Smith, Chatham; Fourth Vice-President, W. S. Caron, Aylmer; Secretary-Treasurer, D. H. Price, Aylmer; Executive Committee—E. R. Blow, Whitby; Charles Kelly, Uxbridge; S. A. Perry, Warton; T. Elliott, Brantford; Ald. Parnell, London; Hugh Blain, Toronto; T. A. G. Gordon, Alvinston; F. G. Ramsay, Dunnville; D. A. Jones, Beeton; J. H. Glover, Aylmer; John A. Auld, M. P. P., Amherstburg; Charles Cain, Newmarket; J. R. McCallum, Welland; B. W. Stewart, Mount Forest; George E. Bristol, Hamilton; Howard Annis, Whitby.

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT.

Following is a statement of current top prices with those of the previous week and a year ago:

Cattle.	Past Week.	Previous Week.	Year Ago.
1500 lbs. up.....	\$ 6 00	\$ 6 00	\$ 6 10
1350 to 1500 lbs.....	5 95	6 00	6 00
1200 to 1350 lbs.....	5 85	6 00	6 10
1050 to 1200 lbs.....	5 45	5 55	5 40
900 to 1050 lbs.....	5 45	5 55	5 35
Feeders.....	4 50	4 65	5 00
Fat cows and heifers.....	4 50	4 60	5 00
Canners.....	2 80	2 65	2 85
Bulls.....	4 40	4 45	4 50
Calves.....	6 25	6 00	9 00
Texas fed steers.....	4 50	4 50	5 15
Hogs—			
Mixed and butchers.....	5 45	5 40	4 97 1/2
Heavy.....	5 45	5 40	5 00
Light.....	5 40	5 35	4 90
Pigs.....	5 20	5 20	4 75
Sheep—			
Fat wethers.....	4 50	4 60	5 00
Ewes.....	4 00	4 00	5 00
Westerns.....	4 50	4 55	5 40
Yearlings.....	5 15	5 00	6 15
Native lambs.....	5 35	5 30	7 20
Western lambs.....	5 35	5 50	7 05
Colorado lambs.....	5 20	5 35	7 00

Cattle feeders are marketing too many low-grade and unfinished cattle. The outlook is poor on the unfinished kinds, while good to choice ripe cattle are in better demand. Fat ripe 1,700- and 1,825-lb. cattle have sold at \$5.10 and \$5.80, with prime 1,925- and 1,957-lb. cattle on the Glasgow export order at \$5.00. Ripe, well-bred yearlings, 1,150 and 1,175 lbs., sold at \$5.50 and \$5.85.

The extremely cold weather is working badly for the stock and feeder trade in two ways. It has forced in a great many young cattle and at the same time made it harder to sell them, as the demand is always smaller at such times.

There is really a very strong demand for the cheap grades of cows, and stocks of canned goods are small at home and abroad, and buyers seem to want all the cows of the canner class the country has to offer.

The most notable feature of the hog situation lately has been the small supply of 200- and 300-lb. barrows. There has been no complaint about the quality of the hogs, but the animals coming are mainly too young to have the desired weight.

Sheep and lambs have been selling very unsatisfactorily. With receipts comparatively small and the supplies for the year so far showing a decrease of some 27,000, with prices \$1.50 lower on sheep and \$1.75 lower on lambs than a year ago, the selling interest is at a loss to show how to account for the present dullness of the demand for sheep and lambs.

If it were not for the big export demand, the sheep and yearling market would not be as good as it is.

Toronto Markets.

There were 20 loads of Chicago cattle in the Western market annex, 320 in number. Of these, 18 loads belonged to Mr. Hathaway, two loads to Messrs. Halligan & Lunness, of Toronto.

Export Cattle.—Not many on offer. Space on the ocean steamships scarce. In consequence of storms on the Atlantic, many of the boats for which cattle were booked were late. This cause reacted on the market, as dealers do not like to purchase and feed cattle waiting shipment. Prices were lower, top price for the day \$4.75 per cwt. These cattle were purchased at Guelph, Ont., last week, at \$5, and had been carried over two market days at a loss of market fee, etc. Mr. Hunisett bought 15 loads of exporters, 1,250 lbs. to 1,400 lbs. average, at from \$4.20 to \$4.75 per cwt. Mr. A. Zollner bought two loads of exporters, 1,325 lbs. average, at \$4.80 and \$4.85 per cwt.

Butchers' Cattle.—Choice, smooth butchers' cattle equal to export are worth from \$4.50 to \$4.75 per cwt. Good butchers' cattle are worth \$3.50 to \$3.75 per cwt. Common to inferior cows and rough bulls sold at \$2.25 to \$2.50 per cwt. Mr. Wm. Crealock bought 22 butchers' cattle at \$3.87 1/2 per cwt. Mr. R. I. Collins purchased for Mr. M. Vincent, of Montreal, one carload of butchers' cattle, average 920 lbs., at \$3.40 per cwt.; 15 cattle, average 1,000 to 1,200 lbs., at \$4.25 per cwt.

Bulls.—Heavy export bulls sold at \$3.85 to \$4.25 per cwt. Light export sold at \$3.40 to \$3.60 per cwt.

Stockers.—Feeding stockers, weighing from 800 lbs., sold at from \$3 to \$3.25. Light steers, weighing from 800 lbs. to 900 lbs., were in request, and sold at \$3 to \$3.25 per cwt. Mixed colors, inferior quality, sold at from \$2 to \$2.25 per cwt.

Feeders.—Heavy, well-bred steers, weighing from 1,000 lbs. to 1,150 lbs. each, sold at from \$3.00 to \$3.50 and \$4 per cwt., while those of poor quality, but the same weights, sold at \$3.40 to \$3.60 per cwt.

Sheep.—No demand for export. Prices easier; deliveries 538, at from \$3 to \$3.35 for ewes and \$2.50 to \$2.75 per cwt. for bucks. Mr. W. Levack bought 20 sheep at \$3.35 per cwt. Mr. W. Dunn bought 20 sheep at \$3.20 per cwt.

Lambs.—Grain-fed lambs sold at \$4.50 to \$4.75 per cwt. Mr. Westley Dunn bought 90 lambs at \$4.60 per cwt.

Calves.—Fifteen calves sold at from \$3 to \$8 per head. Mr. Westley Dunn bought 12 calves at an average of \$6.50 per head.

Milk Cows.—About 12 on offer. Good dairy cows and springers wanted, at from \$30 to \$50 per head. Mr. James Armstrong bought six milk cows at from \$44 to \$48 per head.

Hogs.—Best select bacon hogs, 160 lbs. to 200 lbs. live weight, unfed, off cars, sold at \$6.25, light at \$5.75. There is a firm undertone on this market. Messrs. Park-Blackwell took 800 hogs through this market. Light deliveries at this market are due to the cut in prices. The C. P. R. and G. T. R. report over 1,000 consigned direct to Messrs. Park-Blackwell, so that we look for a slight advance next week to obtain supplies.

	Comparative prices to-day.	2 weeks ago.	Same date last year.
	Feb. 12, 1901.	Jan. 25, 1901.	Feb. 12, 1900.
Export cattle.....	\$ 5 00	\$ 4 85	\$ 5 25
Butchers' cattle.....	4 40	4 40	4 50
Bulls.....	4 25	4 25	4 25
Stockers.....	3 25	3 25	3 50
Feeders.....	3 90	3 90	4 15
Sheep.....	3 25	3 50	3 50
Hogs.....	6 25	6 25	4 87 1/2
Lambs, each.....	4 50	4 50	5 00
Milk cows.....	48 00	50 00	50 00

Grain Market.—The improved country roads have had the effect this week of causing increased grain deliveries.

Wheat.—2,300 bushels of white at 68c.; 500 bushels of red at 68c.; 800 bushels of goose at 64c.; 100 bushels of spring at 69c. per bushel.

Oats.—About 500 bushels on offer, at 33c. to 34c. per bushel.

Barley.—Over 1,800 bushels of good barley sold at 45c. to 48c. per bushel.

Hay.—About 25 loads on offer, at \$13 to \$14.50 per ton. Some farmers made long journeys to reach this market, four from Whitby, two from Brillia.

Straw.—Eight loads sold at from \$8 to \$9 per ton.

Baled Hay.—Baled hay in car loads, \$9.50 to \$10 per ton.

Baled Straw.—Baled straw at \$4.75 to \$5 per ton.

Butter.—The market firm for choice. Prices steady, but demand not good. Best dairy in one-pound rolls at from 20c. to 23c. per pound. Creamery in boxes at from 21c. to 22c. per pound, in rolls at from 22c. to 24c. per pound.

Eggs.—In better supply. New-laid eggs sold at 25c. per dozen on the farmers' market, 24c. per dozen for strictly fresh.

Cheese.—Stocks light, by report of dealers, but orders are readily filled at current prices, at 10c. to 11c. for finest make. The London Times, in an excellent review of the cheese trade of last year, says: "Although in 1900 Canada sent us more cheese than in 1899 or 1898, she shipped to our ports rather less than in 1897. And whereas in 1898 we received from the Dominion 61.2 per cent. of our total imports of cheese, the proportion last year receded to 55.8 per cent. Looking back, however, to 1894, we find Canada contributing 50.4 per cent., and the United States 29.7 per cent. of our cheese imports, whilst in 1900 the proportions were 55.8 per cent. and 25.1 per cent. respectively. It thus appears that about 81 per cent. of our imports of cheese come across the Atlantic. Canada has got such a firm footing here, on account of the excellence of her cheese, that she may look for a long time to come to the prospect of supplying at least half of our requirements from abroad under this head."

Dressed Meat.—Beef, fore quarters, per cwt., \$5.50; beef, hind quarters, per cwt., \$7.50; lamb, per lb., 8c.; mutton, per lb., 6c.; hogs, dressed, per cwt., \$8.35. The supply of dressed hogs continues very light. Prices firmer, and a slight advance promised next week.

Hides.—No. 1 green, 7c. per lb.; No. 1 steers, 8c. per lb.; No. 1 cured, 8c. per lb.; calfskins, 9c. per lb.; sheepskins, 90c. each.

MARKET NOTES.

Mr. P. Gillies, well known on this market, died suddenly at Buffalo last Friday, Feb. 1st, 1901.

Mr. Edward Lemon, one of the pioneer cattle exporters of this market, died at his residence on Thursday, Jan. 31st, of pneumonia, in his 68th year.

Horse Market.

The forthcoming sale, on March 12th, 1901, which takes place at Grand's Repository, Adelaide street, Toronto, will be conducted, as usual, by Mr. W. Harland Smith. The catalogue contains a number of very choice stallions and mares consigned by a number of well-known Canadian breeders.

Special mention may be made of the Thoroughbred stallion, Sentinel. We have had the pleasure of thoroughly examining this animal, and it is with great pleasure that we find him sound in every particular. He is about fifteen hands three inches high, a rich seal brown, on good, short legs, with remarkably clean hocks, and good, flat, hand-filling bones, a good, deep, round chest, with full lung capacity, loins and back to carry any weight, very kind and gentle. He is by Hawkeye, out of Fair Rent, by Wisdom, sire of Sir Hugo, the winner of the English Derby at Epsom in the year 1892. He is a sure foal-getter, and many of his progeny have won prizes at the various agricultural shows, one at Buxton Derby, 1898. A yearling took second prize in the Hunter class at Buxton. This is, in my opinion, the type of horse to breed from, as his get will most certainly produce what is at present required, a good salable class of animals for any general purpose, either riding or driving. There will also be submitted a chestnut stallion, Homecrest, and about 50 horses of various descriptions.

The horse market for the past month has been fairly brisk. Mr. Chapman, of Eastbourne, Sussex, England, is at present collecting a second draft of carriage horses, having forwarded his second shipment. General purpose horses, weighing from 1,200 to 1,350 lbs. average, sold at from \$85 to \$135 per head. Well-bred drivers, coach and hackney types, sold at from \$100 to \$145 per head.



Another Home Topic.

A plea for greater simplicity in our mode of living has been aptly called the "Gospel of Wisdom," and the fact that there are now so many voices raised in its favor shows us that we may, with some assurance, prophesy for the new century a return to the reign of common sense in our habits, homes, and social lives, whether amongst city, suburb or country surroundings. Some very pungent remarks, some very sharp criticisms and some very real words of wisdom have been uttered upon this subject. They are all very suggestive too, and attack not only the unnecessary work entailed by this superabundance of furniture and the so-called ornamentation of many homes, but they impugn the taste which inspires it and the positive folly of those who indulge in it. They claim that many women are mere slaves to their furniture, that their lives are "dominated by objects of wood and clothes and silk," of which they make their household gods, and if they do not fall down and worship them it is because they are too busy dusting them to have time for the ceremony.

A clipping from an unknown source has come into our hands, headed "Bad Taste in Furnishing—Ignorance of the Woman of To-day, by a Man and an Artist." Every sentence, from his first to his last, is an indictment, and as he fires shot after shot, one can almost hear his victims groan as they fall. He begins by affirming that "the curse of the modern home is useless bric-a-brac, that a room in which we can freely breathe is so rare that we are instinctively surprised when we see one, and that it is the exception, rather than the rule, when we find a restful room." Furthermore, he claims that to this common error of over-furnishing our homes is directly due the nervous breakdown of so many of our women, and that this rubbish—of a costly nature where plenty exists, and of a cheap and tawdry character in homes of moderate income—is making housekeeping a nerve-racking burden. The man and the artist—for he complains and suffers in both capacities—alludes in no measured terms to "those unspeakable drawing-rooms" which are the outcome of the prevalent folly of setting aside a room for "company," one which is seldom used by the family itself. Who does not know such rooms, and who does not really prefer the privilege of being admitted into that inner circle of familiar intercourse—the "living-room"—of the home we visit? Some of the animadversions are not only true, but inexpressibly funny. Their writer pokes fun at "the puny gilt chairs, upon which no one dares to sit; at the walls, upon which are hung impossible paintings with equally impossible massive gold frames; at the 'elegant' couch upholstered in silk and satin; the gold clock, which never 'goes'; the mantel of solid onyx; the Chippendale cabinet, and the Louis XV. sofa." All of which he sums up as "disfiguring, useless ornamentation."

Our plea, then, is for simplicity, a better understanding of our actual needs and the meaning of the words "comfort" and "rest" in our homes. Simplicity involves utility, for if we only purchase what we want, we shall see that it is good of its kind, and made to last and to serve its purpose for generations to come. Every article bought with a single eye to its purpose will surely be in better taste and of better quality than those purchased for ornamentation only. The woman whose mistaken ambition is to have a more finely-furnished house than her neighbors sacrifices not only her own comfort, but often that of her husband and children too. The boys find, elsewhere, unsuitable playmates for themselves, "because there is no room for us at home," and the girls imbibe altogether mistaken notions, which will influence them when they in their turn become the housekeepers and house mothers of their generation.

The ADVOCATE finds its way into homes of every kind, as well as into so many of the farm homesteads of our broad Dominion, where the problem is but too often how to get enough furniture for necessary comfort, a problem which not seldom finds its solution in the very ingenuity and adaptability to circumstances it develops within the family circle itself. We venture to think that one class of our readers could derive much benefit from the experience of this other class, who, from distance from main thoroughfares, or from other exigencies of their position, have to make a little go a long way, whose question in making a purchase is not how cheap, but how good is it? and to whom the very subject upon which we write must appear not even a mere fad only, but a positive craze about the merits or demerits of which they may have no inclination to trouble their heads. But for the sake of those others whose heads the can may possibly fit, we venture to add to our little group of home topics this plea for greater simplicity in our lives, in the hope that its consideration may not be without some profitable result. There must be a happy medium somewhere. Let us do our best to find it.

H. A. B.

A Word to Our Correspondents.

First of all, let us thank those who have sent to the Home Magazine some of their thoughts in connection with one or more of the home topics, the keynotes for which have been intentionally struck by articles written for our pages. We desire to evoke just such thought, and as far as our limited space permits, we will endeavor to publish them, but we cannot always take the full manuscript as it stands. The editorial scissors must now and then be called into use and the editorial pen do its duty in condensing or adapting the material sent, retaining as far as possible the actual expression of the individual thought of its writer. With this understanding, what our correspondents send us will find a welcome in the Home Magazine of the FARMER'S ADVOCATE.

THE CHILDREN'S CORNER.

An Old Tease.

"The day's work is done,
My dear Biddy," said Pat,
"And why do ye sit
With yer sewin' like that?"

"Yer eyes are too old,
And yer fingers too lame."
But Biddy replied
"I shall sew all the same!"

So Pat got a straw,
For an old tease was he,
And tickled the ear
Of poor Biddy McKee.

Did Biddy get cross?
Why, just look at her face!
Such a smiling old pair
Any cottage would grace.



Though three score and ten,
'Tis their honeymoon still—
May we be as jolly
When sliding down hill!

C. D.

Our Prize Competitions.

I hope you will all try to write, this time, for our subject is a grand one. Three prizes will be given for the best original papers on *How Queen Victoria won the love of her people*. All boys and girls under sixteen may compete. The papers must be short, not containing more than 400 words. Write your name, age and address on the back, and post before April 15th.

Address as usual to Cousin Dorothy, Box 92, Newcastle, Ont.

The prize story in Class III.—sent in by Ruby Carr, Trout River, Que.—is called:

A REALLY GREAT GIFT.

She was a child of the slums, a ragged, unkempt, forlorn little girl of about ten years of age. Someone had given her a penny, and she had hurried away to the penny store, and there purchased a long stick of striped red-and-white candy. She was running along the street, proud and happy in her rare possession, when I saw her.

Suddenly another little girl, equally ragged and forlorn-looking, came limping out of the dark hallway of a dilapidated old rookery of a tenement house. She was very lame, and had evidently suffered much in her short life. Her face had a drawn and prematurely-old look, such as one is always sorry to see in the faces of children.

The two little girls met, and the one with the candy held it aloft, exclaiming: "See what I've got! Just see what I've got!"
"Where'd you git it, Janie?"
"Bought it."
"Where'd you git the money?"
"A man gave it to me for scooting after his hat when the wind blowed it off."
"Gimme some of it, won't you, Janie? Please do."

There was a wistful, eager, hungry look in the drawn little face.

Janie hesitated. Evidently sticks of candy came rarely to her. She looked longingly at the candy and then at the little girl. Suddenly she rushed forward, saying, eagerly, joyously: "You take it all, Maggie; you take it all! You can't scoot after gentlemen's hats and earn pennies, and I can. So you take it all; and if I get a chance to earn another penny, I'll give it to you to buy anything you want to with it."

Generous little heart, in which love of self had not yet found an abiding place! What a lesson it

taught to the grasping and self-centred, who care not for the wants, the weakness or the woes of others.

RUBY CARR (aged 11).

The fourth-prize story will be published next month. I have not yet heard whether all the winners received their prizes.

Frances Pritchard has sent in her name as a member of the Lookout Regiment. She is nineteen years old, and it is a great pleasure to find that others beside the children take an interest in our Corner.

Now, children, don't be afraid to attempt this new competition. It won't hurt you to try, even if you don't win a prize. The competitors may be divided into classes according to age, or the prizes may be given for the three best papers—it all depends on the number and quality of MSS. sent in. The subject is a big one, and if nearly everyone is afraid to attempt it, why you will have all the better chance. My advice is—
Try!
COUSIN DOROTHY.

A Canadian Girl in Dresden.

NO. III.

DEAR NELL,—

This is the last letter from the dear old town, which has become so homelike during the past few months, and now I must gather up the threads and give you a brief account of our later doings.

We have heard so much fine music that, although much of it will pass away from my memory, my heart seems stored full of melody for many a month to come. Of all the masters in orchestral music, to me Beethoven is the master. Surely his being deaf to all ordinary petty sounds and speech of men must have made him only more sensitive to the musical silences of the earth! Do you remember what Carlyle says about "seeing deep enough and you see musically?"

To hear Patti was another treat, though Alice, who has been entranced by Melba and our own Albani, thinks this should "positively be Patti's last appearance." It seems incredible that she is well over fifty years of age, for the voice is still wonderful, and when she sang "Home, Sweet Home," and Wagner's "Traum," the low notes were simply delicious. She was magnificently dressed, and blazed with diamonds; but what should have been an almost venerable grey head was covered with a fuzzy auburn wig. There was a pretty little scene as we were waiting for our carriage. It was snowing hard and there was no covered arcade for the carriages as at the Hof theatre. Suddenly the crowd of cloaked and furred women was parted by two tall flunkies bearing aloft huge silver candelabra. They paused just at the edge of the pavement, and then the pretty Princess Frederic August was handed down the steps by a resplendent officer and passed along between the rows of eager women, smiling and bowing in the sweetest, most gracious manner. The royal family of Saxony is not very interesting to look upon, with the exception of this princess.

Last week we took tea, or, rather, coffee, with our friend Frau Banks. Her mother, a fine old lady, must have found our visit somewhat trying, for she had a weary look as she sat upon the sofa, the seat of honor, trying politely to keep up a conversation, chiefly in ejaculatory Deutsch, with Alice. You would admire that young person's courage in German conversation. What she doesn't know she invents, and the result is enough to make Mark Twain retract what he has said of the difficulties of the German tongue. I entertained the small grandson, Constantine, with an account of our camping in Stony Lake. He seemed vastly and unnecessarily awed, and now I am wondering if my limited power of expression in a foreign language has given him a false impression of our life in Canada. He probably pictures me at home in a dirty wigwam, dressed in buckskin, with ornaments of teeth, selected from the early settlers, and sniping Redskins in my leisure moments.

Of course, we have left ever so much sightseeing for the last few days, and I know we shall leave Dresden without seeing half its places of interest. We spent a long, delightful morning in the Green Vault, and came away fairly dazzled with the blaze of jewels. Room after room crowded with precious curios, invaluable ivories and crown jewels. In some way the Polish crown jewels have come into the possession of the King of Saxony, and the two sets make a show before which even the British insignia in the Tower might pale into comparative insignificance. I could make your feminine soul green with envy if I had time to dilate on the tiaras, necklaces, garters and bracelets, all one mass of diamonds, rubies and sapphires. There were two or three pink diamonds, which the guide told us were very rare.

On Sunday last I saw, as well as the dim light permitted me, a gem of another kind, *i. e.*, the fine altar-piece of the Ascension, by Raphael, in the Royal Church on the Schloss-Platz. The royal family were present on the occasion, occupying the state pew in the gallery.

Well, dear, it won't be very long before I see you. I'm looking forward to the tennis and canoeing, though I shall miss all the excitement and interest of this busy, quaint place.

In the meantime, I remain,

Affectionately yours,

FAN.

Notice.

We would call the attention of our readers to the address of loyal affection to the Crown and Queen Consort which it is proposed to send with the signatures of the women of Canada. This movement has the hearty support of Her Excellency the Countess of Minto. The local papers throughout Canada will be asked to give the full text of the address, and the central point for obtaining the signatures will be arranged. Do not let the women of our farm homesteads be left out.

THE QUIET HOUR.

Asking for Counsel.

"God's own hand is pledged to guide me,
God's own strength my strength shall be;
I have God's own eye to watch me,
God's own ear to hear my prayer,
God's own Word to give me orders,
God's own arm my loads to bear."

When King Hezekiah received a threatening letter from a great and powerful enemy, instead of giving way to despair, he did a very sensible thing. Going straight up to the Temple, he spread the letter before the Lord, asking for counsel and help, and very effectual help was given. First came the message concerning the King of Assyria, "He shall not come into this city, nor shoot an arrow there, nor come before it with shield, nor cast a bank against it." The promised deliverance swiftly followed, for "the angel of the Lord went out, and smote in the camp of the Assyrians an hundred fourscore and five thousand."

Our own much-beloved Queen knew that only God could give the wisdom needed to govern a great nation. She passed the first hours of her reign on her knees, praying for herself and her people. Surely her glorious reign proved the value of her constant practice of asking counsel from God.

When people feel utterly helpless they often turn to God, but that is not the only time to ask counsel. Sometimes we fancy that our own judgment is quite enough for the case, and, because we don't ask for wisdom, we make very serious mistakes. Do you remember how Joshua was deceived by the Gideonites? It looked such a simple, easy matter to decide. Here were ambassadors claiming to have come from a far country. They were clever

actors, and had dressed for the part with crafty skill. Their clothes were old and tattered; their bread was dry and mouldy; their goat-skin bottles old, and rent, and bound up. Who could have suspected that these apparently toil-worn travellers were near neighbors? Joshua and the princes were easily persuaded to make a league with them. Why? Because they "asked not counsel at the mouth of the Lord." If we form a habit of asking for wisdom and tact in small matters, there is not much danger of our neglecting to do so in important questions. It is hardly necessary to say that I would never dare to write the *Quiet Hour* without earnest prayer for guidance and help. Words which will be read by thousands are not to be lightly written. It is no wonder that I should echo the words of Miss Havergal: "O teach me, Lord, that I may teach

The precious things Thou dost impart;
And wing my words that they may reach
The hidden depths of many a heart."

But can we always be sure that anything is of small importance? Is not even an ordinary friendly letter an opportunity of influencing another, an opportunity not to be lightly thrown away? Surely it is worth while to secure God's help when it can be done by a momentary prayer.

"Speak to Him thou, for He hears, and Spirit with Spirit can meet;
Closer is He than breathing, and nearer than hands and feet."

When members of the St. Andrew's Brotherhood are trying to influence a young man, they are advised to make their calls not alone, but with a companion. While one does the talking, the other prays silently. Thus they may be sure of directing their friendly campaign with tact, discretion and common sense, a most difficult quality to gain.

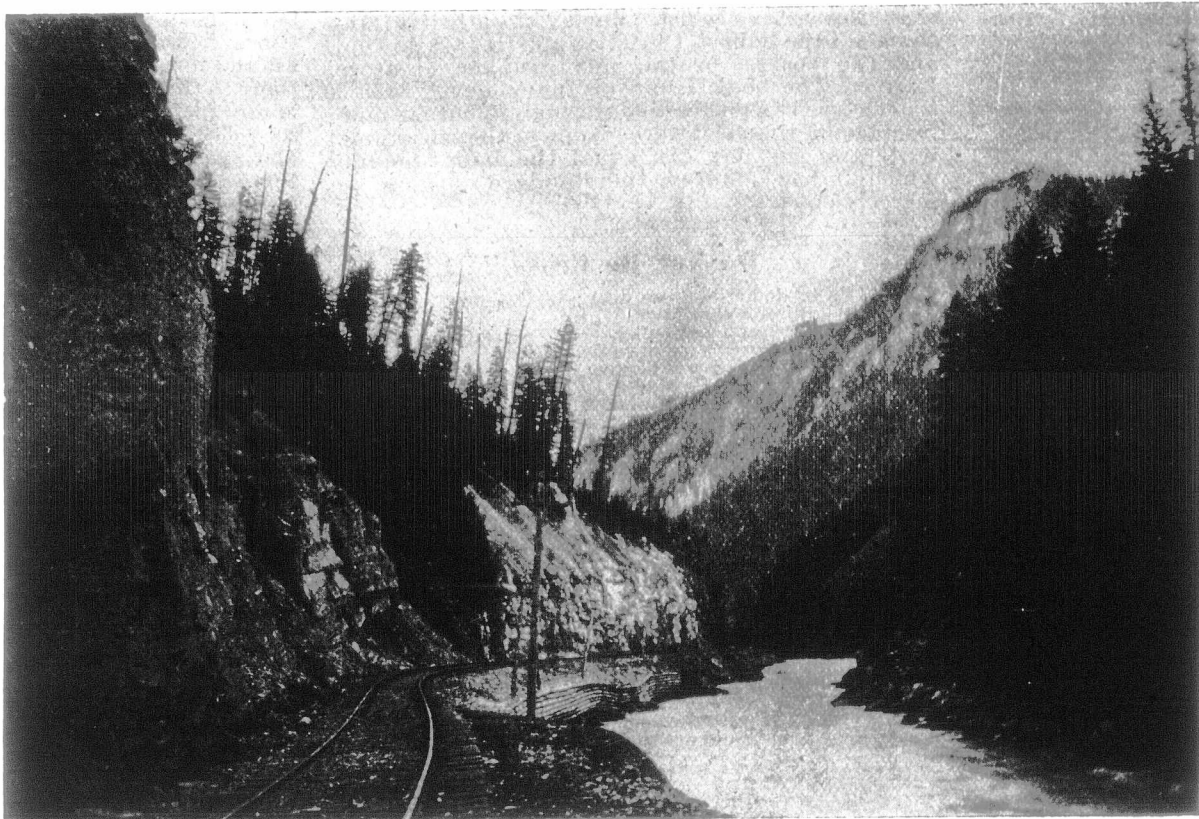
Those who make a habit of looking up to God many times a day, can answer for the truth of the promise: "Before they call I will answer; and while they are yet speaking I will hear." Every morning, when we wake, our eyes should open to the vision of Christ's face. Drummond says: "Five minutes spent in the companionship of Christ every morning—ay, two minutes, if it be face to face and heart to heart—will change your whole day, will make every thought and feeling different, will enable you to do things for His sake that you would not have done for your own sake or for any one's sake." It is not only wisdom and help that we may gain by putting all our affairs in God's hands; it will also free us from worry and anxious care. If we say, honestly, "O Lord, I am oppressed, undertake for me," and then trust Him to make all things work together for our good, confidence and peace will drive anxiety and worry out of the citadel of our soul.

"Hidden in the hollow
Of His blessed hand,
Never foe can follow,
Never traitor stand.
Not a surge of worry,
Not a shade of care,
Not a blast of hurry
Touch the spirit there.
Stayed upon Jehovah,
Hearts are fully blest,
Finding, as He promised,
Perfect peace and rest."

HOPE.

The Kicking Horse Canyon.

Near the "Great Divide," where the dancing waters part into two separate streams—the one to flow into the Pacific, the other into Hudson's Bay—the Canadian Pacific Railway descends with a rapidity only made possible by one of the many engineering triumphs to which we owe the opening up of the whole route. As it passes the beautiful lake, crosses the deep gorge of the Wapta or Kicking Horse River and seems almost to cling to the mountain sides, the traveller, breathless and awe-struck, looks down upon the water, which appears but as a silver thread a thousand feet below. Our picture does not show us the rock formation which, from a certain similitude to a horse with hind legs elevated after the manner of that animal when of a different mind to its rider, suggested the cognomen of Wapta, or Kicking Horse, to the Indian who thus named it; nor does it present to us the river in the wilder mood, but rather is it suggestive of the horse which, though champing its bit and with mouth still foam-covered from the late conflict of wills, has yielded to the inevitable and goes on its course without further useless remonstrance. Speaking of the great glacier field of the Northwest, which has been



THE KICKING HORSE CANYON.

aply called "The New Tourist Mecca," Mr. Duchesnay, Superintendent of the Pacific Division of the Canadian Pacific Railway, has aroused considerable interest in scientific circles and amongst prominent botanists by his recent discoveries. He tells also of the exquisite flora found upon the high level meadow which furnishes pasturage for the innumerable wild goats which make it their home. Mr. Duchesnay claims that the great Illiciliwaet of which so much has been written by leading explorers does not overshadow in magnitude and grandeur the glaciers to the north of Field. Trails have been blazed to "Look-out," and to a point opposite Wapta or Kicking Horse Falls, where the water drops over a ledge of 1,200 feet above the surface of the pool, and the C. P. R. are planning to erect platforms on the rocks for the benefit of the tourists who in increasing numbers are likely to visit this lovely part of our vast Dominion. The whole route is one of frequent surprises, and to every reader of the *Advocate* who can do so, we would say, if you would realize what a heritage is yours as a son or daughter of Canada, take the trip from the Atlantic to the Pacific Ocean by our Canadian Pacific Railway; or, if you cannot do this, read books and collect pictures, which, in some measure, will supply the place of a personal acquaintance with the varied beauties of the scenery. It is astonishing what an amount of travelling can be accomplished, book in hand, in a "rocker" upon one's veranda in summer, or in an easy-chair on a long evening in winter.

H. A. B.

A young fellow, having been asked by a recruiting sergeant if he wished to enlist in a Highland regiment, replied:—"Not likely; I'd rather go to a lunatic asylum." "Aweel," said the sergeant, "I've nae doot ye'd feel mair at hame there."

My Neighbors' Children.

BY MRS. EVERGREEN.

There is such a difference in these children. Mrs. Lang, my right-hand neighbor, has a family of fine, healthful-looking boys and girls; while Mrs. Hilton, who lives on the other side of our farm, has two pale, delicate-looking little ones. The contrast is so marked that I have often wondered at its cause. Both families living on farms, sharing the same advantages with regard to fresh air, good water, abundance of fruit and vegetables, etc., yet what a contrast! With a view of investigating the matter, I decided on paying a friendly visit to each house.

Visiting is not always pleasant at Mrs. Hilton's: she is so full of complaints, and of her own affairs. One has to hear all about Johnny's last illness, and Susy's not being able to go to school; about both children's delicate appetites, which must be pampered by all sorts of rich dainties, for they do not care for "common food"; about the heavy bills for medical attendance, and so on. However, wishing to make Mrs. Hilton a real, old-fashioned visit, I started off early in the afternoon, taking my knitting. It happened to be my neighbor's ironing-day, but as we were women, we could easily keep iron, needles and tongues going all together.

I noticed how deftly the iron smoothed out the pretty frilled aprons for Susy, and the hand-knitted lace on the pillow-cases.

At four o'clock my hostess said it was time to see about tea, and as her bread was a little dry, she would make some light cream biscuits. I begged her not to do so on my account, but the children said, "Oh, please do, mamma, and give us maple syrup with them!" (You see, not being well, the children were not at school.)

Besides these rich biscuits, there were doughnuts, two other kinds of cake, fruit, meat, pickles and pie on the table, and those children ate freely of everything but bread, which they thought was "too dry." I now began to see how to account for the pale faces and doctor's bills.

After tea the cows were milked and the calves fed. These calves were great pets, and deservedly so, for they were beauties, fat and sleek, fed on good, pure milk, and I said to myself (wishing that I had the courage to say it right out), "If those pale, thin children had taken a bowl of that rich milk, with that despised bread, for their tea, they would be stronger and more healthful." As I walked home across the fields, still knitting, I thought to myself, "Dear me! it would be almost better to be a calf than a child, on that farm!"

Not long after, I thought I would go to see how Mrs. Lang was getting on with her fall work. We had exchanged settings of eggs in the spring, and I wished to know how many chicks she had raised. Some way, I always like to go to Mrs. Lang's. She is so cheery and sensible, and her three boys and two girls seem so happy in their home, which is plain but comfortable.

We spent a delightful afternoon, talking of many interesting things. The children came in from school, and went cheerfully about their several duties. The eldest girl got the tea ready while the mother and I took a walk in the garden. When we were called to tea, I was secretly wondering what we were to have, as the mother had said nothing about preparations, but we sat down to a well-appointed feast: good bread and butter, buns, cold ham, apple sauce, and best of all, baked beans. I was greatly impressed with the dainty table-manners of the children, and the evident relish they had for the good, wholesome food. No bolting of rich food in this house, no signs of dyspepsia. Mrs. Lang seemed to have solved the problem of "plain living and high thinking," and her children showed the good effects of it.

An Irishman recently went to the market to sell a live cock, which had unfortunately lost an eye. While exposing the bird for sale, a man offered him two shillings for it. "Be off wid yer," exclaimed Pat; "two shillings for a cock like that." "Well," said the man, "it has only one eye, don't you know?" "Wan eye, did you say?" roared the artful owner. "Can't yer see the cratur is only giving me the wink not to take your offer?"

Scene—Road near Paisley. Minister meets John, who has of late abjured churchgoing. Minister—"Well, John, I haven't seen you at the kirk for some time past, and would like to know the reason?" John—"Weel, ye see, I hae three decided objections tae gae. Firstly, I dinna believe in bein' whaur ane daes a' talkin'; secondly, I dinna believe in sae muckle singin'; and thirdly, in conclusion, 'twas there I got the wife."

Ingle Nook Chats.

"O joy to the people, and joy to the throne,
Come to us, love us and make us your own;
For Saxon or Dane or Norman we be,
Teuton or Celt, or whatever we be,
We are each all Dane in our welcome to thee, Alexandra."

These words, written thirty-eight years ago by our late poet-laureate, are as appropriate now as then, were not the universal gloom which shrouds our beautiful land too deep to yet permit expressions of joy. "Victoria the Good," it is at least a consoling thought to know that her many admirable qualities bid fair to be perpetuated in her who now wears her title; and when Queen Alexandra lays life's burden down, the greatest tribute that can be offered her will be to say that she has faithfully trodden in the footsteps of her illustrious predecessor. I should like to give one or two anecdotes of Her Late Most Gracious Majesty, but space forbids and my guests demand my attention.

OUR COMPETITIONS.

The fortunate contributors in contest V. are: Class I., Miss Laura E. Marshall, Park Head, Ont., and Miss M. Bertha Warren, Almonte, Ont. (Only one prize was offered in this contest, but both essays were worthy of reward.) Class II., Miss Mossie Bunn, Birr, Ont. Class III., James F. McCallum, Brewer's Mills, Ont. (In this class, Shorey J. Neville and Verne Rowell sent very good essays.)

Norman J. McEachern, "Morag," "Evangeline," Miss Alice McClary, Fannie Newman, "Molly," Martha Kelleher, Waldron J. Greene and Mrs. A. Neville deserve honorable mention. Old and young alike are welcome to our Ingle, and I think we shall give the easy-chair to Mrs. Neville, who is the oldest member of our club. The books written upon by others than the prizewinners are: Pilgrim's Progress, The Squire of Sandal-side, Burns' Poems, In the Golden Days, Lover or Friend, Vanity Fair, The Bible (this was not supposed to be compared with others, being, of course, the Book of Books for all), Uncle Tom's Cabin, Fatal Lilies, Silence of Dean Maitland, and Jean Ingelow's Poems. "Morag" asks, "How shall we make our women patriotic?" As example teaches more forcibly than precept, I think that "Morag" is doing her utmost to attain that end. I believe that were we put to a really severe test, our Canadian women would not be found wanting in that admirable quality—patriotism. "Morag's" interesting letters are always sure of a warm greeting. "Molly" did not mention in what class she competed, while some other contributors wrote on both sides of the paper, both of which faults should be guarded against. M. E. I., your work reached me safely.

The conundrums for contest VII. are already coming in, but it is open till March 5th, so there is plenty of time to start yet.

CONTEST VIII.

This is something to interest those who love rhyme. We furnish a set of rhyming ends, and contestants are to fill in the lines and complete the verses, the subject of the poem to be

Queen Victoria.

1st verse—	land foam band home
2nd verse—	hearts sea departs free
3rd verse—	place green grace Queen

Three prizes are offered, one in each class, classes to be divided as before, and contest to close April 5th. It should be a labor of love to endeavor to pay tribute to one of earth's noblest women, and I trust many of you will do so. Perhaps you think you cannot write in rhyme? Never venture, never win. The "rhyme part" is there, only a skeleton; it now wants filling out. Just try your luck. THE HOSTESS.
Ingle Nook Chats, Pakenham, Ont.

PRIZE ESSAYS—COMPETITION NO. 5, CLASS I.

BY MISS LAURA E. MARSHALL, PARK HEAD, ONT.

The Book I Like Best.

What book do I like best? This question causes some thoughtfulness. As I turn over in my mind the pages of the books which I have read, I know at once the book of history that I like best, my favorite novel, and the best modern romance; but when it comes to the one book of all books, it is hard to decide. Then, I say to myself, supposing I were cast upon a desert island and had only one book to read—excepting, of course, the Bible—what book would I wish that to be? And my heart has answered, "David Copperfield." Dickens, with his inimitable style and wonderful knowledge of human nature, has woven under that quaint title the masterpiece to which I offer homage. As to why I like it best, I again say to myself, if I had only one book to read, what characteristics would I wish it to contain? I would want a book which would last—which would stand re-reading—in short (as Mr. Micawber would say), a book in which, no matter how often I read it, I would find something new. And so it is with "David Copperfield." Every time I read it I find something which I had not noticed or perhaps had not understood before.

There is no book in which I so truly live as in David Copperfield. Dickens has painted his characters with such distinct and striking individuality that I follow each career with equal eagerness. How I long to snatch little David from the clutches of ominous Mr. Murdstone, and to warn the gentle Clara from her fate. I watch dear old Peggotty shedding her buttons, and willin' Barkis making his usual trips in the cart. While I watch eagerly for the next appearance of Aunt Trotwood in the story, I rejoice with generous Traddles over each new bit of treasured furniture. I follow up with equal interest the humble Uriah Heep and the imperturbable Mr. Micawber and his loyal wife. I sadly watch the fates of faithful Ham, gentle Little

Em'ly, and Steerforth, so handsome and fascinating, and yet so treacherous. And while I mourn for the death of childlike Dora, I long to tell David that Agnes, with her strong, beautiful nature, loves him. Truly, in this book one can "rejoice with them that do rejoice and weep with them that weep."

Dickens has that peculiar style of writing which keeps "a smile on your face and a tear in your eye." A vein of humor runs through his book, and though it seldom comes right to the surface, yet it makes itself felt throughout. But the extreme pathos of some passages of the book might easily call the tears to the eyes of the sturdy-hearted. This mingling of humor and pathos adds a great charm, but it is only one of many. In fact, Dickens has woven his romance of David Copperfield so that it appeals to all that is good in our natures, and so it holds superiority over all other books—in my mind at least.

PRIZE ESSAY—CLASS III.

BY JAMES F. M'CALLUM, BREWER'S MILLS, ONT.

I think "Uncle Tom's Cabin" the best book in the line of fiction that has ever been written, for the following reasons: It has done more good, from a common standpoint, than any other book that has ever been written. At the time it was written it opened the eyes of the people of the North to the real pitch to which slavery had come. It also gives us a vivid picture of the bright and dark sides of slavery: how the slave regarded his master, and how, as a rule, they were treated. To this book directly can be traced the agitation which, on Lincoln becoming president, ended in the final act abolishing slavery, and the Civil war. The author, Harriet Beecher Stowe, must have had a wonderful knowledge of human character. How much truer could her characters have been to life than the fickle, selfish Marie; the thrifty Miss Ophelia; the honest, Christian-spirited Uncle Tom, and the coarse, brutal, ugly, drunken creature, Legree. The book is no ordinary novel with a tender love-story threaded through it, but far more fascinating than if it were. None of the sensational writers of the day can equal the happy ending which it has; indeed, the standard authors can scarcely equal it.

"Do Not Be Cross."

Oh! do not be cross, dear;
It is not worth while
To fret and look sulky.
Just wear a sweet smile.
Let what ere will happen,
Come trouble or loss,
Just bear with it bravely,
But do not be cross.

Oh! do not be cross, dear,
With those in your home;
You know that they love you,
Whatever may come.
So try to be cheerful,
Try to be true,
But do not be cross, dear,
Whatever you do.

You would not be cross, dear,
With strangers,—ah! no;
You'd smile on them kindly,
As through life you go.
But you fail to distinguish
The gold from the dross,
Or else with the home ones
You would not be cross.

Recipes.

SHORTBREAD.

Ingredients—One pound of flour, $\frac{1}{2}$ lb. of butter, and 4 ozs. of sifted sugar. Mix the flour and sugar together on a board. If the butter is salt, wash it and squeeze it dry in the corner of a clean towel. Put the butter on the board along with the dried ingredients, and work the flour into the butter with the hands, kneading it well. After the flour is all worked into the butter, knead the whole a little, then shape out into a cake. Pinch the edges of the cake. Pick over the top of the shortbread with a fork or skewer, ornament with strips of candied peel or large sweeties. Lay the shortbread on a greased tin, and let it bake in a slow oven for about three-quarters of an hour, till it is pale brown. Allow it to stand for a minute or two after it is taken out of the oven before lifting it off the paper.

MARMALADE.

Take the weight of twelve Seville oranges in loaf sugar. Wash the oranges well, and remove the peel; then take away from it some of the pith. Boil these rinds for two and a half hours in water, which should be changed twice. Mash the pulp up well, and take out all the pips. When the rinds are soaked enough cut them up very finely in shreds. Now put the sugar into a pan, with one pint of water; boil it for ten minutes, skimming it well. Next put into the syrup the pulp, shreds of peel, and the juice and grated rinds of two lemons. Boil all this for about thirty minutes. Put in jars and tie down when cold.

"Get up and rock the baby, Michael; don't ye hear it crying?" "No fears, Bridget, it isn't my place to rock the baby." "Oh, Michael, ye know as well as I that the baby is yours, and the other half mine." "Well, then, get up and rock your own half."

Chores.

Our chores on the farm are our regular out-door duties about the house and barns. "Chore" comes from the old English word "chor," meaning work done by the day, and was also used as a verb as in the expression, "The chor is chored," as the good wife said when she had hanged her husband, from which we naturally infer that the word was not then used in the sense of daily occurrences.

Chores are perhaps not among the events on the farm, but to their importance we can fully testify, more especially if they are left undone, which is true of a great many things in this world besides chores. Perhaps we think we are not accomplishing anything in doing the everyday tasks; perhaps we think our efforts are to no purpose when there seem no immediate results to show for them. But suppose we neglect those duties. Suppose, for instance, that we do not feed the hens, or empty the ashes into the "leach," or bring in the kindling wood at night, are the results as unimportant as we deem the work to be? Well, that depends a good deal on ourselves. Certainly, we shall have to "hunt" for eggs, and there will be no danger of inquisitive chickens falling into the soft-soap barrel in the summer, and the absence of kindling wood in the morning may mean the absence of a sharp breakfast and the presence of some sharp tempers, with similar conflicting absences and presences during the day. It isn't the most conspicuous deeds, or the most conspicuous people, that are of the greatest importance in the world, after all. "Whether you cut your swath on the upland or on the lowland does not matter. It is how you cut it that counts when wages are paid."

The winter season is the time on the farm for doing those odds and ends of chores on which so much of the work of the rest of the year depends. The elements, or, rather, the rudiments, of most professions are evident in the work of the farmer, and if he would only stop and think of this sometimes, he would see how, in reality, his is the broadest and most useful profession of all. For instance, there is the annual wood-pile to "work up." That is one place where the ministerial element comes in. There is good wood, and there is bad, just as there are good and bad people, but there is some good, even in the worst, and a use for it too. So both wood-cutter and minister alike need not only a discriminating eye, but also a full measure of that charity which "is not easily provoked and thinketh no evil." Then, there is the mending and repairing of things in general. That is the doctor's part (and the dentist's, too, of course, for even farm implements have teeth), and, in this respect, the farmer has the advantage over the professional, in that he has the pleasure of curing without giving pain, unless he happens to strike his own thumb with the hammer. The druggist is there, too, in the spirit, as is shown by the various bottles and boxes in the stables, which about once a year are assembled together in true apothecary style, minus, only occasionally, such immaterial details as labels, corks, etc. The sorrows and trials of the teacher are also experienced, as the boy can tell you who breaks in the three-year-old or tries to drive the pigs into their new pen. And the musician, and the artist, and the author? Well, there's always music in the farmyard, and there's always beauty of form and color, and there are always "chores."

But what of the lawyer? Oh, that's the story-telling part. That part comes when the chores are all done, and the lamps are lit, and we sit about the ingle nook and "hae a crack," and tell true stories. It is these chores, these common things, that make up our lives for the most part, and how much more complete those lives would be if we would only bear this in mind and try to live up to it!

"A word that gives us courage new,
A smile that beams as fair as true,
A voice that hope and sunshine brings,
How good, how true life's common things."

"CHRYSOLITE."

The Growth of Human Sympathy.

One of the most remarkable features of the nineteenth century has been that growing sensibility in men's minds to human suffering, and the consequent putting forth of many noble efforts to combat and alleviate it. Instances of this kind are so familiar to all of us that we seldom perhaps estimate them at their due worth.

The Royal Infirmarys and hospitals of our large towns, all maintained by voluntary contributions, are noble examples of the growth of human tenderness and sympathy. Of the lifeboat service the same holds true.

Then there has been an almost phenomenal growth of houses of refuge, homes for the destitute, ragged schools, children's shelters. The sick, the poverty-stricken, and the fallen have all had held out to them the helping hand, and the "cry of the children" long neglected has reached the hearts of the people.

Doctors and scientists have spent their days and nights striving to discover means of alleviating pain and suffering. The nineteenth century has given to the world no greater boon than the discovery of chloroform, by Sir James Simpson. Of equal importance to suffering humanity was the introduction, some thirty-five years ago, into the Glasgow hospital of the antiseptic method by Lord Lister. This, as has been said, "put the crowning stone on the edifice of surgical discovery."

**Auction Sale of Shropshire Sheep
MARCH 7TH.**

The undersigned will offer by public auction, on Thursday, March 7th, at MAPLEHURST FARM, BURFORD, ONT., 100 head of choice Shropshire sheep, comprising 55 shearlings and 10 aged ewes, a splendid lot, mostly bred to imported Mansell ram; 7 extra good shearling rams, and 28 ram and ewe lambs, of superior quality, bred from the choicest imp. stock on both sides.
No reserve, as proprietor is giving up farming.
Sale of stock commences at 1 o'clock, sharp. Conveyances will meet all trains at Burford, G. T. R.

H. HANMER.

IMPORTANT AUCTION SALE

30 Registered and 20 Grade Shorthorns

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DISPERSION BY AUCTION

OF A HIGH-CLASS HERD OF

30 Registered Jersey Cattle

AT "SPRING VALLEY FARM," BERLIN, ONT.,

FRIDAY, MARCH 15th, 1901,

BEING THE ENTIRE HERD OF MR. R. REID.

THOS. INGRAM, GUELPH, AUCTIONEERS. R. REID, PROP., BERLIN, ONT.
J. W. DAVEY, BERLIN, AUCTIONEERS.
The farm one mile from the center of the town. Catalogues will be mailed on application.

GOSSIP.

ROBERT GRAHAM'S IMPORTED CLYDESDALE STALLIONS.

Mr. Robert Graham, formerly of Claremont, who is now stationed at Ringwood, Ont., some 28 miles north of Toronto, and whose R. R. station and telegraph office is Stouffville, has had a lifelong experience in importing, breeding and developing Clydesdales, and from the recognition he has received from time to time in Canada and the United States, both in and out of the showing, in the capacity of exhibitor and judge, confirms the belief that he is eminently fitted to conduct the heavy-horse business in its various branches. Many of the highest honors have been laid at his feet, from time to time, as an exhibitor in the palmiest of Clydesdale days, when competition was the keenest, and such committees as those of the great Madison Square Horse Show in New York and the World's Fair at Chicago did him the honor of selecting him to place the ribbons at their respective exhibitions, an honor which falls to the lot of few. It is an undoubted recognition of his ability as a judge. When we called on Mr. Graham, early in the present month, we were shown as selected for importation as has been our good fortune to inspect for many a day. The lot consists of two 2-year-olds, a 3-year-old, and a couple of matured stallions, and as space will only admit of a brief mention of each, we will take up the bay horse *Prince of Currah* (8916), by the noted Highland Society winner, *Prince Lawrence*, out of *Rose of Currah* (7081) by *Highland Chief* (382), and in him his owner has a well-developed sire, full of Clydesdale character, of good size and proportions, having an excellent back and quarters, and standing well on the best of feet and legs, possessing an abundance of bone and hair of the right kind, and with the recommendation of doing satisfactory service in one of the good sections in his native land.

In *County Member* (10051), by *McGregor* (1487) (famous as a sire of showing winners), and out of *Jess of South Park* (3355), by *Strathclyde* (1538), Mr. Graham has another horse in his prime and of great value at a time when good sires are in demand. He is a horse worthy of the choice of the best sections in Canada or elsewhere, having all the style and substance peculiar to the race to which he belongs, being evenly-developed, with plenty of bone and hair, and the kind of feet without which no good horse is complete. He is a bold, fearless mover, and places each foot where he intends it should go.

In *Harmony Boy* (10772), by *Prince of Currah* (8151), and out of *Melody* (12837), by *Prince of Galloway* (8919), we saw a well-finished young horse, possessing much individual merit, backed up by the showyard fame of his grand-sire, *Prince of Wales*, and his progeny, he being acknowledged one of the greatest sires of showing winners. Here we found bone, hair and feet in keeping with the high standing of the importation, having his underpinnings properly placed and of great value when moving.

In the two 2-year-olds we saw a pair of promising young sires, selected with a view of combining substance and quality, backed up by such pedigrees as can only be compiled in the heart of the best-known breeding sections, *Balmanno* (10676), by *Maines of Airies* (10379), and out of *Jean 6th* by *British Lion*, a son of the noted *Lord Lyon* 489, and traces to *Loudoun Tam*. He is a big colt, with a lot of finish and good development, having the moving qualities of one of the lighter breeds, yet full of true Clyde character and type, and furnished with feet fit to withstand any demands that may be imposed upon them; while his mate, *Sir Redvers* (10628), by *Knight of Cowal* (10674), and out of *Garnet* (8675), tracing to *Fergus Champion* through his 4th dam without inbreeding, is a colt from which we should look to hear further. His legs are well placed and furnished with excellent feet, having that bold, frictionless way of going so desirable in a show horse.

The Forcing of Greenhouse Plants.

The profits of a Greenhouse depend largely upon forcing rapid growth and early maturity of everything in it. This is best done by the judicious use of

Nitrate of Soda

in combination with other agricultural chemicals. Study its properties; understand its uses. Full information and pamphlets free by addressing **John A. Myers**, 12-R John St., New York. Nitrate for sale by fertilizer dealers everywhere.

Write at once for List of Dealers.

WANTED—Domestic help in minister's family in London. Good wages and comfortable home. Apply: DOMESTIC, FARMER'S ADVOCATE, LONDON, ONT.

WORMS IN HORSES SEND me \$1 and I will send you a simple remedy. Have never known it to fail. G. F. Clarke, 24 Avenue Place, Toronto

In the entire lot there is that uniformity which can only be collected by competent judgment, and, although they are in the pink of condition, there is also no appearance of surplus flesh, their legs being as free from grossness as a Thoroughbred. One other horse that was included in the importation, the 2-year-old *Kirkineer*, Vol. 23, by *Pretruchio* (9967), and out of *Lady Wallace*, Vol. 23, and said by his late owner to be a colt of great promise, was lately sold to Mr. J. M. Boyd, M. P. P., Owen Sound, being the fifth horse purchased from the firm by Mr. Boyd. As Mr. Graham is favorably located in one of the best stock sections in Ontario, we cannot predict for him anything but that success will attend his enterprise and with his constant personal application to the demands of the horse business, success with the kind of stock now on hand is assured. Mr. Graham also informed the writer that further importation would be made as the times demanded.

AN IMPORTANT SHORTHORN TRANSFER.

H. Smith, Hay, Ont., writes:—"The young Shorthorn bulls I advertise in this issue of the *ADVOCATE* are a really extra good lot, and include three sons of the famous old sire, *Abbotsford* =19446=, while in cows and heifers, the herd has been strengthened by the addition of the entire importation of Scotch Shorthorns made by R. & S. Nicholson last fall from Aberdeenshire. These include choice representatives of the following families: Bruce Augustas, Cruickshank Butterflies, Lancasters, Diamonds, Sunflowers and Miss Ramsdens. With the addition of these cattle, there are something over 60 Shorthorns in the Springhurst herd to make selections from."

A JERSEY DISPERSION SALE.

Mr. R. Reid, Berlin, Ont., advertises a dispersion auction sale on March 15th, of his entire herd of high-class registered Jersey cattle, at his farm, 1 mile from center of the town of Berlin. Mr. Reid has been a careful breeder, and is regarded as an excellent judge of Jersey cattle, having acted as judge of the class at Toronto last year. His cattle are known to be of excellent breeding and high-class capacity for dairy work, and as this is the only Jersey sale in sight, the offering should attract a large attendance of dairy farmers and other parties requiring high-class family cows. Send for the catalogue.

**Important Dispersion Auction Sale of
BATES AND SCOTCH
SHORTHORNS**

Noted for their prizewinning in both Dairy and Beef competitions.

BEING THE ENTIRE PLASTER HILL HERD, THE PROPERTY OF

MR. F. MARTINDALE

ON

Friday, March 1, 1901.

AT 1 O'CLOCK P. M.

45 head, consisting of 39 females and 6 bulls.

CATALOGUES ON APPLICATION.

TERMS.—8 months' credit on approved notes, or 5 per cent. per annum discount for cash.

THOS. INGRAM, AUCTIONEER, GUELPH. F. MARTINDALE, AUCTIONEER, YORK, ONT.
Trains will be met at York station at 9 and 11 o'clock a. m. on day of sale.

**36 Shorthorns by Auction
ON MARCH 5TH, AT 1 P. M.**

11 cows, 6 two-year-old heifers, 7 yearlings, and 3 bulls, two of which are fit for service. The cows and heifers are all bred to MASTER MASON =29939=, bred by J. & W. Russell, who won the leading prizes at the Centennial Exhibition, Philadelphia, and World's Fair, Chicago. Also, a draft from the herd of Mr. Wm. Newton, of Limehouse, of 2 cows with calves at foot, 2 two-year-olds, and 3 bulls, two fit for service. Farm, ½ mile from Georgetown, G. T. R. Conveyances will meet all trains.
Catalogues upon application.

R. C. McCULLOUGH, JOHN SMITH, M. P. P., BRAMPTON, AUCTIONEER. GEORGETOWN, ONT.

GREAT SHORTHORN SALE

R. & S. NICHOLSON, OF SYLVAN, AND W. H. TAYLOR, OF PARKHILL,

WILL SELL BY AUCTION, AT "SYLVAN LODGE," ON **Wednesday, March 20, 1901,**

40 Head of Shorthorns 27 FEMALES 13 BULLS.

The most of them have from 4 to 6 crosses from bulls that have won 1st at the Toronto Industrial Exhibition. We are satisfied that no better lot of home-bred cattle have been offered for a number of years. All young, and nothing doubtful in the lot. Terms: 12 months' credit on approved paper. LOCATION: 5 MILES SOUTH-WEST OF PARKHILL STATION ON THE G. T. R. Teams will meet train on evening before and morning of sale. Catalogue sent on application.

CAPT. T. E. ROBSON, AUCTIONEER, ILDERTON. R. & S. NICHOLSON, SYLVAN P. O., ONT.

**LATELY IMPORTED A FRESH LOT OF
CLYDESDALE STALLIONS.**

Comprising sons and grandsons of many of the most noted Scotch showyard winners and sires, all in the pink of condition without surplus flesh, and personally selected to meet the best Canadian markets, having, without exception, the best of bone, hair, feet, and action, coupled with true Clyde character.

I will make further importations as the times demand. Inspection invited. Prices consistent with quality.

ROBERT GRAHAM, Stouffville Station, G. T. R., and telegraph office. RINGWOOD P. O., ONT.

Simmers' Seeds Grow

— and are the best that grow. Planting time is not far off. Planning time is here. Decide now what you want to plant when the frost leaves. Send at once for

SIMMERS' ILLUSTRATED AND DESCRIPTIVE CATALOGUE FOR 1901.

It's more than a seed catalogue—it's an illustrated book of information, helpful to every one who plants for pleasure, essential to every one who plants for profit. Sent Free.

Address J. A. SIMMERS, Toronto, Ont.

GOSSIP.

MR. F. MARTINDALE'S DISPERSION SHORT-HORN SALE.

The dispersion sale of the entire Shorthorn herd of Mr. Fred Martindale (35 head), advertised to take place on March 1st, at his farm at York, Ont., a station on the Buffalo and Goderich branch of the G. T. R., about 20 miles from Hamilton and the same distance from Brantford, affords one of the best opportunities for securing good, useful and well-bred cattle at the purchaser's own price that has offered for some time or is likely to offer soon.

Perhaps the family that has won the greatest distinction for Mr. Martindale's herd is the Waterloo Daisy tribe, identified with the famous cow of that name which figured so prominently in the World's Fair dairy test, standing third in the record in her class, and whose daughters and granddaughters in this herd have maintained the reputation of the family in the provincial dairy tests in recent years.

The bulls in the sale are half a dozen strong, smooth, well-fleshed animals of excellent breeding, and of serviceable age. The Grange Ideal is of the good old Margaret family, tracing to the imported cow of that name, which sold at auction as long ago as 1856 for \$750, and is a son of Prince Arthur, of the Isabella family, which produced the champion bull, Moneyfuffel Lad.

Clydesdale Breeders Meet.

The annual meeting of the Canadian Clydesdale Association was held in Toronto, Feb. 7th. The attendance was much larger than usual, and much enthusiasm prevailed. The President, Peter Christie, Manchester, Ont., conducted the deliberations. The Secretary-Treasurer reported 336 registrations during the past year, being 51 more than in 1898 and 84 more than in 1899.

Officers were elected as follows: President, Peter Christie, Manchester; First Vice-President, John Davidson, Ashburn. Provincial Vice-Presidents Douglas Sorby, Guelph; Robert Ness, Howick, Que.; J. E. Smith, Brandon, Man.; John A. Turner, Calgary, Alberta; J. A. McFarlane, Saskatchewan. Secretary-Treasurer, Henry Wade.

Recommended Judges—Alex. Galbraith, Janesville, Wis.; Jno. Davidson; R. Miller; A. B. McLaren, Aurora, Ill.; Jas. Henderson, Belton, and Geo. Moore, Waterloo.

Delegates—Toronto Industrial, H. Wade, Toronto; John Davidson, Ashburn, Western Fair, A. Innes, Clinton; J. Henderson, Belton, Ottawa Fair, Peter Christie and D. McCrae, Guelph, Sherbrooke Fair, R. Ness and Geo. Stewart, Howick, Que. Delegates to Horse Breeders' Association—Wm. Hendrie, Jr., Hamilton, and D. B. Simpson, Bowmanville. The Executive Committee met after the regular meeting, and decided to donate a \$25 cup to the best Clydesdale stallion shown at each of the following shows: Calgary, Alta.; Brandon and Winnipeg, Man.; St. John, N. B.; Halifax, N. S., and Charlottetown, P. E. I. No stallion will be allowed to win two cups. Five hundred dollars was also appropriated to be given in \$50 prizes as bonuses to assist agricultural societies to engage first-class registered stallions, guaranteeing them a certain number of mares.

Shire Horse Breeders' Annual Meeting.

The meeting of the Shire Horse Association was held in Toronto, Feb. 6th; President H. N. Crossley, of Rosseau, in the chair. The annual report showed that the Association held its own very well. An endeavor will be made to increase the interest in Shire horses by circulating literature.

Officers were elected as follows: President, J. M. Gardhouse, Highfield; Second Vice-President, J. B. Hazare, Woodstock; Secretary-Treasurer, Henry Wade, Director—John Gardhouse, H. N. Crossley, Wm. Hendrie, Jr., Wm. Wilkie, Jas. Dalgety, Mr. Bowden, and Thos. Skinner, Mitchell. Delegates: To Industrial Exhibition Board, H. N. Crossley, John Gardhouse (provisional); to Western Fair, H. Wade and Jas. Dalgety; to Ottawa Exhibition, H. Wade; to Horse Breeders' Association, Messrs. H. N. Crossley and W. E. Wellington.

The Association will issue a studbook and ask the Industrial Exhibition Board for an increase in the prize list.

Canadian Horse Breeders' Association.

The President, Dr. Andrew Smith, presided over the annual meeting of the Canadian Horse Breeders' Association, Feb. 8. The Secy., Henry Wade, reported a cash balance of \$2,965.71. The following directors were elected for the above mentioned Association: Hackneys—John Macdonald and Robert Bell, Clydesdales—William Hendrie, Jr., and D. B. Simpson, Shires—W. E. Wellington and H. N. Crossley, Thoroughbreds—Dr. Andrew Smith and S. B. Fuller, Trotting and pacing—C. W. Cox and J. M. Gardhouse. Saddle and Carriage—Geo. Pepper and W. H. Smith, President. Dr. Andrew Smith; First Vice-President, H. N. Crossley; Second Vice-President, R. Beith; Secretary-Treasurer, Henry Wade. Delegates to Fair Boards: Toronto, William Hendrie, Jr.; Western, R. McEwen and O. Sorby. Robert Miller considered it an opportune time for this Association to assist societies to secure the services of high-class stallions. A lively discussion followed, and the following resolution carried: That this Association, desiring to advance the best interests of horse-breeding throughout the country, hereby authorize the directors to offer premiums to encourage the placing of the very best stallions in districts where horse-breeders guarantee a sufficient sum for his services in Ontario, the details to be determined by the directors, and the sum not to exceed \$500. Resolved, That a committee be appointed to interview the Dominion Government, with a view to obtain a grant for the Canadian Horse Show.

W. H. Beattie, Wilton Grove, Ont., writes us in reference to his White Holland and Bronze turkeys, advertised in our columns, at the Madison Square Garden Poultry Show, New York, last month: "My entry of four turkeys won two firsts, one second, one third. Have a fine lot of birds to sell yet."

The annual meeting of the Dominion Short-horn Breeders' Association will be held in the City Hall, Guelph, on Feb. 28th, at 11 a. m. The Executive desires to impress upon members the urgent necessity of as large an attendance as possible, as matters of vital importance will be acted upon.

An auction sale of 30 registered Shorthorn cattle and 20 grade Shorthorn cattle is advertised for March 2nd in this issue. The property of Mr. Paul S. Kennedy at Ayr, Ont., a station on the main line of the G. T. R., 3 1/2 miles west of Toronto, 6 miles west of Georgetown, and 13 miles east of Guelph. See the advertisement for catalogue.

Hackney Association.

The Canadian Hackney Association held their 9th annual meeting in Toronto, Feb. 6th, 1901. President Robt. Miller, Stouffville, conducted the meeting. Secretary-Treasurer Henry Wade reported 32 registrations during the year, which brings the total number up to 290. The Association has a cash balance of \$208.84.

The following officers were elected: President, Robert Miller, Stouffville; First Vice-President, Thomas Graham, Claremont; Second Vice-President, John Holderness, Toronto. Vice-Presidents for the Provinces—Robert Davis, Toronto; J. A. Cochrane, Quebec; A. M. Rawlinson, Calgary; J. McMillan, Brandon; J. R. Frink, St. John, N. B. Directors—Dr. Andrew Smith, Toronto; I. Bond, Toronto; Robt. Beith, Bowmanville; J. K. Macdonald, Toronto; George Pepper, Toronto; D. B. Simpson, Bowmanville; E. C. H. Tisdale, Beaverton; William Graham, Claremont; H. N. Crossley, Rosseau. Delegates: To Industrial Exhibition, Robert Beith and George Pepper; Western Fair, Adam Beck, and E. C. Attrill, Goderich; Ottawa Exhibition, R. Beith; Montreal, James Cochrane, Hillhurst; Woodbridge, John Holderness, R. Bond and J. K. Macdonald; Horse Breeders' Association, J. K. Macdonald, R. Beith. Secretary-Treasurer, Henry Wade.

Recommended Judges—A. Mair, Indian Neck, Long Island; R. Gibson, Delaware, Ont.; Hon. Hy. Fairfax, Aldie, Va.; H. K. Bloodgood, New York; Ed. Wain, Chestnut Hill, Pa.; Jas. Warbeck, South Newbury, Vt.

Grants of \$50 were made to the Canadian Horse Show and Toronto Industrial, to be allotted as the directors see fit. It was decided to memorialize the Toronto Industrial, asking them to give more liberal prizes in the Hackney classes.

As a result of an invitation from the American Hackney Association, asking the Canadian breeders to cooperate with them, Messrs. Robt. Beith, Robt. Miller, and Geo. Pepper were appointed a committee to confer with the American Society as to joining with them in registering horses. The opinion was expressed by some that the amalgamation of the stud-books would mean the extinction of the Canadian Society, while others held a more moderate view, and believed that such a movement would assist the two rather weak associations onto a more successful plane, and thus promote the interests of the Hackney breed of horses in America.

Saddle and Carriage Horse Breeders' Society.

The second annual meeting of the Saddle and Carriage Horse Breeders' Society was held in Toronto, February 6th, 1901, with a good attendance of members. President S. B. Fuller, Woodstock, occupied the chair. President Fuller, in his address, spoke of the year 1900 as having been the best for the horse business in years. He said we need more English and Irish mares and stallions, as we used to have. Canadian horses have proved their superiority in South Africa. The Government, in Mr. Fuller's opinion, should assist this industry. Service stallions should be licensed. Over 100,000 horses and mules have been purchased by Great Britain in the United States for South Africa. Mr. Fuller contended that some course should be taken to secure at least a portion of this trade.

Mr. Geo. Pepper moved that a prize of \$60 be given to the Spring Horse Show for the champion harness horse, mare or gelding, and stated that Mr. Walter Harland Smith would give half the prize, and that he would give the other half. Mr. Pepper also moved that the society should give \$50 to the Toronto Industrial Exhibition for the champion saddle horse, mare or gelding. In either case these prizes are open only to first-prize winners at other previous recognized horse shows. This was carried, as also were the following resolutions: "That this meeting has heard with satisfaction that it is the intention of the Government to introduce a bill to be known as the Stallion Lien Act."

"That this society memorialize the Toronto Industrial Exhibition Association, and ask them to reconstruct their prize list in as far as it affects the saddle horse, carriage horse and hunters, and that they increase their prizes in proportion to the amount given at other first-class exhibitions and by other associations."

"That the Hon. John Dryden, Minister of Agriculture for Ontario, be asked to introduce legislation at this session for the purpose of providing for the licensing and inspection of stallions."

The election of officers resulted as follows: President, S. B. Fuller, Woodstock (re-elected); First Vice-President, W. Harland Smith; Second Vice-President, Ald. O. B. Sheppard; Secretary-Treasurer, H. Wade; Corresponding Secretary, H. J. P. Good.

Directors—W. C. Brown, Meadowvale; T. H. McCartney, Thamesford; Dr. J. T. Gallanough, Thornhill; D. T. Lowe, Brampton; Wm. Graham, Claremont; Dr. Andrew Smith, E. W. Cox, George Pepper, Wm. Hendrie, Jr. (Hamilton), Thos. A. Crowe.

Mr. J. Henderson, representing the Pan-American Exposition, pointed out that no duty will be charged horses coming from Canada, as the Pan-American will be practically a bonded warehouse. He urged this Association to have their members exhibit. It was pointed out that the Canadian Government will bear the transportation charges of horses going from Canada to that Show.

The Dominion Government has appointed Mr. William Hutchison, ex-M. P., Ottawa, as the Canadian Commissioner to the Pan-American Exposition. Mr. Hutchison is President of the Central Canada Fair Association, and has made a special study of fair management and the possibilities connected therewith.

LIVE STOCK ASSOCIATION MEETINGS.

The annual meeting of the Dominion Swine Breeders' Association will be held in the Palmer House, Toronto, on February 21st, at 1:30 p. m.; the meeting of the Dominion Sheep Breeders' Association, in the Palmer House, at 9 a. m., on the 22nd. The annual meeting of the Dominion Cattle Breeders' Association will be held in the City Hall, Guelph, on March 1st.

BLEEDING PILES

And All Other Forms of this Common and Annoying Disease, Cured by the Pyramid Pile Cure.

Thousands of men and women suffer from some form of piles without either knowing the exact nature of the trouble, or knowing it, carelessly allow it to run without using the simple means of a radical cure.

The failure of salves and ointments to cure piles has led many sufferers to believe the only permanent cure to be a surgical operation, but surgical operations are dangerous to life, and, moreover, very expensive, and by no means always, or even often, successful.

The safest and surest way to cure any case of piles, whether itching, protruding or bleeding, is to use the Pyramid Pile Cure, composed of healing vegetable oils, and absolutely free from mineral poisons and opiates.

Mr. Wm. Handsehn, of Pittsburg, Pa., after suffering severely from bleeding piles, writes as follows: "I take pleasure in writing these few lines to let you know that I did not sleep for three months, except for a short time each night, because of a bad case of bleeding piles. I was down in bed and doctors did me no good."

"A good brother told me of the Pyramid Pile Cure, and I bought from my druggist three fifty-cent boxes. They completely cured me, and I will soon be able to go to my work again."

The Pyramid Pile Cure is not only the safest and surest pile remedy, but it is by far the wisest known and most popular, because so many thousands have tried it and found it exactly as represented.

Every physician and druggist in the country knows the Pyramid Pile Cure and what it will do.

Send to Pyramid Drug Co., Marshall, Mich., for little book on Cause and Cure of Piles, mailed free to any address, or, better yet, get a fifty-cent box of the remedy itself at the nearest drug store and try it tonight.—Advt.

320-ACRE FARM FOR SALE.

South half Sec. 6, T. 16, R. 29, W.

200 acres thoroughly fenced and subdivided with three wires; 150 acres under cultivation; 56 acres summer-fallowed the past season, and 15 acres of fall plowing, ready for wheat in the spring. The farm has been worked on the 3-year rotation system, summer-fallowing one third every year, and in first class state of cultivation, yielding from 40 to 45 bushels wheat per acre. There is quite a large portion in virgin prairie, with bluff of good young poplar on it. Frame house, lathed and plastered twice, making two dead-air spaces, and well-finished in every respect. Main part, 20 x 30 ft., containing dining-room, kitchen, pantry, and hall, downstairs; 4 bedrooms and linen cupboard upstairs; and a lean-to on north side, 10x30 ft. There is a good stone cellar, with brick partition, under house. House cost \$1,200, not counting labor of drawing sand, stone, etc., and finishing. Stable, 26x40 ft., concrete; hayloft above, and frame implement shed, 15x40 ft., on north side. Henhouse, frame; pigpen, frame; Page-fence yard, Granary, 22x31 ft., with sled roof buildings; one frame stable, 22x15 ft., with sod roof. There is also a never-failing well. Seed and feed can be bought by purchaser at market prices. Situation: 17 miles from Moonson; 3 ml s from church and school. The N. W. C. R. R., whose present terminus is 25 miles east, is expected, during the coming summer, to run within 3 miles of the farm.

This is undoubtedly one of the best opportunities of obtaining a grand homestead at a moderate price.

For further particulars apply to

C. R. Collyer, or G. P. Collyer, Welwyn, Assa., or LONDON, ONT. N.-W.T.

SEED GRAIN.

Mandescheuri barley, 55c. per bush.; Siberian oats, 40c. per bush.; Daubeny oats, 40c. per bush.; Grass peas, 75c., any quantity. These prices for oats and barley in lots of ten bush, or over; five bush lots, 5c. extra; 1 bush., 10c. extra; bags, 15c.; sacks, 7c. For a full report of these reliable varieties of seed grain, look to report of Ontario Experimental Union. Cash to accompany order.

Jas. Bowman, Elm Park, Guelph.

EVERGREENS Hardy shrubs, Nursery grown for winter breaks, ornament and hedges. Prepaid \$1 in \$10 per 100-200 great Barzants to select from. Write at once for free Catalogue and bargain sheet. Local Agents wanted. D. Hill, Specialist, Dundee, Ill.

If You Want Choice Re-cleaned

CLOVER AND TIMOTHY SEED

WRITE FOR SAMPLES TO

George Keith, Seed Merchant,

Established 1866. TORONTO.

Catalogue of Garden, Field and Flower Seeds sent on application.

SKUNK. I pay highest prices for all kinds of Raw Furs and Ginseng Roots. Write for price list. There is no duty on Raw Furs and Ginseng. J. I. GLEED EAST AURORA, N. Y.

Annual Meeting Canadian Holstein-Friesian Breeders' Association.

The Canadian Holstein-Friesian Cattle Breeders' Association held their annual meeting in Toronto, on Feb. 5th, 1901. Pres. T. W. Charlton (St. George) presided until the new President was elected. Secretary G. W. Clemons recorded the minutes and reported his work for the year. The President in his address referred to the Dominion charter of incorporation, which was just received. He condemned the tuberculin test imposed on pure-bred cattle going from Canada to the United States as unjust and useless to accomplish any good.

The report of the Secretary-Treasurer showed the neat cash balance on hand of \$816.14. During the past year, 677 cattle have been registered, as against 587 for the year previous, and 279 transfers, as against 157 for the year previous. Thirty-one new members have joined during the year.

Election of officers:
President, C. J. Gilroy, Glen Buell.
First Vice-Pres., A. Gifford, Meaford.
Second Vice-Pres., Jas. Rettie, Norwich.
Third Vice-Pres., S. R. Beck, South Cayuga.
Fourth Vice-Pres., R. S. Stevenson, Ancaster.

Directors—T. B. Carlaw, Warkworth; A. C. Hallman, New Dundee; Matt. Richardson, Caledonia, and Wm. Armstrong, Locust Hill.

Secretary, G. W. Clemons, St. George.

Auditors—Wm. Suhring, Sebringville, and J. H. Patten, Paris.

Recommended Judges—Toronto Exhibition, R. S. Stevenson or H. Bollert; London, A. C. Hallman or T. W. Charlton; Ottawa, H. Bollert or W. Shunk; Brantford, T. W. Charlton.

Delegates to Fair Boards—Toronto Industrial, Wm. Shunk, Sherwood, and W. E. Ellis, Toronto; London, G. W. Clemons, St. George, and H. Bollert, Cassel; Brandon and Winn'peg, Jas. Glennie, Longburn; Ottawa, C. J. Gilroy and Jas. Fletcher, Oxford Mills; Kingston, R. Honey, Warkworth; Brantford, T. W. Charlton; Halifax and St. John's, S. A. Logan, Amherst, N. S.

Resolutions Adopted.—That the President and Secretary be delegates to the Dominion Cattle Breeders' Association.

That a member of a Dairy Cattle Breeders' Association be appointed on the Executive Committee of the Dominion Cattle Breeders' Association as President or Vice-President.

That all animals be registered in the name of the first owner.

That \$100 be appropriated to Toronto Industrial to assist in increasing interest in the Holstein-Friesian cattle, as prescribed by the Association through its representatives.

That the rule of last year be continued during this year, in allowing animals from one to three years old to be admitted to the Record at double the regular fee.

That \$100 be donated to the Ontario Provincial Fair for tests, and \$25 to each of the following exhibitions: Halifax, N. S.; St. John, N. B.; Brandon, Man., and New Westminster, B. C.

That the Secretary have minutes of this meeting printed and sent to each member of the Association before March 15th, 1901.

That the President and Secretary memorialize the Dominion Government, asking for a railway commission.

That the one-judge system be continued.

That appropriations to public milk tests at Toronto Industrial and all other shows, except Provincial Winter Fair, be discontinued.

That a Canadian Record of Merit similar to the American Advanced Registry be instituted.

That no special prizes be awarded to Record of Merit cows this year, because of the extra expense incurred by the institution of the Record of Merit.

That cows owned and tested by Canadians and recorded in the American Advanced Registry, and that have come up to the standard of the Canadian Record of Merit, be admitted into the Record of Merit without another test.

The committee appointed to formulate by-laws for a system of advanced registry met at St. George, Ont., Nov. 14, 1900.

The following are the rules and regulations to govern the Record of Merit:

Preamble.

We, the Holstein-Friesian Association of Canada, have declared it advisable and for the best interests of the breed to inaugurate a system of registration of performance, to be known as "The Canadian Holstein-Friesian Record of Merit."

Rule I.

The Secretary of the Holstein-Friesian Association shall have charge of this Record. Under the general supervision and direction of the Board, composed of three members elected by and from the Board of Officers, he shall prepare and publish blank forms and circulars needed in carrying this system into effect; receive and attend to all applications for this record; issue all certificates of merit over his signature and the seal of the association; shall edit and publish such publications as are required by the Board of Officers to secure the efficiency and success of this system. Applicants shall apply to the Secretary, who will request Superintendent of Agricultural College or Experiment Station to appoint suitable persons to conduct all tests as applied for.

The Secretary shall only recognize tests made by capable men, appointed by Agricultural Colleges or Experiment Stations. He shall make a full report of his work to the Board of Officers whenever they require it, and at least once in each year at date of annual meeting.

Rule II.

For purpose of convenience in describing cattle offered for entry in this record, they shall be classified as follows, viz.:

All animals from two to three years of age, in a class to be known as the two-year form.

All animals from three to four years of age, in a class to be known as the three-year form.

All animals from four to five years of age, in a class to be known as the four-year form.

All animals above five years of age, in a class to be known as the full-age form.

Rule III.

All animals, to be eligible for entry in this Record, must be registered in the herdbook of the Holstein-Friesian Association of Canada. Name of animal, number in herdbook, and full age in years, months and days, must be given.

What Shall We Eat

To Keep Healthy and Strong?

A healthy appetite and common sense are excellent guides to follow in matters of diet, and a mixed diet of grains, fruits and meats is undoubtedly the best, in spite of the claims made by vegetarians and food cranks generally.

As compared with grains and vegetables, meat furnishes the most nutriment in a highly concentrated form, and is digested and assimilated more quickly than vegetables or grains.

Dr. Julius Remusson on this subject says: Nervous persons, people run down in health and of low vitality, should eat plenty of meat. If the digestion is too feeble at first it may be easily strengthened by the regular use of Stuart's Dyspepsia Tablets after each meal. Two of these excellent tablets taken after dinner will digest several thousand grains of meat, eggs or other animal food in three or four hours, while the malt diastase also contained in Stuart's Tablets cause the perfect digestion of starchy foods, like potatoes, bread, etc., and no matter how weak the stomach may be, no trouble will be experienced if a regular practice is made of using Stuart's Dyspepsia Tablets, because they supply the pepsin and diastase so necessary to perfect digestion, and any form of indigestion and stomach trouble, except cancer of the stomach, will be overcome by their daily use.

That large class of people who come under the head of nervous dyspeptics should eat plenty of meat, and insure its complete digestion by the systematic use of a safe, harmless digestive medicine like Stuart's Dyspepsia Tablets, composed of the natural digestive principles, pepsin and diastase, which actually perform the work of digestion and give the abused stomach a chance to rest and to furnish the body and brain with the necessary nutriment. Cheap cathartic medicines masquerading under the name of dyspepsia cures are useless for relief or cure of indigestion, because they have absolutely no effect upon the actual digestion of food.

Dyspepsia in all its forms is simply a failure of the stomach to digest food, and the sensible way to solve the riddle and cure the indigestion is to make daily use at meal time of a safe preparation which is endorsed by the medical profession and known to contain active digestive principles, and all this can truly be said of Stuart's Dyspepsia Tablets.

All druggists throughout the United States, Canada and Great Britain sell them at the uniform price of fifty cents for full treatment.—Adv't. om

Rule IV.

The Secretary shall, without formal application, enter in the Record of Merit all bulls which have four or more daughters which have made officially authenticated butter records and which have been recorded in the Record of Merit.

Rule V.

Each and every test must be for a period of seven days.

A cow in the two-year-old form will be required to produce eight pounds of butter-fat.

A cow in the three-year-old form will be required to produce ten pounds of butter-fat.

A cow in the four-year-old form will be required to produce eleven and a half pounds of butter-fat.

A cow in the full-age form will be required to produce thirteen pounds of butter-fat.

In making each and every such record, the cow shall be milked dry at its commencement, and the close shall not extend beyond the number of days reported, reckoned at twenty-four hours each.

In reporting each and every record, the date of calving should be given, the age of cow at record, the date of commencement of record, and the number of pounds of butter-fat produced.

Every record shall be sworn to by each and every person assisting in making it, including in every case the owner of the animal. Such affidavits shall set forth that the record, or records, were made in accordance with these rules, and that they are true in each and every particular, to the best knowledge and belief of the subscribers thereto, and shall be made before a Commissioner, Notary Public or Justice of the Peace. In case an abnormal test is reported, the Superintendent of Agricultural College or Experiment Station to send another man to conduct a new test, which shall extend for a period of twenty-four hours, and the expense of such re-test shall be borne by this Association.

Rule VI.

The applicant shall pay the expenses of the person sent by the Agricultural College or Experiment Station to conduct the test, except as hereinbefore provided.

The Certificate of Record of Merit shall be issued free of charge.

Rule VII.

These rules may be altered or amended by an affirmative vote of a majority of the members at their annual meetings, previous notice of proposal to make such alteration or amendment having been given, in accordance with the provisions of the by-laws of this Association, thirty days before the annual meeting.

The publication of this Record of Merit shall be embodied in the publication of the herdbook.

AN AUCTION SALE OF SHROPSHIRE.

Mr. Herbert Hamner, Burford, Ont., advertises in this issue an auction sale, on March 7th, of 100 head of choice Shropshire sheep, 65 of which are ewes bred to imported ram, all but 10 being shearlings, while 35 are ewe lambs and young rams bred from choice imported stock on both sides. The Hamners are widely known as among the most successful breeders, importers and exhibitors of Shropshires in Canada, and as Mr. H. Hamner announces that he is giving up farming and that this will be an unreserved sale, the opportunity to buy good sheep at your own price is an unusually favorable one. There is no more profitable stock on a farm than sheep, and no more popular sheep than the Shropshires. See the advertisement.

PLEASE MENTION FARMER'S ADVOCATE.

GRAND'S REPOSITORY



53 to 59 Adelaide St. W., Toronto, Can.
 Auction Sales every Tuesday and Friday at 11 o'clock.

IMPORTANT AUCTION SALE THOROUGHBREDS,

Tuesday, March 12th, at 11 o'clock.

By instructions from MR. N. DYMENT, Barric, Ont., and MR. JOS. DUGGAN, Toronto, we will sell, without reserve, on the above date, a splendid collection of

Stallions and Mares.

ALSO THE FOLLOWING VALUABLE

Thoroughbred Stallions:

Imported Sentinel—Seal brown, small star, 9 years, 15.3 hands. By Hawkeye (by Uncas, out of Jennie Howlett, dam of Chittabob). Dam Fair Rent, by Wisdom, sire of Sir Hugo, winner of the Derby.

A grand young horse of fine quality, plenty of bone, compact, short coupled, lots of substance, beautiful conformation and excellent action. Purchased specially for Canada from Dr. Haslewood, Buxton, England, by

MAJOR DENT,

of Malton, England, whose judgment is famous at the leading agricultural shows in England, and who was appointed by the War Office to purchase remounts in Canada for the South African war. In purchasing Sentinel for service in Canada, Major Dent says: "I have not endeavored to buy a horse that is only fit for the showing himself, but one whose produce has been winning prizes regularly in the best agricultural districts in England in strong competition. I consider this type of horse the best to breed to, from a commercial standpoint, as his get from the ordinary mares I have seen in Canada will be easily sold for remounts, and, in any case, are the most salable class for riding, driving and general use. Sentinel has proved himself to be a wonderfully successful sire. All his toals are extra large, strong, compact, with the remarkable beauty of their sire in every case. No fault can be found with the conformation or substance of any of the get of this grand young sire, whose three-year-olds have all outgrown him."

Homecrest, No. 12498—Chestnut, foaled 1897. American Stud Book, Vol. 7, page 160. 16.1 hands. Bred by Mr. Frank M. Ware, New York, as a specially desirable sire on account of his size, substance, splendid breeding and graceful action. When put into training he was valued at \$10,000.00, but, on account of growing so fast, it was found he would not develop speed enough to insure profit for this year, and the owner was persuaded to sell him as a sire. He shows any amount of substance, short, strong back, powerful quarters, and bred on the best producing lines in the world. Sired by Cheviot, by Truducer, out of Idalia; dam Carmen, by Fiddlesticks, out of Camille. Extended tabulated pedigree will be found in catalogue, which may be had on application. Before being put into training, Homecrest was fired in front as a precaution to save his tendons, but is perfectly sound.

Catalogues of all the above may be had on application.

50 HORSES

Of all classes will also be sold on the same day, including first-class well-broken drivers, saddle horses, carriage pairs, general purpose horses, etc. And on the following day,

WEDNESDAY, MARCH 13TH, AT 11 O'CLOCK,

100 New and Second-hand Buggies and Carriages

Of every description will positively be sold, regardless of cost, to make room for new consignments.

WALTER HARLAND SMITH,

om. AUCTIONEER AND PROPRIETOR.

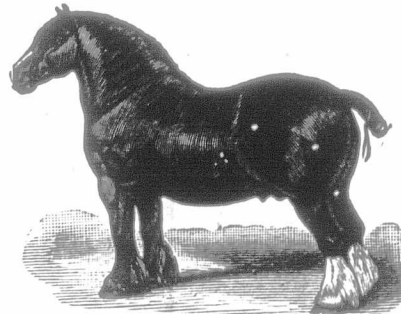
CLYDESDALE STALLIONS FOR SALE.

Fourth consignment will arrive about February 15th, 1901.

A High-class Lot, of Good Size and Quality, and of Most Fashionable Breeding.

Parties desirous of securing high-class horses will do well to see these or write us before purchasing.

Dalgety Bros., 463 King St., LONDON, ONT. om.

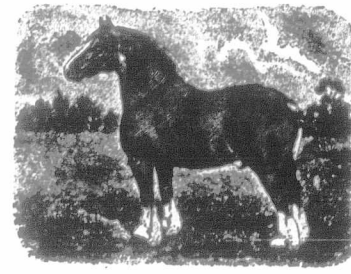


The Horses that made Janesville Famous.

For twenty years past Janesville has been associated with all that was high-class in the line of horses, and the name of "GALBRAITH" is familiar as a household word to every horse breeder of any note on this continent. The undersigned respectfully invites an inspection of his present stock of

CLYDESDALES,

which are believed to be fully equal to the best ever maintained during the palmy days of the business. Ample size, superior breeding, great individuality, moderate prices, and the best of guarantees, are among the inducements offered buyers. An assortment of Percherons, Shires, Suffolks and Hackneys also on hand. The only place where the best of all the breeds can be compared alongside each other. Prominent prizewinners at the recent International Live Stock Show at Chicago. Send for catalogue. om



ALEX. GALBRAITH, JANESVILLE, WISCONSIN.

NOTICE.

The Chilean Nitrate Works.—The average man has but a faint conception of the magnitude of the nitrate works carried on in Chili, South America, and the enterprise devoted to the preparation of this great fertilizer. The very best representation we have ever seen of the subject is the photographic album sent out (through Dr. John A. Meyers, 12-16 John street, New York) by the Nitrate Association of Propaganda, Iquique, Chili, containing no less than 59 large and beautiful views, showing a general scene of the nitrate-beds or grounds and works, boring test holes into the rock below the surface, blasting a test hole, quarrying the caliche—in fact, the entire process of manufacture—concluding with panoramic views of the great ports such as Pisagna, Junin, Caleta Buena, Tocopilla, Antofagasta, Talca and Iquique, and great flotillas of vessels engaged in the export trade to various quarters of the world. Judging from the nature and extent of these works and the vast capital invested, the promoters do not, on the one hand, entertain any fear of the immediate exhaustion of the nitrate-beds, as foreshadowed by some pessimistic thinkers, or, on the other, of any diminution in the demand for the fertilizing products, such as nitrate of soda, but rather an increase. The volume before us is substantially bound, and a beautifully-executed specimen of the photo-engraver's art.

MONEY TO LOAN

at 5 per cent. on good security. Address: 567 WATERLOO ST., LONDON, CAN.

Clydesdales--Hackneys.

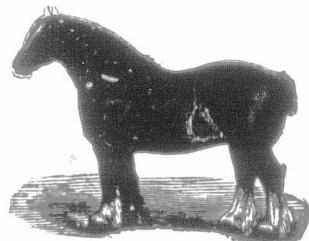


A Few Choice Yearlings of Either Breed can be spared.

D. & O. SORBY, GUELPH, ONT.

THORNCLIFFE Stock Farm

The largest stud of Clydesdales in Canada, headed by the Champion Stallion of all ages, "LYON MACGREGOR."



Stallions and Colts

From the best blood in Scotland and Canada. Ayrshire bulls and heifers from imported stock. Jersey heifers and bull calves, sired by the prize-winning bull, Distinction's Golden. Best milking strains, with good teats.

Terms reasonable. A visit to Thorncliffe will well repay you. ROBT. DAVIES, Thorncliffe Stock Farm, TORONTO.

Farm for Sale

Known as the "Kinellar Lodge Farm," comprising 225 acres first-class land, bank barn (95 x 56), two-story brick house—all in first-class shape; 1 1/2 miles from Markham Station on the G. T. R., and 2 1/2 miles from Louisa Hill on the C. P. R. For particulars apply to JOHN ISAAC, MARKHAM P.O., ONT.

British Columbia.

Anyone thinking of farming in British Columbia should write for descriptive pamphlet of farms for sale in the Lower Fraser Valley—the garden spot of the Province.

We have compiled the largest and most complete list of farms, orchards, cattle-grazing and garden lands, and fishermen's attentions, in the Province. It has been very carefully selected, and we have a personal knowledge of every property described. Prices range from \$3,000 per acre to \$250,000 per acre, and in extent from 1 acre to 1,000 acres.

In the Lower Fraser Valley, and on the coast lands around Vancouver, we rarely have more than a month of frost and snow at outside, and the thermometer has only sunk to zero twice in ten years.

WRITE HOPE, GRAVELEY & CO., 536 Hastings St., VANCOUVER, B. C.

CHANGE OF CLIMATE

Not Necessary in Order to Cure Catarrh.

The popular idea that the only cure for chronic catarrh is a change of climate is a mistake, because catarrh is found in all climates, in all sections of the country; and even if a change of climate should benefit for a time, the catarrh will certainly return.

Catarrh may be readily cured in any climate, but the only way to do it is to destroy or remove from the system the catarrhal germs which cause all the mischief.

The treatment by inhalers, sprays, powders and washes has been proven almost useless in making a permanent cure, as they do not reach the seat of disease, which is in the blood, and can be reached only by an internal remedy which acts through the stomach upon the blood and system generally.

A new discovery which is meeting with remarkable success in curing catarrh of the head, throat and bronchial tubes, and also catarrh of the stomach, is sold by druggists under name of Stuart's Catarrh Tablets.

These tablets, which are pleasant and harmless to take, owe their efficiency to the active medicinal principles of Blood Root, Red Gum, and a new specific called Guaiacol, which, together with valuable antiseptics, are combined in convenient, palatable tablet form, and as valuable for children as for adults.

Mr. A. R. Fernbank, of Columbus, Ohio, says: "I suffered so many winters from catarrh that I took it as a matter of course, and that nothing would cure it except a change of climate, which my business affairs would not permit me to take."

"My nostrils were almost always clogged up. I had to breathe through the mouth, causing an inflammation, irritated throat. The thought of eating breakfast almost nauseated me, and the catarrh gradually getting into my stomach took away my appetite and digestion."

"My druggist advised me to try a fifty-cent box of Stuart's Catarrh Tablets, because he said he had so many customers who had been cured of catarrh by the use of these tablets, that he felt he could honestly recommend them. I took his advice and used several boxes with results that surprised and delighted me."

"I always keep a box of Stuart's Catarrh Tablets in the house, and the whole family use them freely on the first appearance of a cough or cold in the head."

"With our children we think there is nothing so safe and reliable as Stuart's Catarrh Tablets to ward off croup and colds, and with older people I have known of cases where the hearing had been seriously impaired by chronic catarrh cured entirely by this new remedy."—Adv't.

BLACK PAIR DRIVERS

STAND 16 hands, good action and well matched. Were handled by trainer and drive nicely. Sired by Toronto champion roadster, BLACK VALENTINE; dam by HAMBLETONIAN GEORGE—a frequent winner, 4 and 5 years old. No fancy price asked. Come or write.

JOHN CAMPBELL, Fairview Farm, Woodville, Ont., Can.

OAKLAWN FARM

AS ALWAYS, VASTLY IN THE LEAD. PERCHERONS, FRENCH COACHERS, SHIRES.

ON HAND, HOME-BRED AND IMPORTED 270 STALLIONS, 235 MARES.

The greatest collection of stallions ever brought together. Our two latest, recent importations for this year included the Principal Prize Winners at the WORLD'S EXPOSITION, PARIS, and at the Government Shows at Amiens and Mortagne, and the "Tops," first choice, purchased from the leading studs of France and England.

The superiority of the Oaklawn Percherons was also shown at the

INTERNATIONAL LIVE-STOCK EXPOSITION at Chicago, December, 1900, pronounced by press and public the greatest live stock exhibition ever seen, where Oaklawn's Exhibit was awarded

Three 1st Prizes, three 2d Prizes, three 3d Prizes, two 4th Prizes and two 5th Prizes in the three stallion classes; Championship, stallion, any age; Championship, mare, any age; 1st and 2d Prizes for collections; \$100 Gold Medal, best group, five stallions; \$100 Gold Medal, best group, three mares.

Catalog on application. Prices reasonable.

DUNHAM, FLETCHER & COLEMAN, WAYNE, DU PAGE CO., ILLINOIS.

4 Imp. Clydesdale Stallions

From such well-known sires as Sir Everard (5353), Prince Roberts 7135, Prince Alexander 8899.

2 Imp. Shorthorn Bulls, 4 Bulls Imp. in Dams.

2 Canadian-bred Bulls, 21 Imp. Cows and Heifers.

7 Canadian-bred Cows and Heifers.

GEO. ISAAC & BROS., BOMANTON, ONT.

LODBURG STATION, G. T. R.

Rosedale Stock Farm.

CLYDE AND SHIRE HORSES, SCOTCH SHORTHORNS, LEICESTER SHEEP.

Six choice Shorthorn bulls, Scotch and Scotch topped, from 11 to 13 months (bred and reared) good quality. Prices right.

My motto "The best is none too good."

J. M. GARDHOUSE, Hightfield P. O., Melton Siding, C. T. R., Weston Sta., C. P. R.

GOSSIP.

H. Bennett & Son, St. Williams, Ont., write: "Our Berkshires are doing well. We have some grand brood sows, mated to our imp. boars, to farrow in March and April. Windsor Model IV, (imp.) is in every particular a model of the bacon type, at the same time retaining true Berkshire character. Our Leicesters are in fine shape. We have lately added new blood to our B. P. Rock yards, from noted breeders. We mate two yards this season which should produce grand results. Thanks to the ADVOCATE for numerous sales."

Mr. S. Dymont, Barrie, Ont., sends us photograph and extended pedigree of the Berkshire boar, Royal Lad 3rd 4307, now in service in his herd. The photograph shows that he is a lengthy, smooth hog, with well-packed back and good hams—just the stamp required for breeding pigs of the bacon type—while his breeding is of the very best, his pedigree showing direct crosses of such noted prizewinning sires as This is Him (imp.) 1362, Highclere Prince 2402, Enterprise (imp.) 1378, Perry Lad (imp.) 1354, and Royal Winner (imp.) 2111, the last three having been prizewinners at the Royal Show of England. Mr. Dymont writes that the pigs sired by Royal Lad 3rd are proving very satisfactory, and that he has had orders for a number of them, which have given entire satisfaction to purchasers.

SUCCESSFUL HEREFORD SALES.

The 20th century opening sales of Hereford cattle, at Kansas City, Mo., the last week in January, scored a brilliant success, nearly 200 head selling during the week at an average of nearly \$380. There were no \$5,000 bulls sold, but prices were uniformly good. The world's record price for a Hereford female, of \$3,700, was made by the 3-year-old Carnation, sold by Clem. Graves, Bunker Hill, Ind., to J. C. Adams, Moweaqua, Ill. The highest-priced bull was the 10-months calf, Duke of Sunrise, by Freedom, sold by J. C. Adams to Clem. Graves for \$1,000. T. F. B. Sotham, Chillicothe, Mo., made the highest average, his 50 head selling for \$123 each, and his highest-priced female, Happiness (1 year and 10 months), sold for \$1,080 to Clem. Graves, the breeder and owner of the champion bull, Dale.

JOHN BRIGHT'S CLYDESDALES AND SHORTHORNS.

Centrally located in the Township of Whitby, in one of the best pure-bred stock sections of the Province, is the farm of Mr. John Bright, near Myrtle, Ont., his post office and a station on the C. P. R. Mr. Bright has given careful attention to the rearing of pure-bred stock for many years on his excellent farm, which is well adapted for his purpose. His surroundings are also very favorable, being within easy driving distance of many of the most important stock farms in Canada.

In Clydesdales, Mr. Bright generally has a few choice young things to offer, and in conversation with him we learned that many of the noted imported sires figure conspicuously all along their breeding, the names of Sir Erskine [8252], Sir Arthur (imp.) [1371], and Sir Walter (imp.) being compiled in the matrons' pedigrees, while of later dates we noticed Lawer's Baron Gordon (imp.) [1005] (5136) and Univar (imp.) frequently appeared in the youngsters' pedigrees. Mr. Bright has frequently been a prizewinner at the leading shows, and speaks with much pride of the first prize this and that mare lays claim to. Among his Clydesdale offerings are a few young things rising three and under, that are of both sexes, and if space permitted we might dwell at considerable length on their individual merit, but deem it sufficient to state that in the face of the increasing demand for horses, we would consider it advisable for parties in search of this class of stock to note his offerings and act quickly.

Over 50 registered Shorthorn cattle are maintained here. In reviewing their pedigrees, we noticed three distinct lines of breeding among the matrons. A useful (chiefly red) lot are the ten Duchess females that run back to the Countess family, and as they have been bred to straight Scotch bulls, their descendants are a uniform, thrifty lot. Upwards of a dozen Fairfax females were also shown us. They trace through the Zoras to imported Red Rose and inherit much of the hardy prolificness and good milking qualities of the former. They too have had access to good sires from the land of the heather; while the balance (Mayflower Maids) come from the famous Favinia tribe, and are a useful, well-formed, early-maturing sort. Such sires as Bonnie Lad, Oxford (imp.), Lord Roseberry, Duke of Lavender, and Indian Chief have done service in this herd, and when one considers the important part such an array of sires of such repute plays in a herd, coupled with good management, it is not hard to understand why good and uniform results have been obtained.

Among Mr. Bright's special offerings are included a choice, thrifty lot of young bulls and heifers, possessing good individual merit and in good breeding form; in fact, the sort for which there is such a ready demand, and we judge they will not long wait for purchasers. See Mr. Bright's offerings.

Clydesdales and Ayrshires

Imported and home-bred. Also Dorset Horned sheep, and the leading varieties of poultry. ROBERT NESS & SONS, Howick, Que.

MR. HOGATE,

Of the Hogate Importing Co.,

Sailed for England last Saturday, where he intends to purchase another lot of

CLYDESDALE AND ENGLISH SHIRE HORSES

For the spring trade. They will land at Woodstock about the 20th March, and all who want stock of this kind should not fail to see them, as they will be one of the best lots ever seen in Canada. Call or write to

E. R. HOGATE, WOODSTOCK, - ONTARIO.

HORSEMAN! THE ONLY GENUINE IS

GOMBAULT'S CAUSTIC BALSAM.

None genuine without the signature of The Lawrence-Williams Co. Sole Importers & Proprietors for the U.S. & CANADA, CLEVELAND, O.

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle, SUPPRESSES ALL CAUTERY or FIRING. Impossible to produce scar or Blemish. Every bottle is warranted to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, or sent by Express, charges paid, with full directions for its use. Send for free descriptive circulars. THE LAWRENCE-WILLIAMS CO., Toronto, Ont.

The Farmer

Can Reduce Expenses

of cultivation by the judicious use of

Nitrate of Soda

upon his land. This when properly applied, with other elements of plant food, never fails to largely increase the yield of hay, grain, or garden crops, without additional cultivation or labor. Our literature and list of dealers in Nitrate of Soda will be sent free on application to John A. Myers, 12-R John St., New York City.

A 20th Century Fertilizer Event. IS the introduction of Freeman's Fertilizers into the Maritime Provinces. Write to Ottawa for Bulletin No. 70. See the values of 107 samples analyzed last year, and behold FREEMAN'S away ahead, with an average intrinsic value of over \$28 00 per ton. Then place your order for the Best in Canada, Best in America, Best on Earth! For particulars and rock-bottom prices, write Chas. A. McDonald, Gen. Maritime Agent, Poplar Grove, Mabou, C. B.

FOR SALE.

CLYDESDALE stallions, mares and fillies, representing the best blood in Scotland—Prince of Wales, Darnly, Macgregor and Lord Lyon—including the great sweepstakes winner, The Marquis (1182), a grandson of Prince of Wales and Macgregor; also the first-prize 3-year-old at Ottawa this season.

THOS. GOOD,

Richmond P. O., Ont. R. R. Station, Stittsville, C.P.R.

FOR SALE:

Clydesdales and Shorthorns.

Young stallions and fillies bred from imported sires and dams. Also a choice bunch of Shorthorns, of both sexes and all ages, including a few extra choice young red and roan heifers and bulls.

ONTARIO COUNTY, JOHN BRIGHT, Myrtle, Ontario.



High-quality, Early-maturing Herefords Prizewinners. Young bulls, cows, heifers.

The blood of "Corrector," "Eureka," "Ancient Briton," and "Rupert," on an "Anxiety" foundation. Send for illustrated catalogue.

H. D. SMITH, COMPTON, QUE.

HEREFORDS FOR SALE.

THE HERD of upwards of 90 head of registered animals contains the blood of the best English herds, with imported True Briton and Likely Lad at the head. Stock of both sexes and all ages for sale. Correspondence or a personal visit invited.

A. S. HUNTER,

DURHAM, ONT.

ASHTON FRONT VIEW STOCK FARM.

Six Shorthorn Bulls for sale, from 8 to 15 months old; all of choice breeding. Also Cotswolds of all ages for sale at all times. Visitors welcome. A. J. WATSON, Castleberg, Ont. C. P. R. Station and Telegraph Office, Bolton; or G. T. R., Palgrave.

SCOTCH-BRED 6 Shorthorn Bulls

from 6 to 12 months old, good size and quality, at two-figure prices. Also a few heifers. Scotch collie pups from registered stock. Write to L. K. WEBER, HAWKESVILLE, ONT.

JAS. DORRANCE,

SEAFORTH, ONTARIO.

BREEDER OF Shorthorn Cattle and Berkshire Pigs

Young stock always for sale.

TROUT CREEK HERD OF SHORTHORNS.

Since our Chicago sale we have imported sixty-two head, including some Royal winners; they were pronounced in Scotland superior to past importations. We try to import the best, believing that this is one of the ways to assist in improving the breed on this side of the water. Being thoroughly convinced, also, that a bull of the right sort is even more than half the herd, we have decided to keep the following choice ones:

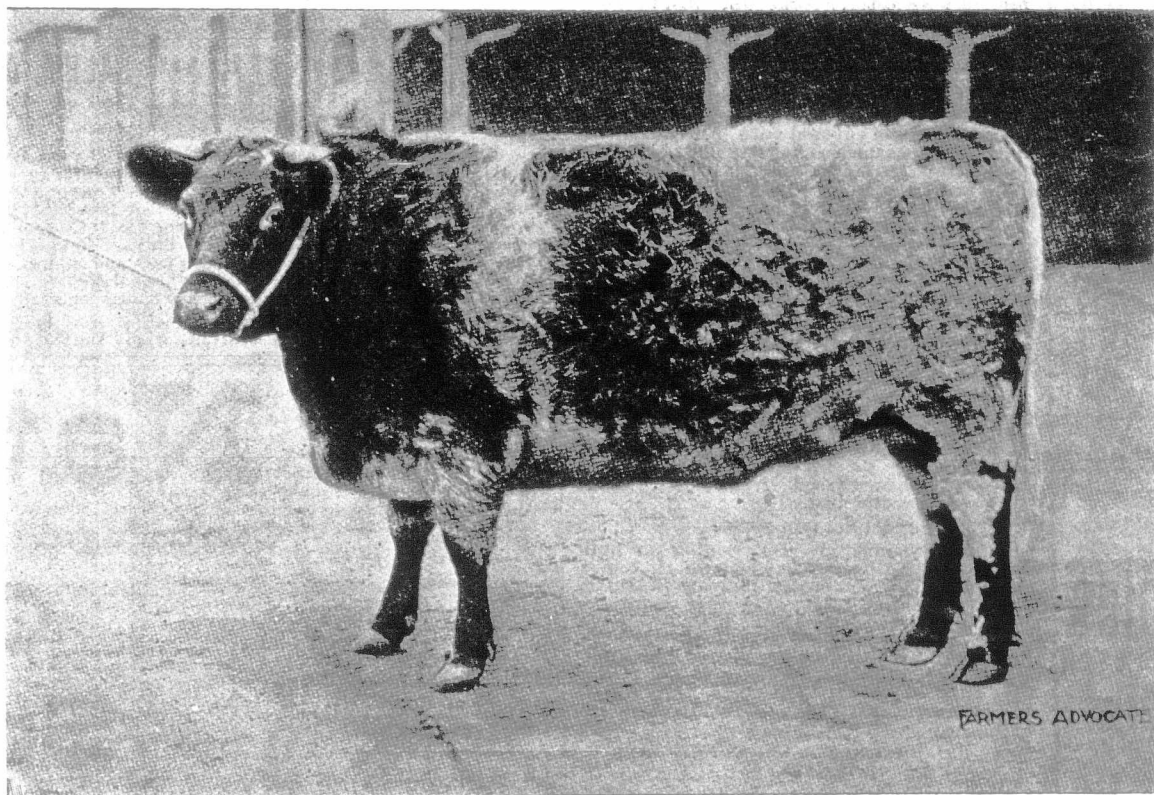
Imp. Lord Banff.

Bred by A. Watson; of the Campbell Bessie family.

Imp. Consul.

Bred by J. D. Fletcher; of the Campbell Claret-family. Consul was awarded first at Edinburgh, first and champion at Provincial Union, first and champion at Creiff, and second at the Highland. His sire, Watchword, bred by Wm. Duthie, was first at the Highland in 1895 and 1896, and got by Scottish Archer. Watchfire, by Watchword, was first at the Highland, 1897. Consul is the highest-priced bull imported to Canada.

Hamilton is a city of over 50,000 inhabitants, located on main line of Grand Trunk Railway, between Chicago and Buffalo; also connected by Canadian Pacific Railway and Michigan Central Railway—branch lines.



CICELY.

Bred by Her Majesty the Queen; undefeated in her class and many times champion; imported by W. D. Flatt.

Imp. Silver Mist.

Bred by Wm. Duthie; of the famous Missie family. He had many friends for first choice at Messrs. Marr and Duthie's sale. Mr. Beck, representing the Prince of Wales, made next to last bid.

Imp. Wanderer's Last.

Bred by W. S. Marr; also of the Missie family. Is the last calf got by that renowned Cruickshank bull, Wanderer. Mr. Marr considers this youngster very promising.

We keep in our herd a choice lot of both imported and Canadian cattle, of both sexes, from which to make selections. Personal inspection invited. Parties desiring to see the herd will be met on arrival of trains at Hamilton if notice is given. Visitors always welcome.

W. D. FLATT,

378 Hess St. South.

HAMILTON, ONT.

Jas. Smith, Manager.



IMP. FASHION'S FAVORITE.

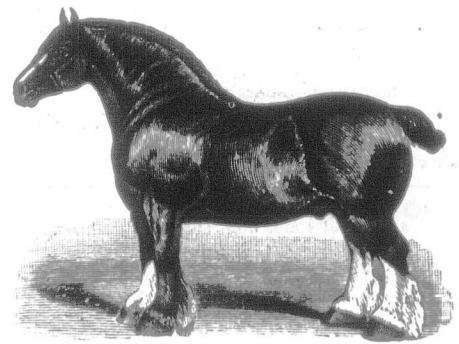
FOR SALE — Three Beautifully-bred Clydesdale Stallions

Royal Erskine (imp.) [2529] [10431]

Brown; foaled May 3, 1896. Bred by Chas. Smith, Jr., Incheorsie, Huntly, Scotland.

Dam Roseabella (19221)	Sire Prince of Erskine (9647)	Breeder of Sire.
2 Rose of Incheorsie (7823)	Lord Montrose (7973)	W. S. Park.
3 Susie of Incheorsie (7822)	Johnny (414)	J. McGibbon.
	Black Samson (694)	Wm. Kater.
		A. K. Leitch.

ROYAL ERSKINE is a grand young horse, and won Second at both Toronto and London in 1899 against strong competition, when in very thin condition, being just off the ship. PRINCE OF ERSKINE (9647), by Prince of Albion; dam Halton Beauty (5687), by the great Darnley (222). LORD MONTROSE (7973), by Knight Errant (4483); dam Lady Jane (6424), by Model Prince (1225). JOHNNY (414), alias Nonsuch, alias Young Emperor, alias Rantin Johnny, was a prize-winner at the Highland Society's Show at Glasgow in 1875.



Balmiedie Cameron Highlander (imp.) [2562] [Vol. 21, p. 134 S.]

IMPORTED IN 1899 BY H. CARGILL & SON, CARGILL, ONT.

Dark bay, white star on face, hind feet and ankles white, foaled April 7, 1898. Bred by W. H. Lumsden, of Balmiedie, Scotland.

Dam Balmiedie Doris (13511)	Sire Royalist (6242)	Breeder of Sire.
2 Lady Dorothy (8688)	Balmiedie Prince (7434)	Jas. Lockhart.
3 Maggie of Kirriminloch (5827)	Darnley (222)	J. Cranston.
4 Jean of Kirriminloch (5826)	Strathclyde (1838)	Sir W. Stirling-Maxwell.
	Young Conqueror (957)	J. McIsaac.
	Cairn Tom (117)	Jas. Smith.
		Mr. Cochrane.

BALMIEDIE DORIS won the following prizes: only times shown—1896. Second Prize as a three-year-old at Royal Northern, Aberdeenshire, 1897. Second Prize as yearling mare at Royal Northern, Aberdeen, 1898. Second Prize as mare with foal at foot, at Royal Northern, Aberdeen. LADY DOROTHY won the following prizes, and was one of the best mares left by that famous stallion, Darnley (222)—1891. Glasgow Show, Fourth Prize. Royal Northern, Aberdeen, First and Special for best mare in yard 1892. Royal Northern, Aberdeen, First with foal at foot. Highland and Agricultural Show at Inverness, First Prize. 1893. Highland and Agricultural Show at Edinburgh, Silver Medal. 1894. Highland and Agricultural Show at Aberdeen, Third Prize. 1895. Farnham Show, First Prize and Special for best female. Inverurie Show, First Prize and Special for best female. ROYALIST (6242), sire Darnley (222); dam Princess (6365), by Prince of Wales (673), is one of the Champion Clydesdale Stallions of the day, both in the show-yard and at the stud, his progeny having taken First Prizes at the Highland and Agricultural Society, Royal English, and other leading shows. ROYALIST, in 1887, as a one-year-old colt, gained Third Prize at Kilmarnock, First Prize and Cup at Royal Northern Summer Show, Aberdeen, and Third Prize at Highland Society's Show at Perth. In 1888, as a two-year-old colt, he gained First and Challenge Cup at Inverurie Show, First Prize and Cup at Royal Northern Summer Show, Aberdeen. In 1890, as a three-year-old stallion, he gained First Prize at Royal Northern Summer Show, Aberdeen, and Second Prize at Highland Society's Show at Melrose; and in 1893, when seven years old, he gained First Prize and Challenge Cup as champion male at the Jubilee Show of the Royal Northern Society, Aberdeen. BALMIEDIE PRINCE (7434), by Prince of Wales (673).

Royal Carruchan (imp.) [2561] (Vol. 21, p. 172, S.)

IMPORTED IN 1899 BY H. CARGILL & SON, CARGILL, ONT.

Bay, stripe on face, off fore and hind feet white; foaled May 4, 1898. Bred by David Walker, Coullie, Udny, Aberdeenshire, Scotland.

Dam Jess of Coullie (13647)	Sire Prince of Carruchan (8151)	Breeder of Sire.
2 Balfarg Jess (5205)	Mount Royal (8065)	J. McCaig.
3 Dainty of Kingsdale (2648)	Cornair (1419)	D. Mitchell.
4 Jess 2nd (760)	Scotsman (760)	Sir W. Stirling-Maxwell.
5 Jess (1537)	Stirling Tom (778)	J. McKiern.
6 Mettle (630)	Sir Collin Campbell (830)	R. Moubay.
	Stirlingshire Champion (830)	R. Logan.
		J. Hardie.

PRINCE OF CARRUCHAN, by Prince of Wales, was First at Highland Agricultural Society Show at Dundee, as a two-year-old. First and Champion at the Highland Society, as a three-year-old, at Stirling. First as an aged horse at the Highland Society Show at Edinburgh; also winner of the Cawdor Cup twice at the Glasgow Stallion Show.

MOUNT ROYAL won the following prizes:—1888. First at Perth. 1889. First at Turriff. 1890. First and Champion for best entire, any age, Royal Northern, Aberdeen. First and Clydesdale Society's Medal for best entire, any age, Turriff. First and Challenge Cup for best animal, male or female, Inverurie. First and Lord Aberdeen's Special Prize for best entire colt, Aberdeen. V. H. Commended, Highland Society's Show, Dundee, 1891. First and Champion Cup for best entire, any age, Royal Northern, Aberdeen. First at Royal Northern Summer Show, Aberdeen. Second to Prince of Carruchan at Highland Society's Show, Stirling. 1892. First, Royal Northern Summer Show, Aberdeen. Fourth, Highland Society's Show, Inverness, 1893. Second, Glasgow, as sire of five yearlings. Kirriemuir Society's Premium horse. 1894. Kirriemuir Society's Premium horse. 1895. Short list of five for Glasgow Troon. Selkirk and Galloway Society's Premium horse. 1896. Windygates Society's Premium horse. His stock has gained First Prizes at Huntly, Keith, Banff, Turriff, Inche, Kennethmont, Inverurie, Fyvie, Aberdeen, Glasgow, Edinburgh, Dundee, East Kilbride, Kirkintilloch, Girvin, Kirriemuir, Montrose, Forfar, Arbroath, etc. He is sire of Royal Garty (9844), the Cawdor Cup winner in 1896 and 1896.

FOR SALE: Three imp. Yearling Bulls; Seven imp.-in- dam Bull Calves.

Bred by Messrs. Duthie and Marr, from females imported by us, and sired by the best bulls in Scotland. All are excellently bred and first-class individuals.

We also offer any reasonable number of females, either in calf or with calves at foot; all ages.

Herd headed by the imported bulls, Golden Drop Victor and Prince Bosquet.

Also the Standard-bred Trotting Stallion,
PAVON (30760) A. T. R.

CATALOGUE FREE.

If interested, come and see us or write:

H. CARGILL & SON, CARGILL, ONT., CAN.

Choice Vegetables
always bring high prices.
To raise them successfully, a fertilizer containing at least 8% Potash should be used.

Our books furnish useful information on all subjects relating to crop raising. They are sent free.



GERMAN KALI WORKS
93 Nassau Street,
New York.

ONTARIO
Provincial Auction Sales

PURE-BRED CATTLE and SWINE

will be conducted under the auspices of
THE DOMINION CATTLE, SHEEP AND SWINE BREEDERS' ASSOCIATIONS,

Guelph, Ont., Feb. 27th, 1901

AND AT
Ottawa, Ont., Mar. 6th, 1901.

SELECTED STOCK.

Nothing but good representatives of each breed will be allowed to enter and be put up for sale. Orders to buy may be placed with the secretary, and will be honorably discharged.

REDUCED PASSENGER RATES. SPECIAL RATES TO BUYERS.

A grand opportunity for anyone wishing to procure registered stock. For copy of rules, catalogue and full particulars, apply to

A. P. WESTERVELT, Sec.,
Parliament Buildings, TORONTO, ONT.

SHORTHORNS FOR SALE, or will exchange my 4-year-old stock bull, Olmedo 24390, having 4 excellent Scotch top crosses on a Crimson Flower dam, for one equally well bred. Young bulls and heifers and Shropshires for sale. om
GEO. RAIKES, BARRIE, ONT.

Clover Leaf Lodge HERD OF **Shorthorns**
A number of choice young bulls, heifers and cows, excellent milking strains. Correspondence invited. **R. CORLEY, Belgrave P. O., Ont., and G. T. R.; Wingham, C.P.R.**

Shorthorns and Shropshires FOR SALE.

Red bull (1 yr.) by Collynie Archer (imp.), from Rosebud family. Roan bull (1 yr.) from imp. Countess family. Red and white bull (17 mos.) from imp. Rosebud family. Eight Shropshire ewe lambs, well covered.

WM. D. DYER, COLUMBUS, ONT.
BROOKLIN STATION, G. T. R.

Good Young Bulls

Of best Scotch breeding, and a desirable lot of **HEIFERS** of the low-down, blocky type. Royal Prince = 31241 = (bred by J. & W. B. Watt), a worthy son of Imp. Royal Sailor = 18959 =, heads the herd.

H. K. FAIRBAIRN,
Theford P. O. and Station, Ont.

R. MITCHELL & SON,
Burlington Jct. Station, Nelson, Ontario,
Breeders and importers of

SCOTCH SHORTHORNS,
Offer for sale:
12 Canadian-bred females.
11 Imported females.
4 Imported bulls.
7 Canadian-bred bulls.

FOR SALE.
SHORTHORNS—Young bulls and heifers. Leicesters and Southdowns, both sexes. Berkshires—Young boars fit for service, young sows in pig and ready to breed. Also choice seed peas. Write for catalogue or come and see.

E. JEFFS & SONS, Bond Head.

GOSSIP.

N. M. Blain, St. George, Ont., writes:—"In ten years in business I have never experienced as large a demand for Tamworth hogs as at present. Have some grand sows bred for the spring trade. Keep your eye on my ad., and write for what you want."

We learn with regret of the death, on Feb. 3rd, at the age of 27 years, of William Miller, son of Mr. John Miller, Markham, Ont., well known as a breeder of Shorthorn cattle and Southdown sheep. Willie was a bright and popular young man, of kindly disposition, fond of good stock, and an enthusiast in sports and games.

Mr. H. B. Webster, Fergus, Ont., writes:—"I am pleased to report that my herd of Shorthorns are coming through the winter in splendid shape. My calves by Lord Stanley 4th = 22678 =, are of the thick-fleshed sort, being very robust and covered with plenty of mossy hair. Last season's calves strangely happened to consist of ten heifers and one bull; therefore, I am being overstocked with females, and am offering for sale a few young cows (with calves at foot, by Lord Stanley 1th = 22678 =) and heifers, safe in calf to Lord Stanley 4th; he being by Lord Stanley, the World's Fair winner; dam Nonpareil Victoria, dam of the champion Topman."

OXFORDS AND SHROPSHIRE FOR CALIFORNIA.
Major Bird, of Independence, California, recently visited the neighborhood of Guelph, and purchased from Mr. Henry Arkell, of Farnham Farm, Arkell, Ont., two hundred head of Oxford Down sheep—all lambs of last year except two ewes. This is Major Bird's eighth visit to Guelph with the object of buying sheep. He will also ship two hundred Shropshires, purchased from Mr. Robert Miller, Stouffville, Ont.

A PROLIFIC HERD.

A farmer named Wells, residing on Lulu Island, British Columbia, declares that in a competition for percentage increase his cattle would take the prize over the Dominion. Within six weeks seven of his cows have calved, and five of these have had twins. All the calves are healthy and in good condition, and appear to be getting along in fine style. The cattle are mostly Holsteins. Mr. Wells has taken several prizes with his cattle at recent fairs.

A. B. ARMSTRONG'S YORKSHIRES AND POULTRY.

Attention is directed to the advertisement of Mr. A. B. Armstrong, Codrington, Ont., of Yorkshire pigs, Barred Rocks, M. B. turkeys, and Pekin ducks. His Yorkshires are bred direct from high-class importations and possess the blood and character of some of the best families known. Two litters of fall pigs, bred from high-class sires and dams, are offered for sale, and judging from the stock they come from, they should be worth looking after.

A PAIR OF DRIVERS.

John Campbell, Fairview Farm, Woodville, Ont., writes:—"I have recently shipped ten beautiful imported Shropshire ewes, bred by Mr. H. Williams, to Mr. F. W. Morgan, of Chicago, for his Wisconsin farm. Since Chicago Show time, Mr. Morgan purchased a few Shropshire ewes from several different breeders, including four from us. Repeating his order for a larger number, and expressing his wish for us to secure a bunch of Canadian-bred ewes of the best quality for later delivery, indicates the satisfaction Fairview Shropshires have given him. This shipment clears us of our surplus for some months to come (thanks to the ADVOCATE for its efficient help), therefore my advertising space, on page 136, is given to offering a choice pair of matched drivers; sired by Black Valentine, winner at the Toronto Industrial of championship for best road stallion; dam and grandam good road mares."

A JOINT AUCTION SALE OF SHORTHORNS IN SIGHT.

Mr. Stephen Nicholson, of the firm of R. & S. Nicholson, Sylvan, Ont., writes:—"We have sold all our late importation of Shorthorns, have withdrawn all other stock lately advertised by private sale, and will hold an auction sale in conjunction with W. H. Taylor, M.P.P., of Parkhill, on March 20th, 1901. (See advertisement in this issue.) Every animal offered was bred by the expositors. It is not a lot of cheap stuff gotten together. All are young and up-to-date. Every animal is right in every particular. They are sired by such noted bulls as Indian Brave, winner of two 2nd prizes at Toronto Exhibition; Norseman, winner of 1st at Toronto; imp. Guardsman, a noted getter of prize stock, and as well-bred Cruickshank as ever crossed the Atlantic. The cows and heifers will have calves at foot or be in calf to either imp. Guardsman or imp. Chief of Stars. The young bulls are either by Royal Standard, winner of 1st at Toronto, or Guardsman. Will give particulars next issue."

Shorthorn Bulls

TWO excellent young bulls: one 2 yrs. in May, and one 1 yr. in Mar. Bred straight from high-class Scotch-bred bulls and Scotch-topped cows, of good milking families. Write for prices, or come and see for yourself.

GEO. MILLER, Markham, Ont.

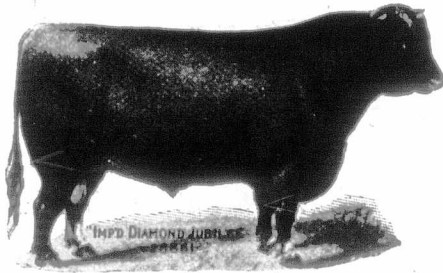
JOHN DRYDEN,
BROOKLIN, ONTARIO,

OFFERS SIX YOUNG SHORTHORN BULLS, ready for service, at reasonable prices. Strong, active, masculine.

GOOD QUALITY AND CHOICE BREEDING.

SHORTHORNS FOR SALE, bred from imp. foundation, Lavina and Barrington, upon which have been employed such sires as Janitor 21335, Scarlet Velvet 21416, and Chief of Clan 31123. Young bulls for sale, from 7 to 15 mos. old. Also a few choice young females, reds and roans.

JAS. SMITH & SON, INGLIS FALLS, ONT.



T. DOUGLAS & SONS,
STRATHROY, ONT.

BREEDERS OF . .

Scotch Shorthorns

100 HEAD TO SELECT FROM.

Offer for sale 20 young bulls, and cows and heifers of all ages, of the most approved breeding, bred to (imp.) Diamond Jubilee = 28861 =, at head of herd. Farm one mile north of town, on

J. & W. B. Watt, SALEM, ONT.,
(Post and Telegraph Office.)

BREEDERS OF
Clydesdale horses,
Scotch Shorthorn
cattle, Leicester
and Oxford sheep,
Berkshire pigs.

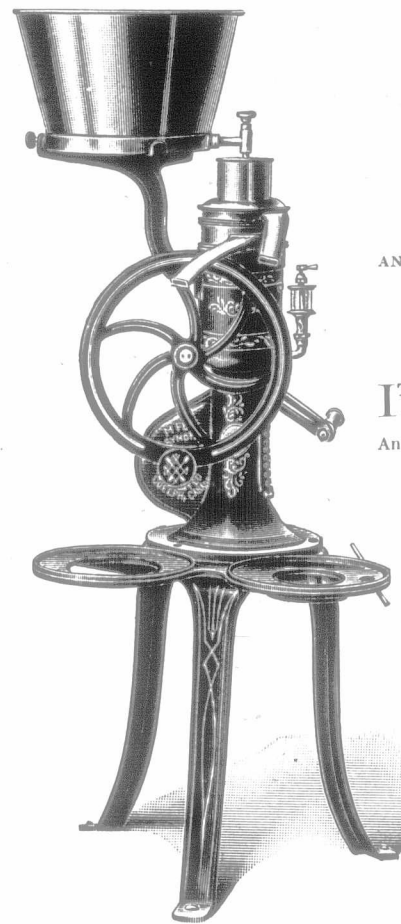
Our **SHORTHORN** herd was founded over 30 years ago, and contains such tribes as the **Village Buds, Matchless, Missies, Mildreds, Stamfords** and **English Lady**, upon which we have employed such bulls as **Barnpton Hero 324, Young Abooburn 6236, Challenge 2933, Perfection 9100, Lord Lansdowne (imp.) 2712, Clan Stuart 14381, Canada 19536, Sittlyton Chief 17069, Royal Sailor (imp.) 18959, Royal George 28513, Clipper King 16293 and Judge 23419**, all of which have been first-prize winners wherever shown. **Royal Victor 34681** and **Royal Wonder 34682**, by **Royal Sailor (imp.)**, and out of **English Lady** and **Mildred** dams, now head the herd, assisted by **Roan Cloud 31317**, by **Lord Gloster 26995**, and out of **Melody 21992**, a descendant of the Buckingham family. We are now offering young bulls, cows and heifers for sale, of Scotch type.

Farm 2 miles from Elora Station, G. T. R. and C. P. R., 15 miles north of Guelph.

The National

Centrifugal Farm

Cream Separator



AN ACTUAL NECESSITY FOR PROFITABLE DAIRYING WHEN MAKING BUTTER ON THE FARM OR WHEN SENDING CREAM TO THE CREAMERY OR CITY TRADE.

IT combines all important improvements and points of merit that are of real practical service to the everyday operator on the farm. Most simple in its construction. Anti-friction ball bearings; convenient and easy to operate by the children. Skims the cleanest; makes the sweetest cream; no numerous parts to give trouble and delay when washing every time it is used; only two pieces inside of the bowl. Strong, durable, made of the finest material, so as to give the most lasting service, and most beautiful in design and finish.

MANUFACTURED BY

THE
Raymond Mfg. Co.
of Guelph,
LIMITED,

GUELPH, ONT.

"NATIONAL" NO. 1 HAND POWER.
Capacity, 330 to 350 lbs. per hour.

If not introduced in your locality, ask for testimonials, etc., from

THE Creamery Supply Co.

General Agents for Ontario.

GUELPH, ONT.

Standard Sheep Dip

(OIL OF TAR.)

Non-poisonous, cheap and effective. Destroys Scab, Lice, Ticks, Foot Rot, etc.

Write for Testimonials and Circulars.

Manufacturers: **The West Chemical Company,**
TORONTO, ONT.

For Contagious Abortion use West's Fluid.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS.

We are offering 8 young bulls for sale, of first-class quality, and A1 breeding.

Wm. Grainger & Son, - Londesboro, Ont.

YOUNG SHORTHORNS FOR SALE

Our present offering includes several choice young bulls fit for service, sired by "Scotland Yet," and out of Warfare (imp.) dams; also bull calves, from Blue Ribbon (imp.), and out of Royal George cows. Inspection and correspondence solicited.

A. & D. BROWN,
M. O. RAILWAY, IONA, ONTARIO.

FOR SALE:
Shorthorn Bulls, Cows and Heifers, carrying a combination of Scotch top crosses, and tracing through many popular strains on the dam's side. -om **F. A. Gardner, Britannia, Ont.**

9 - SHORTHORN BULLS - 9
From 7 to 18 months old,
Of the Fashion and Lavender tribes; well-developed, healthy, and thick-fleshed; red and roan animals. Golden Robe now heads the herd.

WM. G. HOWDEN,
Ontario Co. Columbus, Ont.

SHORTHORNS FOR SALE

Young stock of both sexes, reds and roans.

JOHN R. HARVIE, ORILLIA, ONT.

SHORTHORNS AND BERKSHIRES.

Young bulls, six to twelve month old; cows and heifers. Berkshires (various ages, either sex), and Embden geese.

MAC. CAMPBELL,
Northwood, Ont.

SPRINGBANK FARM.

Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale.

JAS. TOLTON, WALKERTON, ONT.

PLEASE MENTION FARMER'S ADVOCATE.

High-class Shorthorns and Yorkshire Pigs.

One very superior bull, about 17 months old; three bulls about 5 months old, from imp. stock; cows and heifers due to calve this fall. Forty Yorkshire pigs, 2 months old, from imp. stock; imp. boar, 2 years old, and sows due to farrow soon. Write, or come and see us. **JAS. MCARTHUR, GOBLE'S, ONT.** Goble's Station, G. T. R., 10 miles east of Woodstock, 2 miles from farm. Visitors met. -om

Center Wellington Herd Scotch Shorthorns was founded in 1892 on Marr-bred descendants, to which have been added the Mistletoe and Matchless tribes, with Lord Stanley 4th 22978 at the head. Young cows and heifers for sale. Farm 1/2 mile from town and 14 miles north of Guelph. o Box 66. **H. B. WEBSTER, Fergus, Ont.**

Bonnie Burn Stock Farm Forty rods north of Stouffville station, Ont., offers 5 Shorthorn bulls and some heifers, 30 Shropshire rams and ewes from imp. and Canadian-bred sires, at reduced prices. om **D. H. RUSSELL, Stouffville, Ont.**

ARTHUR JOHNSTON

Greenwood, Ontario, Canada.

HIGH-CLASS SCOTCH SHORTHORNS

(First Importation Made in 1874.)

(My recent importation of 30 head has just arrived home from quarantine. Herd now numbers over 120 head.)

OFFERS FOR SALE

- 40 Imported Cows and Heifers,
- 40 Home-bred Cows and Heifers,
- 11 Imported Bulls and Bull Calves,
- 13 Home-bred Bulls and Bull Calves.

Railway stations—Pickering, on main line of Grand Trunk Railway, 22 miles east of Toronto, and Claremont, 23 miles east of Toronto, on the C. P. Railway. Catalogues on application. om

Shorthorn

BULLS AND HEIFERS FOR SALE.

Choice quality and best Scotch breeding. Imported and home bred, Imported Knuckle Duster (72793) and imp. Royal Prince head the herd, which has furnished the Provincial Fat Stock Show champion three out of the last five years.

Catalogues on application.

H. SMITH, - HAY, ONT. Exeter Station on G. T. R., half a mile from farm. om

FOR SALE:

SHORTHORNS AND YORKSHIRES

4 SUPERIOR Scotch-bred Shorthorn bulls, 12 to 14 months; 4 two-year-old heifers of the best strains; and cows with calves at foot. Also a superior lot of Yorkshire boars and sows from 3, 5 to 7 months old. Orders booked for spring pigs. Pairs and trios supplied not akin.

H. J. DAVIS,

Box 290. -om WOODSTOCK, ONT.

6 Shorthorn Bulls 6

Also cows in calf and yearling heifers. All of straight Scotch breeding. om

SHORE BROS., WHITE OAK, ONT.

Maple Lodge Stock Farm

ESTABLISHED 1854.

SHORTHORNS—An excellent lot of young bulls, and a special value in young cows and heifers in calf to our imported Knuckle Duster.

LEICESTERS—Imported and home bred—the best.

ALEX. W. SMITH,

-om MAPLE LODGE P. O., ONT.

Shorthorns FOR SALE:

- 12 young bulls.
 - 10 yearling heifers and heifer calves.
 - 16 2-year-old heifers and young cows,
- several well advanced in calf to Precious Stone (imp.). Prices moderate. Write for particulars. om **G. A. BRODIE, Stouffville Station, Bethesda, Ont.**

PLEASE MENTION FARMER'S ADVOCATE.

THE IMPROVED
U. S. SEPARATOR
AGAIN DEMONSTRATES ITS SUPERIORITY.

Read the following report by a Canadian Government Butter and Cheese Inspector of the work of the U. S. and De Laval Cream Separators at the Creamery of Ste. Anne de la Perade and notice the great saving of butter-fat made by the U. S. over the De Laval.

TO THE PRESIDENT AND DIRECTORS OF THE CREAMERY OF STE. ANNE DE LA PERADE:

Gentlemen—At Mr. F. X. O. Trude's request I came here to follow the operations of a contest between the De Laval and U. S. Cream Separators. I followed the work of these machines since the 16th, and you will see the work of each as follows:

THE DE LAVAL SEPARATOR.

	Nov. 16, 1900.	Nov. 19, 1900.
Milk received.....	2,219 lbs.	3,386 lbs.
Fat in whole milk.....	4.60 p. c.	4.60 p. c.
Quantity skimmed per hour.....	3,504 lbs.	3,627 lbs.
Average temperature of milk.....	93 degrees.	80 degrees.
Average speed (rev. per minute).....	5,660	6,000
Percentage of cream.....	17.35	17.35
Fat left in skim milk.....	.10 & .11 of 1 p. c.	.07 & .08 of 1 p. c.

THE U. S. SEPARATOR.

	Nov. 17, 1900.	Nov. 21, 1900.
Milk received.....	1,177 lbs.	2,775 lbs.
Fat in whole milk.....	4.60 p. c.	4.80 p. c.
Quantity skimmed per hour.....	2,715 lbs.	3,468 lbs.
Average temperature of milk.....	91 degrees.	88 degrees.
Average speed (rev. per minute).....	8,000	8,025
Percentage of cream.....	21.32	17.12
Fat left in skim milk.....	.03 & .04 of 1 p. c.	.03 & .07 of 1 p. c.

TOTAL OF EACH FOR THE TWO DAYS.

	De Laval Separator.	U. S. Separator.
Milk received.....	5,605 lbs.	3,952 lbs.
Average temperature.....	87 1/2 degrees.	89 degrees.
Average speed.....	5,825	8,025
Total loss of fat.....	4.02	1.84
Loss per 100 lbs. of fat.....	1.55 lb.	.87 lb.
Total loss in cash.....	\$1.15	\$0.42

Sworn before me Nov. 21, 1900.

T. E. LANONETTE, T. P. ex. of C. C. Ste. Anne.

L. P. LACOURSIERE,

Government Butter and Cheese Inspector.

NOTICE that the De Laval lost \$1.15 in separating 5,605 lbs. of milk or .205 on 1,000 lbs. while the U. S. lost .42 in separating 3,952 lbs. of milk or only .106 on 1,000 lbs. by which it will be seen that the De Laval lost in actual cash nearly twice as much as the U. S.

In other words, a creamery separating 10,000 lbs. of milk a day would save in a year in butter-fat alone, by using the U. S. Separator, \$361.35 that would be lost by using the De Laval Separator. The President and Directors, after carefully considering the Judges' report, decided to purchase a No. 0 Improved U. S. Separator.

This is only one instance among many where the

IMPROVED U. S. SEPARATOR HAS PROVED ITSELF TO BE A CLEANER SKIMMER THAN THE DE LAVAL.

For further particulars and information, write the

VERMONT FARM MACHINE CO.,

BELLOWS FALLS, VT.

REMEMBER, there is no duty on Improved U. S. Separators shipped into Canada.

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. Prime Minister at head of herd. Seven young bulls for sale—good ones. Also a few females. Stud rams all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram.

J. T. GIBSON,

DENFIELD, ONT.

PURE AND SCOTCH-TOPPED SHORTHORNS FOR SALE.

Ten red bulls, from 6 mos. to 2 years. Calves by Imp. Prime Minister, Strathallan, Hawarden. Also females for sale. Parties notifying us will be met at Burlington Station, Appleby P. O. o **A. D. ALTON & C. N. BLANSHARD CO.**

Shorthorns and Leicesters.

Herd Established 1855.

A number of young bulls, cows and heifers for sale. Herd headed by imported Christopher 28869, and Duncan Stanley = 16364 =. Grand milking cows in herd. Also a number of Leicesters of both sexes, from imported foundation.

JAMES DOUGLAS,

CALEDONIA, ONT.

11 SHORTHORN BULLS 11

5 reds, 3 roans, and 3 whites, for sale, from 3 to 13 months old, sired by imported British Statesman; also some cows and heifers.

FITZGERALD BROS.,

Simcoe Co. -o Mount St. Louis.

Shorthorn Bull, Scotch Topped.

Millbrook Minister = 23730 =; dark roan; calved Oct., 1896; sired by the imported Duthie-bred bull, Prime Minister; dam by Challenge, best son of Barmpton Hero. Sure stock-getter, and perfectly quiet. For sale only because his daughters are coming to breeding age, and I must have a change. -o Address: **R. BROWN, Orono, Ont.**

SHORTHORNS.

15-months-old bull, 7 young heifers, including 11-months-Empress Augusta, imported in dam. o

A. P. ALTON & SON,

Burlington Junction Station. Appleby P. O.

FOR SALE.

FIFTEEN OR TWENTY young Scotch Shorthorn cows and heifers. Also 10 bulls, 6 to 24 months; good ones at right prices. -oe

DAVID MILNE, ETHEL, ONT.

Farnham Stock Farm

Shorthorns—A fine lot of young bulls and heifers; sire, 30th Duke of Sylvan.

Oxford Downs—Both imported and Canadian-bred. A few ewes in lamb to imp. Bryan 125. Prices reasonable.

HENRY ARKELL, Arkell, Ont.

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Topman = 17847 =, champion at Winnipeg, Toronto, London and Ottawa, 1899.

High-class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply om

T. E. ROBSON, Ilderton, Ont.

5 SHORTHORN BULLS 5

My five lusty, well-fleshed, red Shorthorn bulls range in age from 5 to 15 months old. The are all for sale. o **JAS. BROWN, Thorold, Ont.**

GUERNSEYS.

This is the dairy breed for ordinary farmers. Large, vigorous, and hardy, giving plenty of rich milk. Several fine young bulls for sale at very reasonable prices. A few heifers can be spared.

Address—**SYDNEY FISHER,** 17-y-o ALVA FARM, KNOWLTON, P. Q.

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We have five choice young bulls of various ages, also a few in-calf heifers and cows from prize-winning stock, which we will dispose of at reasonable prices. We also offer for sale sixty Shropshire and Suffolk Down ewes of excellent breeding and quality, at from \$10.00 to \$15.00 each. All stock registered. -om

RIDGEDALE HOLSTEIN-FRIESIANS

Two young bulls of choice breeding for sale; also some heifers. Prices reasonable. Write for particulars, or come and see them. **R. W. WALKER,** Shipping stations: Utica P. O. PORT PERRY, G. T. R.; MYRTLE, C. P. R. o

BROOKBANK

Is headquarters for Holstein bulls. They are going fast; be quick if you want one. In writing, state age, etc., preferred. o

Oxford Co. **GEO. RICE,** Currie's Crossing, Ont.

Holstein-Friesian Calves.

We are booking orders for spring calves for March, April and May delivery. Also can spare a few young calves and heifers from deep milking strains. Breeding stock all registered. Write for prices. o **H. GEORGE & SONS, CRAMPTON, ONT.**

The Breed THAT FIRST MADE Hillhurst Famous

FIVE GRAND YOUNG SHORTHORN BULLS FOR SALE, 9 to 12 months old—registered; bred from milking strains; hardy and active, having been reared in a natural manner on pasture. Prices moderate. Special inducements to clubs. A choice lot of

SHROPSHIRE

Ram and Ewe Lambs, by imported rams of Mansell's and Harding's breeding. **HAMPSHIRE, THE GOLDEN-FLESHED**, Ram Lambs all sold. Next crop due January, 1901. Ready for service in August.

M. H. COCHRANE,

HILLHURST STATION, -om **COMPTON CO., P. Q.**
117 miles from Montreal, on Portland Div. Grand Trunk Ry.; 12 miles from Lennoxville, C. P. R.

W. G. Pettit & Son,

FREEMAN, ONT.

IMPORTERS AND BREEDERS OF

Scotch Shorthorns
and Shropshire Sheep

OFFER FOR SALE:

- 12 Imported bulls, 12 mos. to 2 yrs. old.
- 5 " " 9 to 12 mos. old.
- 20 " " cows, 3 to 6 yrs. old.
- 15 " " heifers, 2 yrs. old.
- 5 " " " 1 yr. old.
- 6 Home-bred bulls, 9 to 18 mos. old.
- 20 " " heifers, 1, 2, and 3 yrs.

Our imported bulls are now getting in good shape. All our heifers of suitable age are bred to Pure Gold (Imp.), by Cyprus, and Scotland's Pride (Imp.), a Cruickshank Clipper, by Star of Morning.

Catalogues on application. All our imp. cattle were registered in the American Herd Book before the \$100.00 fee for recording was put on.

Burlington Junction Station, Telegraph and Telephone Offices, within half a mile of farm.

Rapids Farm Ayrshires.

REINFORCED BY A RECENT IMPORTATION of 20 cows, 2 bulls, and a number of calves, selected from noted Scotch herds, and including the male and female champions at leading Scottish shows this year. Representatives of this herd won the first herd prize at the exhibitions at—

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Come and see or write for prices.

Young Bulls and Heifers for Sale, bred from High-class Imported Stock.

Robert Hunter, Manager

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Queenston Cement.

The demand for our cement in 1900 justified us in adding largely to the capacity of our cement works. The indications are that this year's business will be still greater. We start the new century with an equipment which for the manufacture of natural rock cement is not excelled in America.

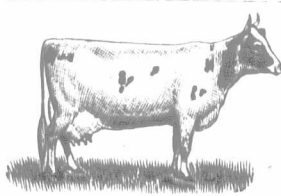
We shall be glad to assist you in making plans for new farm buildings or for remodelling old ones. Our experience should be of value to you. It will pay you to investigate our system of ventilation.

Write us for prices or for estimate of cost of any kind of concrete work.

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Shorthorn Cattle: Eight young bulls for sale; any age, any color. Also cows and heifers—straight Scotch crosses.

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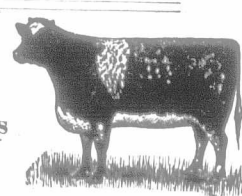


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AND COMPANY,
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Laurentian Stock and Dairy Farm,
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Ayrshires, Jerseys, Shropshires, Berkshires

Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Fawn's Son 2nd of St. Anne's heads the Jerseys. The young stock are all from time-tried dams.

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We can be reached either by steamboat, the C. P. R., or C. A. R.; the C. A. R. making connection with the G. T. R. at Coteau Junction. Rockland is our station on all lines. 7-1-y-om—

HOLSTEINS Maple Hill Holstein Friesians

I AM now offering 4 royally bred Holstein bulls: Regulator DeKol, Pompos DeKol, Jessie 3rd, Inka DeKol, DeDicker's DeKol. All from heavy milking dams, closely related to DeKol 2nd and Netherland Hengerveld, the greatest of Holstein cows.

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PLEASE MENTION FARMER'S ADVOCATE.

Four bull calves, born in August, 1900, sired by the great bulls, Count Mine, Verpoles, and Daisy Teake's King, and out of prize-winning and producing dams. They are show calves, and will be ready for sale in the fall of 1901. One yearling bull, the greatest calf at Toronto, 1900. Also a nice yearling bull, born in August, 1900.

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A QUICK, SHARP CUT hurts much less than a bruise, crush or tear. Done with the **DEHORNING KEYSTONE KNIFE** is the safest. Quick, sharp cut. Cuts from four sides at once. Cannot crush bruise or tear. Most humane method of dehorning known. Took highest award World's Fair. Write for free circulars before buying.

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THE LATE A. C. BROSIUS' PATENT.

WE WANT TO SELL A FEW

Holstein Heifers, coming 2 years old or a few young Cows.

THEY are of the richest and largest producing strains, fine individuals, and bred to as good bulls as there are living. We have a few bull calves and yearling bulls also for sale.

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The home of officially tested, Advanced Registry, dairy test and showing-winning herd of **Sylva HOLSTEINS**. A grandson Sylva now for sale. Price is in keeping with breeding and performances.

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6 BULLS, from 2 to 18 months old, sired by our famous stock bull, Victor DeKol Pieterje. Some are from imported or officially-tested dams. Also a few heifers for sale.

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Am offering 4 choice-bred cows, bred to my DeKol bull; also 5 heifers, 10 mos. old, DeKol breeding, and excellent quality; and 1 bull calf. Write at once for prices. Always a choice lot of Tamworths on hand.

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Offering choice young Bulls and Heifers by Costa Rica's Son.

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Nine miles from Toronto Market.

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For sale: Jerseys—6 yearling bulls; females any age. Tamworths—30 boars and sows, different ages. Shropshire sheep—rams and ewes of good breeding. Prices reasonable.

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6 YEARLING JERSEY BULLS, sired by Brampton's Monarch (Imp.) and from tested cows; also registered and high-grade springer.

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ADVERTISED ARE ALL SOLD. But I have others fully as good, or better. Heifers from 4 months up to 2 years. Several soon due to calve. Another g.g. daughter of old Massena, 10 months old. Three fresh young cows, grand udders. One yearling bull. One aged bull. No young bull calves left, but more to come.

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Breeders of Jerseys (St. Lamberts). Offer for sale, cheap, 2 very fine young bulls, fit for service, out of prizewinning cows, to make room for more coming.

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THREE BULL CALVES, from 1 to 10 mos. old, from choice Ayrshires of deep-milking strains. Prices reasonable. Come, or write to Carr's Crossing, G.T.R. **W. F. STEPHEN,** Brook Hill Farm, Trout River, Que.

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GRATEFUL COMFORTING
Distinguished everywhere for Delicacy of Flavour, Superior Quality, and Highly Nutritive Properties. Specially grateful and comforting to the nervous and dyspeptic. Sold only in 4-lb. tins labelled **JAMES EPPS & CO., Ltd.,** Homeopathic Chemists, London, England.

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A few fine Ayrshire bull calves, from 4 to 12 mos.

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including cows, heifers and young bulls out of our prize and sweepstakes cows. Foundation selected with due regard to quality and productiveness. Come or write.

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Ayrshire Bulls, Write to J. YUILL & SONS,

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for special prices on Ayrshire bulls from 14 years to 6 months. Four over 15 months, fit for service, from special milking stock. Sired by prize bull, Jock of Burnside—1684—, also females of all ages. Shropshire sheep of all ages; a number of fine ram lambs. Berkshire pigs of either sex, of the best bacon type. B. P. Rocks.

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Imported bulls at head of herd: Glencairn 3rd, Napoleon of Auchinbrain, and Lord Dudley. Forty imported females, selected from leading Scotch herds, and their produce from above-named bulls. Size combined with quality and style, well-formed udders, good-sized teats, and capacity for large milk production. Bull calves for sale; also a few young cows and heifers. For prices and particulars, address **JAMES BODEN, Mgr.,** St. Anne de Bellevue, Quebec.

Farm close to St. Anne Station, Quebec, G.T.R. & C.P.R., 20 miles west of Montreal, om

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AND ROUGH-COATED COLLIES.

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I expect to import from Europe, in the near future, and can book orders for stock on commission, as I have a good connection in England and Scotland.

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Breeder of Lincoln Longwool Sheep and Shorthorn cattle. The Riby Flock of upwards of 1,400 Ewes holds an unequalled record for true type, merit, and quality. Its produce and their descendants have won the highest honors at all the principal exhibitions and shows throughout the world; its wool exhibits being unbeaten. Established upwards of 140 years. Its produce leads the way from the fact that satisfaction is given. The Riby Shorthorn Herd of upwards of 300 selected specimens of Booth, Bates, Cruickshank, and Scotch strains, is one of the largest Herds in Great Britain. Its principal Stud Bulls are: "Pride of Fortune" 73240, s. "Pride of Morning" 145694, d. "Flora 2nd," by "William of Orange" 50694; "Golden Robin" 68718 (rich roan), s. "Roan Robin" 57992, d. "Golden Sunshine," by "Royal James" 54972; "Prompter" (Vol. XLV.), by "Prefect" 69255, d. "Rissington Lass," by "Empire 13th," 1st and champion at Ombersley, 1898; "Rosario" (G. Harrison). This bull, his sire and dam, won 84 prizes, including first and champions. Telegrams: "Dudding, Keelby." Rail Stations: Stallingborough, 3 miles; Great Grimsby, 7 miles.

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breeder of Lincoln Long-wooled Sheep, Flock No. 46. The flock was in the possession of the present owner's great-grandfather in 1785, and has descended direct from father to son without a single dispersion sale. J. E. Casswell made the highest average for 20 rams, at the "Annual Lincoln Ram Sale," 1895 and 1897. The 1896 rams were all sold for exportation. Ram and ewe hoggs and shearlings for sale, also Shire horses, Shorthorns, and Dark Dorking fowls. Telegrams: "Casswell, Folkingham, Eng." Station: Billingboro, G. N. R.

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BRITISH STOCK selected and shipped to all parts of the world. Write for prices to **ALFRED MANSELL & CO.,** Shrewsbury, England, or to our American representative, Robert Miller, Stouffville, Ont., Canada.

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SPLENDID MUTTON, GOOD WOOL, GREAT WEIGHT.

THIS HIGHLY VALUABLE

English Breed of Sheep

Is unrivalled in its rapid and wonderfully early maturity, possessing, too, a hardiness of constitution adapted to all climates, whilst in quality of mutton and large proportion of lean meat it is unsurpassed. Full information of

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Secretary of the National Sheep Breeders' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society.

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IMPORTANT SALES OF PURE-BRED LIVE STOCK IN ENGLAND.

JOHN THORNTON & CO.

will sell by AUCTION on WEDNESDAY, MARCH 20. - MR. JOSEPH BARNES' celebrated herd of 60 SHORTHORNS, including a number of first-class young bulls, at Banagh Syke, Wigton.

TUESDAY, MARCH 26. - Sale of young SHORTHORN BULLS at York.

WEDNESDAY, MARCH 27. - MR. W. H. FOWLER'S entire herd of GUERNSEY CATTLE, at Reading, including the prizewinners at the R. A. S. E. Show.

THURSDAY, MARCH 28. - All LORD ROTHSCHILD'S three-, two- and one-year-old JERSEY HEIFERS and the BULLS of 1900, at Tring Park, including the prizewinners.

FRIDAY, MARCH 29. - Mrs. BARRON'S herd of JERSEY CATTLE, including many prizewinners, at Dorney, Taplow, Bucks.

WEDNESDAY, APRIL 3. - Forty JERSEYS from CAPT. FRASER'S well-known prize herd at West Tarring, Worthing, Sussex.

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WEDNESDAY, MAY 1. - Choice selection from Mr. H. J. GIBBS' prize GUERNSEY herd, at Millford, Salisbury.

THURSDAY, MAY 2. - The late MR. ROBT. GARNK'S old-established and celebrated herd of SHORTHORNS, at Aldsworth, Northleach, Glos.

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Andrew E. Mansell, Harrington Hall, Shipnal, England, who is settling in Tasmania, will sell by auction, without reserve, on Thursday, August 29th, 1901, his unrivalled flock of Shropshires. Sheep bought for America and Canada will, if desired, be sent in charge of Mr. Robert Mansell. Particulars and catalogues obtained from Alfred Mansell & Co., Auctioneers, Shrewsbury, England. Commissions carefully executed.

MILLER'S TICK DESTROYER

NEVER FAILS: ONCE IS SUFFICIENT. Kills the eggs, cures scab, improves the wool. 35c. Tin - sufficient for 20.

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FAIRFIELD LINCOLNS.

The largest flock of imported Lincoln sheep in America, and contains more Royal first-prize winners than any other on this continent. Sheep of this flock won the first prize for the best flock at Toronto, 1900, and all the first prizes for rams at the International Show at Chicago, including the championship and progeny of a sire. Imported and home-bred rams and ewes for sale. Fifty imported ewes in lamb to first-class English rams. Write for prices or come and see. J. H. & E. PATRICK, Idertton, Ont.

W. H. BEATTIE, Wilton Grove, Ontario, IMPORTER AND BREEDER OF Shropshire sheep, collie dogs, White Holland and Mammoth Bronze turkeys, and Barred Rocks.

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THE largest flock in America. The most celebrated prizewinners at the Columbian Exhibition and Canadian exhibitions. Contains more Royal winners than any other. Awarded 5 out of 8 first prizes at Toronto, London and Ottawa in 1900. Flock of 300. Stock for sale always on hand.

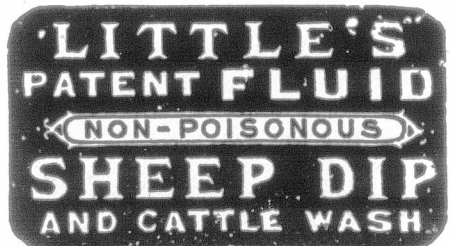
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HUNTLYWOOD FARM

SOUTHDOWN SHEEP (IMPORTED AND HOME-BRED), ALSO DEXTER-KERRY CATTLE. A USEFUL LOT OF SOUTHDOWN RAMS NOW FOR SALE. APPLY TO-

W. H. GIBSON, MANAGER.

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Still the favorite dip, as proved by the testimony of our Minister of Agriculture and other large breeders.

For sheep.

Kills ticks, maggots; cures scab; heals old sores, wounds, etc., and greatly increases and improves growth of wool.

Cattle, horses, pigs, etc.

Cleanses the skin from all insects, and makes the coat beautifully soft and glossy.

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No danger, safe, cheap, and effective

Beware of imitations.

Sold in large tins at 75 cents. Sufficient in each to make from 25 to 40 gallons of wash, according to strength required. Special terms to breeders, ranchmen, and others requiring large quantities.

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Sheep of both sexes for sale, many of which are bred from the famous imported ram, Royal Warwick 3rd. Correspondence solicited. Visitors welcome.

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Breeder and importer of registered Oxford Down Sheep. Selections from some of the best flocks in England. Stock for sale at reasonable prices. Inspection invited. 6-1-y-o

Large English Berkshires

WINDSOR MODEL IV. lately imp., and Royal Star 3rd, head our herd. Young boars and sows. Two pens of R. P. Rocks, mated to produce the best results. Write for prices. H. BENNETT & SON, St. Williams, Ont.

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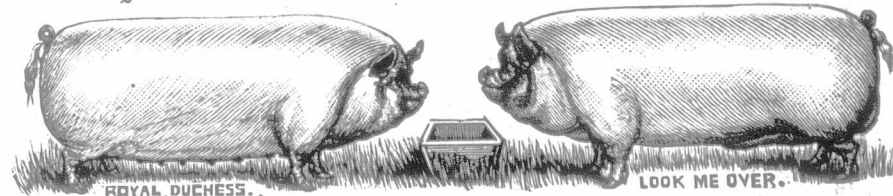
Have secured the first choice of the champion gold medal herd of America (which won over 400 prizes, cups and medals), including the \$100 show sow, Elphick's Matchless (never beaten), and other sweepstakes sows in the United States. Also 15 April, May and June boars and 15 sows of the same age, and 3 fall litters, selected to meet the best Canadian demand, being long, low, and extra good through the heart. Farm within 10 minutes' walk of electric R. R. terminus on Kingston road.

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The largest herd of imported and Canadian-bred Yorkshires in America. Out of 121 exhibits at the leading shows in '99 and 1900, including Toronto and London, we gained 116 awards. Expert judges both at London and Toronto were unanimous in pronouncing our herd far superior to that of our strongest competitors. Won most of the best prizes offered, including first prize for best pen of pure-bred bacon hogs, also grand sweepstakes over all breeds in a class of 13 entries. The foundation of our herd was laid by personally selecting the choicest stock from the most noted breeders in England and Scotland. We have the ideal bacon type—size without coarseness, and easy feeders. Pigs of all ages for sale at moderate prices. Write us for particulars. Telephone, Millgrove, Ont. Telegraph 254 Bay St. S., Hamilton, Ont.

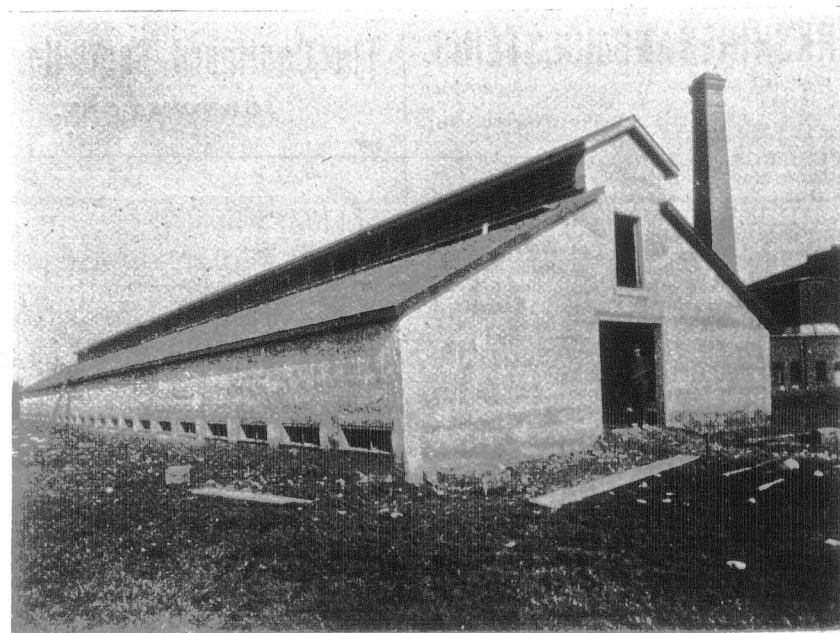
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Size of main building 40 x 192 x 10 feet x 9 inches thick. Gables, 15 feet high x 9 inches thick. Office, 18 x 20 x 10 feet x 9 inches thick. Floors, 6 inches gavel and 4 inches concrete, in all 10 inches thick. Capacity, 12 carloads pigs. Labor and material, walls and floor—12 men 24 days; 226 yards gravel; 44 yards stone; 324 barrels THOROLD CEMENT. Built under the supervision of our N. B. Hagar.

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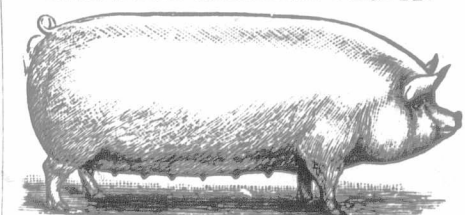
YOUNG boars and sows carrying the blood of Baron Lee 4th, Bright Star (imp.), Enterprise and Highclere, on Bow Park, Teusdale and Snell females, with Allandale Boy 5875 and Royal Lad 3rd 4307 heading the herd. S. DYMENT, BARRIE, ONT.

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The largest and oldest established registered herd in Canada. I make this breed a speciality, and furnish a good pig at a fair price. Write for prices.

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ARE THE CORRECT TYPE TO BRING THE GREATEST PROFIT.



Berkshires - Large, lengthy, English type. Five first-prize boars in service. Spring pigs ready for shipment. Boars fit for service. Sows ready to breed. GEORGE GREEN, Fairview, Ont.

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We have for sale some promising young boars and sows of different ages. Boars fit for service, sows large enough to breed. Young pigs from 4 to 8 weeks old. These pigs are got by the prizewinning boars, Colonel Brant 5950, Court Master 7710, and Gallant Prince 7691. Our herd is bred from the best strains of Large English Berkshires. Write for prices.

SNELL & LYONS, Snelgrove, Ont.

We breed our winners, and we win more prizes than all other herds combined at Toronto, London, and other large shows. Sweepstakes in bacon classes over all other breeds in dressed carcass competition, also on foot, for two years in succession. Championship carcass in bacon class at Chicago, 1900. First-prize herd at Toronto Industrial for nine years. Write for prices.

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BIG STRAWBERRY GIVEN AWAY.
 We will mail you six plants of Corsican, biggest strawberry on earth, if you will send us 25c. for one new subscription to **GREEN'S FRUIT GROWER and Home Companion for six months.** Established twenty years ago. It has 60,000 subscribers who say it's the best family fruit journal in America. Send for free sample copy.
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We have for sale several choice sows in pig; also boars ready for service; and young P. Chinas and Yorksires ready to wean.

Yorksires and Berkshires of the most approved type: sows safe in pig, boars fit for service and sows ready to breed, young pigs ready to ship. Guaranteed as described. Prices reasonable.

JAS. A. RUSSELL, Precious Corners, Ont.

Improved Yorkshires FOR SALE,

of the most popular families. All ages and both sexes now ready for immediate shipment. Write for what you want. Prices reasonable—consistent with quality.
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FOR SALE: YORKSHIRES AND HOLSTEINS.

Best type and quality. Young stock constantly on hand. Prices right.
E. HONEY, Warkworth, Ont.

TAPE BROS., importers and breeders of Ridgetown, Durac, Jersey, Swine, Ridgetown, Ont.

We have STILL on hand 4 grand young boars from Summerhill Queen, sired by O. L. Ottoman 3rd. Eggs for hatching from No. 1 pens of B. P. Rocks, W. Wyandottes, W. and Brown Leghorns, White and Black Minorcas, at \$1.00 per setting. Bronze turkey and Pekin duck eggs in season. **A. B. ARMSTRONG, Codrington, Ont.**

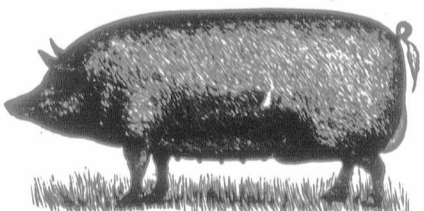
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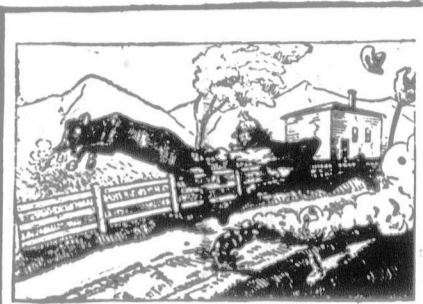
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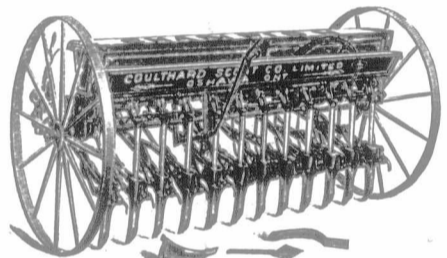
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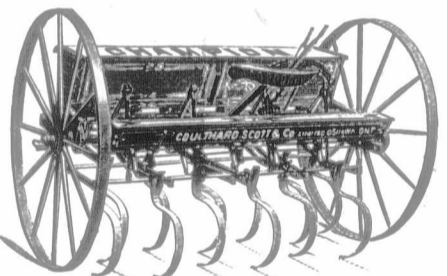
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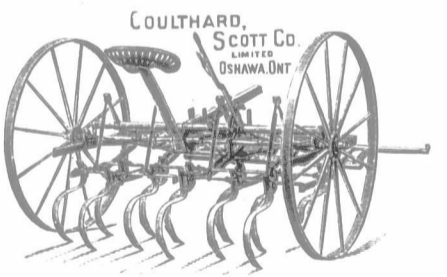
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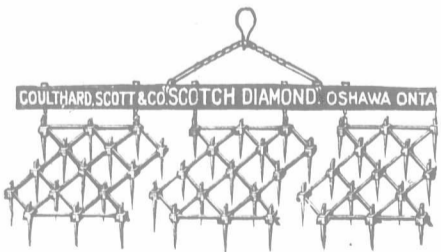
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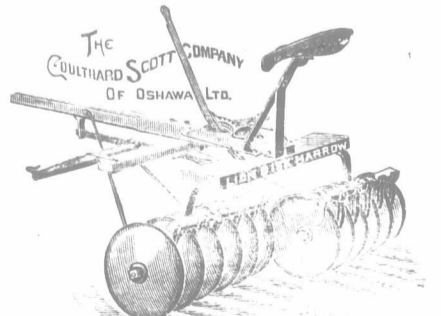
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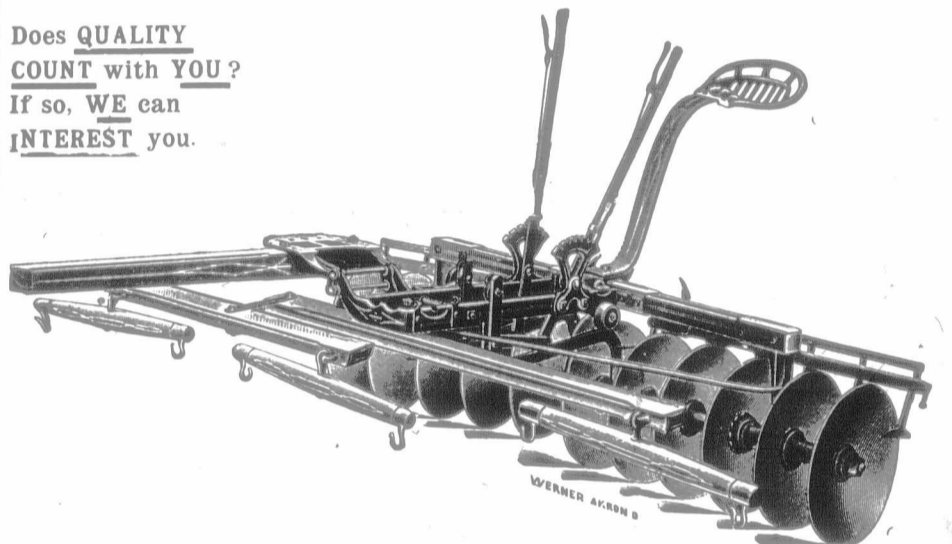
We shall be glad to have your enquiry by letter or card.

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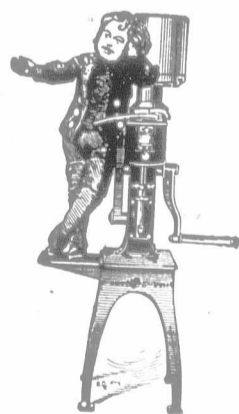
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AN EVERYDAY STORY RETOLD.



THE BABY RESCUES WHAT THERE IS IN IT.

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IF YOU DO NOT BELIEVE IT, TRY ONE.

Gentlemen,—
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 On January 1st I allowed your agent at Delta, Wm. Johnson, to place a No. 2 Alpha Cream Separator in my house on trial. He took 163 pounds of skim milk that we had ready for pigs, milk that had been set in creamers for 24 hours and skimmed as close as we could skim it. We did not think the Alpha could get any more cream out of it, but, to our surprise, took out of the 163 pounds enough to make 1 pound 15 ounces of butter, for which we received 40 cents from agent, who wanted it to exhibit.

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 Yours truly,
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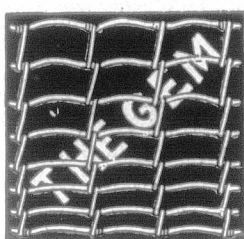
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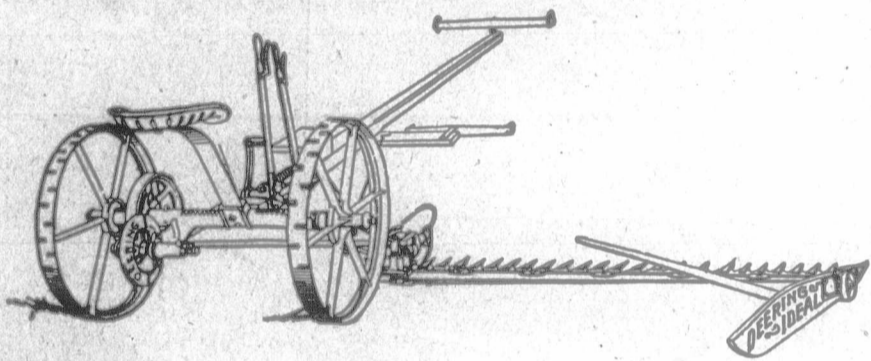
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