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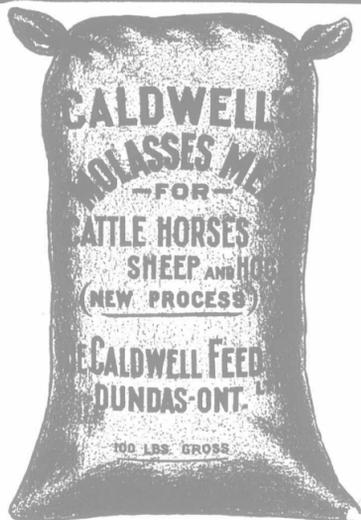


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Vol. XLVI.

LONDON, ONTARIO, DECEMBER 14, 1911.

No. 1003



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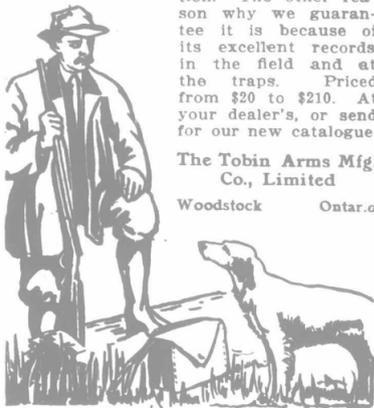
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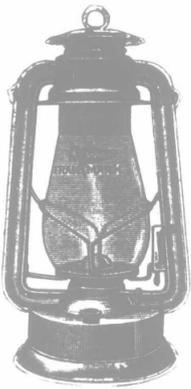


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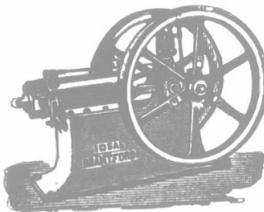
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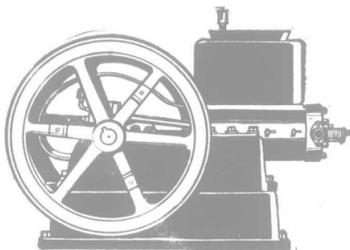
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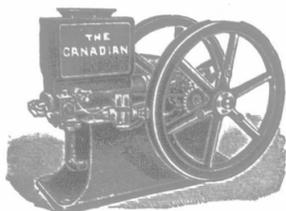
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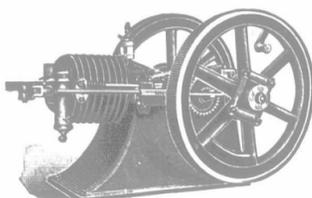
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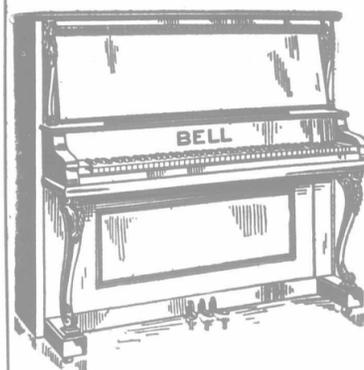
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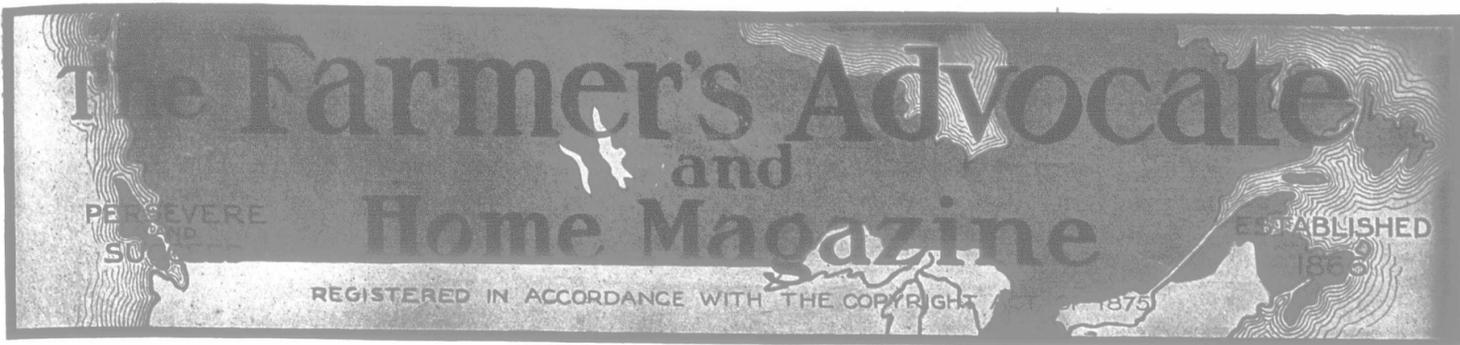
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Vol. XLVI.

LONDON, ONTARIO, DECEMBER 14, 1911

No. 1003

EDITORIAL.

"Some are born great, some achieve greatness, and others have greatness thrust upon 'em."

It may cost us something to enjoy winter, but it is one of the most valuable assets of Canada.

As a daily viewing-point, it is better to be on the lookout for things to commend, rather than for things to criticise.

Get rid of the barbarous barb wire. At Weldwood we are burying several hundred pounds of rusty strands under the filling of the barn approach.

A Middlesex farmer, with a cement silo, who has had experience of its use without and with a roof, comes to the conclusion that the roof will pay for itself in one year. The silo is more comfortable, and the silage keeps better in winter, and also in summer. A roof excludes sparrows and snow.

The true patriot is one who is neither a sycophant to the government nor a tyrant to the people, but one who will manfully oppose either when they are wrong, who regards what's right, as a minister said to me, and not what is popular; who supports institutions as a whole, but is willin' to mend or repair any part that is defective. —[Sam Slick.

Correspondence received by "The Farmer's Advocate" shows a favorable reception to the suggestion recently made in these columns, that the present helter-skelter assortment of offices for the Department of Agriculture at Ottawa should be replaced by one commodious building capable of housing the Deputy Minister, the various branches or divisions, auditoriums for national gatherings in the interest of agriculture, and museums of agricultural products or appliances of national interest.

Upon the strength of information from an Ottawa correspondent, "The Farmer's Advocate," in last week's (Christmas Number) issue, stated that Andrew Broder, M. P. had been selected as chairman of the House of Commons Committee on Agriculture and Colonization. Whatever the "slate" may have contained, a later message announced a change of programme in the bestowal of the honor upon Jas. A. Sexsmith, M. P. for East Peterboro, Ont., to whom our congratulations are duly extended, with the hope that he will even surpass anticipations of what his fellow parliamentarian might have been able to achieve in directing the deliberations of the Committee.

The appointment of R. S. Hamer, B. S. A., to a position in the Live-stock Branch at Ottawa indicates determination to extend the scope of work under the Dominion Department of Agriculture. As one of the County Representatives under the Ontario Department of Agriculture, Mr. Hamer acquired useful experience, which will be put to good account in his new sphere. For some time Dr. Rutherford, Live-stock Commissioner, and H. S. Arkell, Assistant, have been restricted in their outside work by the multiplying routine of office duties. To be of real service in promoting live-stock husbandry, leading members of the Branch find it imperative to keep in touch with what is going on in actual live-stock circles, and by personal study of actual conditions,

A Dangerous Victim.

The level-crossing Juggernaut should be careful in selecting his victims. A few weeks ago Peter McArthur had a narrow escape at a treacherous level crossing which was supposed to be protected, but which, it seems, was protected only at certain hours. He wrote about his experience in the Toronto Globe, with the surprisingly satisfactory result of a prompt letter from Hon. J. P. Mabee, Chairman of the Railway Commission, who agreed that a crossing protected with gates part of the day was worse than a crossing not protected at all. Better still, an order was issued requiring that this particular crossing be protected continuously. Naturally jubilant at the results of publicity, Mr. McArthur wrote another letter telling about it all, and extolling the methods of the Railway Commission. By a peculiar irony of fate, the issue of the newspaper containing this letter contained also a despatch telling of Mr. McArthur's vehicle having been struck by a train and cut in two on another level crossing east of Glencoe, the author escaping miraculously with bruises and a bad shaking-up. He is positive that he took all the usual precautions, but saw no light nor heard any sound until the horse jumped.

The article under his name in this issue of "The Farmer's Advocate" was composed before the accident occurred. He hopes, after recovering from the shock, to resume the writing which is being so eagerly followed by a wide circle of admirers. If the accident enlists more persistently the service of his effective pen in the cause of abolishing and protecting these deadly railroad traps, it will have been well worth the pain and loss of time. have been well worth the pain and loss of time. The railway was surely ill-advised in running over a man like Peter McArthur.

Demonstration the Order of the Day.

Precisely in line with the purpose of "The Farmer's Advocate" orchard and farm enterprises is a suggestion we noticed the other day in the annual report of L. H. Bailey, Director of the New York State College of Agriculture, whose portrait adorns the first page of reading matter in our 1911 Christmas Number. The time has now fairly come, says Prof. Bailey, when a college of agriculture cannot expect to ask public confidence unless it is able to give actual demonstration and proof in farm management. It is impossible, he asserts, to give such proof on a college farm, because a college farm is not a normal business enterprise. In equipment and function it differs radically from an ordinary farm proposition. College farms are exceedingly valuable as laboratories for demonstration areas and for experimental grounds. It would be impossible to have a first-class college of agriculture without such areas, but, in addition to this, there is needed at least one good farm where some of the different elements can be actually brought together on a strict business basis. Such a farm should be far enough from the college so that it will not be interfered with by all kinds of enterprises that do not belong to actual, practical farming.

"Such farm," he goes on to say, "is necessary for the effective teaching of farm management. Complete records and cost accounts should be kept. The records of the cost of producing crops, of milk, of live stock, of timber, and the like, and the profits from them, should furnish

the basis of our practice work in teaching the business of farming. Each student should make plans for the future management of the farm, based on these records. The whole subject of cost accounting on farms needs to be studied in a new way; and, of course, it must be based on the work of farms organized in a regular business system. To a certain extent we can use the figures and results of farmers' farms, but, of course, we cannot secure complete records of any private farm, nor could we lay out new plans of farming based on actual cost accounting.

"My suggestion is, therefore, that as soon as possible the University (Cornell) acquire a good farm of such size and location that it will constitute a good business farm enterprise of the average or better sort. Each year the business accounts should be published in bulletin form, together with full discussion of the results. Such publications would be the best possible means of showing how to keep similar records, and how to project a farming scheme founded on such records."

United States Agriculture.

Here are some points of special interest from the annual report of the United States Secretary of Agriculture, Hon. James Wilson, made public last week:

The universities are asked to educate more plant pathologists and road engineers. The demand for their services exceeds the supply.

The poultry products of the United States are estimated at \$750,000,000 for the current year.

The various bureaus of the Department are proceeding upon two main lines, scientific research and practical demonstration, and, for the work, the Government is enlisting the most capable available.

For the benefit of both, one of the greatest needs of the country is good roads from producer to consumer.

When a foreign insect invades the plant or animal life of the country, the best trained experts available are despatched to seek its natural enemy or parasite where it came from.

The consumer pays a dollar for food; the farmer gets less than fifty cents for it. Who takes the balance?

All Government agencies that conserve public health should be grouped in one bureau.

The United States grows three-fourths of the world's corn crop.

The farmer's son is to be educated to a more valuable life on the farm.

Uplift the farm home by educating the farmer's daughter towards greater usefulness and attractiveness in the farm home.

The waste of liquid fertilizers is the greatest farm waste of the times.

There is great promise in the fact that whole classes of graduates of agricultural colleges go back to the farms having learned how to make them more profitable.

The public should, by monthly reports to the Government, know what foods are being withheld from consumption in cold storage.

The past year was the greatest year in the history of American agricultural colleges.

Good progress is reported in the breeding of carriage horses at the Colorado Government Farm, Morgan horses in Vermont, and gray draft horses (Clydesdale and Shire blood) in Iowa.

The Department of Agriculture has been unable

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL
IN THE DOMINION.

PUBLISHED WEEKLY BY
THE WILLIAM WELD COMPANY (LIMITED).

JOHN WELD, MANAGER.

Agents for "The Farmer's Advocate and Home Journal,"
Winnipeg, Man.

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2. **TERMS OF SUBSCRIPTION.**—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries 12s. in advance.
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13. **ALL COMMUNICATIONS** in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD COMPANY (LIMITED),
LONDON, CANADA.

to supply the demand of schools for its publications.

Experiments conducted at the Pennsylvania Station shows that steers fed in an open shed on succulent rations, including silage, made more rapid and cheaper gains, and attained a higher finish than similar cattle fed in the same way in the basement of a barn.

The dairy expert at the New York Experiment Station (Cornell University), in his work with milking machines, found that immersion of the milking parts in a ten-per-cent. solution of common salt between milkings was more efficacious than steaming. The germ content of the milk was found to be determined largely by the efficiency of the air filters of the machine.

Secondary Schools of Agriculture are making steady progress. Several States have established regular systems of Agricultural High Schools, while others grant bonuses to High Schools for giving agricultural instruction. Maryland, New York, North Carolina and Wisconsin passed laws during the year granting aid for such High School departments, and Minnesota and Virginia increased their grants. The farmer provides \$2,500 a year for each of thirty High School Departments of Agriculture, home economics and manual training, and \$1,000 each to fifty other such departments. Ten States now give aid to High School Departments of Agriculture.

During a test of a 50-bottom gang plow with oil tractors, at Purdue University, Ind., on the Agricultural College farm of that institution, fourteen acres were plowed in one hour, the plow moving forward two miles in this time, making a cut 58 feet broad, and turning furrows 4½ to 5 inches deep. Three traction engines abreast, with oil motors, were required to haul it. They consumed about 22 gallons per hour of low-grade kerosene, and the fuel cost was about 6½ cents per acre. These facts, quoted by the Literary Digest, with credit to the Engineering News, are perhaps more interesting than helpful to farmers in Eastern Canada, but it is worth while knowing what is being accomplished elsewhere.

Reading.

By Peter McArthur.

Some time ago I saw a joke in the corner of a newspaper that led me to do a lot of thinking, and perhaps it will do no harm to tell about it now that the long winter evenings are with us again and we have time for reading. It was about a Scotch shoemaker to whom someone had given a volume of Plato. When asked how he liked the book, he replied:

"Very much. Plato has many o' my ideas."

The egotism of this was supposed to be very amusing, and yet if the Scotch shoemaker and Plato had not many ideas in common, Plato would have written in vain. The greatest benefit we get from reading is to find expression for our own ideas. Few of us can put our ideas in shape for ourselves, even though we may do much thinking, and the true mission of a great writer is to give form to what we have already thought out for ourselves. Most people read books to acquire knowledge, but I am coming to the conclusion that it is a somewhat profitless thing to do. People would do better to leave knowledge in the books that contain it, instead of cluttering up their brains with more than they need for their daily work. I have an excellent encyclopedia, and whenever I need some knowledge I look it up, use it according to my need, and then proceed to forget it. If I ever need it again, the book is there, and I can get it when I want it. The dry facts of life should be kept in books, instead of in people's heads. Whenever I think of that German professor of history who boasted that he could remember over seven thousand dates, and if called upon could name any one of them correctly, I always feel that he had no place among human beings. He should have been bound up with a leather back and paste-board sides, and put on a shelf in a Carnegie library. One should read to get thoughts, not facts, and to get thoughts you must think yourself and have experience of life. The greatest good a man can get from a book is a thought that casts a clear light on some experience of his own, and makes it forever intelligible to him. And when a man finds a book that has many of his ideas in it, he should read it over and over. If it is a really great book, he can keep track of the growth of his own mind by the new ideas he finds that he and the author have in common. If the man who wrote the book had a great deal of experience of life, and had, besides, the gift of expression, the reader will find, as he accumulates experiences and thinks for himself, that it contains a true expression of his own life, and when he has lived it all and mastered it all, he is equal in mental wealth to the man who wrote the book. If you found, at some time in the past, that some good book had many of your ideas, read it over again this winter and you will probably be surprised to find that it has many more of your ideas. There are a few good books that I make it a practice to read through every year, and at each reading I am amazed to find how much I missed in the past. Of course, I had understood all of them in the way that we talk of understanding things; my reason assented to the thoughts they expressed, but none of the great thoughts gripped me or became a part of my being until I had had some experience or some mental struggle that made me realize their wonderful truth. Emerson has said that a man never gets from a work of art but what he brings to it. This is profoundly true. We must have taken thought ourselves before we can benefit by the thoughts of others, and how glorious it is to find some thought that has been beating dimly in our minds expressed with finality. It is then our thought as much as it is the author's.

* * *

In most cases reading is simply a bad habit. That is a dreadful thing to say, isn't it, when so many people think it is a compliment to a man to say of him that he is a great reader. I have come to the conclusion that if a man is not a thinker, reading is simply a waste of time. Leaving out the frivolous stuff that is written merely to kill time (and it is useful, occasionally, to give one's mind a rest and clear it of worries), most of the material that is usually called sound reading had better be left on the library shelf. I have no particular admiration for the man who

"Pecks up wit as pigeons do peas,

And utters it again as Jove doth please."

And I have no patience with those tiresome people who know the exact facts and figures about this or that, and persist in cramming you with them whether you are interested or not. Take even such a subject as Canada, in which we are all profoundly interested. I am perfectly willing to have all the essential facts about it remain in Frank Yeigh's little book of "5,000 Facts" until I need them. I have it lying within reach,

and when I want to know how many bushels of wheat were raised in Alberta last year, I take it up and find out. Then I put it back in its place, and it keeps quiet until I need it again. Now, if I asked one of those human encyclopedias about the wheat crop in Alberta he would not be satisfied with giving me what I wanted, but would insist on airing his knowledge and telling me how many codfish are caught on the Newfoundland Banks, and a lot more things I did not want to know at that particular time. The man who has crammed his head with facts has usually been wasting his time. A book would keep the facts in much more convenient form, and hold them until needed.

* * *

Now, this sounds rather serious, and might lead some good people to think that my favorite books are all heavy and solemn. Far from it. English literature is now so rich that you can get all human thought expressed to your individual taste. If you are fond of poetry, you can find every experience you have had, and every thought that has haunted your brain expressed in mellifluous language. If humor is your choice, humorists have illuminated with their good-nature everything you could possibly want to know. If you lean to fiction, you can find all human problems interpreted to your liking. It is the same in history, philosophy, science, and every department of human thought. You can find your own, if you will only look for it, and you can find it in the form suited to your taste. But perhaps the most important thing about reading is your own attitude towards it. If you will only realize that one man is not very different from another, you will soon begin to see that you have had the same experiences as every other man. The thing that is true in the palace is just as true in the farmhouse, if you will only do enough thinking to find where it applies. But you must think for yourself if what you read is to do you good and stimulate your mental growth. Unless you can find poetry or fun or philosophy in your own life, you can never find them in books; but once start finding them in your everyday experiences, and then the good books will help you to find a thousandfold more. There is no more mistaken idea in the world than that one man's life is very different from another's. The man with the hoe can find as much in life as the Prime Minister, if he will only take the trouble to look about him. He can feel as much, suffer as much, enjoy as much. If you do not find life interesting where you are, you would not find it interesting anywhere else. Learn to enjoy something within your own experience, and then you can get books that will enable you to enjoy more. But, above all things, do not set yourself to the task of reading as if it were a duty you had to perform. You should regard reading as a glorious privilege, and try to find books that will be to you as Plato was to the shoemaker. Hunt for the authors who have a lot of your ideas, but be sure that you have some ideas of your own to begin with. You can get them anywhere if you are interested in any phase of your life or your work. I dislike lecturing people in this way, but I get so much solid enjoyment out of reading that I want to share it with others.

* * *

Yesterday afternoon I was asked to help capture and bring home a yearling heifer that had never felt a halter. She had been running in the pasture and woods all summer, and was as wild as a deer. We were told that we would find her in the barnyard, and then the trouble began. After holding a council of war, we decided to drive her into the stable, get a rope around her horns, tie her head down to her front foot, and then lead her home. But she had different ideas. While we were discussing our plans, she stood watching us with a distrustful eye. When we started to shoo her gently towards the open door of the stable, she began to rush around wildly in every direction except the one in which we were trying to drive her. She avoided the open stable door as if it were a death-trap. When we were finally out of breath, we stopped to "pause and consider," and that contrary creature at once waded right into the stable to pick up some hay that was scattered on the floor. There was a quick rush, the door was closed, and she was a prisoner. When she was finally cornered in a stall, the work of roping began. By skillful manoeuvring I got into the manger, where I was safe from her wild rushes and savage kicks. The other man put a board across the stall and pushed her up towards me. The experiences of the next five minutes greatly increased my respect for the cowboys who can ride at full speed and drop a lasso over the horns of a galloping steer. But I finally managed it, and with her head hobbled down to her front foot, and a second rope around her horns to lead her with, the stable door was thrown open. A three-ringed circus would be tame compared with the performances of the next few minutes. She jumped, plunged, reared up, turned somersaults, and yanked a struggling hu-

man being all over the yard, while I stood to one side and quoted Byron:

"Untired, untamed, and worse than wild,
All furious as a favored child
Balked of its wish; or fiercer still—
A woman piqued—who has her will."

After getting out of the yard, the performance was continued all over a ten-acre field, but finally we managed to steer her through the road gate. On the way home she led us through every puddle and ditch she could find. I was beginning to sympathize with her struggles, when she suddenly stopped and began to eat a tuft of frozen grass. This gave us a chance to take a little rest. Then, with a final effort, we got her home and into the stall that was waiting for her. Who says that this country life lacks excitement?

HORSES.

The farm is the place for the young horses and the brood mares. Nothing but a mature horse should be sent to the city pavements, and the mares should be retained for breeding purposes.

The horse market the past autumn has proven conclusively that the sound horse is the horse that finds readiest sale. Almost invariably he makes more money for buyer and seller, and a slight market depression does not injure his selling value nearly so quickly as it does that of the inferior, cheaper class of blemished animals.

What care is being given the stallion during this his off season? Is he forced to remain in a dark, dirty stall in some secluded corner of the stable, without any extra care or exercise? If he is to do his best work at the stud during the coming season, he must be kept in good condition, and his vigor must be maintained by regular exercise in the open air. Sure foal-getters seldom spend the winter entirely free from exercise.

With hay selling at prices hovering around twenty dollars a ton, and even higher, twenty-four dollars being quoted on Toronto market recently, and oats and all other kinds of feed at famine prices, as they are this winter, city horse-buyers are not so keen to buy as they sometimes are. Nobody is buying horses, unless they are absolutely needed for immediate work. The actual cost of keeping a good horse is no greater than that required to keep a "plug," and, besides, there is always a sale for a good horse, whereas there is a greater risk with the unsound worker class of animal. From a purely business viewpoint, the sound animal has a decided preference, and there is also more satisfaction in owning him.

At present prices, a portion of corn might be profitably added to the concentrate ration of the horses to take the place of some of the oats. Corn is widely used as a horse feed in the corn belt. Henry says that, while corn does not have all of the superlative qualities of oats, nevertheless, because of lower cost and higher feeding value, it will always be extensively used in America wherever large numbers of horses must be economically maintained. When feed is scarce and high-priced, economy is studied more carefully by the feeder than when fodder is more plentiful. It must be remembered, however, in substituting corn for oats, that the change must be made gradually, or indigestion may result.

Horse Sense.

We reproduce below a recent article, contributed to the Independent, one of the sanest American weeklies, by John Burroughs, the distinguished naturalist and nature-lover. The subject of the article has aroused world-wide comment. Mr. Burroughs' elucidation of it is submitted not with a view to depreciating the intelligence of the horse, but merely in the interest of science and truth:

We have heard so much about animal mentality of late years, and the tendency of the popular mind to credit the dumb friends with more than their share of intelligence is so strong that one reads with peculiar interest the account of the famous German horse, Clever Hans, and the story of the puncture of the bubble of his supposed wonderful mental gifts, as told in a recent volume by Professor Pfungst, of the Psychological Institute of the University of Berlin. Here was a horse that had set all Germany agog by its supposed astonishing feats of intelligence, and stirred up bitter strife and debate among many prominent scientific men, baffling experts and learned commissions sent to investigate him and convincing even his trainer and owner of his extraordinary mental endowments. People who came to scoff—Mr. Scil-

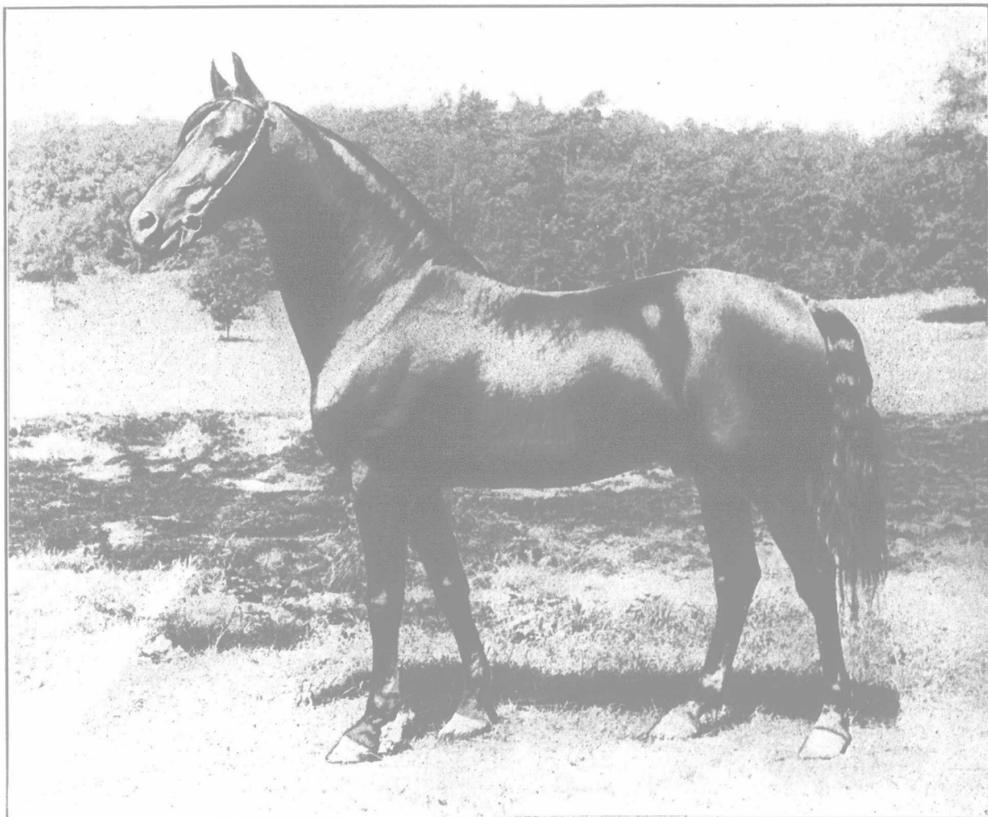
lings, the noted African traveller and sportsman, and Professor Schweinfurth, and the zoologist, K. Mobius—remained to wonder. The horse could apparently count, add, subtract, do problems in fractions, tap off the right answer, for instance, to a question like this—How much is two-fifths plus one-half? He could change common fractions into decimals, and vice versa. He could apparently distinguish tones in music, pick out colors, spell, read, name dates and days, understand French and German, and a thousand other things impossible for a horse to understand, deceiving not only chance visitors and learned commissions, but apparently fooling, as I have said, his trainer, an old German teacher of mathematics. In fact, experienced educators declared that Hans was at about the stage of development of a child of thirteen or fourteen years.

It seems to me that any careful student of animal life would have unhesitatingly staked his life that the horse had no more conception of arithmetical problems than a child has of the differential calculus, but apparently some very astute men were convinced that he had. Not until Professor Pfungst took the case in hand was the mystery cleared up. Through a long list of most ingenious experiments, he discovered that the horse could not, unaided, do one of the many feats he was supposed to do; that he had no more knowledge of numbers than a block has, no reasoning or thinking power whatever, and that a carrot, a piece of bread and a lump of sugar, which always awaited him at the end of his stunts were the mainspring of his action. Or, as Professor Pfungst says: "Instead of the much desired intellectual feats on the part of the horse, there was merely a motor reaction to a purely sensory stimulus."

But while the claims for the horse's mental powers were dispelled, other powers, powers of observation, or perceptual powers, were disclosed—powers of their kind far exceeding those of the ordinary man. As soon as Professor Pfungst covered the eyes of the horse, the game was up, and Hans was unhappy. When he could not see his interlocutor his power was gone. And then it gradually came out that Hans had been able to tap out the correct answers to questions put to him by reading certain delicate involuntary movements in the head and body of his questioners. When the right number had been tapped, or the right solution reached, his questioners, one and all, invariably indicated it by an upward movement of the head and body, movements so slight as to escape their own notice and the notice of the spectators, but yet sufficient to give to the marvellous eye of the horse his cue. When the horse could not see his questioner he could not give the right answer; and if he could see his questioner he could answer a mental question as well as a spoken one. "In fact," says Professor Pfungst, "the responses of the horse were quite as correct when I did not even whisper the ques-

tion inwardly." When asked to count or to read, the horse never looked at the persons or the objects he was to count, or at the words which he was to read, yet he would give the proper response if he could see the questioner. His ears did not serve him at all; the responses were dependent entirely upon sight. "All speech was superfluous, and, except in so far as the tone of voice in which it was spoken was soothing or reprimanding, it was quite unintelligible to the horse." His feats would probably come under what was classed as "mind reading," but Professor Pfungst clearly demonstrated that they were due to muscle-reading. The mind of the horse seemed to mirror that of his interlocutor; when the latter was confused or uncertain, the responses of the horse reflected that fact; he failed when or where his questioner failed. When the questioner knew the right answer, Hans's responses were correct nine times out of ten; when the answer was unknown to the questioner, the horse's responses were incorrect nine times out of ten. If the questioner tried to mislead the horse by thinking the wrong answer—as, for instance, that two and two make five—he never succeeded, because he could not banish from his own consciousness that the correct answer was four; consequently, when the horse had tapped four times with his foot, the involuntary tension and almost imperceptible forward movement which the questioner maintained while awaiting the responses from the horse gave way, and the very slight elevation of head and body which followed his own relaxation in attention gave the horse the cue to stop tapping.

Not until Professor Pfungst discovered these minimal involuntary movements in himself while questioning the horse, and then discerned them in others, did he arrive at the solution of the horse's supposed mental ability; then his numerous and elaborate tests and counter-tests were made until the entire matter was cleared up, and resolved itself into finding that whatever the stunt proposed to the horse was, he began slowly tapping, closely watching his questioner the while, and he kept on tapping so long as the questioner's head and body remained bent forward in expectant attention, and ceased when, the correct number of taps being reached, the questioner lifted, though ever so slightly, his head and body. The painstaking professor then put himself in the place of the horse, and was put through similar tests, and found, after some practice, that he could answer first spoken, then unspoken questions from others, by closely observing their involuntary movements while awaiting his responses. This was, of course, done without letting his questioners know his purpose. Only after many trials was he able to answer mental or unspoken questions as the horse did, guided always by the slight, unconscious movements of the questioner. And he found that he failed under the same conditions that Hans failed, and for the same rea-



General Gates (666).
Foaled 1894, at head of stud, Morgan Horse Farm, Middlebury, Vt.

sons. If the question called for but one tap, he could not give it, neither could the horse, his explanation being that there was not time for sufficient concentration and muscular tension to cause the questioner to assume the stooping posture from which he would involuntarily arise when the correct number of taps was reached.

On the whole, no such light has ever been thrown upon the psychology of the horse or upon that of any other of the larger mammals, as is thrown by these controlled experiments of Professor Pfungst. It helps one to understand the intimate relations that so often exist between horse and rider or driver, when the unspoken thought of the man is so quickly responded to by the horse. If some laboratory psychologist would now solve the mystery of the balky horse for us, how would not only mankind but also horse kind be the gainer! We have had many noted horse-trainers and horse-breakers, but their procedures do not seem to have been based upon any special insight into the psychology of the horse.

How this clever horse became able to discriminate these minute muscular movements is not clear, as the weight of evidence seems to show that this German trainer and owner did not consciously train him to take his cue from these movements, and did not seem aware that he made such movements while questioning the horse. He himself appears really to have believed that the horse had a mind, and could be taught as one teaches a child, and he patiently set himself the four years' task of training him, and was, of course, very reluctant to see his dream dispelled by the crucial experiments of Professor Pfungst.

There is this fundamental difference between man and the lower orders that we need not have recourse to the laboratory to verify: We can educate a man, draw out and develop his intelligence, but we cannot in the same sense educate one of the lower animals. We can train an animal and cause it to form new habits; we can change its size, color, form, disposition, and make it our slave, but we cannot add to its natural intelligence to the extent of making it a thinking being. Mr. von Osten labored diligently for more than four years with his clever horse, employing sets of wooden pins, a counting machine, charts with numbers from one to one hundred, and with letters in German script accompanying the numbers; he also used a small organ to teach the horse to discriminate, as he believed, between tones, and used colored cloths to teach him to differentiate colors. With what must have been phenomenal patience, if he followed the laborious methods which he asserts he did, he drilled the horse by easy stages until he obtained correct responses to his questions (which became more and more complicated as the training advanced), until the horse appeared to be able to do many a stunt in calculation beyond the power of most of the human bystanders. And yet this painstaking old teacher of mathematics had all his theories of his horse's mental ability swept away when it was clearly proven that his correct tapping to questions, whether simple or complex, were all dependent upon his ability to watch his questioner, and thus learn when he was expected to tap with his foot and when he was to come to rest.

All animal life flows more or less in grooves or channels, that of the lower orders more, that of man less. Perhaps we should say that the life of man flows in many more grooves and channels, his system of activities is so much more various and complex. His gift of reason enables him to vary and change his channels, and to invent new ones. But four-fifths of the life movements of the animals immediately below him flow in fixed grooves, and are dominated by the environment as a stream is controlled by the contour of the land. Watch a squirrel, for instance, carry away nuts to its hole, or to hide them in the grass and leaves. He never varies his course from that of his first trip—and that course is not the easiest one, but along the line that will give him the most coigns of vantage from which to keep a sharp lookout for his enemies. I have seen him go out of his way to go up and over an outbuilding 12 feet high and 8 wide, on every trip, and by the same short, spasmodic sallies on each trip. Many birds sing their songs about six times a minute during the period of song, with the regularity of clockwork. And the song impulse runs down at the end of the breeding season like clockwork—tapers off to a half, to a third, to a note or two, and then stops. All the animals come nearer to automatons than a casual observation of them would lead one to believe. They are set going by their environment acting upon their organization, and are almost as much machines as are water wheels. They do not quite. They can and do vary their activities under stress of circumstances, which a machine cannot. But the animal has a few ideas, and hence no power of invention, as the man has.

But the loose cattle is a problem where stringing is not. The best one can do is to string up the loose and not be too particular about keeping

The Future of the Horse.

Is the modern horse to be superseded? The foregoing question is a very pertinent one, and is worthy of some consideration by breeders and owners of animals of the equine tribe. By a process of evolution due to changes of environment and different systems of breeding (in-breeding, line-breeding, and cross-breeding), widely diversified types of the family Equidae have resulted. Each of these many types is well suited for one or more special features of the many complicated and intricate workings necessary for the most rapid advancement of human endeavor. Yet, with all his usefulness and all his matchless animal beauty, which have been attained through ages of careful breeding and management, we hear it whispered that modern inventions are about to wrest from "our faithful friend" his exalted position in the pleasure and power of the world. Is it possible that the horse will cease to be an appreciable factor in the world economy of coming years? The trend of events in these early years of the twentieth century would seem to indicate that the horse had reached the zenith of his usefulness in modern civilization, and that he would gradually be replaced by inanimate machines, the result of the inventor's and mechanic's skill.

Whether or not the familiar whinny and the sonorous neigh will soon be matters of history, is somewhat speculative, but in face of all that has been said in concurrence with the belief that the horse must go, it must be admitted that there is still very substantial ground for the opinion that the high-water mark of horse-breeding has not yet been reached, and that the business will flourish and increase in magnitude as years go on.

The evolution of the modern horse from the primitive prehistoric species has required ages. The first horses which showed any degree of improvement were owned by the wealthy, and they were first used in the days of war and chivalry. With these, they were also used in the chase. Africa and Asia were the first to adopt the horse for these purposes, and as civilization gradually trended westward, the horse spread with it, and gradually his usefulness increased. It is a matter of some curiosity to note that agriculture was the last use to which the horse was put. Is it very likely that anything which has taken so many centuries to improve and establish as has the horse will decline and disappear because of unparalleled advancement of the inventor's genius? It is scarcely conceivable that the results of all the labors of horse-breeders could be hastily abandoned, more so when it is a recognized fact that many avenues for improvement are still open to the breeder. The best specimens of the modern horse may rightly be considered high-class animals, still perfection has not been reached, and never can it be; but improvement is always possible. As long as there is opportunity for improvement, there will be sufficient fascination in the business to keep large numbers engaged in it, and this will serve to maintain the demand and warrant the continuance of the business indefinitely.

What has been the effect exerted upon the horse business by the introduction of other powers and means of conveyance in the past? Have they permanently injured the horse's position in the affairs of man? We think not. They may have had more or less of a local or transient effect, but no lasting injury to horse-breeding resulted. Man, in his desperate efforts to accomplish, as far as possible, that which is beyond his power—the annihilation of time and space—succeeded in producing the steam engine, which has made rapid transit of both freight and people possible; the telegraph and telephone have come to do away with much travel which was formerly necessary; the electric car robbed thousands of horses of the means of earning their daily hay and oats; and now the automobile and the conquest of the air are combining their efforts with those formerly mentioned to bring about the downfall of the horse. Not only are these factors working against him in city and country, but steam, gasoline, electric and other powers are lined up in formidable array against his prestige on the farm, where he has for the past three-quarters of a century been the solution of the power problem. And yet, today, with the results of the work of the brainiest inventors and the most skilled mechanics against him, steam, electricity, gas, gasoline, and even wings, we find the horse in greater demand than ever before; and, while prices of other motive powers descend, the horse sells higher and higher. Is this not a significant fact, and does it not foretell a brilliant and profitable future for the horse-breeding business?

While horseless drays increase yearly in numbers, they are not increasing as rapidly as is the volume of dray business. Heavy horses must still be used in great numbers in the large cities. The draft horse, notwithstanding the advent of electricity, steam and other powers on the farms, will continue to be for years to come the common, reliable and infallible power on the farm.

Automobiles and aeroplanes may become as thick as bees, but there will still be charm enough in the fancy carriage horse to make him the idol of scores—yes, myriads—of the wealthy classes who can afford both the automobile and carriage-horse luxuries.

The spirited stepper gives the average man much more satisfaction than the "Honking" auto, particularly after the novelty has worn off. Controlling something which can understand and comply with man's wishes will ever prove more enjoyable than the mere turning of a metal wheel and the pulling of a lever. It is "life" itself which man joys in controlling, and no form of animal life offers more to his liking than the horse. High-steppers are in greater demand in this age than ever before, and are selling for higher prices. This does not look much like an age of horseless carriages in the near future.

The race-horse, whether he be saddle or sulky, is as popular as ever. Ascot, Newmarket, the Woodbine and Grand Circuit courses draw larger crowds each year. This proves that, for sport, as well as pleasure, the horse can hold his place. Aeroplane exhibitions and auto races draw large crowds, but they are not depleting the attendance at the annual horse races, where, year by year, time is clipped from the records. Crowds demand "Thrillers" in this age, but the half-minute speed of the racing auto creates no more interest, if as much, than does the exciting finish of the two-minute trotters or the speedy runners. These horses sell for very high prices, and, as records are broken, these prices will advance. Nothing will take the place of a fast horse in the eyes of the racing world.

The roadster and general-purpose horse, like the other types, are increasing in demand. They fill a place that cannot well be reached by the inventor's products. The graceful driver will for years be the means of short-distance travel for the majority of people. He is fairly speedy, and can endure long drives. His value is such as to put him within the reach of those who cannot afford an automobile or a very fancy carriage horse; consequently, his position is impregnable, and, while the demand is not so great as for some of the other classes, it is steady, and his future is assured. The general-purpose horse also fills a position not likely to be seriously injured by power projects. He, too, by virtue of his many uses and his reasonable price, fills a want which will withstand the advances of his mechanical opponents.

Even the diminutive pony has his place. He is the pet of the family. No miniature automobile or aeroplane could be safely handled as a means of conveyance by children; and if it could, it is doubtful whether they would derive as much real enjoyment from it as they get from caring for, petting, riding and driving their favorite Shetland, Welsh or Hackney pony. The pony's position is safe as long as children play on earth.

Weather conditions, together with the state of the public highways, which results from this and other causes, make it practically impossible to replace the horse. He can be relied upon to go at all times, and difficulties in surmountable to other powers and means of conveyance are easily overcome by him. He can always "get there," though the motor may fail. This aids materially in strengthening his stronghold.

Concluding, then, that, from the viewpoint of actual utility in the world's economy, the horse's future is safe, and that this is strengthened by the favor in which he is held by the world's population in various sports, in stylish turnouts, and as a means of pleasing the children and instilling into their minds a love for animals generally, one cannot but think that, no matter what strides the horseless carriage and powers other than horse power may make (and they will make many), horse-breeding will continue to be practiced on a larger scale than ever, and, provided the right class of horse is bred, it will continue to be profitable. With the rapidly-increasing need of power and means of locomotion, due to increasing population and the rush of the times, there is room for both the horse and his competitors, and the present-day horse-breeders need have little fear for the future of their "favorites" and the safety of horse-breeding as a business.

Experiments in Army Horse Breeding.

The United States Government has outlined a plan to encourage the breeding of horses for the army, whereby mare owners in suitable sections will have the command of service to first-class stallions free, in return for which they agree to give the United States options on resulting foals at a fair price. The plan was taken up as a means to provide a good supply of horses such as the army needs, which, strange as it may seem, is rapidly becoming more and more limited. An appropriation was suggested at the last session of the 61st Congress, but no action was taken, one objection being that the plan was not prac-



Pride of Maisemore VII.

Aberdeen-Angus heifer, champion beast of the Norwich, England, Fat-stock Show., 1911. Age two years ten months three weeks; weight, 1,490 lbs. Exhibited by J. J. Cridlan.

tical, that farmers would not enter such agreements with the Government.

Fortunately, funds were available to make an experiment to determine this point. August Belmont, of New York, presented to the Government two of his best-known stallions, Henry of Navarre and Octagon, and the Department of Agriculture placed them at the command of farmers in the vicinity of Front Royal, Virginia, on exactly the terms outlined in the Government plan.

By the approval of the War Department, the price to be paid for the resulting foals at three years of age was \$150, and no difficulty whatever was experienced in getting farmers to breed their mares under these terms. About fifty mares were bred, the stallions reaching Virginia somewhat late in the season, and Octagon's usefulness being curtailed by a severe attack of distemper.

The interest of the Virginia farmers is keen, and already 50 additional mares have been offered for the season of 1912, and the services of more stallions could easily be utilized, if available.

Circular 178 of the Bureau of Animal Industry explains the Department's breeding plan, and may be obtained on application to the Secretary of Agriculture, Washington, D. C.

LIVE STOCK.

It is not always the heaviest feeders who get the best results. Every animal requires certain nutrients that enable it to perform its best work. If these nutrients are not supplied in the proper proportion, it means that the animal must consume and adjust larger amounts of some of the elements than it can use, in order to get enough of the others. Economical feeding requires that nutrients be supplied to animals in the proportion needed. As a rule, farm feeds are lacking in protein. This is especially true this year, when there is a scarcity of clover hay. If one is feeding cornstalks, or wild hay, the farm grains will supply enough protein to meet the animal's needs for best work. This is especially true of dairy cows and young stock. When this form of roughage must be fed, some such feed as bran, middlings or oil meal must form a reasonable proportion of the grain ration, in order that the protein supply may be maintained.

Bedding is scarce this winter in many sections of Eastern Canada, much of the scanty straw being required as feed. A short hay crop and short grain crop coming together complicate matters for the stockman, and emphasize very pointedly the economy of that magnificent forage crop, corn, and that unrivalled feed reservoir, the silo. Still, something in the nature of hay or straw must be fed with silage, and if straw is fed, the subtraction for this purpose of a quota from the meagre stock of bedding material points to the need of some supplementary means of caring for the liquid manure. Air-dried peat, where available, is recommended for this purpose, also land plaster, which was once purchased in large quantities, but is now of value chiefly as a stable absorbent, for which purpose it is valuable, fixing ammonia that might otherwise go to waste. Even such substances as coal ashes and road dust may be employed at times, being scattered in the gutter just after cleaning the stables. Many dairymen find planer shavings a good bedding material, but these are not always to be had. It resolves itself into an exercise of wits keeping cows clean and liquid saved, but at almost any cost these two ends should be served.

the snow. The owner was sick of wintering pigs; he railed at himself for not having sold in the fall, and, to clear his conscience and rid his mind, gave the seven to me to get rid of them. On the first of July following five of them brought me \$51.50, at \$6.75 per cwt. The other two were consumed at home. All they needed to make gains was proper feed, care and quarters.

But the aforementioned is not the proper way nor the universal management. I only cite them as two incidents of what some owners call upon their stock to endure, and still return profits.

"Do you know of anyone wanting little pigs?" This has been for six weeks past the question on every tongue. I do not know that pigs are a larger crop this fall than many others, but high grain prices at cash, and the steady sinking of the hog market (be it packers' manipulation, combine, or what), have all tended to stir out the little pig; few wanted to feed them. Barley is 90 cents (at 50), the same men would be strong local-option voters, and so few place any value on manure and soil maintenance. So the little pig changed hands, like the trader's horse, or was killed as a roaster.

The essentials for success in winter pork production are a warm pen, cleaned and bedded a-fresh daily; light, ventilation, and proper feed.

If your pen freezes, overhaul it; the pig must keep warm, and he will eat more and gain less if not kept comfortable. Cleanliness comes next, and to clean once daily should be the rule. After cleaning, give fresh, clean, dry bedding, and notice how they enjoy it. Many piggeries are dark, damp holes. This is wrong; the pig needs light and sunshine, and if you want maximum gains in cold weather, you must provide it. Again, the hog is a steamy fellow, for you have often seen the walls and ceiling of some pens frosted and dripping. This condition cannot be healthful, and poor ventilation is the cause. A ceiling which is slatted over and covered deeply with straw helps to remedy this defect, as the straw absorbs the moisture and helps to keep the pen dry.

Now, the market pig, from weaning to shipment, as a general rule, has no tale of starvation to tell, so he is a notch ahead of many calves in this respect. Rather the reverse is the case—a quantity of cold, thin slop lying before them all the time. In consequence, they get wet, keep wet, and in a cold pen in cold weather they must and do go wrong.

Do not overfeed, but feed enough. Learn the capacity of each pen, and limit them to what they will clean up. There is no profit in waste, and a clean dish and fresh food is more appetizing, even to a pig. Again, as cold weather advances and sets in, lessen the amount of liquid you have been or would force your pigs to drink in warm weather for its tiny nutriment, such as dish water, skimmed whey, etc. Do not force pigs, especially young ones, to handle large quantities of cold whey, skim milk or buttermilk in cold weather, and in a cold pen. Warm, separator-skimmed milk is different, and all a pig will drink is good for him.

This time of the year, when the whey is cold, and I have often to supplement it with water, and late in the winter when warm skim milk is scarce, I give the drink which I intend to quench their thirst at noon, and alone, except for a few mangels. The meal I feed twice a day—morning and



Aberdeen Cross-bred Steer, Moonst one.

Winner of President's prize for best steer, and reserve for champion prize, Norwich, England, Fat-stock Show, 1911. Age two years ten months three weeks; weight, 1,960 lbs.

night—and only dampen it sufficiently to make it easily swallowed. By this method I avoid loading the pig with a useless surplus of cold drink which does not contain nutriment enough to redeem its refrigerating effect. Keep the little fellow especially dry and warm and the curl in his tail. I repeat that, when feeding cold drink in cold weather, supply only enough to quench the thirst, and that once or twice daily, but separate from the meal. Avoid sloppy, thin, cold batters, and feed only what they will eat up clean. Keep them growing. A purely maintenance ration to a market hog is the most expensive.

FARMER'S SON.

Lennox & Addington, Ont.

Does Show Stock Produce Show Stock?

It has been stated by many that individuals which are able to gain the coveted honors at the large shows rarely, if ever, produce animals having the conformation and quality which they themselves have, and so prizewinners seldom produce prizewinners. This statement is quite unfounded, for time and again a champion has sired a champion, and very often, indeed, has a first-prize individual been the parent of first-prize winners, and quite frequently of champions.

To prove what is stated in the foregoing paragraph, the writer traced out the extended pedigrees of the champions and first-prize winners of the Shorthorn breed for a number of years at three of the world's largest shows, viz., Toronto Industrial, Chicago International, and the Royal Show, in England. Among these, it was found that no less than forty-two animals which had themselves won championships and first prizes had been sired by winners of either first or championship prizes at these same exhibitions. Knowing that these are only a few of the many animals shown which trace directly to champions or first-prize winners, and considering that these three shows are only a very small proportion of the great exhibitions of the world, we can easily realize the importance of first-class show stock to the breed. A large number of prizewinners at the other large shows, as the State Fairs, Highland Society, Winnipeg, and hundreds of others, doubtless trace directly to prizewinners at these or some other show. But, leaving these out of consideration altogether, when we find nearly fifty animals prizewinners at one of three shows at some time during the last twenty years, and all these are champions and first-prize winners, and are sired by champions or first-prize winners, it proves conclusively that show stock is quite often capable of producing show stock, and is doing it year after year.

Not only are there a large number of animals sired by prizewinners, but prizewinners are found in every generation as far back as the sixth, which was as far as the pedigrees were traced. If the Royal Show alone had been traced back a few years farther, large numbers of prizewinners, sires of prizewinners, would have been added to the list. Such Shorthorn sires as Commander-in-Chief (21451), Telemachus (27603), Duke of Aosta (28356), Sir Arthur Ingram (32490), Beau Benedict (42769), Royal Ingram (50374), Ingram's Fame (53026), and others, were so prepotent that their offspring, like themselves, were placed at the head of the list at many shows.

The great show bull, Count Lavender (60545), won fifty-two first and championship prizes, and it is a significant fact that this bull appears in no less than twenty of the pedigrees of prizewinners here considered.

Surely the foregoing is sufficient to prove that prizewinners are exerting a very potent influence on the breed, and that prizewinning stock, contrary to the belief of many, is producing each year prizewinners having just as high a degree of individual excellence as their sires and dams. And, due to the laws of variation, improvement is being made, and the individuals are becoming each year nearer perfection.

What has been shown by the foregoing is also a good argument for inheritance, or, as some put it, that like tends to produce like. Because these several individuals were animals possessing a high degree of excellence, and these same animals transmitted this excellence to their offspring, which must have been the case or the offspring would not have been able to win premier honors at the large exhibitions, it seems to point out that like does tend to produce like; in fact, if like did not produce like, the beneficial effect of prizewinners would amount to very little. Breeders who argue that prizewinners do not produce prizewinners are arguing against their own actions, for they are almost invariably trying to improve their herds by breeding to the best individual bulls; and if our judges are competent—and we have no reason to doubt that they are, the best individuals are those that are carrying off the silverware and rosettes from the large shows.

What has been found true of the Shorthorn

breed is doubtless true of all the breeds of live stock, and goes to prove that, as a rule, the best individuals of the breed are the animals to use in breeding if the top notch of quality and conformation is desired.

Scottish Pig Feeding.

The West of Scotland Agricultural College has issued a report of pig-feeding experiments conducted at the Kilmarnock Dairy School from 1905 to 1910, inclusive. They fed alone gave an average increase of 1 pound per head per day, and a return of a half penny a gallon for the whey, with a sum of 8s. 7d. per pig to cover expenses, while it gave better results than when pigs were fed on barley meal and water, with a little wheat bran, but without any dairy product.

The bacon-producing values of separated milk, whey, and meals, respectively, were found to be increased when the liquid and solid foods were combined. The smallest amount of dry matter was required when maize meal was given at the rate of 2 pounds to 2½ gallons of whey. As the weight of the pig increased, so did the quantity of food required to produce 1 pound live weight become greater; at 214 pounds live weight, it required 50 per cent. more food than at 118 pounds. While the pigs went on increasing at about the same rate per day from 100 pounds to 200 pounds live weight, the larger pig required more food to satisfy it. A heavier and older pig was found to be a less economical bacon producer than a lighter and younger pig. It was found possible to increase the live weight of the pigs from 100 pounds to 210 pounds in from nine to ten weeks, at the average weight of 1.72 pounds per head per day, by feeding with separated milk and barley meal. When the ration was whey and maize meal, it required eleven weeks to produce the same increase. Barley meal, with skim milk or whey, produced a bacon inferior in quality to that from the meals given with milk or whey. Barley meal and separated milk in every test gave the best quality.

Whey, with a mixture of equal parts barley meal and maize meal, gave the best results. Whey, with raw potatoes and a mixture of equal parts barley meal and maize meal, gave better results than whey with cooked potatoes and a similar mixture of meals. But whey, with a mixture of equal parts barley meal and maize meal, gave better results than whey with a similar mixture of meal and either cooked potatoes or raw potatoes.

THE FARM

Ice Houses.

The economic value to the farm of a well-filled ice-house of clear, pure ice, is emphasized by Secretary Wilson in Farmers' Bulletin No. 475, just issued by the United States Department of Agriculture. The bulletin does not treat of the ice crop as a source of direct revenue, but as a factor in the economies and comforts of the country home.

The Secretary calls attention to the readiness with which city residents can secure ice, natural or artificial, for the preservation of perishable supplies, and the maintenance of moderate temperature in their homes, during the heated term of the summer, while the remoteness of country homes from the markets often renders it necessary to use canned, corned or smoked meat products, because the want of ice prohibits the keeping of fresh meats, in an edible condition. He further points out, not only is ice appreciated because of its use in the preservation of fresh meats, butter and other table supplies, but that the production of high-grade domestic dairy products is impossible without it, and that many markets to which milk is now shipped demand that it be cooled before shipment to a degree not attainable without the use of ice.

The work of harvesting and storing is done at a season when it will cost very little to harvest natural ice, as help and teams are usually less remuneratively employed during the winter than during the summer months, and the cost of constructing ice-houses is small, in comparison with the economic returns and comfort which they afford. The Secretary considers ice of greater economic importance in the country than in the city, and, in fact, that ice properly used in the country is of greater benefit to the city dweller than to the farmers. The bulletin appears at a very opportune moment, when farmers still have time, before the crop forms, to build and fit up ice-houses and to construct ponds, where rivers, streams or lakes do not exist, and to clear out, purify and repair those already at hand. It describes and illustrates methods and plans so clearly, and in such detail, that, by following instructions, any farmer can cheaply provide himself with an abundant ice supply for next summer's use, stored in a house so insulated that the contents will be thoroughly conserved.

Bushels of Weight and Bushels of Volume.

The volume of a bushel measure in the United States (called Winchester bushel) is 2,150.42 cubic inches; this is equivalent to a cube each side of which is about 12.9 inches (12.907), or a solid measuring 12 inches by 12 inches by 14.93 inches. The volume of a bushel measure in England (called imperial bushel) is about 3.1 per cent. greater than the bushel measure used in the United States; it contains 2,218.19 cubic inches, which is equivalent to a cube each side of which measures slightly more than 13 inches, or a solid measuring 12 inches by 12 inches by 15.40 inches.

In commercial transactions, the use of the term "bushel," to signify a certain volume, is becoming less and less, and its use to signify a specified weight is becoming increasingly general. Thus, transactions in wheat are now made wholly on the basis of bushels, not of a certain volume, but of a definite weight—60 pounds. For instance, the grain-inspection rules, affecting grain transactions in Chicago, specify that a bushel of wheat of the grade called No. 3 red winter need not weigh more than 55 pounds per measured bushel; that is, that 2,150.4 cubic inches of the grain need not weigh more than 55 pounds. But a transaction of 1,000 bushels of this wheat would involve 1,000×60 pounds, not 1,000×55 pounds.

UNITED STATES CUSTOMS STANDARDS.

A legalized bushel weight has been established by the United States Government (mainly for customs purposes) for but few agricultural products, as follows: Barley, 48 pounds; castor beans (shelled), 50 pounds; buckwheat, 42; corn (shelled), 56; corn meal, 48; flaxseed (linseed), 56; oats, 32; peas, 60; potatoes, 60; rye, 56; wheat, 60 pounds.

Most State Legislatures have established for their respective States legal bushel weights for various other products, but for some products there is not much uniformity. For instance, a legal bushel weight of broom corn seed in North Dakota is 30 pounds, whereas in the adjacent State of Minnesota it is 57 pounds.

The Bureau of the Census, in its reports of production of crops, makes no specification whether its figures relate to bushels of measure or bushels of weight.

The Bureau of Statistics of the Department of Agriculture, in making inquiries concerning production and price, has, for the last few years, requested its correspondents to report in equivalents of weighed bushels, and, to have reports from various States comparable, has specified the weights. Where the weight adopted by the Bureau of Statistics differs from the legal weight in the correspondent's State, the correspondent is expected to make the proper allowance.

Whenever tonnage of a crop is reported upon, a weight of 2,000 pounds is specified.

UNITED STATES STATISTICAL STANDARDS.

The bushel weights thus adopted by the Bureau of Statistics of the Department of Agriculture are as follows: Apples, 48 pounds; barley, 48; beans (dry), 60; buckwheat, 48; clover seed, 60; corn (shelled), 56; corn on cob, 70; flaxseed, 56; oats, 32; onions, 57; peaches, 48; peanuts, 22; pears, 48; potatoes, 60; rough rice, 45; sweet potatoes, 56; rye, 56; timothy seed, 45; tomatoes, 56; wheat, 60.

VARYING STATE STANDARDS.

The extreme range of bushel weights of various agricultural products, as legalized by different States is as follows: Apples, 44 to 50 pounds; dried apples, 22 to 28; barley, 40 to 50; beans, 55 to 62; castor beans (shelled), 45 to 50; beets, 50 to 60; broom-corn seed, 30 to 57; buckwheat, 42 to 52; carrots, 45 to 50; chestnuts, 50 to 57; cotton seed, 28 to 33; cranberries, 32 to 40; flaxseed, 55 to 56; gooseberries, 40 to 48; hempseed, 44 to 50; Hungarian grass, 48 to 50; oats, 30 to 32; onions, 48 to 57; parsnips, 42 to 55; peaches, 40 to 54; peanuts, 20 to 25; pears, 45 to 60; green peas (unshelled), 30 to 56; potatoes, 56 to 60; sweet potatoes, 46 to 60; rutabagas, 50 to 60; sorghum seed, 42 to 57; spelt, 35 to 45; tomatoes, 45 to 60; turnips, 42 to 60.

CANADIAN LEGAL STANDARDS.

Canadian bushel standards are set by the Inspection and Sale Act, administered by the Dominion Department of Trade and Commerce. This act specifies that "In contracts for the sale and delivery of any of the undermentioned articles the bushel shall be determined by weighing, unless a bushel by measure is specially agreed upon, and the weight equivalent to a bushel shall (except as specially provided) be as follows: Barley, 48 pounds; buckwheat, 48; flaxseed, 56; Indian corn, 56; oats, 34; peas, 60; rye, 56; wheat, 60; beans, 60; beets, 60; bituminous coal, 70; bluegrass seed, 11; carrots, 60; castor beans, 40; clover seed, 60; hempseed, 44; lime, 70; malt, 36; onions, 50; parsnips, 60; potatoes, 60; timothy seed, 48; turnips, 60 pounds.

Peel County Notes.

The crops in this district were not so good this year as last, but, with good care, stock should be brought through the winter in good condition. This winter will develop the art of feeding to a higher degree than ever before reached. A large majority of farmers never count anything on what grain they grow, so long as they don't require to buy. Speaking to a farmer the other day, he said, "There is no money made by buying feed." In his yard were one hundred hens, which he said were just going to winter, and about twenty pigs which he thought would grow on fresh air and the straw stacks. With a little extra care and feed, this bunch could have been fed at a profit, but he sticks to the motto, "What he has he holds." When he sells eight hundred dollars' worth of wheat, he puts it in the bank at 3 per cent., while some other fellows borrow the money, buy both feed and stock, and make a good profit. Why, because they understand their business. They look on their stock as extractors—extracting from the raw material at a profit either milk, beef, pork, eggs or some other finished product. If this winter has its drawbacks in regard to scarcity of fodder, it will surely develop men who in the future will be able to feed in a more profitable manner.

We have in this district what should be in every rural district, viz., a debating society. The most enthusiastic promoter was a professor in one of the United States Colleges until recently, having now retired to his old farm home in this neighborhood. His efforts are being appreciated by old and young in the community; discussions take place on the leading questions of the day, and they are helpful to the listeners, as well as being a training for the speakers. The professor told the writer last winter that there should be more farmers in Parliament than at present, and the reason that they are not there is because they cannot express themselves on the public platform, through lack of training in platform speaking in youth. Judging from the way some of the amateur orators performed while making their maiden effort, there should be no lack of budding politicians from this county, and they will be no disgrace to any platform. If at any time premiers should have a difficulty in making up their Cabinet, they could not do better than select some of the young men from this district. J. B. R.

Late Seeding of Alfalfa.

Editor "The Farmer's Advocate":

In reply to an invitation I noticed in "The Farmer's Advocate" some time ago for correspondence regarding results of sowing alfalfa after harvest this year, I may say that we plowed three acres of wheat stubble soon after the wheat was taken in, then harrowed the ground and sowed it with alfalfa seed, about twelve pounds per acre, after which we rolled and harrowed it again. Although we only had very light showers for some time after it was sown, nearly all the seed seemed to grow (the seed was home-grown), and the plants reached from four inches to nearly a foot in length, and are good strong plants. The field had been seeded twice before with alfalfa, which makes considerable difference in insuring good, vigorous plants. We have good catches of alfalfa from spring seeding, but scarcely any red clover. We have grown alfalfa for a number of years, and cannot speak too highly of it, both as to its feeding value for all kinds of stock and its value in increasing following crops.

ROBERT EASTON.
Brant Co., Ont.

Lactic Ferments in Ensilage.

The Journal d'Agriculture Pratique of October 19th contains an article on the employment of lactic ferments for the better preservation of fodder, roots and pulps submitted to ensilage. Two French chemists, Bouilliant and Crolbois, have, it is stated, succeeded in producing a ferment that thrives under conditions of acidity, and which they have called the "Lacto-pulp," because of the rapidity with which it develops in beetroot pulps. It has been tried in the silage of sugar and distillery pulps, of mangels and beetroot and chopped fodder corn. Experiments have indicated that silage sown with the lacto-pulp has retained its bulk and food value after the lapse of twenty months, whilst similar silage untreated lost two-thirds of its volume, and was profoundly changed by disintegration. It is also claimed that the use of lacto-ferments in connection with silage will, owing to their preservative and antiputrefactive properties, prevent scour and other diseases of animals due to feeding with pulp silage.

\$50 in Cash Prizes.

Look up these prizes on page 2070 of this issue. We want all our subscribers to enter the contest.

THE DAIRY

Certificates for Cheese and Butter Makers.

During the session of the Ontario Legislature for 1910, legislation was passed providing for the granting of certificates to cheese and buttermakers in the Province of Ontario. The Act provides:

On and after the first day of January, 1911, no person shall act as chief maker in any creamery or cheese factory who does not hold a certificate of qualification, said certificate to be issued as follows:

(a) By the Dairy School of the Agricultural College, or the Eastern Dairy School.

(b) By the Minister on the general grounds of competency, as recommended by an advisory board to be composed of the Chief Dairy Instructors, the President of the Dairymen's Association of Eastern Ontario, the President of the Dairymen's Association of Western Ontario, and the Director of Dairy Instruction. Provided that, however, upon the written authority of the Superintendent of either Dairy School, any person may be allowed to act as chief maker in any creamery or cheese factory for a period not to exceed two years after he has passed his examinations in the Dairy School.

In accordance with the provisions of this Act, the Advisory Board called for applications for certificates, and upon receipt of these the qualifications of the applicants were thoroughly looked into, and certificates granted accordingly.

While the great majority of experienced makers were given permanent certificates, 472 "one-year" certificates were granted to cheesemakers and 45 "one-year" certificates to buttermakers. These "one-year" certificates, of course, included a number of men who had not, up to the time of granting certificates, taken full charge of the manufacture of cheese and butter, but had, in the opinion of the Advisory Board, sufficient experience as first assistants to warrant the Board in granting them a permit or "one-year" certificate.

At the beginning of the season of 1911, the Chief Instructors directed the men in charge of the various groups of factories and creameries to give special assistance to the makers who had been granted "one-year" certificates. Where an honest effort has been made on the part of the recipients of these one-year certificates to take advantage of the instruction afforded by representatives of the Department, and have shown that they are capable makers, either a permanent or "one-year" certificate will be furnished as soon as the old certificate has been returned to the Department. All makers concerned will be communicated with regarding the renewal of certificates early in December. Full announcements will also be given through the press and by circular letter as to the requirements for those who have not yet received a certificate or permit of any kind, but who desire to secure one for 1912. It will be in the interest of all such to make plans to attend one of our Provincial Dairy Schools.

Dairy School graduates who were given permission by the Superintendent of the Dairy School from which they graduated to take charge of a factory or creamery during the past season, and have made good, will be given permanent certificates from the Dairy School concerned before the season of 1912 opens.

While the Department was necessarily quite lenient in the granting of certificates at the beginning of the system, it will be the policy to draw the lines a little closer as conditions warrant. It is fully expected that the benefits which resulted from the granting of certificates will be more marked as the years advance.

It is unnecessary to write more fully regarding this subject at this time, as communications will be sent to all persons concerned, and the agricultural press, at an early date regarding the policy to be adopted for 1912. GEO. A. PUTNAM.

GARDEN & ORCHARD

The Seedless Lemon.

Canadian newspapers recently published a despatch from San Bernardino, Cal., announcing the alleged discovery of a seedless lemon, the original bud of which came from Italy. "The Farmer's Advocate" at once wrote to E. J. Wickson, Director of the State Experiment Station for the facts. His reply is as follows: "There is no reason why it should not be true. I have, however, not yet seen this particular variety, and cannot give you full assurance. The Eureka, one of our most largely-grown varieties, is almost seedless. As to the newcomer, it will take time to determine whether it will persist in the seedless habit; also, whether it is as good as those we are chiefly growing. There are worse things about a lemon than having a few seeds, and, therefore, there are better things than being seedless. All this will have to be determined by experience."

Topical Fruit Notes.

The cold snap is still continuing more regularly than most people like. We in the Niagara peninsula are used to short winters, but this forebodes a long one. A few intervals of milder weather have allowed growers to finish up what little fall-plowing they had to do, and many have taken advantage of them to do some underdraining. Fruit-growers generally recognize that underdraining pays, and most farms in the district are becoming pretty well underdrained. Four-inch tile is generally used for main drains, and three-inch for laterals. The depth is usually 2 1/2 to 3 feet.

Specialization in fruit-growing has made this district dependent on outside sources of supply for fertilizers. Few growers keep more than a team or two of horses to do their work, and probably one cow. This means, of course, that the supply of barnyard manure is small and totally inadequate to meet the needs of the orchards and vineyards. The problem is met by bringing in hundreds of carloads of manure and compost from Toronto, and hauling it in wagon loads from points of distribution. Comparatively little commercial fertilizer is used, except by the truck gardeners, simply because not one in twenty of the growers know what value to place on them. They are slow in studying the question, or are not able to appreciate the chemical side of it, but they have become sharp enough to know that if it is like throwing good money away if commercial fertilizers are applied promiscuously or without any intelligence. In this regard a demonstration is much more valuable to a grower than dozens of meetings or hundreds of bulletins illuminated by scientific terms or explanations, simple enough to the student, but just beyond the view of the practical grower. I do not mean by this that meetings and bulletins are valueless; far from it. But in the majority of cases they should be backed up by demonstrations. If we wish to explain lime-sulphur spraying, let us build a plant, however small, and actually do the work, even to the application of the spray. If we wish to demonstrate a method of pruning, let us get out into the orchard and prune trees. Then, afterwards, we can explain the chemistry of lime-sulphur and enumerate principles of pruning. It was the early demonstration of a few growers like the Smiths, the Pettits and the Woolvertons that proved to the sceptical that the Niagara belt was a paradise for fruit-growers, and showed that hundreds of acres of land that once could be bought for a song are actually worth at the rate of \$200 to \$1,500 per acre.

Unfortunately, there are some things that are difficult of vivid demonstration, and one of these is the action of those hidden enemies of the fruit-grower—bacteria and fungi. Their results are often too obvious; sometimes their actions are hidden even from expert eyes. Such is the case with the disease known as "little peach," which has spread with direful rapidity, and is compelling many growers to cut out whole peach orchards. The specific organism is unknown, and the only remedy is that of total destruction of the trees affected. The remedy is drastic, but the only one, and the action of the Agricultural Department in taking efficient measures to have the disease kept under control is to be commended. There should be no laxity shown and no special favors given to anyone in dealing with a disease controlled by legislative enactment or by communal effort.

Everyone is now thinking of the approaching Christmas, and will soon be buying their supply of Christmas cheer, amongst which the orange takes no small part. The most of these come from California, through the wonderful marketing agency developed by the California Citrus Shippers. These oranges are not likely to be ripe; they are sour and immature, and have been picked a month or two before they should have been, in order to supply the Christmas demand. They are even somewhat green when picked, but are put through a sweating process which bleaches them, and thus deceives the Eastern consumer. Dr. Wiley, Chief Chemist of the United States Department of Agriculture, last year declared that oranges so treated should be considered as adulterated under the Food & Drugs Act, and many Californians deprecated the shipment of such fruit. It is said that the consumption by children of this immature fruit, which has not developed its proper proportion of sugar, is apt to be attended by serious disturbances of the digestive organs. But, bless us!—after a second thought—what is Christmas cheer for, anyway? WENTWORTH CO., ONT. W. R. D.

As an illustration of the remarkable growing capacity of alfalfa, an appreciative reader of "The Farmer's Advocate," Arch. McVicar, of Elgin County (east), Ont., hands in to this office several plants from this season's new seeding, showing a root growth of 2 feet 9 inches in length.

Prices for Fancy Fruit.

The apples from the recent Ontario Horticultural Exhibition were sold largely in Toronto at \$1.60 per box and \$4.00 per barrel, except the McIntosh Reds, which were sold at \$2.00 per box. The retail prices ranged from \$1.50 per box to \$2.30, the latter figure for Spy, McIntosh and Snow. "One carload," writes P. W. Hodgetts, Director of the Fruit Branch, Toronto, "was sold to go to Winnipeg, at practically the same prices as in Toronto. Toronto market is still largely supplied with poor-quality Greenings which have kept prices down to \$2.00 and \$2.50 per barrel, wholesale." The Western New York situation is not wholly satisfactory, though sales of good cold-storage Baldwins at \$2.75 and \$3.00 are reported, with slightly better figures for cold-storage Greenings and Kings.

The Wenatchee Association, in Washington, on the Pacific Coast, are reported to have sold their pack this year as follows, prices being in all instances for boxes:

	Ex. Fancy.	Fancy.	Choice.
Winesaps	\$1.90	\$1.75	\$1.50
Arkansas Blacks	1.60	1.45	1.25
Stayman Saps	1.50	1.35	1.35
Roman Beauties	1.50	1.35	1.35
Delicious	2.90	2.50	2.00
Ganos	1.40	1.25	1.15
Spitzenbergs	2.00	1.85	1.60
Missouri	1.40	1.25	1.10
W. W. Prmn	1.40	1.25	1.10
Jonathans	1.50	1.35	1.20

Possibilities of profit are here indicated to Eastern growers willing to grow a fancy article and market skillfully in boxes.

APIARY.

Features of Apiary Work in 1911.

Editor "The Farmer's Advocate":

I am sorry that the person who prepared your report of the Ontario Beekeepers' Convention, page 1895, has entirely missed the point of my report on the inspection of apiaries in Ontario for 1911.

I did not say "there was nothing new in apiary inspection." The words used were, "There is nothing specially new in the disease situation," which is an entirely different matter. Furthermore, I had no thought of giving the impression that "Nurses and hospitals were necessary to cope with these virulent diseases." My suggestion was that if the Foul Brood Act were well enforced, they would not be at all necessary, as some authorities on the subject seem to think.

The particular new features of the inspection of apiaries for 1911 were the following: First, a short course in Apiculture, with special references to bee diseases, held at the Ontario Agricultural College the first week of May. Second, the employment of three special students in apiculture from the Ontario Agricultural College as Inspectors of Apiaries, in addition to thirteen local inspectors who live and have their apiaries in the district where their inspection work is done, making sixteen inspectors of apiaries in all. This move was made for the purpose of employing men who are free to devote their whole time early in the season, when it is most important to have the work done, and who can be given a special training for the work in connection with their college studies. Third, twenty-seven Apiary Demonstration Meetings were held in seventeen counties for the purpose of saving the time of the inspectors by getting the beekeepers together in groups of thirties and forties, where they could all receive instruction by means of demonstration and lecturing, on the symptoms and treatment of foul brood, and the matter of utilizing the wax from combs which must be destroyed in this treatment. These meetings were remarkably well received by local beekeepers, the highest attendance being seventy-five, and the average thirty.

The inspection season was marked by a greater interest on the part of beekeepers and inspectors than ever before: 1,013 apiaries, in all, were visited by inspectors, and as many of these were visited a second time, the number of visits made to apiaries by inspectors would be much larger than this. Out of this number, 411 apiaries were found diseased. These apiaries averaged about twenty colonies each in size. As the inspectors had special instructions, on account of the limitations of the appropriation for this work, to visit only apiaries where disease was strongly suspected, we are by no means far from these figures that 40 per cent. of the apiaries in Ontario are diseased.

The principal feature of the disease situation is the rapid spread of European foul brood in Carleton, Russell, Renfrew, Northumberland, Hastings, Prince Edward and Welland. The sure remedy for this disease is the introduction of well-bred Italian Queens, in addition to the

careful use of the shaking treatment, the same as is used for American foul brood. It is hoped that an increased grant will be appropriated for this work, to enable us to place Bee Institutes during the present winter, and additional Apiary Demonstrations next summer in these and adjoining counties. Beekeepers interested in having such meetings held in their neighborhood should correspond with the Apiculture Department, Ontario Agricultural College, Guelph, Ont.

MORLEY PETTIT,
Provincial Apiarist.

POULTRY.

The Best Breed.

Editor "The Farmer's Advocate":

A correspondent writes something like the following: "I am wanting to start in the poultry business, but am at a loss to know which breed of fowls I should keep. What breed do you consider best?"

That depends—depends wholly upon which branch of the business you intend to carry on. If you intend to make a specialty of producing eggs for market, I would recommend one class of fowls, but if you intend to enter the market-poultry branch of the business, then a different breed is required. So, you see, whatever branch of the business you desire to take up, you should try and get the breed that is most suited to that line. My specialty in the poultry line is producing eggs for market; therefore, I breed mostly White Leghorns, because I have not found a breed of fowls that can surpass them in producing eggs.

"But," said a person to me one day, "when you come to kill one of them, there is not much on it; one would not be sufficient for our table. Why, I could eat most of it myself." "Well, then, kill two," was the reply. That's it, exactly, you see. The Leghorn is not a market bird, but can down any other breed at laying eggs. Not only so, but she will do it with at most one-fifth less feed than any of the larger American or Asiatic breeds. I know, for I have tried nearly all the breeds that are going up to the present time. If I were going to make a specialty of market poultry, I believe I would keep Light Brahmas, because one can put more flesh on to a Light Brahma in a given period of time than with any other breed. I imagine I hear someone saying, "Yes, but the Light Brahmas are not good layers." Of course, they are not heavy layers, but they are large, quiet, good-natured birds, and grow and lay on flesh very fast; and, while they do not mature very early, yet a Light Brahma cockerel will weigh more than a cockerel of almost any other breed at the same age.

There is still another branch of the poultry business I would advise a farmer to enter if he intends to go into poultry-keeping in connection with his other farm occupations. I would advise him to get a breed of fowls that are good layers, and at the same time make good plump table birds. If he has an eye for the beautiful, I say choose the Wyandotte. I think the White Wyandotte, as now bred, is the most beautiful fowl we have in the country. Take, for instance, a White Wyandotte cockerel, such as we find at the exhibitions. What majesty, symmetry, beauty! Can you imagine anything more beautiful? Just the right curve of the back, and the breadth of breast, the shape of the head, and the size of the comb. If there is anything more beautiful in the line of fowls, I don't know where to find it. But remember, the Wyandottes are not very great layers, and they lay a small egg for the size of the bird they are.

Then, there are the Rocks—a little heavier bird than the Wyandottes, good layers of large eggs and splendid table birds. Roam where you will over the country, and you will find Mr. and Mrs. Rock, and you will also find they are making good their reputation as general-purpose birds. I believe you will find, in any county in Ontario, more Rocks and their crosses than of any other breed.

There are also the Orpingtons, a breed that has come to the front with leaps and bounds in the last few years—a very gentle bird, of large size, a good winter layer, and the best and most persistent sitter I ever knew. Rather inclined to be dull and lazy, but if you want a bird that will hatch and care for chickens, two or three or even more broods in a season, try the Orpingtons.

I am at present trying a rather new breed of fowls called Buttercups. Those who have kept them give them great praise as being equal to the Leghorns as layers, and a heavier and better fowl for the table. As this is my first season with them, I am not prepared to say what their qualities are.

Some of the breeds I have mentioned (except the Buttercups, which I don't know anything about), would make good general-purpose fowls, and, with their care, should make good winter layers; and any single cockerels ought to find ready sale and command good prices in any of our markets.

One thing I would strongly emphasize, and that is, unless a person has plenty of house and yard room, I would keep only one breed, and keep only pure-bred fowls of some kind. If one has plenty of house room, and can keep them in separate yards, you might keep one of the heavy breeds for winter layers, and some of the non-setting breeds to supply eggs in summer. Now, don't think by what I have just said that the non-setters will not lay in winter. I get my Leghorns to lay nearly as well in winter as the heavier breeds do. But I find a depreciation in the number of eggs laid by the heavier or sitting breed in the summer. If you haven't house and yard room, keep only one breed and keep it pure. You will take a deeper interest in pure-bred fowls, and like them better than mongrels. I had a good illustration of this a while ago. A young farmer friend had been keeping Buff Orpingtons, and he had a fine flock of them, indeed, and his enthusiasm was very high, and rightly so, for he had some birds that he could be proud of. I went to visit him this fall, but noticed that he hadn't much to say about his fowls; in fact, if I had not asked him to let me see his birds, I don't think he would have showed me them. Well, what did I see?—a lot of long-legged, lanky-looking birds, all colors and shapes. I said, "Why, Harry, what's the matter with your birds?" "Oh," said he, "I made a fearful mistake. I thought a cross between the Buff Orpington and the Plymouth Rock would make a fine bird, so I introduced a Rock cock, and these are the product. He had entirely lost all enthusiasm, and was keeping his fowls merely for his wife to take the eggs to market to pay for the groceries. Whatever breed or breeds you choose, get pure-bred fowls of a good laying strain, and remember there is a great difference in the strain of any of the breeds. Get a good strain, no matter if you do pay more for them; they are worth it. Then you will be sure to take greater pride in them, and they will do more for you than mongrels can possibly do; besides, you will be able to sell an odd setting of eggs at a good deal higher than the market price, and the satisfaction there is in keeping a flock of fowls that both yourself and visitors enjoy looking at. House them well, feed them right, care for them as you would your best driver, and success is yours.

JOHN MYERS.

Perth Co., Ont.

British Columbia's Egg-Laying Contest.

The first monthly record, from October 20th to November 20th, of the pens of laying hens entered in the International Egg-Laying Contest, under the joint auspices of the British Columbia Poultry Association, Vancouver Exhibition Board and the Provincial Government, shows eleven of the twenty-three pens of Leghorns to have laid from one ranging up to thirty-two eggs each, or an average of nearly one dozen for each pen. Twelve of the pens have produced no eggs, owing, no doubt, to heavy moult.

In Class II, only six of the sixteen pens have produced eggs, and three of these only one each, the highest number, thirty-five, being produced by pen 40, Silver-laced Wyandottes. A number of the pens consist of immature pullets, which will not come into the producing class before January. The highest pen temperature has been 52 degrees F., lowest 19 degrees, and the average mean temperature 39.40.

THE FARM BULLETIN.

The Maritime Winter Fair.

The eleventh annual Winter Fair was opened at Amherst on Monday evening, Dec. 4th by Hon. O. T. Daniels, Attorney-General of Nova Scotia, who congratulated the citizens of Amherst upon having in their midst a show which could scarcely be beaten in America. He thought that the Maritime Provinces should be joined into one, and that the capital of the united Province should be Amherst. The evening meeting was occupied with similar congratulatory addresses by other public men. Tuesday and Wednesday evenings were occupied educationally with addresses by some of the experts in various lines of agriculture and stock-breeding. Among these, Prof. Cummings' address on "Moisture Conservation" was of outstanding interest. He showed that the partial failure in crops, owing to the dry weather of the past season, especially on poorly-tilled farms, was unnecessary; that the yearly precipitation in the Province was fully adequate for the production of the maximum crops, if the system of tillage provided for the conservation of soil moisture. On Wednesday evening, D. Drummond, of Ottawa, gave a very interesting and inspiring address on "Improvement of Dairy Herds," emphasizing the necessity of studying the needs of individuals in the dairy herd in feeding. No two cows require the same care or feed, and the more skill and judg-

ment shown in feeding, the greater the profit at the pail.

The popularity of this show is growing every year, as indicated both by the increased attendance of farmers, and also the rapidly increasing number of exhibits. The exhibitors and public generally seem satisfied that the exhibition is being run on clean, square lines, and that every man receives justice. Much credit is due to the Secretary-Manager, F. L. Fuller, for the success of the show. The judges also gave general satisfaction. They were almost all Ontario men, the beef cattle being judged by W. R. Elliott, of Galt, sheep by John Gardhouse, swine, by C. M. MacRae, dairy cattle by D. Drummond, and poultry by F. C. Elford and George Robertson.

BEEF CATTLE.

As usual, this was a strong department. The veterans, R. A. Snowball, of Chatham; the Etters, of Westmoreland, and C. A. Archibald, Truro, were out with strong entries in the Shorthorns, while some newer exhibitors, as the Forrests, of Amherst Point; Coates & Son, Baker, Pipes and Holmes, had some good stock.

Shorthorns and Herefords were practically the only beef breeds, and in Herefords, W. W. Black had it all his own way, winning nearly every prize. A more uniform, better-fitted, smoother lot of animals would be hard to find. The results of the pure-bred competitions were:

Shorthorns.—Steer, 2 to 3 years—1, J. R. Coates & Son; 2, Hazen Etter; 3, Harold Etter. In steers, 18 mos. to two years, Harold Etter won first and third, with Coates & Son second. For younger steers of this class, the prizes chiefly went to Coates & Son, Harold Etter, and Chas. & E. Forrest. The class of cows was a strong one, Archibald having fine entries, and winning all the prizes but first, which went to Harold Etter. In heifers of this class, R. A. Snowball, of Chatham, was an outstanding winner, with Harold Etter winning first on heifer calves. Best female any age, as well as sweepstakes, went to Harold Etter, who thus won for 1912 the handsome silver cup donated by M. J. O'Brien for best Shorthorn animal any age. This cup was won in 1909 and 1910 by Archibald. Honors for best steer any age went to J. R. Coates & Son.

In Herefords, W. W. Black won all the prizes.

Grades of any breed made a large, strong class, and the prizes were pretty well distributed. In steers over three years, the prizes went to Black, L. Anderson, E. Forrest, C. Angus, Coates and T. J. Etter, in the order named. The principal prizes for steers of younger age went to Forrest, Black and Coates. A splendid lot of aged cows came before the judge. First went to a splendidly-fitted, deeply-fleshed cow of Black's, who also got fourth; second went to C. Forrest, and third to Hazen Etter. Heifers, 2 to 3 years, were very close, and gave the judge some trouble to decide. The first prize went finally to Black on a beautiful, round, lengthy, low-set heifer of good constitution. Chas. Forrest was a close second, with E. Forrest third. In the young sections, Ed. H. Anderson won the firsts. Mr. Anderson also won the Pugsley silver cup for best animal any age in this class, while the grand championship for best beef animal in the show went to W. W. Black.

SWINE.

There was a marked improvement in numbers and quality in this department. The greater uniformity, better knowledge of fitting through the educative influence of these annual shows, is seen every year. There are fewer culls and larger classes, making more trouble for the judge, but a better class of animals all over the country.

In Yorkshires, the short, dished face seems to be going out, and the longer, thin snout is more popular. The principal exhibitors in this class were J. W. Callbeck and A. A. McBeath, both of Prince Edward Island, with the prizes pretty well divided between them.

W. J. Gibson and Roper Bros., also from "The Island," were the only prizewinners in Tamworths.

Berkshires brought out a well-fitted, uniform class, with Peter Brodie, of Little York, and Jas. Stewart dividing the higher prizes between them.

In class for any other pure breed, Leonard Court, of Donaldson, P. E. I., took about all the prizes with an excellent herd of Chester Whites.

Grades brought out some fine animals, shown by about ten exhibitors, such as Callbeck, Holmes, Brodie, McBeath, and Fowler Bros.

In the special-prize sections, Thos. J. Etter, McBeath and Fowler Bros. took most of the prizes while the grand championship went to W. J. Gibson. "The Island" thus furnished about all the swine, and a goodly lot they were. They can certainly raise pigs there.

POULTRY.

This exhibit was by far the largest ever seen at any show in the Maritime Provinces, containing probably upwards of six or hundred birds.

In Wyandottes of the different varieties, A. C. Rand Tidnish, N. S.; D. Landills, Sackville, N. B. and W. C. Black, Salem, N. S., were the most

successful exhibitors. In Rocks, the names of C. McCallum, L. D. H. Foster and Craig Brothers figured prominently. Wisner, of Pictou, and E. H. Parsons, of Spring Hill, led in Orpingtons; while D. Robertson, of Amherst, had it all to himself in Dorkings. L. H. D. Foster, Marshfield, led in Barred Plymouth Rocks with cockerel and pullet, with Craig Bros., Amherst, second. George Callbeck led in the different sections in White Rocks, and H. D. Thomson took the principal prizes in Buffs.

DAIRY TEST.

The number of dairy cows almost doubled that of previous years. It was a show by itself, and brought out some good producers. Shorthorns were entered by G. & F. Holmes. McIntyre Bros., F. S. Black, John Ritson, A. McRae & Sons had the Ayrshires. In Holsteins there was a close contest between Logan Bros., Samuel Dickie and R. L. Hicks. Roper Bros. and H. A. Dickson were the principal Guernsey breeders represented, and J. E. Baker & Son and H. S. Pipes & Son had nearly all the Jerseys.

The T. Eaton Company's prize for best herd of milk cows was won by A. McRae & Sons. For champion cow in grades, Fowler Bros. led. Prize for highest-scoring three-year-old went to Samuel Dickie & Son, who also gained the grand championship silver cup donated by Henry Bisks & Sons, of Montreal.

JUDGING COMPETITION.

This was open to farmers or students under twenty-five years of age. The four highest scores were made by Jas. Eaton, 483; W. M. Chisholm, 408; D. Moore, 403, and V. Darling, 387.

Jas. Eaton qualified for the M. S. B. A. cup for the person not a student making the highest score, but as Mr. Easton had already won the cup once, it was not awarded this year. The Principal Cumming cup went to W. M. Chisholm.

SPECIAL RENEWAL OFFER.

GOOD UNTIL DECEMBER 31st, 1911.

Last year we made the Special Renewal Offer given below, and thousands of our subscribers took advantage of it.

Our circulation at present is larger than it has ever been before in the history of the paper, and we are aiming now to increase it by 5,000 before the coming renewal season is over. We will expect our subscribers to help us make this increase. The larger our circulation, the better paper we can give you, and it is therefore to your advantage as well as ours to have this increased circulation. There is no other agricultural journal in America that gives such good value as "The Farmer's Advocate," but we want to give still better.

THE OFFER IS:—For one new yearly subscription and your own renewal for 12 months we will accept \$2.00. For each new name in addition to the first one, we will accept from you \$1.00, the balance of 50c. being retained by you as commission. Or, if preferred, you may send in the new names, accompanied by the full subscription price of \$1.50 each (United States subscriptions \$2.50 per year), and have your choice of some of our splendid premiums.

NOTE.—This is a special offer, good only till the end of the year. Secure your neighbor's subscription to-day, before someone else gets him, or before he signs for other papers for next year.

Return the Compliment.

Last week we sent you our annual Christmas present. We tried this year to give you a Christmas Number surpassing all previous ones, and know that you will enjoy it. You would doubtless like to return the compliment, and if you will send a new name with your renewal, we will regard it as your Christmas gift to us. Send it so as to reach us before Christmas Day, if possible. Hundreds are doing this, and we hope you will, too.

Scores in the Judging Competition.

At this year's International Exposition in Chicago, Canadian student judging teams carried off the highest of honors, as has been previously stated through these columns. Macdonald College, Que., stood first in total, and Ontario fourth. The score of each of these teams is of interest. Fifty points are allowed for correct placing, and fifty for perfect reasons. Reasons were given on eight of the twelve classes of stock judged, which comprised Belgian and Percheron stallions, Belgian geldings, Shorthorn heifers, Angus steers, Hereford bulls, Hampshire rams, Southdown wethers, Lincoln wethers, Duroc-Jersey barrows, Berkshire sows, and Poland-China boars. Many of these breeds are not extensively bred in Canada, and our boys were thus at a disadvantage, but they succeeded in overcoming this. Space does not permit of making a complete table of individual scores, but a good idea of the result can be obtained from the following tables:

ONTARIO.

	Horses.	Cattle.	Sheep.	Swine.
Placing	676	706	667	639
Reasons	341	396	446	332
Total	1,017	1,102	1,113	971
Grand total, 4,203.				

MACDONALD.

	Horses.	Cattle.	Sheep.	Swine.
Placing	684	689	656	662
Reasons	397	416	448	410
Total	1,081	1,105	1,104	1,072
Grand total, 4,362.				

When it is considered that Macdonald College was first, and Ontario fourth, with the scores as close as they were, some idea of the close competition throughout the contest is obtained. Manitoba was second, but, unfortunately, we have not the team's score before us as we write. All three Canadian teams and their instructors are to be congratulated upon their good showing. It will be noticed that the lowest scores were made on swine. This is undoubtedly due to the fact that the American fat type of hog was the only class of hogs that was in the competition, and Canadians are more familiar with the bacon hog. Canadian teams have taken a low mark before on hog-judging at the International, and, while the Manitoba team was first this year in swine judging, our Canadian colleges, if they expect to win in this class of stock, would do well to breed and feed a few of the fat type of Duroc-Jersey and Poland-China swine for the benefit of the students.

Dominion Conference of Dairy Experts.

All the Canadian Provinces, except British Columbia, were represented by delegates at the Dominion Dairy Experts' Conference, which met at Ottawa on December 6th and 7th, to consider questions of vital importance to the great dairy industry of Canada. J. A. Ruddick, Dairy and Cold-storage Commissioner, presided at most of the sessions. At other times, G. H. Barr, Chief of the Dairy Division, was in charge. Both were untiring in their efforts to expedite the work of the Conference, and also in making the delegates welcome and comfortable.

The new Minister of Agriculture made a favorable impression upon the meeting by his cordial words of welcome. He mentioned that the public recognized the national importance of dairying. He referred to some of his experiences as a dairyman and as a Farmer's Institute worker in Ontario, and mentioned the fact that butter at hotels is now very much better than when he travelled over the Province as a delegate attending Institutes. G. A. Putnam and J. C. Chapais responded in nicely-worded addresses, the former mentioning that great advances were being made in Ontario in uniformity of goods, and that in a future conference the question of city milk supply ought to be considered. Mr. Chapais said that Quebec stood second among the Canadian Provinces with reference to the dairy industry as a whole, but that in the matter of butter of fine quality his Province stood first. He hoped French and English would work together to make this national industry worthy of all Canadians.

Papers were presented by a number of delegates which were warmly discussed. At no time during the two days did interest lag or discussion wane. The results were crystallized into a number of resolutions, of which the following are brief summaries:

1. That the pasteurization of whey and all dairy by-products be strongly recommended; legislation to this effect was urged. A temperature of 150 degrees F. was advised for heating whey in the tanks. Dr. Harrison, of Macdonald College, St. Anne, showed that a temperature of 150 degrees F. for one to one and a half hours would

kill practically all the bacteria present in the whey. Mr. Hens showed that this temperature was quite practicable at cheese factories, at small cost. The reasons for recommending the pasteurization of whey are: Better milk and cheese result, and danger of spreading disease is practically eliminated. It was further recommended that wash water should not be allowed to run into whey tanks, and that surplus whey must not remain in the tanks from day to day, if the best results are to be got from pasteurizing whey. The wash water and surplus whey should be treated in septic tanks, or by some other satisfactory system.

2. The Conference recommended legislation for the branding of whey butter, since it is more or less detrimental to the creamery business, and unfair to the consuming public, as conducted at present.

3. Resolutions were adopted advising the use of a properly-inspected scale for weighing Babcock cream samples, and that these scales should be inspected at the factory not less than once a year by Government inspectors. Also, that fat readings be made at 130 to 140 degrees F.

4. The pasteurization and grading of cream were recommended as a means of improving the general average quality of Canadian butter. The testimony of Messrs. LeClair (Quebec), Marker, (Alberta), and Wilson (Saskatchewan), was most emphatic on that point. The system of grading and paying for cream on a "quality basis," as outlined by Mr. Marker, met with warm approval.

There was a difference of opinion on the question of the best method of paying patrons of cheese factories. Nearly all were agreed that the fat-casein plan is correct in principle, but the difference arose over its application to factory work. Some of the delegates were inclined to doubt the accuracy of the Hart Casein Test. The work of Prof. Shutt and Mr. Singleton indicated that there might be considerable variation in duplicate tests and from chemical analysis, more particularly if all the conditions of the test were not carefully observed. It was also felt that the testing ought to be placed in the hands of qualified experts who are entirely disinterested and independent of a cheesemaker's or patron's influence.

In view of this difference of opinion, the matter was left over for the present and until more data can be gathered. So far as this Conference is concerned, the matter of paying patrons at cheeseries is largely "as you were," although there was practical unanimity of opinion that the pooling, or payment by weight of milk plan, is unfair and unjust. Some of the delegates expressed themselves as being sorely disappointed that agreement on this question could not be reached, as it was likely to affect the confidence of patrons of cheeseries in the testing system and its application to cheese-factory work.

Summing up the results of the deliberations of the Conference, the following seem to stand out prominently:

1. There are wide-awake, progressive men in charge of the dairy work in each of the Provinces, men who are studying the various problems confronting dairymen. A great deal of thought is given, and much conscientious work is being done to solve these problems for the benefit of the dairy industry. From East to West, the delegates impressed all those who heard them speak as being men on whom the country could rely in guiding the destinies of the dairy ship.

2. The Dominion and Provincial experts are working harmoniously in the interests of the national agricultural industry of Canada. Difference of opinion there is bound to be with reference to details, but, on general lines of policy all are doing their best to improve the dairy products of Canada, and to secure a "square deal" for the patrons, manufacturers, buyers and consumers.

3. A healthy interchange of opinion by men who are specializing in various branches of dairy work, when brought together, sharpens the intellects of all, and tends to uniformity of methods, and results in each and all of the Provinces, and we may expect soon to see no East and no West, so far as dairy products are concerned.

4. So far as there was an expression of opinion, the delegates did not look with favor on the suggestion of a Montreal merchant, that Renovated or Process butter, and Oleomargarine ought, in the interests of poor consumers, be allowed sale in Canada. It was felt that a renonce proves it is almost impossible to control these products and have them sold for what they are. There has been the experience of practically all countries that allow manufacture and sale of these imitation goods.

5. That the question of a national milk supply should receive consideration at the time of a future conference because of the importance of this branch of dairy industry to several delegates.

The conference was and will be a most successful one, and the Dominion Board of Agriculture service is to be highly commended for bringing together the delegates from the various Provinces in order that they might exchange

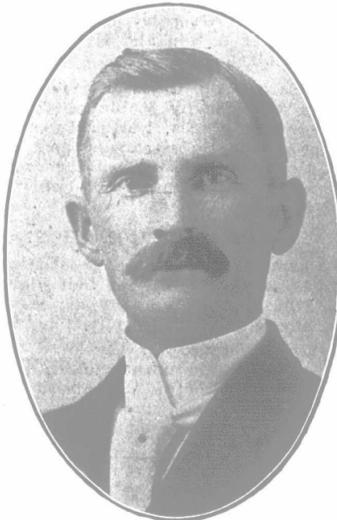
and recommend methods that will further promote a uniformly high excellence of the goods manufactured in the creameries and cheeseries of Canada.

H. H. D.

Tuberculosis—A Farmer's Bulletin

"Tuberculosis—A Plain Statement of Facts Regarding the Disease," is the title of a short, simple treatise prepared especially for farmers and others interested in live stock by the International Commission on the Control of Bovine Tuberculosis, as a supplement to its first report. This bulletin can be read in an hour, and is exceedingly well worth while. To show the direct style, we quote the first two paragraphs:

"Tuberculosis is a widespread disease, affecting animals, and also man."



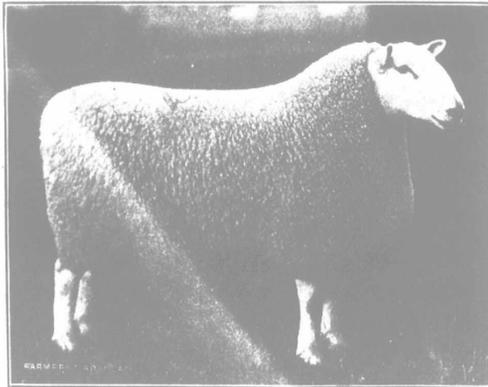
J. A. Sexsmith, M. P.
Chairman Agricultural Committee, Ottawa.

"Human beings and cattle are its chief victims, but there is no kind of animal that will not take it. Hogs and chickens are quite often affected; horses, sheep and goats but seldom, while cattle are the most susceptible of all animals."

Symptoms are discussed under nine headings, as follows: Unthriftiness, loss of flesh, cough, enlarged glands, loss of appetite, bloating, diarrhea, hard lumps in the udder, and post-mortem appearances. The bulletin is published in Canada by the Dominion Department of Agriculture, and bears the name of the new Minister of Agriculture, the Hon. Martin Burrell. A post card will secure a copy.

Our Live Stock Industry.

The latest report of J. G. Rutherford, C. M. G., Veterinary Director-General and Live-stock Commissioner, contains the following statement, relative to the Live-stock Branch: "The possibilities of the Branch are practically unlimited. Canada is a broad as well as a deep country, and one of



The Feeding Type.

Champion half-bred shearing ram at H. and A. S. Show, at Inverness.

which agriculture will for all time be the mainstay. Without live stock there can be no husbandry, as the old and true meaning of this word itself indicates. Without husbandry, farming is a swindle of the name, being merely land speculation, when in due time brings its own reward. The farmer's life is as broad and as deep as the land he tills, and at home to the people and abroad to the world, the truth demands a husbandry as broad and as deep as either the principle

or the country." An earnest and intelligent effort should be made by those in authority to develop the commercial live-stock industry of Canada to its fullest capacity, and thus put a stop to what Dr. Rutherford calls "the present inexcusable importation of agricultural products." Some action is needed, and this action can only come after a thoughtful and far-reaching investigation of conditions now existing to ascertain the reasons for their existence and the means of improvement. A move has been made with regard to the sheep industry, and the report of the commissioners is awaited with interest. Dr. Rutherford advocates a similar policy for the beef industry, which of late has shown a decided falling off, due to the rapid development of the dairy industry, the changes in the ranching industry in the West, and the wholesale slaughter of young calves. "There has been a most regrettable failure to investigate fully and fairly the comparative merits of the milking Shorthorn, or, for that matter, of any class of cattle combining milking qualities and beef production." The Canadian swine industry, especially in Quebec, the Maritime Provinces, and the Western Provinces, has never received the attention which it merits, and in many parts the production does not equal the consumption.

Horse-breeding, like the other industries, has not been pushed to its fullest capacity. Too many underbred nondescripts are produced, which indicates the necessity of education and a reasonable measure of Government control.

Production of cattle and swine in the Western Provinces has been retarded, according to the report, by unfortunate marketing conditions and the difficulty and cost of transportation, which have discouraged the farmers.

Dr. Rutherford offers no suggestions in the report, but he offers the opinion that Ontario breeders of pure-bred stock are themselves largely, if not altogether, responsible for the present unsatisfactory state of affairs, and the reason he gives is the efforts which these breeders have put forth to develop a United States market, thus neglecting the market within their own Province and country. Why was not the home market created? Our breeders sell to the highest bidders, and these come from the States. It is unfortunate that more of these high-class, pure-bred animals were not distributed throughout the Dominion, which would have made a steadier market to-day. Every phase of the live-stock industry is declared to be in need of an investigation by a commission. The marketing of live stock shows no marked decrease in numbers of stock marketed, yet the opinion is held, in stock-yard centers and in the country, that the marketings included a large proportion of breeding stock, which is a drain upon the country, from which it will take time to recover. Dr. Rutherford states: "I am convinced that nothing would conduce so largely to the welfare of the live-stock industry, and, as a natural consequence, to the general prosperity of the Canadian farmer, as would the promulgation of a policy which, while leaving the Canadian breeder free from either compulsion or interference in the marketing of his stock, would tend to put a stop to this wholesale and ruinous exportation of our best individuals, at the same time assuring their proper and intelligent distribution throughout those districts in the Dominion best suited for the production and development of the breeds to which they belong."

This looks plausible, but it is a question as to who will make up the difference in price necessary to keep these animals in this country. Sellers will naturally dispose of their stock to the highest bidder. Presumably, the Government is to reimburse the seller. After all, would this be in the best interests of the live-stock industry? The conditions which Dr. Rutherford disclosed have been repeatedly discussed through the columns of this journal. It is worthy of the thought of the best men of our country. It is to be hoped that these proposed investigations will throw some light upon a remedy for present conditions.

At a recent conference in Toronto, representing live-stock associations, shippers and various Provincial Governments, the new live-stock contract which the Railway Board has ordered the railways to prepare, was fully discussed. It appears that this contract was sent by the railways to the shippers before being sent to the Board of Railway Commissioners for approval. The opinion of the conference was that the new contract embodied exacting conditions not in the existing contract. After considering the matter, a general committee was appointed, and from this a sub-committee, to meet the representatives of the railways, and report to the general committee.

The re-appearance of rabies in several parts of Western Ontario may lead to an early necessity for enforcing the dog-muzzling order again.

The International Live Stock Exposition of 1911.

Each succeeding year sees an increased entry list, increased attendance, and such a marked improvement in the quality of the exhibits that, to describe it, one is forced to fall back upon the old expression, "The Best Ever." This show is the peer of all shows the world over. The other large shows in America serve the purpose of selecting the candidates to compete at this the final exhibition of the year. It is the supreme court, or, better yet, the Privy Council, for all classes of horses, cattle, sheep and swine, and the owner of a winner in such keen competition may justly feel proud of his achievement as a breeder and feeder.

The International this year more than lived up to its past great record, and even surpassed last year's superlative show. Quality was the prime feature of the stock on exhibition. Of course, all the animals were not of championship calibre, yet the quality was very high and the fitting noteworthy. The 1911 International was more than ever an American show. The veteran Canadian feeder, Jas. Leask, was conspicuous by his absence, which weakened to some extent the Shorthorn fat classes, which, by the way, were not up to their usual standard. Graham Bros., and The Graham Renfrew Co., two of the top-notchers in Clydesdale breeding, did not exhibit this year, so the sheppmen were left to uphold the honors of Canada, and they responded nobly to the call. Only a very small number of Canadian cattle were present, and the only regret of the entire exposition was that more of our Canadian breeders and feeders did not rub shoulders with their American cousins in many more of the classes at this exhibition.

STUDENTS' JUDGING COMPETITION.

This competition always serves as a curtain-raiser or preliminary to the greater events. This year, ten teams entered, viz., Macdonald College, Ontario, Manitoba, Missouri, Iowa, Texas, Montana, Ohio, Kansas, and Nebraska. Canadian teams did exceptionally well, Macdonald winning first place, Manitoba second, and Ontario fourth, with Missouri in third place. Seven of the ten high men were Canadians, three each being from Manitoba and Macdonald, and one from Ontario. The boys did exceedingly well, considering that they were forced to judge several classes and breeds of stock with which they were not at all familiar.

FAT CLASSES.

For keenness of interest and close competition, the show of fat animals on Monday, the real opening day of the exhibition, was unsurpassed by any of the pure-bred breeding classes, each breed of which, however, drew its quota of admirers. For universal interest, the grade classes stand alone. Every ring-side expert puts forth an extra effort to see these classes, and competition is always keen.

GRADES AND CROSSES.

The outstanding feature of these classes was the remarkable winnings of the Angus. They repeated their performance of a year ago, but the way they edged into the money this year was even more marvellous than ever before. The Shorthorns and Herefords were altogether outdistanced, and were, generally speaking, in the "also-ran" class. Class after class was headed in one, two, three order by the low-set, thick, blocky little blacks. Individual breeders were up against a very strong competition in the college exhibits, particularly that made by Iowa State College, Ames, Iowa. It is just a question whether these exhibits do not to some extent discourage, instead of encourage, the individual fitters to put forth greater efforts. College exhibits are doubtless a great feature of the exposition, but they should be confined to competition between themselves, and thus leave the individual to compete against his opponent under more favorable circumstances.

J. J. Cridlan, of England, handled all these classes to the satisfaction of all.

The first class was a large one, there being eighteen entries, and some excellent bullocks faced the judge. The final battle was waged between two steers from Iowa State College—Victor, a remarkably smooth, thick, deep, mellow-fleshed steer, in the best of bloom, winning over his stable mate, a somewhat larger, slightly narrower steer not showing the same degree of finish. Third went to M. L. McCoy, Washington, C. H., Ohio, and he, with the two following him, was also a doddie. Senior yearlings brought out nine head, but the contest simmered down to a steer from Nebraska State College, and another from Iowa. Nebraska finally winning with a youngster that gives every promise of developing into a great show animal. These were also Angus crosses. The class for junior yearlings brought out a very large entry, and competition was very keen, the judge deliberating for considerable time before finally placing the blue on a growthy, deep-

fleshed youngster exhibited by R. M. Anderson & Son, Newell, Iowa. University of Missouri stood second, with Escher & Ryan third and fourth. Senior calves brought out a great class. Disputer, a Hereford grade, exhibited by University of Missouri, was one of the really good things of the show, with a great heart-girth and spring of rib, very level hind quarter, with the meat carried down well onto the leg, together with superb handling qualities, he was an easy winner, even in strong competition. His greatest rival was Fullback, an Angus grade shown by Escher & Ryan. Iowa College again came to the front in junior yearlings, and again it was an Angus that did the trick. McCoy got second on another Angus. Much speculation existed now as to where the grade championship would go, but, after a short, sharp tussle between the Iowa College two-year-old and the senior calf, the Angus won, owing to his superior fleshing and handling qualities. Few steers have been brought out with such a wealth of fleshing, not too hard nor yet too soft, and covered all over from the shoulders to the hocks. Iowa got first, with Nebraska second, on herd prize for herd of one each of two-year-old, one-year-old, and calf.

SHORTHORNS.

The fat-steer showing of this breed, as compared with former years, and particularly with that of 1910, was decidedly weak. No sensational animals were forward, although several high-class specimens lined up. The entry was fairly large, but not of the usual high quality generally seen in this old favorite and cosmopolitan beef breed. Competition was only moderately keen, consequently interest lagged somewhat. In two-year-olds, ten came out, and some little delibera-

tion was necessary before Quality Goods, a smooth red from Iowa State College, was placed over The Gentleman, a thicker steer, but a little rougher, with a little less finish, and owned by Kansas Agricultural College. Kansas College also had the third-prize steer, with Carpenter & Ross and White & Smith, in order named.

ABERDEEN-ANGUS.

breed at Chicago, although some fairly large strings were out this year, and the competition, on the whole, was quite keen. In two-year-olds, Clifton, a very good steer, was placed over Donald Lad, another of the right type, the former owned by P. J. Cudahy, and the latter by Cyrus A. Tow. The yearlings were the largest class, H. J. Fluck getting first honors, with Tow second. Nothing sensational developed in this class of eleven head. The calf class was one of the strongest of the Hereford fat classes, Brocade winning the Blue for Cyrus A. Tow, with Kansas Agricultural College a close second. There were no real contenders in this breed for the grand championship.

What was done in the grades was duplicated in these classes, most of the honors going to the colleges. For large classes and keen competition, this breed had a shade on all others in the fat classes. Iowa State College kept up their winning streak by getting first place on a splendid steer in the two-year-old class, of which there were fifteen in the ring. Second went to Escher & Ryan, and third to Purdue University. All these steers were good handlers, but the Iowa steer had the greater finish, was a little deeper-fleshed, and smoother. In the yearling class of seventeen, Nebraska University had a grand steer, well fleshed, and not overdone. He was placed first, with Escher & Ryan second. Escher & Ryan and Iowa State College stood first and second in calves, and the champion of the breed was found in the Kansas yearling.

The fat classes for Red Polls, Polled Durhams and Galloways were not well filled, and they never were contenders for the highest honors of the show, although some very good specimens of these breeds were forward.

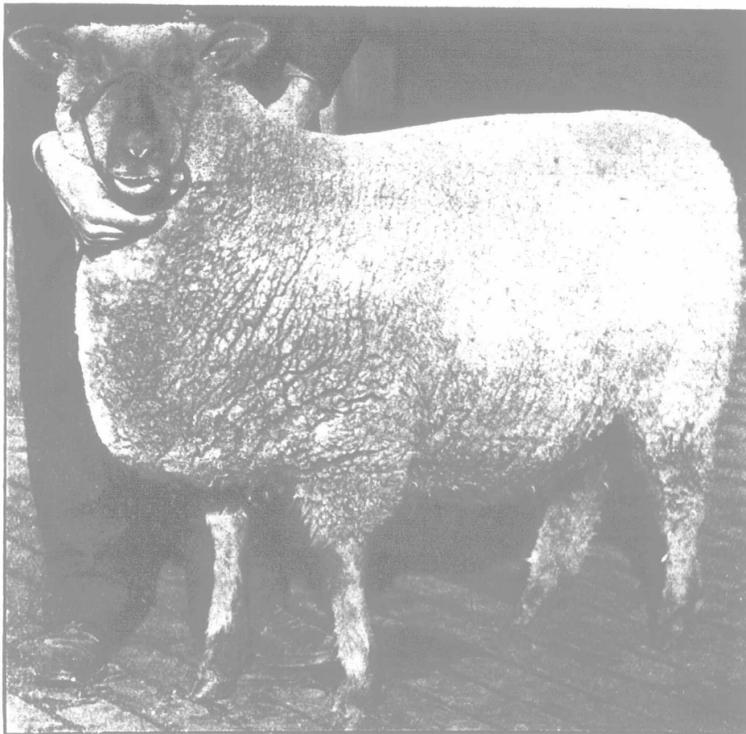
The championships by ages came next in order, and the great Iowa grade Angus, two-year-old Victor, won easily, and stepped one pace nearer the grand championship. The class for champion yearling rested with the Nebraska pure-bred Angus, while the championship for calf was easy for the University of Nebraska grade Hereford. These were the three top-notchers pulled out for the grand championship, and while the yearling and calf were worthy contenders, the general consensus of opinion was in favor of the two-year old. After close inspection and a couple of turns round the ring, Mr. Cridlan slapped his hand on the rump of the Iowa steer, and Victor became the conqueror of all, and the fourth grand championship went to Ames. The yearling was placed reserve. The three steers that fought it out at the last post are all great bullocks. Victor is a champion of champions, weighing over 1,600 pounds, and, due to his greater finish and mellow handling qualities, and greater thickness, he won from his competitor, the yearling. The calf is a marvel, level, smooth and thick, but is not quite so thick-fleshed and not as well finished as the others. He should be heard from again. The winner was runner-up at last year's International, being only beaten by the Leask steer, Roan James. He was also grand champion at Fort Worth show last March. Good judges who have seen many, and some all of the International champions, proclaim this year's winner the champion of them all.

CAR LOTS.

Last year saw 73 carloads of fat cattle in the various classes of this competition, but the 1911 exhibition outdistanced it in both numbers and quality. As in the single steers, the Angus scored a signal success, winning the championship by ages, and the grand and reserve championships. The grand champion load was made up of yearling Angus steers, and the reserve of two-year-olds, both lots being owned by Escher & Ryan, of Irwin, Iowa.

BREEDING CLASSES.

Shorthorns.—Larger but fewer stronger class-



The Grand Champion Wether.

Shropshire grade exhibited by J. Lloyd-Jones, Burford, Ont.

The senior yearling class consisted of twelve entries, and again Iowa State College captured the blue, with Kansas a close second, and again it was the smoother, more highly-finished steer that won. Nine nicely-finished youngsters lined up in the junior yearling class, and this time Kansas College turned the trick, winning first and second, with Ames third, and Carpenter & Ross fourth. In the junior calf class, the entry of Jos. Stone, Blackwater, Ont., was placed second to a Carpenter & Ross calf, a placing which was questioned by some good breeders and judges, who thought that it might easily have been reversed. The championship of the classes went to the Iowa State senior yearling, a good specimen, but not to be compared with Roan James, the champion of these classes a year ago. In no particular did this year's champion begin to equal Roan James. Iowa won the herd prize quite easily with their first-prize winners.

HEREFORDS.

Large fat classes are not the rule with this

es of aged bulls have been seen at Chicago than the seven that came out this year. Ringmaster, that unbeaten son of Snowflake, owned by White & Smith, was an easy winner. He was the deepest, thickest, best and smoothest-fleshed bull in the ring. Second place was not so easily decided. Sultan Mine, owned by Harding, third-prize winner in the two-year-old class last year, was finally placed second over Shenstone Albino, Carpenter & Ross's great white bull. This decision caused some comment, as the placing had been reversed at most of the fall shows, but the thickest and lowest-set bull won. Matchless Dale was fourth, and Abbotsburn fifth. The two-year-old class brought out eight high-quality, deep, thick bulls, but Roan Sultan, Johnson & Sons' extra-smooth Glen Brook Sultan bull, had little trouble in defeating the thicker and much more massive White Hall Rose Dale, a big son of Avondale. Marcellus, Capt. T. E. Robson's Toronto winner, looking fresh and in good condition, had to be content with third place, fourth going to Fond Memory. Senior yearling bulls, while not extra strong in numbers, were of grand quality. Gainford Marquis, Watts' sensational bull, reserve champion at Toronto, had no difficulty in landing the blue. He is showing better finish than he did at Toronto, and his excellent quality, coupled with his great size and substance, makes him a hard proposition to beat. Second went to Royal Cumberland, a smooth, chunky son of Cumberland's Last. Village Denmark was third, and Woodlawn Sultan fourth. A strong class of sixteen junior yearlings made one of the keenest competitions of the show. The Marshal, a handsome son of Anoka Marshall, owned by Johnson & Son, finally stood ahead of Cumberland's Best, a white son of Cumberland's Last. Village Denmark was third, and Good Knight fourth. A dozen thick senior calves made an interesting ring. Pride of Albion, a smooth, roan son of Shenstone Albino, was an outstanding winner. Village Sultan, a rather fine but very even white, was placed second, with The Governor third, and Village Baronet fourth. The class for junior calves brought out over twenty, most of which were of the right type. Hanna's fine roan, Augustine, was placed first, Foxhall Sultan second, Lavender Marshall third, and Master Avondale fourth.

The female classes are always strong at this show, but undoubtedly they surpassed all previous records. Eight aged cows were out, and the winner, a magnificent red, the lowest-set, thickest cow ever seen here, is a credit to the breed. She was Princess Marshall, by Sharon Marshall, and she was only repeating her performance of last year. She is as smooth as ever, and much thicker. No rolls are visible, and she, to all appearances, will continue a winner. Dale's Gift, the champion of Toronto this year, and in a trifle better bloom, was second. She is a very stylish cow, but has not quite the scale and finish of the winner. Fair Start 2nd, by Golden Hope, a mighty smooth, deep-fleshed roan, was third. This heifer was second here as a two-year-old. The two-year-old heifer class was not as large as usual in numbers, but this was made up in quality. Dale's Gift 2nd, a beautiful red heifer, which stood first at Toronto in 1910, and second in 1911, and third at the 1910 International, has improved wonderfully, and won handily. New year's Delight, by Barmton's Knight, a low, thick-set roan, was second, and Marchioness, another growthy roan, third.

There were fifteen senior yearlings forward, and it was one of the best classes the world has ever produced. Roan Queen, a wonderful daughter of Gloster's Choice, forged to the front, and there was no disputing her title. She has scale and substance combined, with low-setness and finish rarely seen in a yearling. Mary Ann of Oakland 2nd, a somewhat larger heifer, but not so evenly and deeply fleshed, was placed second, closely followed by Violet Goods, a daughter of Ruberta's Goods. Junior yearlings were not quite so numerous, but the quality was well maintained. Maxwellton Gloster 3rd, a low-set red, sired by Avondale, won, with Sittytton Goods, by Ruberta's Goods, second, and Lady Cumberland, a daughter of Cumberland's Last, third. The twenty-eight heifer calves were headed by a phenomenally good red, whose equal has seldom been seen in a calf class in America. This calf, Pleasant Mildred, is a red, sired by Gladstone. She is deep and thick, good at both ends and in the middle, and should be heard from again. Second went to Village Primrose, and third to Maxwata Massie. The junior calves were nearly as strong as usual, but not quite as high in quality. The eighth Duchess of Gloster, took the blue, with Snow Queen a close second.

In the male championships, the winner of last year's grand champion, won over the other two, and was the junior champion. It was a close contest, and might have gone either way, but the winner is noticeably evenly-fleshed and thick, and has more substance than the yearling. The other two calves went to Princess Marshall and to the other two winners.

The Angus classes.—Last year saw two Caledonia

breeders competing for the honors in these classes, but the 1911 Angus show was confined to American breeders only. The competition was keen throughout, and the classes were very large. Thickset Blackbird, by Glenfoil Thickset, is rightly named, and after a hard fight got the blue in the aged-bull class, with Quality Prince, Dutch Creek Wilson and Undulata Barbara 2nd, in order named. Kloman, by Heatherman 2nd, was the winner in the two-year-old section, with Eastern Star of Meadow Brook, by Star of the North 2nd, closely following. Queen's Quality Boy was the winner in a strong class of senior yearlings, while Black King of Rosemere, by Ethan Eric, captured the blue in the junior yearling class, with Quickstep 2nd of Meadow Brook, by Star of the North 2nd, second, and Evening Star, by Morning Star 2nd, third. The senior and junior calf classes were well filled. Rosegay 6th, a son of Rosegay 4th, led the former, and Eileen's Lad of Rosemere, by Oakville Quiet Lad, took premier honors in the junior class. The Angus female classes were a feature of the exhibition. In the aged-cow class no less than fifteen came forward, and never before had such a class been seen at this show. The winner, Barbara McHenry 24th, by Baden Lad, is a model of symmetry, smooth, low-set and thick-fleshed throughout. Erica of Woodcote 2nd, by Undulata Blackbird 1to, was second, with Pride of Aberdeen 65th, by Blackcap King, third, and Black Eileen, by Black Woodlawn, fourth. Sixteen two-year-olds made a class nearly equal to the aged class. Barbara Woodson, by Louis of Meadowbrook, won first over Queen Mother Johnson 5th, by Leroy 3rd of Meadowbrook. Third went to thick-set Myra, and fourth to Miss Quality, all being beef animals of the most approved Angus type. The yearling and calf classes were, numerically, record-breakers, and, for smoother, deep-fleshed youngsters, would be hard to outclass. The championships were keenly contested. Kloman, the two-year-old bull, won over Queen's Quality Boy, senior yearling while the great two-year-old cow, Barbara Woodson, was grand champion female.

Herefords.—The show of this breed even eclipsed the record made by that of 1910. The quality was just as good, and the rings better filled. Herefords are improving, and rapidly gaining favor. Low-set, thick, meaty animals were characteristic of each and every class this year. The old-time roughness of the hook-bones and narrowness of hind quarters was conspicuous by its absence. Both ends and the middle of the present-day Hereford are well filled out, and few of the beef breeds have anything on them. In the aged bull class eleven were out. Beau Columbus, by Beau Roland, was first, Beau Premier second, with Bonnie Brae 8th third; Prime Lad 9th, last year's winner, was unplaced. Gay Lad 6th, a very smooth, deep-fleshed son of Prime Lad 16th, won the two-year-old class, with Fairfax 16th, by Perfection Fairfax, second. Senior yearlings were headed by Corrector Fairfax, another bull by Perfection Fairfax, with Promenader, by Dismay, second, and Weston Boy 2nd third. Ten junior yearlings brought out a winner in Donald Lad 7th, by Donald Rex, with Young Gleed second. The calf class was a feature, eighteen being out, first place going to Prince Rupert 44th, by Prince Rupert 8th. Disturber 4th was second. Junior calves were also strong, Prizewinner proving to be rightly named. The female classes were out in great numbers. Lady Secret 3rd, by Diamond Lad, a very fleshy, low-set, smooth animal, won the aged class, with Princess 16th by Principo 4th, second, and Priscilla third. Two-year-olds showed a baker's dozen, with Scottish Lassie, by Young Beau Brummel, wearing the blue, and Banza, by Beau Brummel, the red. The senior and junior yearling class were headed by Perfection Lass, by Perfection, and Bonnie Lass 10th, by Bonnie Brae 8th. The calf classes were unusually large, and the Hereford show throughout was a credit to the breed. The male championship went to Gay Lad 6th, and the female championship to Scottish Lassie, both being remarkably smooth, thick-fleshed, massive individuals of the most approved beef type.

HORSES.

Clydesdales.—Never before has this breed made such a showing in the United States. No Canadian breeders exhibited, yet in both numbers and quality former Internationals were completely outdistanced. This speaks well for the future of the Clydesdale in America. Minto, last year's champion, was an outstanding winner in the aged class. This great son of Marcellus is still in great bloom, and his substance, action and quality are hard to fault. Nether Baron, a clean-boned get, by Baron of Buchlyvie, was second, and Fred Edward, a son of Royal Edward, third. The three-year-olds showed their paces before the judges. G. S. Prince, a winner at Toronto, was better advantage in more ways than one, but fell slightly in beating Clyde. He is a horse of great quality, but a little less in action and a trifle long in the back. The other two winners, by Revelonta. The 11-year-old colts were a great class. King Norman,

a very flash colt, and a snappy, strong, true-mover, with clean bone, perhaps a little fine, was placed over Critic, a horse of more substance, bone, and having a nicer top. This son of Everlasting, with some judges, would have beaten the winner. Kirktown Squire was third. Yearlings were not a sensational class, although Dictator, an American-bred colt, sired by Borgue Chief, is a topper. Osco Pride took second, and Shamrock third. Shamrock, another Borgue Chief colt, won the foal class with Coronation, a son of the once champion Criterion second.

The filly classes were the best ever. Princess Fortune, by Criterion, a remarkably short-coupled, deep-middled, level mare, with the best of bone, feet and pasterns, was an outstanding winner. She was champion at this same exhibition as a two-year-old. Pearl of Fairfield, by Netherlea, a very smooth, high-quality, flashy mare, last year's champion, was second, with Pride of Drumlanrig third. The three-year-old mares were fine, classy individuals. Purple Heather, a second-prize filly at Toronto, was an easy winner. She is the personification of quality, and moved fairly well. Currievale Princess, by Gilt Edge, with a little more substance, but scarcely the quality, stood second, and Lucy of Drumlemble third. An even dozen beauties made up the string of two-year-olds. Graceful Lady, by Borgue Chief, headed the class. She has a fine top, good middle, and is brim full of quality. Lady Lochfergus, a fine Baron's Pride filly, was placed second, with Maggie Hunter, by Scottish Crest, third. The best of the eight yearlings was found in the Borgue Chief colt, Lady Lustrous. She has faultless underpinning, fine, sloping pasterns, plenty of bone, and great big feet. Queen Maud, a Gallant Carruchan colt, with a nicer top, stood second, and Airlee Darling third. Four foals were all that came out. Heather Duchess won the class, with Osco Baron's Princess second, and Maud Muller third. For champion stallion, the judges selected Mikado, and Princess Fortune captured similar honors for the best mare.

Percherons.—As is usually the case, this breed was out in largest numbers. A few small breeders ventured their animals in this great competition, but the display was mostly made by the larger breeders and importers. All the noted importers were out with their high-class horses and others not so good. In so keen a competition, one is led to wonder why so many of the inferior horses are brought out, when there isn't a possible chance of them winning, and when there is an abundance of high-class stuff to make a great display. There were three very interesting filly classes, viz., the aged, three-year-olds and two-year-olds. In the former class there were forty-seven entries, and a goodly number faced the judges. Castille, by Telemagué, a very stylish, nice-going, clean-limbed mare, won first for Dunham's. La Belle, by Brunelles, a strong-backed, level-crouped, good-bodied mare, took second for McMillan & Sons, while third went to Amorita, by Aride, fourth going to Rosine, another McMillan mare by Olbert. The best of the large three-year-old class was found in Indienne, by Aigram, a very large, strong, clean-boned, short-backed gray, owned by Burgess. Her croup is a little steep, but she is a great mover, going strong, straight and true, and is a Percheron throughout. Idiome, a handsome black, owned by McLaughlin Bros., was second, with Dunham's Idumea, by Valory, third, and Iworza, by Picoteur, fourth. Sixteen was the number of two-year-olds to take the ring. They were a good bunch, and Crouch's black, Jupilles, by Conserit, is the making of a very useful mare. She was placed first over Jocasso, by Volantvent, Dunham's entry, and Juvenie, also a Dunham colt. The yearling and colt fillies were not sensational. McMillan won the former class with Mylette, a growthy youngster, by Carlilage, while Genesco Gem, a big weanling, by Grand Duke, headed the latter class for Weinrich Bros.

The stallion classes were enormous, especially the two and three-year-olds. There were 156 entries in the two-year-old class alone, and over 70 came out, while over 50 lined up in the three-year-old class. Numbers seem to make an impression on the spectators, but there seems to be little to gain by bringing out a large number of horses which doubtless the breeders could have sorted out in the stables beforehand. The weanlings were not a strong class, but they showed great size and development for their age. Busterlot, by Boulengren, won the blue for Miller. Yearlings came out sixteen strong, but there was nothing particularly outstanding about them. McMillan's Masterpiece, by Calypso, was as good as his name, and took first over Touron, by Toulon, Rinehart's entry. Then came the two-year-olds. Over thirty were returned to the barn without being moved. Gradually they were thinned out, until Junier, a colt of marvellous quality, good feet, and legs, and a great goer, was finally given the blue. He is by Fier-a-Bras, and is owned by Burgess. It was rather difficult to see just where in this colt outclassed Juvardel, by Jolibois, the Dunham entry, as both are excellent colts, the

latter having a trifle more size and substance than the former. Jacon, by Vesuve, was third, and Josephat, by Frier-a-Bras, fourth. The fifty three-year-olds made things equally interesting in this class, and, after culling and reculling, the final reckoning showed Crouch's big gray, Imprecation, by Pulsion, first, with Idlefouse, a massive black, by Joli, second. These are a great pair of horses. The gray is a little more sprightly and truer mover, is heavier-boned and cleaner-cut, and deserved to win. Third was found in General by Travernier, a big, thick horse, owned by Burgess. Indus was fourth, and Ismail fifth. The aged class was headed by the thick, high-quality, good-moving mare, Hautbois, with Vinary second. Imprecation was made grand champion stallion, and Castille, the aged mare, landed the purple for best female. While these horses are not, as a rule, as clean-limbed as the Clydesdales, those which won the honors at Chicago were good-quality individuals, and showed improvement over the showing of former years.

Shires.—Like the Clydesdales, this breed excelled itself in numbers and quality. The aged stallion class was very strong, and the final line showed Southill Castle, a very heavy bay horse, with very strong bone and muscling, wearing the blue. He was a little larger than his competitor, Enfield Chief, who stood next in line, but both are good horses. Pride VII. was third. A big string of three-year-olds came forward, and Royal Grey, by Kingsway, a big, upstanding horse, with a strong top and loin, nicely-turned croup and faultless action, was the undisputed leader. This horse was afterwards made champion over the aged horse. March Ringleader and Rosecote Premier, were second and third. Fifteen colts were seen in the two-year-old ring, which March Pioneer, a stylish, clean-boned, good-going gray, won, with Rome's Prime Lad second, and Wrydeland's Squire third. Tatton Dray King, a Tatton Chief colt, a big, strong bay, was an easy winner in the yearling class, with Jack Tar second. Stallion foals were very ordinary, and even the winners were rather plain individuals. The class for aged mares was the high-water mark of the Shire show. No less than nineteen lined up, and the winner, Coldham Surprise, a seven-year-old roan, is a wonder. She is the biggest, smoothest Shire seen in many a day. Weighing considerably over a ton, with a strong back, level croup and deep middle, fine, clean bone, and abundance of muscling, and going true and strong, she was an easy winner. Second stood a somewhat smaller, lighter-middled mare, with lighter and a little cleaner bone, and a snappier mover. She was Lady Louise, by Madresfield Thumper. Coldham Favorite was third, and Billingborough Belle, a wonderfully strong-topped mare, but a little meaty-legged, fourth. Only five three-year-olds came forward, and Coldham Charm, a daughter of the aged winner, and a duplicate of her dam, won handily with Basinghall Smart second. A class of seven two-year-olds was not very strong, although a right good colt, Grace, headed the list, with a growthy youngster, Waldersea Hall Rose 2nd, second. William's Flower, a good-quality colt, headed the yearling class, and Coldham Princess, another daughter of the great champion aged mare, was first in the colt class.

Belgians.—Horsemen who have been following closely the affairs of this breed, will not express great surprise to hear of the great show which it made at the 1911 International. Belgian exhibitors and admirers were unanimous in pronouncing this year's exhibit the best ever made in America. The aged stallion class had nearly forty entries, and it was a grand ring of draft animals that faced the judges. All the horses brought out were not winners, but every year shows an improvement in quality in these horses. Cleaner hocks, better quality of bone and feet are now marks of the winners of the blue. Following the great ring of aged horses came a class of over twenty three-year-old stallions, and about the same number were forward in the two-year-old class. Yearlings and colts made a good show, though out in smaller numbers. The filly classes did not bring out so many entries, but the competition was keen throughout. The champion stallion, any age, was found in Non Gross, J. Crouch & Sons' massive two-year-old horse, with the aged first-prize winner, Medor De B. C., owned by Maywood Stock Farm, a close second. Crouch also won the championship and reserve for fillies for their first-prize three-year-old, Alice De Leffange, and the first-prize two-year-old, Lucie De Ostende. Crouch won first on the best five stallions, also on the best three mares; while Finch Bros. carried off premier honors on best four animals the get of one sire, and Geo. W. Crawford on two animals produce of same dam. As usual, it was an importers' battle, few of the small breeders venturing their stock in so keen a competition. The old type of coarse, thick, meaty-legged, boggy-hocked Belgian finds little favor in the eyes of present-day breeders, and with the improvement in quality is to be seen a corresponding improvement in action. Belgians stand in high favor as draft horses in the United

States, owing to their easy-keeping qualities and their extreme docility.

SHEEP.

Canadian sheep-breeders went to Chicago in large numbers, and they were paid for going, for in the keenest competition ever seen at this show they succeeded in carrying away the best prizes, including the grand championship.

Breeding Classes.

Shropshire.—Probably the strongest Shropshire show ever seen in America was assembled at the International this year. Here the winners of the western circuit met those which had been at eastern fairs for the first time this year. To add to the competition, J. Lloyd-Jones, of Burford, Ont., Canada brought out a number of high-class animals. In the two-year-old ram class there were 15 entries, and every one was strong enough to win in good company. Judges Coffey and Shaw finally settled on the ram from the Iroquois Farm of Coopers-town, N.Y. This ram is a beautifully low-set, thick, firm-fleshed individual, with lots of quality. The only criticism which might be made of him is that he might be a little bit larger. However, the judges liked him so well that he was later made champion. In the ewe classes the sensation of the ring was the yearling shown by Chandler Bros., Charlton, Iowa, which was made first in her class, and champion. She is a ewe of good size, low set, thick and firm, with an exceptional fleece. Throughout the show the ribbons were divided, no one getting the lion's share. The strongest exhibits were made by the Iroquois Farm and Chandler Bros., above mentioned, and also W. F. Renk, Sun Prairie, Wis.; Geo. McKerron & Sons, Pewaukee, Wis.; H. L. Wardwell, Springfield Center, N.Y., and J. Lloyd-Jones Burford, Ont.

Hampshires.—The Hampshire exhibit was good throughout. The classes, while hardly as large as in the Shropshires, had the leading winners from the Royal as well as the State circuits the past season. The leading exhibitors were Wm. Cooper & Nephews, Chicago; C. O. Judd, Kent, O., and the Walnut Hall Farms, Donerail, Ky. The two-year-old ram shown by Cooper was made champion of the show, this making the seventh purple he has taken this year. He is a ram of good size, thick, low-set and well fleeced, very strong in his head, and stylish. C. O. Judd won the ewe championship with a very good yearling.

Dorsets were represented by the flocks of six breeders from five different States. While the numbers were not large, the quality of the sheep, so Judge Duncan said, "cannot be excelled by any showman." The most of the ribbons were taken by Nash Bros., of Tipton, Ind., and W. H. Miner, of Chazy, N.Y. Miner took both championships. **Oxfords.**—Peter Arkell & Sons, of Teeswater, Ont., were the Canadian exhibitors in this breed. They were up against the keenest of competition, in the Shaffer, Cooper and McKerron flocks, but succeeded in winning first on flock and five seconds and two third prizes.

Lincolns.—This breed was represented by two Canadian breeders in competition with the Amer-

icans—John Lee & Sons, of Simcoe, and L. Parkinson, of Guelph. Lee won the greater part of the money, including both female and male championships, besides two firsts, three seconds and four thirds. Parkinson won two seconds and one third.

Cotswolds.—This breed was out in greater numbers than ever. E. F. Park was the only Canadian exhibitor, and while his sheep were high-class stuff, he did not win as much as the other Canadian exhibitors.

Leicesters.—Two Canadian exhibitors captured nearly all the money in this breed, viz., A. W. Whitelaw, of Guelph, Ont., and A. W. Smith, of Maple Lodge, Ont. Smith won both championships and five firsts, three seconds and two thirds, while Whitelaw took two firsts, three seconds and one third.

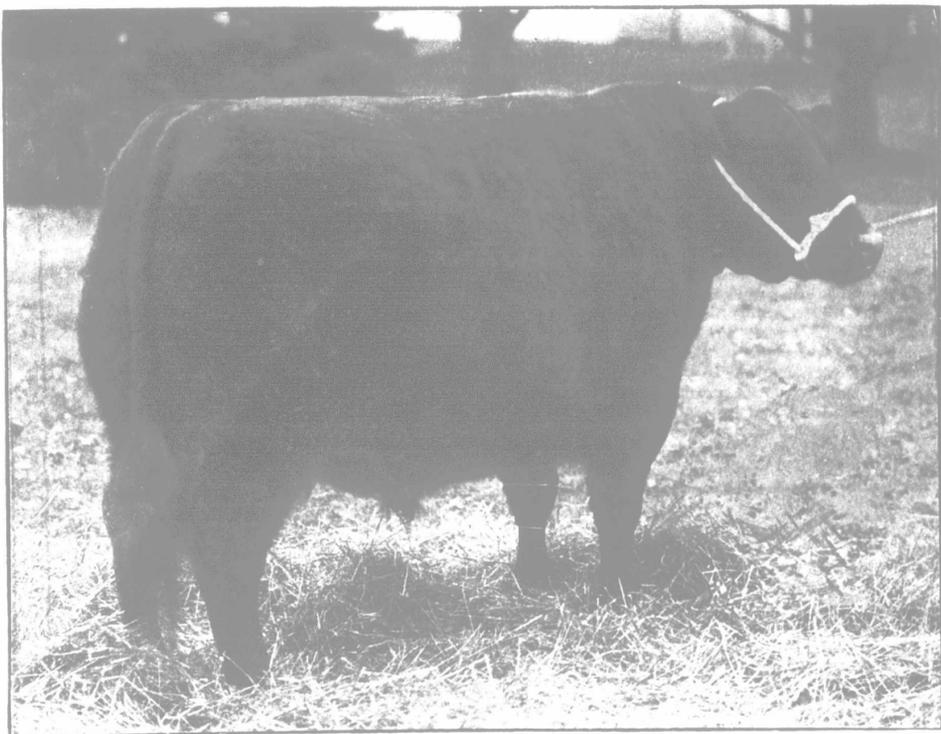
Southdowns.—This breed made a strong showing, with Lloyd-Jones, of Burford, representing Canada. He was always to be reckoned with, and made things interesting throughout for his American competitors.

Fat Sheep.—This division comprised one of the most important parts of the show. Here it was really International in character. The Canadians were there in numbers, and wherever they showed they took the lion's share of the money. This was not because the show was not strong, but simply because they brought out better sheep than were shown from the States. In the Shropshires the money was about equally divided between J. Lloyd-Jones, of Burford, Ont., and the University of Wisconsin. In the Southdowns the Huntleywood Farm, of Beaconfield, Quebec, took the best prizes, including that for champion wether. There were no fat Oxfords or Dorsets brought out by Canadians. In the Lincolns, J. Lee & Sons, of Highgate, Ont., and L. Parkinson, of Guelph, Ont., won everything. E. F. Parks, of Burford, and J. Lee, of Simcoe, won in the Cotswold classes; while in the Leicesters L. Parkinson and A. W. Whitelaw, of Guelph, and A. W. Smith, of Maple Lodge, Ont., took all the money. Of the champion wether, shown by Mr. Whitelaw, Judge Douglas said: "It is seldom that a yearling of such quality is brought into the show ring."

The grades and cross-breeds made the strongest showing in the fat classes. In the yearling classes the judge had over twenty entries to pick from. He finally decided on the Lloyd-Jones entry. Later the same sheep was made grand champion wether of the show. This wether was sired by a Shropshire ram, and his dam was an Oxford ewe. He was thick, low-set, covered all over and just right in condition. The reserve champion was won by the University of Wisconsin on a Shropshire.

SWINE.

The hog show at the International this year, taken as a whole, was better than ever before. The entries in the breeding classes, while not as large as at many of the State fairs, showed an increase over last year. A number of the leading breeders of the different breeds came out with good herds, and there is promise that the Inter-



Victor.

The Grand Champion Steer. A grade Aberdeen-Angus, exhibited by Iowa Agricultural College, Ames, Iowa, and sold for 90 cents a pound.

national will grow into one of the strongest shows of breeding hogs that is held in the country. At present many breeders are reluctant to enter their breeding animals because of the proximity of the exhibition buildings to the stockyards, and the danger of disease. One thing of especial interest was the exhibit of Hampshires. This breed was much stronger than ever before, and had the best show of any of the breeds. The popularity of the Hampshire is increasing by leaps and bounds in the States, and within a few years the belted swine may be as common as either the Berkshires or the Duroc-Jersey.

The fat classes, as is usual in the United States exhibitions, were the center of attraction at the International Agricultural Colleges from the east and from the west competed with individual breeders from nine States. Honors were fairly well divided, the colleges having a little the better of the argument.

The grand champion barrow of the show was a Chester White.

P. E. Island Farmer's Central Institute.

A two-days' meeting convened in Charlottetown on the 28th of November, comprising delegates from each of the local Institutes, and the public were also admitted to all the meetings, and allowed to take part in the discussions. The attendance was good, and the discussions of great interest. Resolutions submitted by local Institutes, covering matters important to the agricultural interests of the Province, were discussed and passed upon. This Central Institute came into existence from a demand for a means to give expression collectively to the voice of the farmers on matters relating to their calling, enabling them to voice their demands in respect to their share of the revenues for the advancement of agricultural interests, and to even up matters in connection with transportation, so that Island farmers would be on a level in that matter with their neighbors across the Straits.

Resolutions were unanimously adopted with respect to transportation, asking the Federal Government to construct the tunnel, if possible, and pending the completion of that work, to institute a car ferry between Capes Traverse and Tormentine, and give a connection with railways on the mainland.

Three different local institutes sent in resolutions on this matter, and the Central Institute endorsed them unanimously by a standing vote. This matter of better transportation is perhaps the most important question our farmers and other citizens have before them to-day, and they are getting thoroughly aroused to demand their just rights in the matter.

Another very important resolution, asking for the establishment of a number of Demonstration Stations, to be established in the Island, so that object lessons might be given on some of our poorer farms that would be an education in bringing them up to a higher state of cultivation, met with the approval of the members, and was unanimously adopted.

A resolution respecting the establishment of a fruit cannery was introduced and spoken on by Mr. McGilvary, Government Inspector of Canneries, who gave a great deal of information about the business and the cost of establishing a cannery. After considerable discussion, the matter was left to a committee to report on later.

The resolution on better roads brought out a lively discussion. First, a paper written by "Good Roads Campbell" was read by the president. This paper was full of information, and gave valuable directions about the construction of public highways, and, coming from one who is considered the best authority in Canada on such matters, it carried great weight with our farmers. An address was also given by W. B. McKenzie, Engineer of the Intercolonial Railway. This address was replete with information respecting the construction and maintenance of roads in different parts of the world, and illustrations were given as to the added horse-power required to move loads on the moderate and steeper grades. He showed the wisdom of going round the hills in laying out roads, and that, by avoiding heavy grades, multiply a horse's power many times in transporting produce between farm and market.

A Good Roads Association was organized, with A. W. Campbell, Deputy Minister of Railways and Canals, as honorary president; W. B. McKenzie, vice-president, and L. B. McMillan, secretary.

W. W. Hubbard, Deputy Minister of Agriculture for New Brunswick, spoke on the question, and gave an idea of what was doing in his Province in road improvement.

At the evening session, in the Prince of Wales' College Hall, Rev. Dr. Gauthier presided, and delivered an excellent address, in which he spoke of the great number of our young people who go to other countries, suggesting that our system of education needs reforming in a way that would result in inspiring a love of home and farm life.

Rev. Dr. Gauthier followed with an

encouraging address. He was glad to see the farmers perfecting their organization, and expected great improvement as a result of these meetings. He advised a more intensive system of agriculture, which would result in keeping the boys on the farm.

Rev. Dr. Campbell, Rector of St. Dunstan's College, gave a well-thought-out and instructive address on education, holding that there was no place for the study of the languages in our primary schools, and emphasized the importance of the teacher implanting in the pupil the love of reading good books.

On the second day of the meeting, the business matters were concluded, and a board of directors, consisting of three from each county, were elected, and Rev. Dr. Gauthier was elected president, and Walter Simpson secretary-treasurer, for the ensuing year. This was the first regular meeting of the Institute, and it seems to be the general opinion that there is a work for it to do in the advancement of agriculture and making life on the farm more popular, as well as more profitable.

W. S.

\$50.00 in Cash Prizes.

The prizes mentioned below will be given to subscribers of "The Farmer's Advocate and Home Magazine."

We want every subscriber to guess the weight of paper (in tons, cwts. and pounds) used in the 1911 Christmas Number.

The one who guesses the correct or nearest to the correct weight will receive first prize; second nearest, second prize, and so on for the thirteen prizes.

CONDITIONS.

All you have to do is to send in one new yearly subscription to "The Farmer's Advocate," accompanied by \$1.50. On a separate sheet of paper (in the same envelope) put your guess in tons, cwts. and pounds, and your name and address.

All subscribers who send in a new name in this contest and do not receive a cash prize, will have their choice of any of our premiums that are given for one new subscriber. In this way everyone will be rewarded for sending in the new subscriber. The prizes are as follows:

First prize	\$15 00
Second prize	8 00
Third prize	6 00
Fourth prize	5 00
Fifth prize	4 00
Sixth prize	3 00
Seventh prize	2 00
Eighth prize	2 00
Ninth prize	1 00
Tenth prize	1 00
Eleventh prize	1 00
Twelfth prize	1 00
Thirteenth prize	1 00

This contest is open until December 30th, 1911, and all guesses must be received on or before that date.

Send in the new subscriber and your guess at once.

Address "The Farmer's Advocate and Home Magazine," London, Ontario.

NOTE.—The members of our staff or their families will not be allowed to compete in this contest.

Why Retire to Town?

"The Farmer's Advocate and Home Journal," of Winnipeg, thus sensibly discusses the ambition of many farmers to make a competence and retire to town—an ambition which seems to be becoming quite the habit in Western Canada.

Why retire? Are the social surroundings more pleasant in town or city? Is the hustle of urban life going to be restful to the retired farmer? Will the man from the farm take kindly to this drastic change?

Considering the whole matter, it looks more like the golden dream that never comes true, or the green pastures that turn to brown when they are reached. "The apparent pleasures of city life are very shallow, and the golden finish is very thin." It may be news to the farmer that the city man who can afford it is buying his country home, and retiring, as much as his business will allow him, to his farm.

If the work that was put into accumulating money for future retirement were put into beautifying the farm home and installing farm conveniences, the retirement could be gradually brought about on the farm, and in a way that the farmer would enjoy. With the installation of rural lines of telephone and extension of daily mails, neighbors are brought nearer together, and the old isolation of the farm is removed. With more thought given to the social life, and less to the idea of retiring, the farm home may be made almost ideal. If you ever think of enjoying yourself in this life, begin to-day, and on the farm.

Electricity and Small Motor for Silo Filling.

Editor "The Farmer's Advocate":

Having noticed one or two articles in your paper some time ago about the use of electricity on the farm, I thought it might be interesting to you, and some of your readers, to know our experience, after having used it constantly for five months. We are one of those farmers south of Ingersoll served with power and light from the town. In fact, we were the first to go after it, and the first to get it, having the lights and power some two months before the line went any farther. I might say here that, like most other good things, it required some trouble to get it. We were the first farmers in Oxford County to use Hydro Electric both for power and lights. Mr. Reynolds, the superintendent in Ingersoll, tells me we are the first real farmers to use power in the whole Province. But that is neither here nor there. What we are most pleased with is the way we managed to fill our silo. We have no share in the big box and motor operated by some of our neighbors; we have something which we think far better, in our own box and five-horse-power motor. We, contrary to the belief of most of your correspondents on silo filling, think the big power and big gang for silo-filling a mistake; and some of our neighbors who have hired their silos filled for years, think the same. We figured on filling with a carrier box, and some small power of our own, and our own help, before we built the silo. So we put it ten feet from the barn, beside the bridge, and five feet in the ground, although it is only three feet below the stable floor, and built only thirty feet high. Now, having our own outfit to refill with as it settles, we are sure we can get more corn in than we could in a forty-foot one, filling all in one day. And, as far as time goes, we can see no difference between doing it ourselves and changing work all over the neighborhood, but think we have some advantages. We are home all the time, can start when we please, and stop to do chores when we please—and that is certainly of some importance where there is a lot of milking to be done. Then, again, if something breaks, as is often the case, we have no more help standing around than is needed to get going again. This year our corn was about half way down the lane, and two of us, with a boy in the silo, could put through twenty loads in eight hours. Our box could take the corn as fast as a good man could hand it off. It took on an average of six minutes to put through as big a load as the team could haul out of the field nicely.

But that is only one job. With the motor right in the stable, and about fifteen feet of shafting, we can fill the silo, cut any other feed, run the grinder, root-pulper, circular saw, fanning mill, pump our water, and anything else we may need to do. Not only is it good for the men, but of some use to the women. We have a motor on the washing machine which can be attached to the sewing machine; and an electric iron. These things we consider best of all, as they save much hard labor.

Now, in conclusion, we might say that if any of your readers have any possible chance of getting the current to their homes, they should by all means get it, as they will never be sorry for its installation.

D. W. CLARK.

Oxford Co., Ont.

[Note.—Mr. Clark is a neighbor of Messrs. Prouse, Bowman and Leigh, mentioned in the article on silo-filling by electricity which appeared in our issue of Sept. 21st, page 1571. He was largely instrumental in securing the extension of "Hydro" to the district in which he lives.—Editor.]

In automobile circles on this continent the idea appears prevalent that the business of pedestrians is to hustle themselves out of the way of the car. According to the following, from the Farmers' Gazette (Ireland), dogs, at all events, in the Old Land are supposed to have some right of way: "At Cockermonth, County Court Judge Stephens awarded an innkeeper £10 for the loss of a Collie which was run over and killed by a motor car. His Honor, in giving judgment, remarked that a dog had a perfect right on the highway, to run across the highway, and to do what he liked on the highway, and cautioned motorists that they were bound to take care not to run over dogs."

Send in the New Names Now.

The best way to renew your subscription is by taking advantage of our Special Renewal Offer, full particulars of which you will find on this page of this issue. A great many new subscribers have already been received. See your neighbor at once, before someone else has secured his name.

Farm Help.

Each farmer must solve the problem of farm help for himself, just as each farm helper must settle for himself the kind of employer to whom he will sell his labor. In this matter there is no royal method. To the end of the chapter there will be farmers who have no capacity for engaging or for handling their helpers, and there will be helpers who will be of but little assistance to anybody.

A great deal of the present dissatisfaction existing between the average farmer and his hired help arises from the fact that the terms of agreement are not understood at the very outset. Too much is taken for granted, one party to the agreement viewing the bargain in one way, and the other party taking an entirely different meaning out of it. The result is bad feeling. In many cases it would be time and money well spent to have an agreement drawn up and signed by both parties. Of course, a great deal must be left to common sense and to local conditions. Custom decides many a point that cannot be specified in any agreement. "The Farmer's Advocate" would serve its constituents a good turn by opening its columns to contributors, inviting them to send in an ideal form of agreement, from both the employer's and employee's point of view. It must be remembered, however, that farm work has peculiarities which put it into a class by itself. Country workmen, therefore, must be in a class all their own. The nature of the work, rather than the clock, must to some extent determine the number of hours that make up a day's work on the farm. There are seasons, and even days, in which certain work must be done. There are occasions when hired help must act on their own initiative, or loss will come to the employer, there are certain habits with horses and animals which mean the difference between spoiling a team and making them more useful, or the making of a herd unprofitable, where the profits could easily be increased; and these habits cannot be specified in any agreement. It is this combination of personal qualities in employer and employee, and the necessity of a system whereby the farmer and his helper can co-operate, that makes the formation of an agreement between them such a difficult matter. Good-nature, patience, interest in the farm welfare, alertness, reliability—these are elements without which farm help is of little value. Yet no one can specify these in an agreement.

Again, in the country, the farm help becomes a part of the farmer's family life, and here is where the trouble begins. The farmer's home is, very often, not congenial to the help. Often the helper has not a way of adapting himself to the new home life. Yet, who can show us just the way out of the difficulty? It is not a question of class versus class. It is not a question of superiority or of inferiority. In nine hundred and ninety-nine out of a thousand farm homes this question is never raised. The point is simply the problem of maintaining and guarding the family life and what is sacred thereto, while sharing with the help the advantages of life in the home. The hired help is not a "hand"—he is a man. His employer's house is not a boarding-house—it is a home. The helper is not a machine, but a human being. The farmer is not a mine, but a man whose interests are bound up with the hired man's interests. In no case of employer and employee does the personal equation count for more than it does between the farmer and his help. In a word, each farmer who is under the necessity of employing labor will do well to see that he has work for a first-class man, and then make it a point to treat his help accordingly. He is not a slave-driver, and the right kind of laborer socially and financially is worthy of his hire. The hired man must consider that he can hold a first-class job and command first-class wages only by giving his employer good service, and that he can enjoy the privileges of the farmer's home only in so far as he proves himself worthy of such privileges.

York Co.

J. K.

Foreign Crops.

Of the so-called "world" wheat crop, which amounted in each of the last two years to upward of 3,600,000,000 bushels, only about 7 per cent. was grown in the Southern Hemisphere. A peculiar interest, however, observes the United States official Crop Reporter, attaches to this comparatively small part of the crop, from the fact that it is harvested in the winter, and that the sparse population and moderate consumptive requirements of the two principal producing countries, Argentina and Australia, enable a larger proportion of their grain to be exported (chiefly to Europe) than in the case of any other country of the world.

The Argentine wheat harvest begins in

Northern Argentina in late November, and moves southward until it ends in the cooler latitudes in February, the last month of the Argentine summer. After Argentina and Australia, the three next most important wheat producers of the Southern Hemisphere are Chili, Uruguay and New Zealand.

Canadian System More Sensitive.

Editor "The Farmer's Advocate":

The articles written by Peter McArthur for "The Farmer's Advocate" usually attract my interest and attention. Possibly my taste is at fault, but the fact is I enjoyed hugely the description of Donald Ban selling the fat cow to Jim McPherson the drover. It was so true to that kind of trading. But the article appearing under the caption, "Election," does not appear to me so apt. The idealizing of "Jim Venables" is not as crisp and healthy as the scene between Donald Ban and Jim McPherson. Is it probable that a man could reach the age that he may be described as "having secured all of this world's goods that he needed to keep him and his family in comfort and enable him to live as a kindly Christian gentleman," without having had occasion to ask himself, "Is this proposition just what it appears to be?" There is a book in general circulation which says, "all men are liars." Had "Jim Venables" never read it? Generally, the average man likes a mighty big sprinkling of humanity in his idol, and he would probably say of "Jim Venables," "You are but a stranger here." In the next paragraph is a sentence to which I would like to take exception: "Look at it as you like, the position of the defeated candidate of either party is tragic." This statement does not indicate a correct understanding of our system of government. Whether right or wrong, we have adopted the party system. "The late unpleasantness" clearly indicates that it is the system of the people. Glance for a moment at the American system. President Taft negotiates an agreement with the Canadian commissioners, and submits the pact to Congress. The adoption or rejection of the agreement does not immediately affect the position of any member of either Congress or Senate, or the President himself. The American ministers who negotiated the pact were simply heads of departments directly responsible only to the source of their appointment—the President. Now, our Ministers were responsible to Parliament, and through Parliament to the people. Here we get an instance of the sensitiveness of our system. Sir Wilfred Laurier and his associate Ministers held office as the executive of the ruling party, and could hold office only so long as the Premier could control the majority of the legislature. It must be assumed that the reason the Government did not force the pact through Parliament was because their followers would not vote it through. The converse of this is that the Opposition would not resist simply for the sake of obstruction, but because the leader of the Opposition and his associates felt that they had the country with them. The Government must now either carry this agreement through Parliament or appeal to the people. The latter course is the one taken, and the alignment of party begins.

Those who believe that the policy advocated by the Government was in the best interests of the country should have no other feeling than of regret that they were not able to convince a majority of the people that their view was the correct one. The men who go down to defeat do so performing their part in securing the registration of the will of the people. No "disgrace" or tragedy attaches to a defeat of this kind. The only man to whom defeat brings disgrace or is "tragic," is the man who for party purposes advocates a policy which neither his intelligence or his heart approves. To assume that the voters of any constituency will vote for a party leader simply because they have previously voted that way, is to question their intelligence. The voter should decide the question or questions at issue by bringing to bear the same conscientious discharge of duty that the state expects of him as a juror when he is called upon to decide questions of property, or when the life of a fellow being hinges upon his decision. Certainly, courage was not wanting in the campaign waged by Sir Wilfred Laurier and his followers. What was said of the famous cavalry charge of Balaclava might, with a little variation, be applied here, "It was splendid, but it was not politic." He and they failed to catch the popular feeling, or measure correctly the strength of the desire of the Canadian people, as symbolized by the slogan of 1878, "Canada for the Canadians." To my mind, the electors did not desire to express any hostility to the United States, nor yet to say that they did not wish to "truck or trade" with them. Such propositions are not only untenable, but unthinkable.

It is related that when the son of a famous Nova Scotian was first seeking parliamentary hon-

ors, he stipulated that the father—who was a force to reckon with in a political campaign—was not to enter the son's constituency, and asserted that he would win, if he did win, on his own merits. This does not show a lack of filial piety; it was simply a bursting forth in the son of those characteristics that had made the father famous. And so, while we admire the United States, her progress, her wealth, and are proud of the position she occupies among the nations of the world, yet it must not be forgotten that we are largely sprung from the same stock, and that the characteristics and influences that made her great are just as potential in Canada's case. It is evidently the desire of the Canadian people to emulate in that which is best, and excel in deeds of patriotism their neighbors to the south, and build up a nation on the northern part of the continent within the embrace of the British Empire.

J. N. CHAMBERS.

Oxford Co., Ont.

[Note.—There is a passage in the Bible which says: "In which are some things hard to be understood which they that are unlearned and unstable wrest, as they do also the other Scriptures, unto their own destruction." Does our correspondent quote the Bible as saying, "All men are liars?" What the Good Book does say, by the mouth of David, is, "I said in my haste, all men are liars."—Editor.]

Killing Bindweed — Breeding Heifer.

Editor "The Farmer's Advocate":

I noticed, some time ago, in "The Farmer's Advocate," a subscriber asking how to get rid of bindweed. I may say that I had a patch of it, and tried to kill it by cultivating and hoeing, but was unsuccessful till this summer, when I tried salt. I covered the ground with it, and the weed is completely killed. The patch was about 20 feet square, and I used about two sacks (200 pounds each) of salt.

I have a two-year-old heifer which was dropped at seven months, and have bred her three times, without success. I have been told that a calf dropped at seven months will never breed. Can any of your subscribers give any information? If so, I will be greatly obliged.

SUBSCRIBER.

[Note.—Unquestionably, salt will kill bindweed, but it will also, in all probability, prevent anything else growing on the spot for two or three years, perhaps longer. Still, it may be advisable to treat a small patch in this way. Those who have larger areas will be reassured to know that, thorough cultivation will certainly kill it, but the cultivation must be clean and repeated every five days for one summer, or perhaps longer. There is likely some other cause for the heifer failing to breed. Provided she was a well-developed calf when dropped, the fact that she was only carried seven months should not affect her fecundity.—Editor.]

Infertile Eggs Keep Best.

A large part of the heavy loss from bad eggs can be obviated by the production of infertile eggs. This has been demonstrated beyond a doubt by the investigations concerning the improvement of the farm egg which during the past two years have been conducted in the Middle West by the Bureau of Animal Industry of the American Department of Agriculture.

Secretary Wilson, of the Department of Agriculture, estimates that, between the producer and the consumer, there is an annual loss of \$45,000,000 in the egg crop of the United States, the greater portion of which falls on the farmer, who is by far the largest producer. Of this enormous loss, about one-third, or \$15,000,000, is caused by heat, which develops the embryo of the fertile egg, causing what is known to the trade as "blood ring." As it is impossible to produce a "blood ring" in an infertile egg, such an egg will stand a higher degree of temperature, without serious deterioration, than will a fertile egg.

The Secretary says that if farmers and others engaged in the production of eggs would market their male birds as soon as the hatching season is over, a large saving would be made, as practically every infertile egg would grade a first or second if clean and promptly marketed.

No more simple or efficient method for the improvement of the egg supply of the country could be adopted than the production of infertile eggs.

Weight of Christmas Number.

A few of our subscribers, when sending in their guess of the weight of paper used in the Christmas Number, failed to send in the required new subscriber, accompanied by the \$1.50. Unless a new subscriber, with \$1.50 is sent in with the guess, it cannot be considered in the contest.

Pre-cooling Fruit.

I.

There is a growing belief amongst the fruit-growers of the Niagara Peninsula that pre-cooling is destined to play a considerable part in the more successful distribution of their fruit in the future, especially to distant points in the Northwest and the Maritime Provinces. The growers have discussed the question more or less for some time now, and some have agitated strongly in favor of pre-cooling, but it has been little (if at all) practiced by them, and little experimented upon by our Government fruit officials. In this regard we have been much behind the United States Federal Agricultural Department, who, once the subject was presented as being of vital interest to fruit-growers across the border, commenced a series of experiments that have extended over a period of ten years or more. Consequently, as is often the case, we have to go south of the line for nearly all our information on the subject, and it is only just that we should acknowledge our indebtedness to them for what we have learned. California, I think, can claim premier position in this work, and their experimental work has proven so successful that some very extensive plants have been built in different parts of that State—plants that will handle as high as thirty refrigerator cars at one setting. It was my good fortune to be able to visit and inspect two of their largest plants: the Southern Pacific plant, at Roseville, and the one belonging to the Santa Fe Railway, at San Bernardino. A consideration of the subject from the standpoint of what the American fruit-growers have accomplished, and of some of their conclusions, may be of interest, whilst now and then touching upon any application of the question to the fruit industry of the Niagara Peninsula.

Pre-cooling means simply the cooling of the fruits before shipment, the temperature being reduced to as near freezing-point as has been found necessary and practicable by experiment. It implies immediate cooling, or cooling as soon after picking as possible. It differs from cold storage in being a short-time process, and directly related to the problem of the storage of fruits over indefinite periods, in so far as it presents the fruit in the best of condition for storage. It has been found necessary, in transporting tender fruits in good condition over long distances, such as from California to Boston or New York, or, as we might use it, from the Niagara peninsula to Calgary in the West, or Halifax in the East. It thus widens the fruit market and increases the consumption of our tender fruit, lengthens the seasons of marketing, and enables the growers to command better prices.

Pre-cooling may be practiced in several ways, representing different degrees of efficiency. The most primitive method that one could imagine is that employed by the picker who places his full box of berries or basket of peaches in the shade of a bush or tree as soon as picked, or hustles them off as soon as possible to a cool and shaded packing-house. The principle is recognized, although the practice is crude. Coming farther in advance, we find ice being employed to cool the storage room or the car, and in its wake the remarkable development of the refrigerator-car service; but, in the majority of cases where considerable traffic is handled, this ice pre-cooling is not considered sufficiently rapid or efficient. The temperature of melting ice is 32 degrees F., but the air passing from this is not likely to be under 34 degrees F., and when disseminated throughout a large area, the temperature in parts away from the ice would run much higher than 34 degrees. Advancing still further in the evolution of pre-cooling methods, it is now abundantly proven that some sort of mechanical refrigeration is necessary for best results, and in all large car pre-cooling plants such a method is necessary for rapidity and efficiency.

This mechanical refrigeration is obtained by the evaporation of liquified gas, which, upon evaporation, absorbs heat from the surrounding atmosphere, or brine, as the medium may be, thus lowering the temperature. Ammonia, gas and carbon dioxide are the two gasses in most general use, and in the two large plants above

mentioned, ammonia was the gas employed. Briefly, the process consists in first compressing the gas in a compressor, which removes heat, then passing it through coils immersed in water or having water continually dripping over them, which condenses the gas into a liquid. This liquified gas is then carried into coils of pipes arranged in a coil-room, or passing through tanks of brine. If in a coil-room, the atmosphere of the room is cooled, the liquid absorbing the heat, which would convert it into a gas again, to be once more carried on to the compressor, again liquified, and again evaporated. The cold air from the coil-room is carried in well-insulated ducts to pre-cool the cars, or, if a warehouse, the cases of fruit may be cooled in insulated rooms. Cold-air circulation is thus the method employed, and so intense and powerful is the circulation that a car may be cooled to the required temperature in three to five hours, which, under ordinary icing would probably take from two to three days; and in this way the important requirement of immediate pre-cooling is obtained. There are two methods advocated for passing the cold air through the cars, which may be called the "continuous-blast" system and the "intermittent vacuum" system. In the former the cold, circulating air is carried in a large concrete main air duct, and delivered therefrom by high pressure through lateral air pipes which are fitted in the ice-bunkers at one end of the car. Other lateral air pipes are fitted in a similar way to the bunkers at the other end of the car, and these serve to exhaust the air from the car and deliver it into a main duct, to be carried back to the coil chamber for re-cooling. In this way there is a continuous and regular circulation of cold air through a car, as the pressure of the ingoing air is equal to the "suction" of the outgoing air, the regulation being accomplished by means of an automatic intake valve, which replaces any air lost from the system. The advocates of this system lay much stress upon the regularity of the current of air, and claim that the prime object aimed at is to secure the circulation of a very large amount of air through the car without loss by forcing the cold air to the outside or drawing the warm air in from the outside through the car itself.

The "intermittent-vacuum" system is, as its name implies, an alteration of high pressure of a current of cold air through the car, followed by a more or less complete exhaustion of the air from the car, thus creating an approximate vacuum for a short space of time. The system is regulated by an arrangement of powerful fans and valves, and the air is forced in through a dummy door fitting in the car door-space, and exhausted through lateral air pipes fitted into the ice-bunkers at each end of the car. The claim made is that, by creating a vacuum, a great part of the foul air in the car is more perfectly removed, and the following cold air which is forced in is fresher and purer; and further, that a more equal cooling of the fruit is obtained. This method is employed by the Southern Pacific Railway in their large plant at Roseville, California, and a car of cherries arriving there with a temperature of, say, 75 to 80 degrees F., would be cooled down in 2½ hours to 40 to 45 degrees, using a cold blast with a low temperature of 20 degrees F., without damaging the fruit.

Such, in brief, is mechanical refrigeration as applied to pre-cooling. There are many and various minor details of purely engineering problems presented, but their application to the pre-cooling of fruit does not affect the general principles involved.

The methods just described are used in car pre-cooling. There is another system often employed, especially amongst smaller shippers, and known as warehouse pre-cooling, in which the cooling is done in insulated rooms in a warehouse before the packages of fruit are placed in a car. This system can be used by shippers who have suitable insulated rooms and who can operate a small refrigerator plant, or who wish to use ice and salt as a refrigerant. It is the cheaper method, and does not require nearly such heavy power and capacity as does the car system. It commends itself to a district where there is not sufficient business to warrant a large car pre-cooling plant.

The car-cooling system, on the other hand, does rapid and efficient work, and is the only system that could be used by our railway transportation companies. For them, the time element is very important. They cannot delay the cars for any considerable time, and consequently they must do their work quickly and at the same time efficiently. This requires the use of large volumes of very cold air forced into the cars under high pressure, all of which necessitates a large plant, meaning a considerable outlay of money, which is only warranted by a certain amount of guaranteed business. Such a plant must necessarily be placed at a junction point where all cars from the fruit district to be served could be assembled rapidly, and with as little extra handling and switching as possible. The cars must be as-

sembled rapidly, because the efficiency of pre-cooling depends mainly upon the fruit being cooled as soon after picking as possible, and they must have such little extra handling as would not add any more to the transportation charges. In the Niagara district the plant must be situated so that it would be easily accessible to the G. T. R. and C. P. R. systems, for if there is need for one car-cooling plant here, there is certainly not room for two at the present time. Furthermore, there is another economic consideration, in that the plant would not be in operation much over two months for car-cooling. During the remaining ten months it would need to be used for some other purpose, or else lie in enforced idleness, producing no revenue, and at the same time depreciating in value. In California, the car-cooling plants combine ice-manufacturing and pre-cooling, thus eliminating any period of idleness. In Canada we must look for a different alternative factor, and the main one that presents itself is general cold-storage warehousing. The best-paying situation from such a viewpoint would have to be considered. Thus, the problem is a large one from the financial and engineering, as well as the fruit-condition side, and probably would be most efficiently solved in close connection with the railway transportation companies, and under their management.

This leads us to see that the questions concerned with pre-cooling may be studied from two points of view, as enunciated by the United States Bureau:

1. From the transportation standpoint as a traffic matter which involves the handling and movement of cars; the reduction of ice used during the trip; the increase of the efficiency of the refrigerator car; if boxes are used, the probable increase in the loading capacity of the car; the possible saving of time in transit by eliminating some of the icing stations; the effect on the condition of the fruit itself, which becomes a traffic matter in so far that sometimes the transportation companies are responsible for the good condition of the fruit when delivered at its destination.

2. From the fruit-condition standpoint, which refers primarily to the effect on the fruit, and governs its behavior during transit and on the market. This deals primarily with the promptness and thoroughness with which the cooling can be accomplished. From this standpoint, the amount of ice used in transit and the reduction in running time are secondary factors.

It would be well to distinguish these two viewpoints, especially in so far that certain duties will be required of the transportation companies as carriers, and it is well to understand to what extent these carriers will be responsible for the proper performance of these duties and the charges that they can legitimately make.

It is also as well for the grower to understand his proper position, in so far that he should present his fruit in the best possible condition to the transportation companies before he can expect them to deliver it to the consignee in the most attractive state.

Wentworth Co., Ont.
W. R. D.

Care Well for the Flock.

"There is no kind of live stock on the farm that responds more readily to careful and judicious management than a flock of poultry. It is a fact that on many of the best farms the horses, cattle, sheep and hogs all receive their due proportion of attention, while the chickens are almost entirely neglected." This statement, made in Extension Bulletin No. 21 of the University of Minnesota, Department of Agriculture, is true of nearly all farming districts. The bulletin contains much useful information, and throws out a number of suggestions that could profitably be acted upon by poultrymen generally. A few minutes each day given to cleaning and ventilating the poultry house, straw lofts to avoid dampness, dividing the long houses by tight partitions at intervals of ten to fifteen feet to avoid drafts, buying only carefully-selected stock to renew the flock and keep up constitutional vigor, are some of the good points brought out. For feeding corn, wheat, oats, barley, buckwheat and millet are recommended, with green food, grit and oyster shells, and meat food, of which sour milk is very good. Mature pullets are the best winter layers, and laying hens should be given about one-third the usual ration in the form of a dry or wet mash. Mixture is advised in both mash and grain ration. Much valuable information is given on fattening, killing and dressing poultry, preserving eggs, etc. These Extension Bulletins are published monthly, and any one may have their name added to the mailing list by sending it to the Extension Division, University Farm, St. Paul, Minn.

THE CANADIAN BANK OF COMMERCE

ESTABLISHED 1867

Capital paid-up, \$10,000,000.
Rest, \$8,000,000.

The Canadian Bank of Commerce extends to farmers every facility for the transaction of their banking business, including the discount or collection of sales notes. Blank sales notes are supplied free of charge on application.

Accounts may be opened at any branch of The Canadian Bank of Commerce to be operated by mail, and will receive the same careful attention as is given to all other departments of the Bank's business. Money may be deposited or withdrawn in this way as satisfactorily as by a personal visit to the Bank.

MARKETS.

Toronto.

LIVE STOCK.

At West Toronto, on Monday, December 11th, receipts were the largest on record, numbering 233 cars, comprising 3,492 cattle, 2,078 hogs, 3,166 sheep and lambs, 63 calves, and 28 horses; quality of cattle good to choice, it being Christmas; trade active in all classes. Exporters, \$6 to \$6.50; butchers' cattle, \$5 to \$6.50; cows, \$3 to \$5.25; milkers, \$4 to \$8; calves, \$4 to \$8; lambs, \$5 to \$6.50; sheep, \$3 to \$3.75. Hogs, \$6.60, fed and watered.

REVIEW OF LAST WEEK'S MARKETS
The total receipts of live stock at the City and Union Stock-yards for the past week were as follows:

	City.	Union.	Total.
Cars	268	211	479
Cattle	3,880	2,189	6,069
Hogs	6,194	7,482	13,676
Sheep	2,737	2,775	5,512
Calves.....	382	75	457
Horses.....	11	46	57

The total receipts of live stock at the two yards for the corresponding week of 1910 were as follows:

	City.	Union.	Total.
Cars	216	219	435
Cattle	2,554	3,329	5,883
Hogs	5,607	2,622	8,229
Sheep	2,705	2,882	5,587
Calves.....	161	74	235
Horses.....	1	35	36

The combined receipts at the two markets for the past week, show an increase of 44 carloads, 186 cattle, 5,447 hogs, 222 calves, and 21 horses; but a decrease of 75 sheep and lambs, in comparison with the corresponding week of 1910.

It will be seen that the receipts were moderate in comparison with those of several weeks ago. The quality of cattle was not nearly so good; that is, generally speaking, only a limited number of good to choice being offered, the bulk being inferior, common and medium. Trade was active for the best cattle, at an advance of 15c. to 25c. per cwt.; but the common, inferior, and medium, were slow sale, at the previous week's quotations.

Exporters.—Less than 100 export cattle were bought for export purposes. Alexander McIntosh was the only buyer of cattle for the British markets. At the Union Stock-yards, on Monday, he bought 37 steers, 1,285 lbs. each, at \$6.60, and 10 export bulls at \$5 to \$5.50. At the City market, on Tuesday, he bought 9 export bulls at the same prices. At the Union yards, on Monday, E. L. Woodward bought for the Swift Canadian Company, 59 good steers of export weight, about 1,200 lbs. average, at \$6.40, to be slaughtered for the local market. On Wednesday, there was one lot of 12 steers sold on the City market, 1,300 lbs. each, at \$6.65 per

cwt., and they were the best cattle on the market.

Butchers'.—Prime picked lots of butchers' sold at \$5.85 to \$6.10; loads of good, \$5.60 to \$5.80; medium, \$5.20 to \$5.45; common to medium, \$4.35 to \$5.10; inferior, light steers and heifers of poor quality, \$3.75 to \$4.25; cows, \$3 to \$5.25; canners and cutters, \$1.75 to \$2.75; bologna bulls of 1,000 to 1,200 lbs., \$2.50 to \$3.50. There were some bulls of export quality and weight bought for local butcher purposes, at \$4.75 to \$5.75, but we only heard of one at the latter price.

Stockers and Feeders.—Feeding steers, 900 to 1,150 lbs. each, sold at \$4.75 to \$5.25; stockers, 600 to 800 lbs., sold at \$3.75 to \$4.25.

Milkers and Springers.—Good to choice milkers were in demand, at \$60 to \$90 each, and one extra quality cow was reported as being sold at \$100. There were too many backward, common springers offered; these were not wanted, and sold at lower prices. Medium springers and milkers sold at \$50 to \$55; inferior and common, at \$35 to \$45.

Veal Calves.—There was little, if any, change in the prices for calves. Common, rough, horsey, grass calves, 200 to 300 lbs. each, sold at \$2.90 to \$4; but fair to good veal calves sold at \$5 to \$7.50, and in some instances, \$8 to \$8.50.

Sheep and Lambs.—There was little change in the sheep and lamb market. Ewes sold at \$3.25 to \$3.75; rams, \$3; lambs, \$5 to \$5.35, and at the end of the week, as high as \$5.40 to \$5.50 was reported. Selected ewes and wethers were reported as being sold at \$5.60.

Hogs.—At the Union yards on Monday, and at the City yards on Tuesday, \$6.50 was the ruling price for hogs fed and watered, but at the close of the week there was an advance of 5 cents per cwt. at the Union yards, and selects, fed and watered, were quoted at \$6.55.

BREADSTUFFS.

Wheat.—N. 2 red, white or mixed, 87c. to 88c., outside points. Manitoba No. 1 northern, \$1.08; No. 2 northern, \$1.05; No. 3 northern, \$1.01, track, lake ports. Oats—Canadian Western No. 2, 47c.; No. 3, 45½c., lake ports; Ontario No. 2, 44c.; No. 3, 43c., outside points. Buckwheat—58c. to 60c., outside. Rye—No. 2, 90c. to 91c., outside. Peas—No. 2, \$1.05 to \$1.10, outside. Flour—Ontario 90-per-cent. winter-wheat flour, \$3.50 to \$3.60, seaboard. Manitoba flour—Prices at Toronto are: First patents, \$5.50; second patents, \$5; strong bakers', \$4.80. Barley—For malting, 86c. to 87c.; for feed, 70c. to 75c. Corn—No. 3 yellow, all rail, Chicago, 70c., track, Toronto; No. 3 yellow, 69c., track, Meaford.

HAY AND MILFEED.

Hay.—Baled, car lots, track, Toronto, \$16 to \$17; No. 2, \$14 to \$14.50. Straw.—Baled, car lots, track, Toronto, \$6.50 to \$7. Bran.—Manitoba, \$23 per ton; shorts, \$25; Ontario bran, \$23, in bags; shorts, \$25, car lots, track, Toronto.

COUNTRY PRODUCE.

Butter.—Market firmer. Creamery pound rolls, 32c. to 34c.; creamery solids, 31c.; separator dairy, 30c.; store lots, 25c. to 26c. Cheese.—Market strong. Large, 15½c.; twins, 16c. Eggs.—New-laid, 60c.; case lots, 28c. Honey.—Extracted, 12c. per lb.; combs, per dozen sections, \$2.50 to \$3. Beans.—Market firm. Broken car lots, \$2.25 for hand-picked, and \$2.15 for car lots, track, Toronto. Potatoes.—Market for potatoes has again advanced, and Ontario car lots, track, Toronto, sold at \$1.25 to \$1.30. New Brunswick Delawares, car lots, track, Toronto, sold at \$1.30 to \$1.35 per bag. Poultry.—Receipts continue to be large. Live prices as follows: Turkeys, 16c. to 17c.; geese, 10c.; ducks, 10c. to 12c.; chickens, 9c. to 11c.; hens, 8c. to 10c. Dressed—Turkeys, 18c. to 20c.; geese, 11c. to 12c.; ducks, 11c. to 13c.; chickens, 12c. to 14c.; hens, 10c. to 11c.

HIDES AND SKINS.

E. T. Carter & Co., 85 East Front street, have been paying the following prices: No. 1 inspected steers and cows, 12½c.; No. 2 inspected steers and cows, 11½c.; No. 3 inspected steers, cows and bulls, 10½c.; country hides, cured, 11½c.

to 12c.; green, 10½c.; calf skins, 12c. to 15c.; sheep skins, 55c. to 85c. each; horse hides, No. 1, \$3.25; horse hair, per lb., 33c. to 35c.; tallow, No. 1, per lb., 5½c. to 6½c.

TORONTO SEED MARKET.

The William Rennie Seed Company report seed prices as follows: Alsike No. 1, per bushel, \$9 to \$9.50; alsike No. 2, per bushel, \$8.50 to \$9; red clover, No. 1, per bushel, \$11 to \$12; red clover, No. 2, bushel, \$9.75 to \$10.50; timothy, No. 1, per cwt., \$15 to \$16; timothy, No. 2, per cwt., \$14 to \$15.

FRUITS AND VEGETABLES.

The Dawson-Elliott Company, wholesale fruit, produce and commission merchants, corner West Market and Colborne streets, Toronto, report Canadian vegetables and fruit as follows: Apples—Spies, No. 1, \$4 to \$4.50; No. 2, \$2.50 to \$3; Greenings, No. 1, \$3 to \$3.25; No. 2, \$2.50 to \$2.75; Baldwins, No. 1, \$3 to \$3.25; No. 2, \$2.50 to \$2.75; Snows, No. 1, \$5 to \$5.50; No. 2, \$4 to \$4.50; Russets, No. 1, \$3 to \$3.50; No. 2, \$2.50 to \$3; onions, Canadian, per bag, \$1.50 to \$2; beets, 75c. per bag; turnips, per bag, 45c.; carrots, 75c. per bag; parsnips, per bag, 85c.; celery, 50c. to 60c. per dozen; tomatoes, hot-house, 22½c. to 25c. per lb.; lettuce, Canadian grown, 25c. to 40c. per dozen bunches.

Montreal.

Live Stock.—Tone of the local cattle market was quite firm last week, and prices advanced fractionally. The quality of the offerings was mostly good, the proportion of the inferior stock being unusually small. The cold weather, too, was a help, and the buying was brisk. Choice steers sold a fraction higher than 6c. per lb., good stock selling at 5½c. per lb. to 5½c. Medium stock ranged down to about 4½c., and common down to 3½c. Canners' cows sold as low as 2c. per lb., canners' bulls being 3c. to 3½c. per lb. Choice milkers sold at \$60 to \$75 each, while common brought \$50 each, and springers ranged from \$30 to \$40 each. The market for lambs showed an improvement, prices advancing to 5½c. to 6c. per lb. Sheep were firm, at 3½c. to 4c. per lb., bucks and culls being 3½c. to 3¾c. per lb. Calves sold at \$3 to \$10 each. There was a firmer tone in the market for hogs, and prices were fractionally higher. Select hogs, weighed off cars, were quoted at 6½c. to 6¾c. per lb. The feeling is that from this on the supplies coming forward will be smaller.

Horses.—The market for horses shows very little change. Dealers are selling a few animals during the past few days, but the difference is almost too small to be worthy of notice. The sleighing in the city was very good last week, and sleighs predominated. In fact, outside the automobiles, and some of the heavy drays and carts in the down-town sections, the wheels have been put away in the barns. Heavy draft horses, weighing 1,500 to 1,700 lbs., \$300 to \$350; light draft, 1,400 to 1,500, \$225 to \$300; light horses, 1,000 to 1,100 lbs., \$125 to \$200, and broken-down, old animals, \$50 to \$100 each. Choice saddle and carriage animals sold at \$350 to \$500 each.

Dressed Hogs.—The market for dressed hogs was firmer, prices for select, abattoir-dressed, fresh-killed hogs were steady to firmer, at 9c. to 9½c. per lb., those for country-dressed being 8½c. to 8¾c. per lb. Poultry.—Prices firmer, at 18c. to 19c. per lb., for choicest stock; 17c. to 18c. for ducks; 12c. to 15c. for chickens; 8c. to 11c. for fowl, and 12c. to 18c. per lb. for geese.

Potatoes.—Green Mountains, \$1.20 per 90 lbs., carloads, track, Montreal; other qualities sold at 10c. less. In a smaller way, Green Mountains sold at \$1.30 to \$1.35, and single bags were still higher.

Eggs.—Firm. Demand very fair, select stock selling at 30c. per dozen, and No. 1 candled at about 25c. to 26c. per dozen to grocers. New-laid were quoted at 45c. here.

Honey.—Demand light, at 11c. to 12c. per lb. for white clover comb, and 7c. to 8c. for extracted. Dark comb, 8c. to 10c., and extracted, 6. to 7c.

Butter.—Market very firm. Grocers were not able to buy choicest at lower than 31c., and some were holding for more. Inferior grades were quoted at a

cent less. It looks like a scarcity, or rather like light quantities in store.

Cheese.—14c. to 15c., according to quality.

Chicago.

Cattle.—Beeves, \$4.65 to \$9.25; Texas steers, \$4.10 to \$5.75; Western steers, \$4.40 to \$7.25; stockers and feeders, \$3 to \$5.80; cows and heifers, \$2 to \$5.90; calves, \$5.50 to \$8.25.

Hogs.—Light, \$5.60 to \$6.25; mixed, \$5.80 to \$6.37½; heavy, \$5.90 to \$6.45; rough, \$5.90 to \$6.10; good to choice hogs, \$6.10 to \$6.45; pigs, \$4 to \$5.55.

Sheep and Lambs.—Native, \$2.65 to \$4.15; Western, \$2.80 to \$4.10; yearlings, \$4.25 to \$5.60. Lambs—Native, \$3.75 to \$6.25; Western, \$4.25 to \$6.25.

Buffalo.

Veals.—\$5.50 to \$9.25. Hogs.—Heavy, \$6.35 to \$6.40; mixed, \$6.30 to \$6.40; Yorkers, \$5.75 to \$6.30; pigs, \$5.60 to \$5.85; roughs, \$5.50 to \$5.75; dairies, \$5.85 to \$6.35.

Sheep and Lambs.—Lambs, \$3.50 to \$6.40; yearlings, \$4.50 to \$5; wethers, \$3.75 to \$4; ewes, \$3.25 to \$3.50; sheep, mixed, \$1.50 to \$3.65.

British Cattle Market.

John Rogers & Co., Liverpool, cable States steers from 13½c. to 14½c.; Canadians, 13½c. to 14c., and ranchers, 12½c. to 13½c. per pound.

Cheese Markets.

St. Hyacinthe, Que., butter, 28c.

TRADE TOPICS.

Choice clover honey, in 60-pound cans, at a moderate price, is advertised for sale by George Braven, Dunville, Ont., and samples will be sent on easy terms.

LOW RATES FOR CHRISTMAS AND NEW YEAR EXCURSIONS
via Grand Trunk Railway System between all stations in Canada, also to Niagara Falls and Buffalo, N. Y., Port Huron and Detroit, Mich.

AT SINGLE FARE (minimum charge 25c.) good going Dec. 23, 24, 25. Return limit Dec. 26, 1911. Also good going Dec. 30, 31, and Jan. 1. Return limit Jan. 2, 1912.

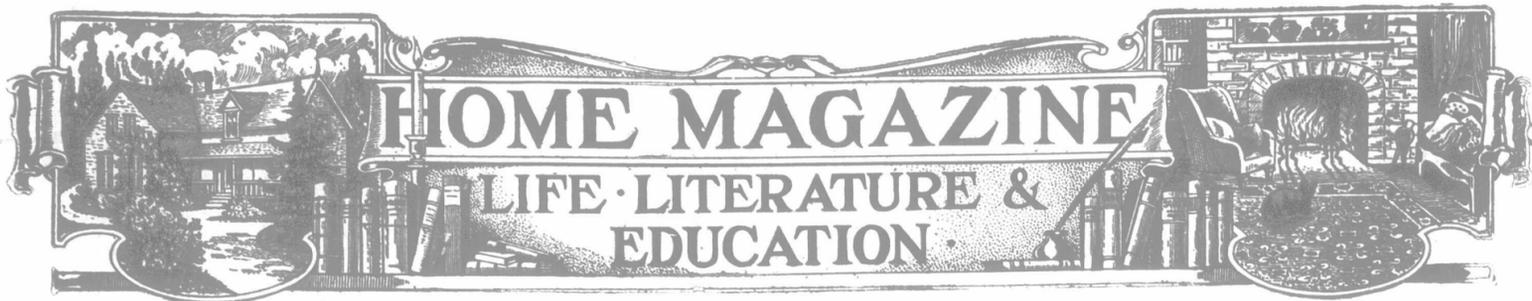
AT FARE AND ONE-THIRD (minimum charge 25c.) good going Dec. 21 to Jan. 1, inclusive. Return limit Jan. 3, 1912. Full particulars from any Grand Trunk agent.

COUPON IN THE LANTERN GLOBE.

—We believe it would be of general interest to your readers if you would kindly point out that the notice, "Send Coupon for Calendar," which has appeared in many of our advertisements latterly, has unfortunately led to a misunderstanding, and consequent disappointment to many of the readers of these advertisements. The Sales Department of this Company is in receipt of a large number of letters containing the advertisement in question cut out of the paper in which it appeared; together with the request that we forward a calendar. The advertisement itself is not the coupon referred to. This is found only in the globe of the Banner lantern, and the calendars are forwarded on receipt of this coupon. This is in the form of a post card addressed to the company, with a space for the name and address of the sender, and the dealer from whom the lantern was purchased. Ontario Lantern & Lamp Co., Limited, F. W. Haningsworth, Sales Manager.

GOSSIP.

Volume 24, of the American Shropshire Sheep Record, recently published, is a ponderous production of 1,946 pages, weighing 7½ pounds, and containing pedigree records of 26,016 rams and ewes, numbered from 299485 to 325501, edited and compiled by J. M. Wade, Secretary, Lafayette, Indiana. The rapid growth of these records indicate a constantly-growing popularity of the breed, and the style of the compilation of the pedigrees is admirable.



A Convention on Flowers and Small Fruits.

"The Farmer's Advocate" representative returned from the Sixth Annual Convention of the Ontario Horticultural Association, held in the City Hall, Toronto, November 16th and 17th, impressed, as on similar occasions in previous years, with one conviction, closely followed by a question,—the two standing out pre-eminently, glaringly, in the face of all other considerations suggested by this series of meetings.

In the first place: Here is a live organization of men, banded together, not for selfish ends, as is the case in so many combinations, but with a noble purpose looking to the beautifying of our country, and still further, to the beautifying of human nature in general through the refining influence of things of beauty.

In the second place, why are not farmers represented at these Conventions? Are there no horticultural societies in the rural districts of Ontario? If not, why not? With efficient organization, as a rule, perceptible results come speedily. Then why not organize?

The more one thinks of it the more clearly it appears that there is no logical reason why every farming community in Ontario should not have, during the winter months, a series of meetings bearing especially upon rural improvement. In these meetings, papers might be read on the culture of flowers, shrubs, trees, and vines; on lawn-making and garden-arrangement; on forestry, and the best trees for roadside planting; on the culture of small fruits; on the beautification of school-houses and grounds; on the preservation of natural beauty spots, and a score of kindred subjects. Occasionally, too, lectures by experts, with lime-light views might be arranged for; and, finally, resolutions might be passed, and one day in the year set apart for general cleaning-up of unsightly places, the planting of trees, etc.—Just one day in the year, but how much of this kind of work can be done in just one day a year!

All this might not, it is true, tend to the direct making of money, but are farmers made of such stuff that they care for nothing but making money? We believe not, and believe, moreover, that the reason why the city folk have made such strides beyond us in this work, is that they have had the advantage of organized effort, while we have not. They have held meetings and inspired each other. We have had no meetings, and we have missed the inspiration.

But farmers have not the time?—It is surely a poor farmer who cannot get the time for eight or ten evening meetings in a winter and a day or two for planting in a whole year.

Beside, the experiment is a good investment in the mere matter of dollars and cents. Make your lawn and garden beautiful, and plant out trees and shrubbery, and you increase the value of your farm. (It is to be hoped that, ere long, taxation will not be increased because of such improvements as this.) Plant out your roadways and clean up the dumps, and you make your neighborhood a more desirable place to live in, hence, to some extent, raise the value of all the property in the neighborhood.

There are at present about sixty-eight branches of the Horticultural Society in the towns, villages and cities of Ontario, and already the result is evident wherever these societies exist. Pretty lawns and gardens have become a feature—encouraged by the annual distribution, through the societies, of plants and bulbs; window-boxes have made their appearance on otherwise uninteresting buildings; school grounds have been planned and planted, notably the Normal School

grounds at London, Stratford, Peterboro, Hamilton, and North Bay; fine parks have been made, under the direction of a Park Board, at Galt, Woodstock, Guelph, Owen Sound, and Sault Ste. Marie; and the grounds of public buildings have been made things of beauty, as, for example, at the Court House at Woodstock, and the Library at St. Catharines.

These societies it was that sent the delegates who met at the City Hall of the Queen City on November 16th. If there was a single farmer among these delegates, our representative was not made aware of the fact. Nevertheless, in the necessarily condensed report that follows, all points of the addresses bearing on other than subjects interesting or suggestive to farmers in general will be omitted.

The first session began with the President for 1911, Mr. R. B. Whyte, of Ottawa, in the chair. In his opening address, Mr. Whyte reviewed the progress of the Society for the year, especially in his own district. In most of the branches the usual work of distribution of plants and bulbs had been continued, local exhibitions had been held, and particular pains had been taken to induce school-children to have gardens of their own. A feature of the year had been the publication of a year-book, containing much helpful literature on horticultural subjects, by the Toronto branch. Each branch, he thought, should make a point of buying, for reference, Nicholson's Dictionary of Gardening, and the Cyclopaedia of American Horticulture. Local talent should be encouraged. In accomplishing this, the giving of prizes for essays might be of value, especially in drawing out the younger meetings. Prizes for window-boxes, flower borders, etc., have also been found effective. Among grown folk, a dense ignorance in regard to plants and flowers is everywhere noticeable. We should endeavor to correct this. In England, where almost every cottage has its beautiful garden, people are not so ignorant; they are interested in their gardens, and know the name of the plants they grow. A good way to interest people here would be to begin with the children. (1) By exerting pressure on school boards to supply the necessary ground for school gardens. (2) By having little printed bulletins with instructions in regard to the raising of plants printed for the children. (3) By distributing seeds to the children, and giving them a demonstration on planting them. (4) By having a committee visit the little home gardens during the summer. . . . These, and similar plans, he said, have been tested favorably at Ottawa, the summer's operations culminating in a picnic, with races and games.

FINANCIAL GAIN AND BETTER.

The Superintendent, Mr. Lockie Wilson, dwelt, in the opening of his report, on the fact that so many places have as yet taken no steps along the line of improvement, and have "become accustomed to many an eyesore which would not be tolerated where civic fathers have received the broader outlook, and the knowledge that money and effort could not be expended that would bring a large financial return, as well as a larger amount of pleasure than by giving a little encouragement to those who endeavor to make their home surroundings more beautiful." In Ontario, wealth is accumulating rapidly, but it is said that "ill fares the land, to hastening ills a prey, where wealth accumulates and men decay." God forbid that the stalwart men of Canada should make too great haste to heap up wealth and forget to do those things which tend to the uplift of mankind.

Dr. James W. Robertson and Mr. W. C. Macdonald deserve the thanks of all

good citizens of this country in the splendid work they have done in inaugurating school gardens. This work should be extended. In Russia, many a school has a large garden, a tract for the study of forestry, and an apiary. How many schools in your district have a little clump of shrubbery, named, in a corner, or a few borders of flowers?

The total membership of the societies for this year is 11,000, but a question that needs attention is the extension of societies into the rural districts. An effort should be made to reach the farmers and get their hearty co-operation. Farmers might be encouraged to exchange the shrubs and trees which many of them can spare, for varieties of flowers and bulbs that city people grow. Prizes might be offered for the best kept rural-school grounds and gardens, and joint meetings of the residents in country and town could be organized.

Good work is being done through the distribution of seeds, bulbs and plants to school children, but it is a mistake to give these altogether free of charge. They are appreciated more if a little charge is made.

The address closed with statistics, etc., in regard to the work of the Association. Mr. Wilson stated that he is willing to send speakers about the Province to encourage horticultural work.

IMPROVEMENTS AT THE C. N. E.

In his report as representative of the Association to the Canadian National Exhibition Board, Major Snelgrove (Toronto) spoke of the results he had been able to accomplish in having greater attention paid to the exhibits of amateurs at the Exhibition. Hitherto the floral exhibit had been given over too much to purely commercial interests; too much space in the Horticultural Building had been usurped for other displays, e. g., minerals. He thought another building should be provided for these things.

PAPER ON "SWEET PEAS."

The next item on the programme was a paper on "Sweet Peas, Varieties and Cultivation," by Mr. T. D. Dockray, Toronto. This paper will be found elsewhere in this issue.

In the discussion that followed, the question was asked as to what should be done with sandy soil to make it fit for growing sweet peas. To this, Mr. Dockray replied that he would dig the soil out, mix it with very well-rotted manure, and put it back again; or he would wheel the soil away and replace it with new.

Mr. Bennett (Barrie) said he had found it advisable to sow a lot of seed, as the plants could be thinned out if necessary. His experience had been that the ordinary kinds produced more flowers than the more highly specialized ones.

Mr. Whyte remarked that we, in this country, have no idea of the perfection to which sweet peas have been brought in England, where they are given the greatest care.

Further discussion brought out the fact that these flowers might be grown three or four years in the same trench, provided fertilizer is worked in; also that they may be transplanted successfully.

THE SCHOOL GARDEN.

A paper was now read by Mr. Harvey Gayman, the teacher of the famous Rittenhouse School, at Jordan Harbor, Ont. The school garden, the speaker said, was not an absolute new idea. Comenius, Pestalozzi, and Froebel, all held that gardening should be a part of the school work. The aim should be, not only to give practical instruction in gardening, but to bring about a deeper interest in rural life and the wonders of nature. The school garden also serves to furnish

a rational basis for work done in Nature Study, provides subjects for drawing and water-color work, gives practice in measuring, and serves for many other uses. It also helps to keep the child out of doors, and makes a common ground on which parents and children may meet.

The paper, which we shall try to procure for publication in full in an early issue, concluded by a resume of the work and its effects at the Rittenhouse School.

In the discussion that followed, it was noticed that the school-garden idea is spreading. Mr. Burgoyne (St. Catharines) pointed out that there are now three of considerable extent in Lincoln County.

The day concluded with a short address, complimentary to the work of the Association, by Hon. Jas. Duff, Minister of Agriculture.

EVENING SESSION.

The chief feature of the evening meeting was an illustrated lecture by Mrs. Dunington-Grubb (Eng.), on the "Modern Home and the Garden City Movement," from which, it was inevitable, that every delegate should go forth feeling that we, in America, have yet much to learn from the Old Countries. The Garden City movement is, however, a comparatively new one. It aims at the laying out of a city or suburb from the beginning so as to have all streets radiate from one focal point, such as a square or church, the houses to be built around the outside of each division between streets in such a way as to leave large open courtyards in the middle. This, perhaps, is not of much individual interest to farm folk, but the views shown gave most valuable hints in regard to general architecture and the planting of home-grounds. The simplicity of the houses, the picturesque roof-lines, the grouping of windows, the absence of meaningless adornment, must have impressed all who were present at this lecture.

Mr. Thompson, of Toronto University, followed with an address bearing on the educational possibilities in the planting of public grounds, where all trees, etc., should be labelled. Aluminum alloy labels had been found best. All High School and Collegiate grounds might be made educative in this way, especially by the addition of Botanic Gardens.

SECOND DAY'S SESSION.

A considerable proportion of the morning, Nov. 17th, was given up to reports from the various societies, giving evidence, not only of flowers distributed, prizes given, papers read, spraying demonstrations, flower and fruit shows held, lecturers obtained, etc., but also of warfare fierce against the bill-board nuisance, against unsightly "dumps," and neglected vacant lots—a pollution to their neighborhood by distribution of their weed-seeds.

A paper on "Spiraeas" was given next by Prof. Macoun, Ottawa. This paper will be found elsewhere in this issue.

A question regarding the time to plant spiraeas was answered by Prof. Macoun.—"As a general rule, plant the early-blooming sorts in autumn, the late-blooming in spring."

TEACH THE BOYS BUSINESS METHODS.

An address given by Mr. Atkinson of the Broadview Institute, East Toronto, proved most interesting to the audience. In this address, the speaker added to the account of the work done at Broadview already noted in our W. I. report (Nov. 1904 issue), an account of the

business transactions of the boys of the Institute, showing how many of them, city boys to begin with, have developed into market-gardeners and farmers, three having attended the Ontario Agricultural College at Guelph. Boys, he argued, can be made the most of, by managing so that they can have the work they love for their life-work. They should not be placed in blind alleys, at work to which they are not suited. Why should labor be a burden to any of us? "Monday" should be a delight to us instead of a dreaded day, as it too often is. Mr. Atkinson also told in detail of the training in Government that the boys are receiving, being taught, by actual practice at Broadview (where there is complete machinery of Government, Parliament and all) how to vote, and all the procedure of public and parliamentary meetings. This knowledge he considered necessary in fitting boys for their duties as men.

REPORTS OF NOMENCLATURE AND NOVELTIES COMMITTEES.

These were read by Prof. Macoun, but are not here reported, since the trouble among farmers is to find time and inspiration for growing the common flowers, leaving out the novelties. The reports were, however, of much interest and value to those connected with the scientific and commercial lines of floriculture. An interesting deviation was a list of 25 names, usually miscalled, with proper

pronunciation. These may be given in a later issue.

THE NEW OFFICERS.

The result of the election of officers was next announced, and the list is here given in full, in case any of the farmers in proximity to any of the local societies may wish to communicate with any of the gentlemen concerned.

- President—Rev. A. H. Scott, Perth.
- First Vice-President—J. P. Jaffray, Galt.
- Second Vice-President—W. J. Diamond, Belleville.
- Treasurer—H. B. Cowan, Peterborough.
- Secretary—J. Lockie Wilson, Toronto.
- Directors—District No. 1: F. B. Bowden, Vankleek Hill.
- District No. 2—J. S. Moorecraft, Bowmanville.
- District No. 3—J. H. Bennett, Barrie.
- District No. 4—J. O. McCulloch, Hamilton.
- District No. 5—T. Cottle, Clinton.
- District No. 6—G. W. Tibbs, Hespeler.
- District No. 7—W. W. Gammage, London.
- District No. 8—H. J. McKay, Windsor.
- Honorary Directors—W. B. Burgoyne, St. Catharines; W. T. Macoun, Ottawa; H. L. Hutt, Guelph; Major H. J. Snelgrove, Toronto.

CURRENTS AND GOOSEBERRIES.

Mr. R. B. Whyte advised everyone to grow currants and gooseberries. With

care, a very few bushes—say three red currants, three white currants, with as many gooseberries, should be enough to supply an average family.

From a dietetic standpoint, these fruits are very valuable. The gooseberry is somewhat underrated in Canada; not so in Scotland or in England. In Kent alone, 6,000 acres of this fruit are cultivated annually.

Give currant-bushes plenty of room, with a soil not too rich at first. When they begin to bear, fertilize. A little bone meal and potash are helpful. He would advise planting where the bushes might receive a little shade during part of the day, say from a fence, but he would not plant them under trees. . . . Cultivate against weeds, but with a digging fork, never with a spade, as the roots go near the surface and must not be cut. . . . In fall, mulch with two or three inches good manure.

Mr. Whyte then gave a demonstration on pruning, explaining that, since black currants bear the best fruit on second and third year wood this should be left, the oldest wood being cut out.

Red and white currants should be shortened back at the ends of the branches to promote the growth of new wood. Enough new shoots must be forced to grow to take the place of the old wood that must be taken out. . . . He had found spraying with Paris green about the 22nd of May to be effective against insect pests.

Among the very best currants are:

Red—Wilder, Pomona, Comet, Moore's Ruby.

White—Grape, Imperial, Goudoin.

Black—Victoria, Boskoop Giant, Success.

English gooseberries he considered a revelation of what can be done with this fruit. The soil and cultivation are practically the same as for currants, but the bushes only need to be about five feet apart in the rows. The suckers should be cut out from young plants as for currants, and all the branches should be shortened a little before growth begins. A great deal of pruning might be saved by picking out the unnecessary growths.

In the old, old gardens of England, which are in a fine state of tilth, the berries grow plentifully, and to a large size. In this country the soil is often too hot and mildew is caused. It is always advisable to grow the bushes in heavy clay loam to avoid this. As an alternative, mulch. A partial shade, as for currants, is also advisable.

Never plant European gooseberries on light soil. Use the American varieties in such cases.

The best varieties are:

European Varieties—

Red—Victoria, Industry, London Red.

White—Whitesmith, White Swan, Triumph.

Green—Keepsake, Lofty, Careless.

Yellow—Weatherall, Broom Girl.

American Varieties—

Downing, Pearl, Red Jacket.

A paper on "Gladioli," by Mr. Cavers, was read by Mr. Cowan. A good garden soil suits the gladiolus well. Plant from beginning of May to about the 11th of June, covering the corms three or four inches, and placing them six inches apart. Cut the blossoms when the first bloom appears, put them in water, and change the water every day.

In selecting gladioli bulbs, those deepest in vertical diameter are always the best.

In the discussion that followed, Mr. Arch. Gilchrist, Toronto, who won first prize on these flowers this year at the Canadian National Exhibition, advised keeping the corms, when in storage, warmer than they are usually kept. When cutting the flowers, he would leave some foliage on the stem at the ground in order that the corms might ripen well.

"The Farmer's Advocate" representative was not present at the night meeting.

In conclusion, may we say that we are too much accustomed to flattering ourselves that our country is beautiful enough. A trip to Europe might open the eyes of some of us a bit, and teach us that we have not done for our homes or for Canada what we could and should have done. May we begin now, and help on with the good work, whether individually or through organization, or both.

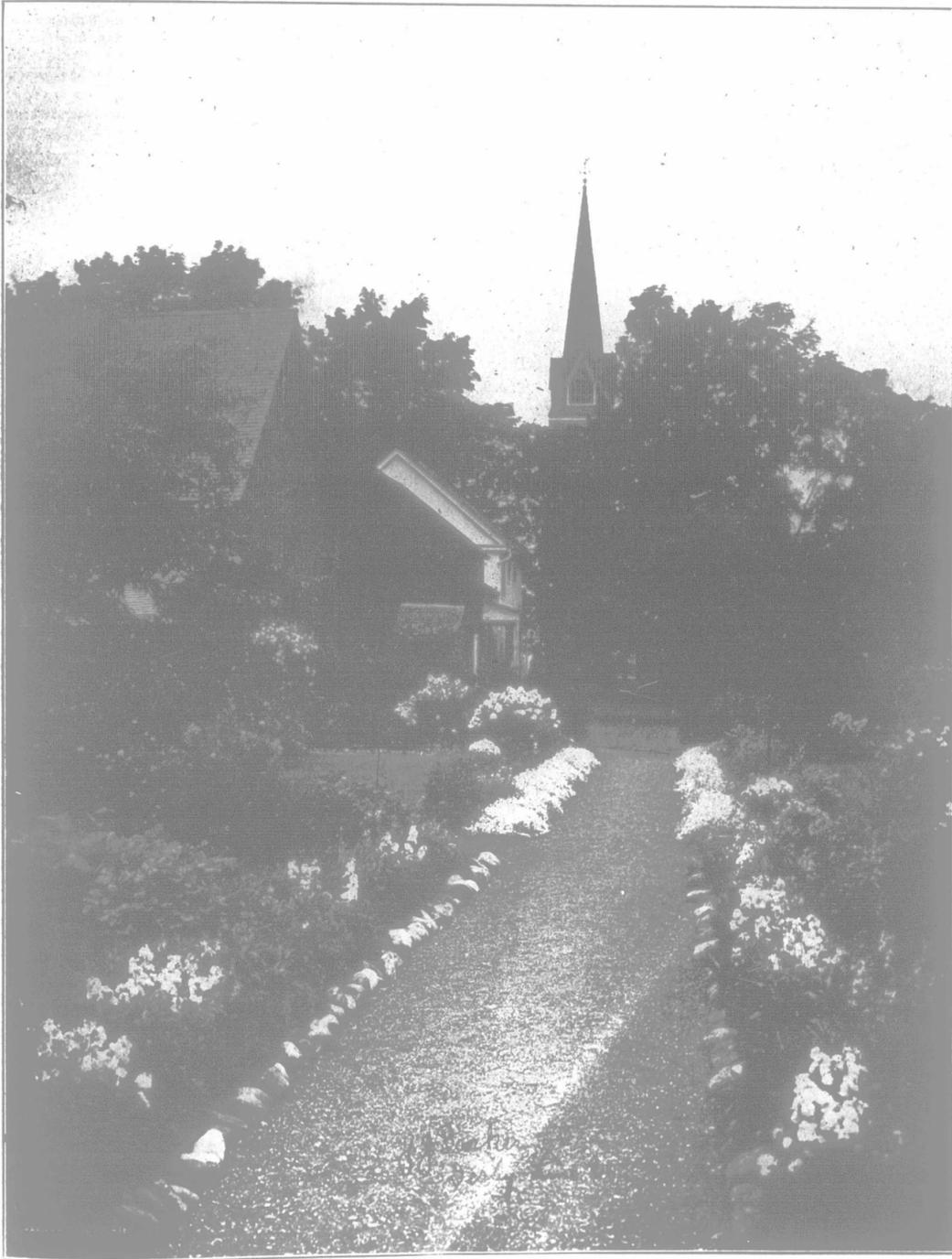
Sweet Peas: Culture and Varieties.

By Thomas D. Dockray, Toronto.

For the decoration of the home and the garden, no flower is more popular than the sweet pea. More seed of it is sold than of any other flower, and to create a new variety is the dream of every hybridist.

SOIL.

To produce the largest and earliest blooms, sweet peas should be grown in full sunlight. If the slanting shadow of a tall tree or building should happen to fall upon them for an hour or so in the afternoon, it will help to prevent them from burning in the sun, but more shade than this will make them weak and ineffective. Heavy clay soil is said to be the best for them, but in Toronto we have had fair success on clay loam, and even on sandy soil. Prepare the ground in the fall by digging the earth out of the place where the sweet peas are to grow to a depth of three or four feet. Then mix the earth thoroughly with about the same amount of manure, the older the better, and fill the hole dug with this mixture to within six inches of the top. Break up some decayed sod fine, and mix some bone meal and soot



Flower Borders.

with it, also some wood ashes and a little lime, and fill up the remaining six inches. If the soil is not prepared until spring, then use only the manure, at least one year old, and bone meal.

CHEMICAL FERTILIZER.

Superphosphate is recommended as a chemical fertilizer, or a mixture of three pounds of superphosphate, one pound of bone meal, one pound of nitrate of potash, one pound of sulphate of potash, and one pound of nitrate of soda. This mixture should be lightly dug in early in March, and is sufficient for a patch 16 feet square, or a strip 3 feet wide and 85 feet long.

Here in Toronto, sowing in the fall is useless. About March 20th is the earliest one may venture to sow here. From the 5th to the 10th of April is usually safe. Some seeds should also be sown in boxes or pots under glass, or in the house, so that the young plants may be transferred to the place in the row where seeds have failed to germinate. Plants should not be grown closer than six inches together. A bird-scare of some kind should be put up at once, or the sparrows will get the seeds.

HEDGES.

For hedges, only varieties, well mixed, of about the same height and vigor, should be grown. Sow in two rows, leaving a space from 8 to 12 inches or more between the rows. Plant stout posts, painted or stained green, along the rows with cross-pieces on them to which to fasten the wire. When the plants are up say a couple of inches, place a slender twig about 18 inches long by each for support. Then string the first wire 18 inches from the ground. Tie the plant loosely to the twig, and tie the twig firmly to the wire. Some varieties have very few tendrils until

they are over a foot high, and all seem to shrink away from the wire during the early stages of growth. The upper wires should be supplied only as needed. Use the finest galvanized wire that will stand the strain. The whole object of this method of stringing is to get the best decorative effect in the garden by making the support as nearly invisible as possible, and by keeping the tops of the plants all the time just above the support. If wire netting is used, it should be put up before sowing, and be at least six feet high, and with a six-inch mesh, or larger.

BRUSH.

The advantage of brush as a support is that it does not burn the tendrils, and permits the plants to put out their branches naturally in all directions, as a tree does, instead of only to the right or to the left as when trained on wires. But, until heavily covered by the vines, brush is very unsightly.

ON WALLS OR FENCES.

Sweet peas may also be planted to run over the lower branches of a climbing rose or vine, and will thus escape the scorching heat that is reflected from a bare wall or fence. The sweet peas will begin to flower just as the other climber is fading. But the ground must be made very rich, otherwise the sweet peas will not be able to compete with the woody climber.

IN TUBS.

Even for formal decorative effect, sweet peas may be grown in large tubs and placed, like clipped box trees, along walks, or on terraces. The tubs should be of wood, painted green, deep rather than broad, and with some holes bored in the bottom. Some broken flower pots should be put in, and then a mixture of old sod, roughly torn up, and old ma-

nure, to within a few inches of the top, then some fine soil. An early start may be obtained by planting the tub in a greenhouse and removing it to the kitchen, garden, or some other inconspicuous position when all danger of frost is past. When the plants have come up, they should be thinned out until they are about three inches apart. Some strong support, such as galvanized wire rods, fastened together here and there, or a cylinder of wire netting, should be provided at once, and the vines carefully trained up to it. When the plants are about to flower, the tub may be removed to the terrace, lawn, or other position for which it has been specially designed. Liquid manure and other stimulants should be used, but not too much, lest the lower leaves wither. Varieties that do not grow very tall are the best to plant in tubs, as they flower early in the season. Mont Blanc, a white, does well in quite small tubs, or large flower pots, as it grows only about 18 inches high. It is also splendid for bare spots here and there in the perennial border. I have found Cupid sweet peas to be utterly useless in pots, in tubs, and in the open ground.

IN CIRCLES.

A favorite way of growing sweet peas in the Old Country is in circles in the middle of a bed of annuals. A little tent of brush or wires is set up first and tied at the top. Then the seeds are sown. If the plants show a tendency to stretch away from the support, a light twig or wire can be so worked in as to encourage the tendrils to take hold. Here this has the disadvantage that the support is unsightly until midsummer.

WATERING.

Sweet peas require a great deal of water here in Toronto. The best way

is to give them say half an hour with a very fine spray at sundown, two or three times a week, rather than a hasty splash every evening. But soft water that has stood in the sun is better than the chilly water from the hose. The fine spray, however, is most useful in knocking the green flies off the plants.

CULTIVATION.

After watering, the ground must be stirred up around the plants, and always kept from looking smooth. Or a mulch of dried grass clippings may be laid upon the ground, but not too close to the vines. In this case, not so much watering will be required, and the ground need not be stirred up so frequently, as the mulching will prevent it from baking hard and will keep it moist. A constant watch must be kept on the mulch itself, lest it become mildewy or pasty, and afford a pleasant rendezvous for injurious insects.

The foregoing methods of culture may appear extremely difficult, and, possibly, forbidding. But we have only to turn to the horticultural magazines and books of the Old Country to see that what we consider tender care of sweet peas here, would there be looked upon as rank neglect. For they only get their magnificent successes with sweet peas after persistent vigilance against rabbits, cats, moles, mice, blackbirds, slugs, snails, stripe, mildew, and a number of fancy fungous diseases that we are not troubled with here.

VARIETIES.

The superiority of the Spencer varieties is admitted on all sides, and just about all shades of the older grandiflora type may be obtained among the new ruffled varieties.

Among the pure whites, Etta Dyke



A Luxuriant Garden.

Spencer is the best, excelling Dorothy Eckford in waviness, but both have very large flowers, usually four on a long stem under good treatment. Florence Wright and Nora Unwin are also good whites. Mrs. Collier is a warm white, almost cream, but unruffled.

The best and clearest buff-yellow is Clara Curtis Spencer. Other good buffs are Lady Knox and Mrs. A. Malcolm, but both may incline to a fawn shade on the standards.

Mrs. Routzahn Spencer is the best cream-pink. Like it are said to be Romani, Rauni and Mrs. Hugh Dickson. Constance Oliver is also good. Paradise Ivory is a most delicate cream, with just a suspicion of rose, but it does not seem to expand fully in Toronto.

Elsie Herbert Spencer is the best white with a pink edge, having very large flowers, but Picotee Spencer gives a large percentage of stalks with four well-spaced blossoms. Dainty, when not ruffled, has the pink edge beautifully defined.

For a cream, with a pink edge, the choice would fall upon Mrs. C. W. Breadmore or Evelyn Hens, both Spencers, and practically identical. Dora Breadmore has a pink edge, but is slightly hooded, and the cream becomes fawn as the season advances.

Countess Spencer, the type of the ruffled hybrids, is still unexcelled as a pink. Marjorie Willis, Marie Corelli, or Gladys Unwin, rosy pinks; Mrs. Hardcastle Sykes or Elfrida Pearson, blush pinks; Mrs. R. Hallam or Miriam Beaver, deep cream-pinks, are all most desirable in this popular color.

The great fault of the Orange sweet peas is that they are apt to burn in the sun. The best are Helen Lewis, an orange-pink, and Thomas Stevenson, an orange-scarlet, both Spencers, and very vigorous. Other good orange Spencers are Edna Unwin Improved, Dazzler, St. George, and Anglican Orange. A new unruffled variety, said to be nearly a true orange color, and almost sunproof, is Orange King. Because they burn so badly, Henry Eckford and Agnes Johnson should not be grown here.

At least one scarlet has been produced that will stand the sun fairly well, and that is Queen Alexandra, a fine large flower of the old, plain type. Doris Burt, George Stark, Scarlet Monarch and Scarlet Gem, are not always sunproof, but are Spencers.

For a crimson, King Edward Spencer is the best, having displaced Salopian, just as Salopian displaced Coccinea. Sunproof Crimson and Maud Holmes are two splendid new varieties. Perhaps the purest ruby color is King Edward VII., a large flower, but not a Spencer. Of a good garnet color are Cherry Ripe (the Spencer form of Coccinea) and Chrissie Unwin. John Ingman, George Herbert, and Mrs. William King, all practically alike, are fine rose-magentas of the Spencer type. Rose du Barri is an odd-looking burnt pink.

The bronze, or maroon, sections is not much in favor. The best here is Douglas Unwin. It is of a rich purple wine color, and the surface of the flower almost suggests a pansy in its velvetyness. Black Knight Spencer, Othello Spencer, Nubian, and Tom Bolton, all practically alike, are of chocolate or mahogany color, and are shiny, thus running some risk of burning.

All the blues are apt to have a touch of pink or lilac somewhere on the blossom. The purest dark blue is Lord Nelson, not a Spencer. Flora Norton Spencer, the brightest blue, is not as large as Zephyr Spencer, a silvery blue. Horace Wright is a splendid indigo, but rarely produces more than two flowers on the stalk. Audrey Crier Spencer, May Malcolm Spencer, and Lady Sarah Spencer, are said to be new, deep blue varieties of enormous size.

The best mauve is Tennant Spencer. It seems to be the Spencer form of Mrs. Walter Wright.

Asta Ohn Spencer is the best Lavender. Florence Nightingale and Masterpiece, both Spencers, are good. Nettie Jenkins is the best Spencer form of that old favorite, Lady Grizel Hamilton, and is slightly hooded. Mrs. Charles Foster is a good Spencer heliotrope. Phenomenal is a creamy-white, with a picotee edge of purple. This section would not be complete without the old Duke of Westminster, a striking combination of

violet and purple, suggestive of the Cattleya orchid.

The striped and flaked varieties are not much sought after. Helen Pierce is a pleasing mottled pale blue. Senator Spencer looks like a good thing gone wrong. Its color scheme consists of mahogany streaks on a dirty white ground. Prince Olaf is a good combination of purple and lavender, and shows the marking well, as it is not ruffled. Aurora Spencer and American Spencer are both pleasing flaked varieties, the former an orange-rose, the latter a rose-scarlet. The freakishness of Marjory Linzee is not in the color, which is pink, but in the form. It frequently has double standards, but does not seem any more desirable on that account.

For the person who can only plant a single row of 90 or 100 feet, a packet of 20 seeds of each of the following 12 varieties will be found more than sufficient: (1) White: Etta Dyke Spencer. (2) Buff: Clara Curtis Spencer. (3) Cream-pink: Mrs. Routzahn Spencer. (4) Pink-edged: Elsie Herbert Spencer. (5) Pink: Countess Spencer. (6) Orange: Helen Lewis. (7) Scarlet: Queen Alexandra. (8) Crimson: King Edward Spencer. (9) Maroon: Douglas Unwin. (10) Blue: Lord Nelson. (11) Lavender: Asta Ohn. (12) Purple-edged: Phenomenal. If only four varieties can be grown, it will be found that Etta Dyke Spencer, Countess Spencer, Queen Alexandra, and Asta Ohn will blend very well, either on the plants or when picked.

The Best Spiraeas.

By W. T. Macoun, Dominion Horticulturist.

It may be safely said, I think, that if the average person interested in plants were asked to name the best Spiraeas, he would immediately think of Spiraea Van Houttei among shrubs, and the so-called Spiraea Japonica among herbaceous plants. We fear that with many persons their knowledge of Spiraeas is limited to these two plants, and one of them is not a true Spiraea, but belongs to the genus Astilbe. If this view is the correct one, a paper on Spiraeas should prove of value as introducing to lovers of flowers throughout Canada some of the many beautiful hardy species which can now be readily obtained.

In a comparatively recent edition of the Guide to the Royal Gardens, Kew, there are recorded 63 species of woody or shrubby Spiraeas, and 28 varieties, or nearly one hundred distinct sorts. Of the 63 species, 22 are hybrids, or of garden origin. Of the 41 which appear to be natural species, 10 are of American, 6 of European, and 25 of Asiatic origin.

At the Central Experimental Farm, there have been tested nearly 100 shrubby species and varieties. As most of the Spiraeas are natives of the North temperate zone, and a large proportion of them natives of the colder parts of it, it is not surprising that there should be many which are hardy, or nearly so.

The woody Spiraeas may be divided into two main groups, namely, those which bloom during the spring, and those which bloom in the summer. The Spiraeas in the former group, so far as we are aware, all have white flowers, while those which bloom in summer are either white or pink or rose. Those which bloom in the spring are, as a whole, much more graceful and beautiful than those which bloom later on. The summer-flowering sorts have the advantage of having a long blooming season, some of them flowering from June until autumn.

While there is a very large number of species and varieties, it is not difficult to select the best dozen, and of these dozen Spiraea Van Houttei and Spiraea arguta, are undoubtedly the two best.

Spiraea Van Houttei is a hybrid species of garden origin, a cross between Spiraea cantoniensis and S. trilobata. It is the latter species that gives to S. Van Houttei its hardness, as it is a native of North China and Siberia. One can scarcely say too much in praise of Spiraea Van Houttei. Its graceful form, attractive foliage, and wealth of white flowers, are most striking, and it may be regarded as one of our most useful and beautiful shrubs. It blooms during the latter half of May, but while the bloom is over early in the season, the

new growth which takes place, provides foliage which is attractive throughout the summer. It is very effective when massed close to the house. It grows from four to six feet high.

Spiraea arguta is as hardy, or hardier, than S. Van Houttei, and as it blooms early in May, before the latter is in bloom, there is no rivalry between them. This also is a hybrid species, being a cross between S. Thunbergii and S. multiflora (the latter of hybrid origin), and is, like S. Van Houttei, more beautiful than either of the parents, and hardier than S. Thunbergii, which used to be the best-known early-blooming sort. S. arguta is a graceful shrub, growing about four feet high, and being literally covered with small, white flowers on slender branches in the blooming season. While the foliage is not quite so attractive as S. Van Houttei, it is, owing to its graceful habit, quite ornamental after the blooming season is over.

Where it is hardy, the double variety of Spiraea prunifolia comes third, perhaps, in usefulness and beauty. It is one of the earliest to bloom, but it is too tender at Ottawa to make a good show, and is useful only in the warmest parts of Canada. The flowers are pure white, and are larger than most other Spiraeas, and are quite double. This shrub continues attractive throughout the summer, as the foliage is glossy and deep green in color. The autumn tints are also good.

Spiraea Thunbergii is a very early bloomer, and one of the most graceful of the Spiraeas, but is not hardy enough in the colder parts of Canada. Even where it is hardy, it is not so desirable as Spiraea arguta, which blooms about the same time. Spiraea Thunbergii colors much more highly than S. arguta in the autumn, and on this account is valuable for massing. It is a native of Japan, and grows three to five feet high.

Of stiffer and more upright habit than any of the four preceding Spiraeas, but very showy because of its wealth of creamy-white flowers, is Spiraea chamaedrifolia, a very hardy species growing about six feet high. It is a native of Europe, reaching to Japan.

Spiraea ulmifolia is very similar, and Spiraea media is of somewhat the same habit.

One of the most beautiful of the Spiraeas is S. bracteata, often sold as S. rotundifolia alba. The flowers of this variety are white, and very conspicuous, in compact clusters, and contrasting well with the rich green foliage. The species blooms early in June, after Spiraea Van Houttei, which makes it particularly valuable. It is not quite hardy enough at Ottawa. It is said to grow eight feet high, but where it kills back some, four feet would be a good average. This is a native of Japan.

A Spiraea which belongs to quite a distinct group from those already described, and which blooms from early summer for several weeks, is Spiraea sorbifolia. This is now included by some botanists in another genus, and is known as Sorbaria sorbifolia, getting its name from the leaves, which resemble very much those of the Mountain Ash. The leaves of this shrub are quite attractive, and when the strong stems bearing large panicles of flowers are thrown up, it makes a most striking shrub. It suckers very freely, and on this account should not be grown where it is liable to crowd less vigorous sorts. It is a native of Northern Asia, is very hardy, and grows from three to five feet high. Of the same group is Spiraea Aitchisoni, a native of Afghanistan. It is an attractive shrub, but not hardy enough in the colder parts of Canada.

There is a very distinct group of Spiraeas which bloom during the summer months, usually sold under the name of Spiraea callosa and varieties. These are true Spiraea Japonica and varieties. They are low-growing shrubs, from two to four feet high. The wood kills back very much each year, but they bloom freely on the new wood, and are very showy during the summer months. Spiraea Japonica has a wide range in the wild state, being found from Japan to the Himalayas, and it varies considerably in the different countries in which it grows, giving rise to a number of varieties. The variety Fortunei is the Chinese form, and with its sub-varieties gives the most attractive forms, most of

them being various shades of pink, crimson, and rose. Some of the tints are not very pleasing, as they approach magenta. The variety Anthony Waterer is a low-growing shrub, with crimson flowers, not very attractive to many people, and is a variety of Bumalda, which in its turn is a hybrid between S. Japonica and S. albiflora.

Spiraea albiflora is sold by nurserymen as Spiraea callosa alba. It is closely related to S. Japonica, and is a very useful white-flowered shrub for summer. It grows only about eighteen inches high.

An attractive species which blooms in July and August is Spiraea Margaritae (S. Japonica + S. superba), with pink flowers. It reaches a height of five feet.

Spiraea Billardi and Spiraea alba are two tall hybrid species of which Spiraea salicifolia, our native species, is one of the parents. They have large panicles of flowers, those of the former being bright pink, and the latter white. They grow six feet high, and bloom during July and August.

There are other summer-flowering species which might be mentioned, but the color of most of them runs to magenta, a color which is not pleasing to many people.

Thus, by a judicious selection, shrubby Spiraeas may be had in bloom from early in May until August.

HERBACEOUS SPIRAEAS.

There are not nearly so many herbaceous Spiraeas as woody ones. In the Kew Guide, 17 species and varieties are mentioned, of which 10 are species. In addition, there are 4 of Astilbes. The number of horticultural varieties is not yet very large.

Like the woody species, the herbaceous Spiraeas include in their number some of the most graceful hardy ornamental plants. Most of them are moisture-loving, and do not do well if the soil is dry. According to recent botanical nomenclature, there are no herbaceous Spiraeas. What used to be called Spiraeas are now referred to other genera, such as the genus Astilbe, Ulmaria, Aruncus, and Astilboides, and we might not recognize some of our old favorites under their new names. In this paper, however, we shall call them all Spiraeas, and by their trade names.

The herbaceous Spiraea which is best known, perhaps, is Astilbe Japonica, known in the trade as Spiraea Japonica, and is one of the most popular and satisfactory plants for forcing in the greenhouse. It looks well in the house, where it should be kept well watered. It is one of the few greenhouse plants which are hardy, and it can be planted outside after it has done blooming. It does best in the garden in a moist, sheltered situation. Its graceful, plume-like flowers and attractive foliage make it a very ornamental plant. There are several varieties of Astilbe Japonica, the compact form being one of the most popular. Astilbe Lemoinei and A. Thunbergii are two other species which are good for forcing, though not very satisfactory as garden plants in the colder parts of Canada.

The finest herbaceous Spiraea, in our judgment, is Spiraea Aruncus, or Goat's Beard, and yet this elegant plant is seldom seen in Canadian gardens. It is a native plant, being found wild in British Columbia. It begins blooming at Ottawa early in June, and its graceful, plume-like panicles of creamy-white flowers and fine foliage, with its height of from four to five feet, make it a bold and striking object in the border. There is a cut-leaved variety of this called Spiraea Aruncus Kneiffi, which is very distinct, and is so unlike the species, and is such a fine plant that it should not be omitted from any collection.

Another strong-growing species which requires plenty of space to show off to advantage is Spiraea camtschatica, known in the catalogues as Spiraea gigantea, and even finer than the type, and the most desirable is Spiraea camtschatica elegans. This grows from four to five feet in height, and blooms from early in July to early in August. The flowers are crimson-pink in the bud, and white, with crimson-pink anthers, when open.

A Spiraea of quite the opposite habit of growth is the double-flowered Dropwort, Spiraea Filipendula flore pleno. This is much more attractive than Spiraea Filipendula, though it is also

good. The flowers are double, and pure white. The plant reaches a height of from 12 to 18 inches, and when it is in bloom during June and early July, it is one of the most noticeable plants in the border. The foliage is finely cut, which helps to give the plant its graceful appearance.

Another very fine Japanese Spiraea is Spiraea palmata of horticulturists, but Ulmaria purpurea of the botanists. This grows from three to three and a half feet high, with carmine flowers, and, like most of the other Spiraeas, is very graceful. There is a good variety, with lighter flowers, known as Spiraea palmata elegans. Somewhat of the same type, but a much stronger and taller grower, is Spiraea lobata, or Queen of the Prairie, a species native to the United States. It grows four to five feet, or taller, has deep pink flowers, and blooms during the latter part of July and the early part of August. The variety of this known as S. Venusta has flowers of a deeper shade, and is equal to, or better, than S. lobata.

The last variety which we shall include in this list is Spiraea Ulmaria flore pleno, the double-flowered variety of the Meadow Sweet. To be at its best, this beautiful Spiraea should be in damp soil, where it will reach a height of four feet or more. The flowers are double, and creamy-white. This Spiraea blooms during July and early August, and is very effective. The ordinary single-flowered Meadow Sweet is not nearly so striking.

There are a number of good herbaceous Spiraeas, but with those which have been described, one would have the best of them.

In closing, we heartily recommend these graceful flowers for more general planting.

Our New Serial.

We feel that we owe our subscribers an apology in regard to the late date at which our serial must begin. The truth is that we have had some difficulty in finding just the sort of story that we should like to give our readers. Some of the books examined were lacking in the highest ideals, others were deficient from a literary standpoint, yet others were trivial or overdrawn, or too full of sentimental gush. We have at last, however, fixed upon one which seems to answer practically all requirements, while being deeply interesting besides. Negotiations with the publishers in regard to the serial rights of this story are now under way, and we look forward to printing the first instalment at an early date.

Hope's Quiet Hour.

The Romance of Work.

Be ye steadfast, unmoveable, always abounding in the work of the Lord, forasmuch as ye know that your labour is not in vain in the Lord.—1 Cor. xv.: 58.

One of the objections brought against Christianity, when it first went out to enlighten the darkness of the world, was that its Founder had been a working-man, a carpenter. Now we understand a little better the dignity of honest work, and men are ready to follow One who chose for Himself a life of service, instead of seeking an easy, luxurious position, where He might have been served by numerous slaves. A great man in Eastern countries in the time of Christ was a man who had many people to wait on him, and the Carpenter of Nazareth set before the world a startling new ideal when He said: "Whosoever will be great among you, let him be your minister, and whosoever will be chief among you, let him be your servant." He claimed the right of the "Lord and Master" of His disciples when He stooped to be their servant, washing their feet just because He was their chief. He claimed and used His right to minister to many, saying: "I am among you as he that serveth."

When a great truth is pointed out to men, they are usually eager to follow

it; and this lesson of the glory of service has captivated the noblest hearts. A man may be rich—his wealth is a solemn responsibility, laid in his hands as a trust for the good of his fellows. Anyone who fancies that riches or leisure belong to him for his own ease and luxury, and that he has a right to be lazy, because he has the opportunity of being lazy, is small and contemptible in his own opinion and in that of others. The higher one climbs in social position, the greater is the opportunity and responsibility of service. Possibly a tramp may be idle without seriously injuring anyone but himself; but a king belongs to his people. If he wastes his time, it is a loss to the whole nation. He is the greatest in the kingdom; therefore it is his duty as well as his privilege to serve and care for all his subjects, just as it is the duty and privilege of a father to work hard for the welfare of his children—they are under him, therefore he is bound to minister to them.

Our Father in heaven is working always for the good of His children. He does not forget to send down sunshine out of His great treasury—the sun—and rain out of His vast reservoirs—the clouds—to supply the need of each blade of grass. He is ceaselessly working for all the universe, and we are invited to be fellow-workers with Him.

When the first disciples went forth on their joyful mission of telling the world that God is Love as well as Power, the Lord—we are told—worked with them. This is the secret of an ever-fresh interest in one's work. The faithful worker is never alone, but God Himself works with and through him. If it were not so, how little he could do. Moses might strike the rock with his rod, but no life-giving stream would come out for his thirsty people; Jonah might preach in Nineveh, but he could not convert the whole city, nor even one sinner in it; the farmer might plow and sow, but not one seed would put forth a green shoot, and his fields would be as bare in August as they were in March.

But, with God's almighty power to second a worker's faithful, prayerful efforts, nothing is impossible. A little child—if sent to do that work—can bring water out of the rock, can awaken a hardened heart, or can plant the seed which will grow into a great tree. Without God we can do nothing, but He never intends us to work without Him. With God beside us, the most commonplace work becomes interesting, and only God knows how far its influence may extend.

I have read that in Egypt great tracts of land, which would otherwise be desert, produce splendid crops of grain through the monotonous work of some old, broken-down animals. Each of these old horses or camels, unfit for other work, goes round and round in a weary march, turning a windlass which turns a water-wheel. By this wheel the Nile water is lifted and poured into ditches. The water flows from these ditches into smaller channels, and these again into smaller ones, which intersect the land in every direction, making "the wilderness to blossom as a rose." The patient animal, plodding along day after day—with eyes blindfolded to keep it from becoming giddy—has no idea of the good that results from its work. If a man were forced to tread such a weary, apparently useless round, without knowing why, he would grow hopeless and broken-hearted, because all his work would seem so useless. But if his eyes were opened, and he could see the great good that was being given to the world by God through his patient work, what a spring would come into his step, and what gladness into his heart.

Well, a steady round of daily duty, patiently performed over and over again, while nothing of any consequence seems to come from it, is really working out God's plans for helping the world. A mother does her housework and cares for her children, faithfully and cheerfully; and her pure spirit rouses the high ambition to help the world in those children or in someone else. These influence others, and the influence is like the life-giving water of the Nile, pouring through one channel after another, and helping people who are thousands of miles away from the first worker, who is quite unconscious of the good she is doing. She

is "steadfast, unmoveable, always abounding in the work of the Lord," and the romance of her life is this that she knows—or should know—that her "labour is not in vain in the Lord." She casts her bread on the waters—as men cast their precious seed-grain on the Nile when it is flooding the land—and after many days the rich harvest will certainly rejoice her heart. It is impossible to labor in the Lord, for the Lord, and with the Lord, without glorious results coming from the work. Especially is this the case in the matter of intercessory prayer—one of the hardest and most fruitful of all kinds of work. In prayer we join forces with God. We gather up all our powers of mind and spirit, wrestling with Him as Jacob wrestled, saying: "I will not let Thee go, except Thou bless me." We plead with Him as the poor heathen woman pleaded with Christ for her daughter's healing; and our weak prayers blend with the continual intercession of our Great High Priest, so that God—through us—is able to do far more than we ask or think. The world loses far more than we know when our prayers are lukewarm, hurried and meaningless.

God is always beside you, ready to touch others through you. If you consecrate yourself to His service, He will be able to work with your hands. Just think of it! When you are tidying the house or cooking the meals—with the love of God as the glad inspiration of your life—the Ruler of the universe is constantly pouring His Life through you to bless the whole earth. If a wireless message, trusted to the trackless air, can fly thousands of miles straight to its goal, much more certain is it that a thought or word or act, which is laid prayerfully in God's hands, can do whatever He pleases. It is a treasure which He will never waste. Love is very precious in His sight—not one thought of real love can ever be lost. And love without works is dead, just as certainly as works without love are flat and tasteless. It is always love that makes the romance of life, and love can fill the most monotonous existence with ever-fresh interest. Work—willing work—not only helps the world, but it also helps the worker. You may be doing the same "chores" every day that you did ten years ago; but you have grown stronger, nobler, braver in character—by means of that uninteresting work—faithfully and cheerfully performed—and so have used the commonplace tasks as a ladder on which you have daily climbed a few steps higher. Or it may possibly be that you have dragged through your necessary duties, grumbling because you have no chance to do great things; and, in that case, you may be doing the same "chores" as ten years ago, and yet have gone downhill slowly, but surely. God looks at the spirit; and how disappointed He must be if He sees a bright, brave spirit growing slowly more dull and cowardly, just because the everyday work is not accepted as a priceless gift from His hands. It is not the fault of the work:

"All service ranks the same with God"—

A man ruling a kingdom is on the same level in His sight with one who is digging a drain, or with one who is called upon to do the hardest work of all—to endure with cheerful patience the cross of helplessness or pain. The great question for each one is: "Am I doing the work God has put into my hands, doing it faithfully and patiently, doing it gladly and lovingly?"

God knows the true answer to that question. Each life is of tremendous importance; and, as each day slips quickly past us, we are steadily making that possession which we must always carry with us, even though the gate of Death, which is too narrow to admit anything else—the possession of Character. As we do our everyday work, we are climbing higher or slipping lower.

"Work on, O, hands of mine!
Ennobling thought that ever thou canst share
A part with God in making earth more fair;
Then labor calmly on, and do complain
forbear,
Fulfilling His decree."

DORA FARNCOMB.

The Ingle Nook.

[Rules for correspondents in this and other Departments: (1) Kindly write on one side of paper only. (2) Always send name and address with communications. If pen-name is also given, the real name will not be published. (3) When enclosing a letter to be forwarded to anyone, place it in stamped envelope ready to be sent on. (4) Allow one month in this department for answers to questions to appear.]

Dear Ingle Nook Folk,—I am trying hard to keep up with the requests for directions in fancy-work, but so many have arrived that it is quite inevitable that some must still be held over. I am sorry that all of the letters cannot be answered before Christmas, but, as you see, it is quite impossible.

By the way, do those of you who knit know the possibilities of Angora woolen yarn? It makes the prettiest little hoods and baby mittens that you can imagine, and grows woolier and prettier with washing. The little mittens are knitted plain—exactly as with other yarn.

I heard a fine idea for a "country" Christmas gift the other day. A pretty box was chosen, filled with fresh eggs, decorated with holly, and sent to a friend in town. The gift was much appreciated. Might not the same idea be carried out with vegetables, washed until they shine with all their pretty color, packed into a decorated box or basket, and sent off with the inevitable greenery on top? This should recommend itself to farm people who have friends in town whom they would like to remember at Christmas time. Just think how pretty such a basket might be made to look, too, with the top layer, say, of cranberries, with little carrots or parsnips arranged, star-fashion, as a decoration! Now we must hurry on.

Knitted Petticoat.

Dear Dame Durden,—We are constant readers of "The Farmer's Advocate," and, indeed, we enjoy reading it very much.

Would you be so kind as to publish, in your valuable paper, as soon as possible, directions for crocheting a woollen petticoat?

Hoping to hear from you as quickly as possible. A MAIDEN.
York Co., Ont.

I have not as yet been able to find directions for making a crocheted skirt, but will tell you how to make a knitted one; perhaps that will answer as well. These directions are from the Corticelli Silk Co.:

Use coarse needles, No. 14, or coarser. Cast on 100 stitches.

First row—Purl. Second row—Plain. Third row—Purl. Fourth row—Plain. Fifth row—Purl first 10 stitches; finish



Knitted Petticoat.

(By courtesy of the Corticelli Silk Co., St. Johns, P. Q.)

row plain. Sixth row—Knit to 20 inches from top (10 purl and 10 plain), turn, plain to end of row.

Eighth row—Plain to 10 stitches of last turn; turn and finish row.

Tenth row—Plain to 10 stitches of last turn; turn and finish row.

Twelfth row—Plain to 10 stitches of last turn, and so on, until all but 10 stitches are left.

Repeat from beginning.
If plain portion at top is wanted deeper, purl 15 stitches in 4th row, and so on.

These directions are for quite wide

good in life. Again, he told the clergyman who called later that I could not be kinder, and that his homestead son, my husband, never said one back word, that he was very fond of me, but his son, of course, was his own boy. The feeling of inward happiness at hearing an old and aged parent say these words is the best of rewards, and I consider the hand of God put it into his mouth to say them. Those that have wronged an aged parent may come and get forgiveness and try to soothe their conscience, but they can never take back the cruel words that caused the tears to roll down the wrinkled old face. To see the smile of welcome and the feeble voice ask and trust for any help a parent wants, to hear them say you are doing everything for them, and that they are happy even though in pain and sickness, is a joy unspeakable,—to be able to take the dead cold hand and say, "Father, I was always good to you; I feel no regret or remorse for having caused pain or hurt to your tender and sensitive old heart." Dear, dear, is the face of an aged father or mother, however destroyed by disease or old age.

I AM A FRIEND OF THE OLD.
Lambton Co., Ont.

Ammonia for Baking.

Dear Ingle Nookers,—I am always interested in reading the letters of the Ingle Nook, and often thought of writing to thank somebody for a helpful suggestion, or to answer some question, but writing is so different from reading. Well, just now I would like to ask if anyone can tell me how to pulverize baking ammonia.

I saw the recipe in "The Farmer's Advocate" some time ago for lemon biscuits. I have made them several times. We all think them A1.

We have the Women's Institute here. We meet every month at the home of some one of the members. Our topics are helpful, instructive, and cheerful. We have a very good library. The books have all been read, so we are going to exchange with another branch. Wishing you a Happy New Year, I'll close.

AMELIA.

Manitoulin Island.

I should say to buy the ammonia already pulverized at the drug store. If this is wrong, will someone who is used to making ammonia cookies appraise me of the fact quickly?

Re Curtains.

Will you tell me, through your valuable paper, the proper way to hang the blind and curtains on the large windows that have a small, fancy pane at the top a foot deep, and full width of the window? Should the blind and curtains be hung at the top of casing, over the small, fancy glass, or should they be hung at the top of the large pane, and bottom of narrow, fancy pane?

A SUBSCRIBER.

Lambton Co., Ont.

As a rule, the blinds are hung below, and the curtains above the fancy glass.

A Wedding Dinner.

"A Subscriber" writes for information in regard to serving a wedding "dinner," a question that comes up on an average twice a year, showing that it is one of perennial interest.

In the first place, it is not customary to serve a regular dinner at weddings; too much fuss altogether would be occasioned by the full course of soup, fish, meats, entrees, and dessert. Instead, therefore, we hear of wedding "breakfasts," "luncheons," and "suppers," although, often enough, the "breakfast" may not be served until twelve o'clock.

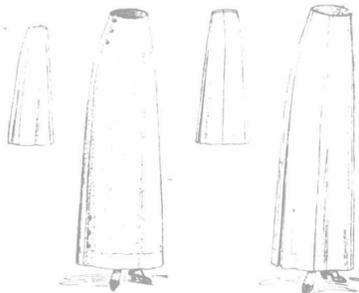
A wedding breakfast is, however, quite an elaborate affair. Usually music is supplied. One table, larger than the others, placed in the center or at one end of the dining-room, is reserved for the bridal party. No other tables are likely to be reserved, nor are place-cards used, as it is more convenient to let the guests choose their seats at any of the smaller tables provided.

When it is time for the breakfast, the bride and groom enter first, the bride taking the groom's arm. Next come the ushers and bridesmaids, then the bride's father with the groom's mother. The

rest of the guests follow in any order; the men do not give the women their arms as at a dinner, but the hostess usually waits until the last to see that no woman is without an escort. She usually goes in last on the arm of the groom's father.

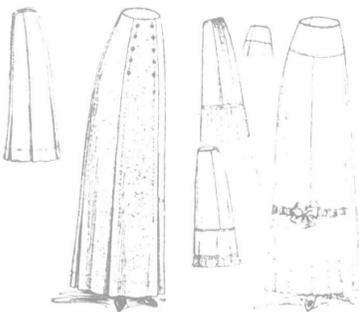
The breakfast is served in regular courses, and may begin with fruit, or a regular luncheon menu may be followed, beginning, if one chooses, with oysters on the half shell, or bouillon in cups, followed by sliced fowl and meats, potatoes served daintily, a delicate vegetable, salads, ices and cakes, perhaps a trifle, fruit, olives, bonbons, coffee and tea. Sometimes the bride's cake is not served, but a heap of dainty white boxes filled with it are placed in the hall, one for each guest. As a rule, a portion of the bride's cake is baked separately for these boxes, and the thing of splendor itself is placed in the middle of the bridal table and given, afterwards, to the bride to take to her new home. Sometimes, however, the cake itself is cut, in which case the bride cuts the first piece with a knife which has a white bow tied on the handle. In this case, the cake may be on the bride's table, or on a little table by itself—a preferred method when the cake is to be divided into pieces.

"The Farmer's Advocate" Fashions.



7149 Three Piece Skirt for Misses and Small Women, 14, 16 and 18 years.

7154 Six Gored Skirt for Misses and Small Women, 14, 16 and 18 years.



7147 Six Gored Petticoat, 22 to 32 waist.

7159 Five Gored Petticoat, 22 to 32 waist.

Please order by number, giving age or measurement, as required, and allowing at least ten days to receive pattern. Price, ten cents per pattern. Address, Fashion Dept., "The Farmer's Advocate," London, Ont.

Christmas Appeal for the Hospital for Sick Children.

Dear Editor,—Thanks for your kindness in allowing me the privilege of appealing at this Christmas time on behalf of the Hospital for Sick Children, Toronto.

I make this direct appeal to the people of Ontario, for the fathers and mothers of Ontario, outside the City of Toronto, have precisely the same claim for their sick children as regards the privileges of the Hospital, as parents who reside in this city.

In brief, the sick children from any place in Ontario whose parents cannot afford to pay, are, on certificate from a municipal officer of any city, town, village or township, treated free.

In the last 20 years, there have been 4,731 patients from 450 places outside of this city treated free, as the parents were unable to pay for treatment. Last year 384 patients from 234 places outside Toronto were so treated.

The Hospital is not a city, but a Provincial institution. The Corporation of Toronto grants \$18,000, not only for city children, but towards the maintenance of every patient in the Hospital, and the citizens of Toronto donate an average of \$10,000 to the maintenance fund of the Hospital.

Every day is Christmas to the child whose little life is saved, or whose crippled limb is straightened with the might of money—your money—and the mercy of the Hospital.

Will you, the reader of this letter, think of what your dollar will do? It helps to restore health and strength, and gives sound limbs and straight feet to crippled boys and girls.

You give wealth to the Hospital, and the Hospital gives health to the children.

Yes, your money can put golden hinges on the door of the Hospital's mercy. Will you, kind reader, help us and send a spare dollar to Douglas Davidson, the Secretary-Treasurer of the Hospital, or J. Ross Robertson, Chairman of the Trustees, Toronto.

When the Maxwells Took Life Easy.

By Hilda Richmond, in Onward.

(By request of a subscriber.)

"That tarnal cow was in the oats field again, mother," said Mr. Abner Maxwell, dropping down on the back porch, where his wife was shelling peas, and fanning his face vigorously with his old straw hat. "The more I think of it, the more I believe the children are right. We've no business trying to get along alone and working ourselves to death. I was real scared about sunstroke as I fixed up that fence."

"If we only could have a new fence," sighed Mrs. Maxwell. "I'm ashamed to look the neighbors in the face the way our stock gets into their fields. You know, pa, I'm dead set against giving up our home till we have to, for we're more independent here."

"You mean if things went right we could be independent," said the old gentleman. "What if one of us was to take sick? Then where would we be?"

"Well, let's not cross the bridge till we get to it," said the old lady, easily. "We're both in the best of health, and likely to be for years, so far as I can see, so there's no use worrying. You turn in, pa, and lend me a hand with these peas, so that I can make some apple dumplings for dinner."

"I was thinking about taking a nap, mother, but I can help you first. I don't feel what you might call well at all."

"Papa says you shall come right down and get your white cow out of his cornfield!" said a shrill voice, that made both the old people almost jump out of their chairs. "He says he's stood just enough, and if the cow ain't out in fifteen minutes he'll send for the constable." A very important small boy having delivered his message, pattered back home through the soft dust of the highway, and Mr. Maxwell hastened to get the white cow out of the neighboring field.

Mrs. Maxwell had dinner all ready before her drooping husband returned, and her eldest daughter had arrived for a brief visit. "Why, Pa Maxwell!" she said, at sight of her red-faced, angry parent. "Whatever do you mean taking such violent exercise in the sun? You'll have a stroke the first thing you know."

"I had to get that white cow out of the corn," said her father, shortly. "Mother, you and Sarah go on with your dinners. I don't want to eat while I'm so hot up."

"Now, isn't that just the way?" observed Mrs. Wayland, when her father was snoring on the lounge. "If you and pa were not so obstinate you might be taking life easy. The idea of pa trying to fatten, feeble as he is, and you making better and looking after chickens. Of course it doesn't do a bit of good to say anything, but I'm always afraid of what people will think. Mrs. Lester stopped me on the road and told me a long string about how hard pa works, and she just looked at me as if she thought none of the children would support him. I told her plainly that six homes stand ready to receive you, and in a pinch William would do his part, but she looked as if she didn't believe a word I said."

"Have some more dumplings, Sarah. I have more in the pot for pa. How are your little chickens this summer?"

"Why, they're doing fairly well," said Mrs. Wayland. "As I was saying, you and pa could be so much more comfortable if you disposed of your stuff and just took life easy. This little place ought to bring five thousand dollars, even if it is run down, and the income from that would keep you in luxury. Just think of it! At six per cent, that would be three hundred dollars a year, or twenty-five dollars a month. I'll venture to say you and pa don't clear twenty-five dollars a month now, and pa has the taxes and repairs to pay every year. And then if anything should happen—" The entrance of a neighbor cut short the lengthy lecture to which Mrs. Maxwell had resigned herself, and Mrs. Wayland found no other chance all afternoon to renew the attack.

And that very day, as if brought on by long talking about it, something did happen. Abner Maxwell was coming down out of the old haymow when the rickety ladder broke, precipitating him to the floor below, where only a scanty supply of hay broke the fall. Mr. Maxwell was a "member in good and regular standing," but it must be said he groaned rather more strenuously than the occasion demanded, and when his anxious wife inquired as to the extent of his injuries he informed her that he thought his collar-bone was broken, a knee fractured, and he was hurt internally. The real truth of the matter was, that after a very exciting day with the breezy stock and the extreme heat, he was glad of the chance to lie still on the hay in the wind-swept barn and excite the sympathy of his neighbors, who had all been slightly cool to him on account of damaged crops. These good people came promptly to carry the old gentleman to the house, regardless of the past troubles, and Mrs. Maxwell had more offers of help than she could accept from the ladies whose cherished flowerbeds and gardens had been trampled by Whitey and Rose.

"Mr. Maxwell, the truth of the matter is you have no business climbing about in haymows," said Mr. Lander, the man who had threatened vengeance only that morning. "You ought to take life easy at your age."

"That's what I said to mother only this morning," groaned the invalid. "The children's been at us to sell out and visit around among them, and I don't know but that's what we'll have to do. The farm's running down badly, and we aren't making anything to speak of. If I could get a good hired man and mother could have a stout girl to help her things might be different, but it's no use talking about impossibilities."

Two days later a very much excited young man appeared at the Maxwell homestead, and barely taking time to inquire how the invalid was getting along he burst out with: "What's this I hear about your selling the farm and visiting around, pa?"

"That's what we've decided to do, William," said the old gentleman, with a loud groan. "All the children are anxious for us to spend our declining years in comfort, and—"

"Just one of them is," put in the young man. "Father, you'll rue the day when you break up your old home. Mark my words! It isn't that you are not welcome to my home, but only because I want to see you comfortable and happy. Keep your little farm and take life easy right here."

"I'm surprised at you, William," said Mr. Maxwell, stiffly. "We took care of our children when they were little, and it's only natural that they should want to care for us in our declining years." The invalid had heard so many set speeches on this subject lately that he rolled off the smooth phrases quite unconsciously. "Your mother and I are too old to have the cares of farming and housekeeping burdening us. In the homes of our children we can live in ease and comfort."

"I only hope you won't be disappointed," said William Maxwell, "but I fear you will."

Mrs. Maxwell tearfully divided her cherished household possessions among the seven children, reserving only a few keepsakes for herself, and the farm was sold to the highest bidder at public auction. Including the animals and the antiquated farming implements, the farm

only brought in four thousand five hundred dollars, but this amount immediately loaned on a well-improved farm in the form of a first mortgage gave the old people ample security against poverty, they thought, even if they had no children to keep them the rest of their days. Then they took their departure to visit with their eldest son, Abner, Jr., for two months, according to previous agreement, taking two months at each home in turn and going down the list of children regularly, ending with William, who was undutiful enough to oppose the whole proceeding.

"When it comes your turn to go to William's, just come to me, father and mother," said Mrs. Wayland, virtuously. "I can't understand William, unless it's Mamie's fault, that he wanted you to go on toiling and slaving all your days. William isn't poverty-stricken, though he has less than any of us, and I don't see what possesses him. You might have been comfortable and happy a number of years ago if he had not used his influence to keep you on the farm. When I think of what might have happened to father that day he fell out of the hay-mow, I tremble still."

"William means well," said Mrs. Maxwell, evading the question. "He is as good-hearted a boy as ever lived."

Mrs. Abner Maxwell, Jr., did her best for her husband's relatives, but she was a busy city woman taken up with her clubs and her social affairs, and time hung rather heavily on their hands. She set apart a beautiful bedroom and sitting-room for their use, though the change rather cramped her for space, and bade them enjoy themselves, but somehow they were not at ease in the elegant home. Mrs. Maxwell did not even have the privilege of making her own bed, and her husband missed his familiar chores sadly. They faithfully "did" the city and enjoyed the "church privileges" for which they had sighed for years, but somehow the new and wonderful sights did not appeal to them, and the privilege of attending evening services only made them homesick for the little old meeting house where they had gone to church regularly every Sunday morning for forty years. They made brave attempts to get acquainted with the kindly men and women who tried to make them feel at home in the Lord's house, but after all they finally had to confess to each other, in a heart to heart talk, that they would be extremely glad to get to their daughter Sarah's home, where farm life could be again enjoyed. Of course, they carefully agreed to keep it all a secret that they did not enjoy city life, but they could have held a little celebration when the day came to start to Sarah's home.

"The children have been asking continually when grandma and grandpa would come," cried Mrs. Wayland, kissing them affectionately when they stepped out of the depot carriage. "Now, children, don't smother grandpa. Come right into the parlor and take off your things. I've turned it into a bedroom for your stay, so you will not have to climb the stairs. Amy, get right down off grandpa's lap! Great big girl like you to sit on tired grandpa's knees. She'll never want to come to see you again. Excuse me, will you? I must see to my supper." She whisked out into the kitchen, and the children proceeded to examine everything in and out of sight belonging to their elderly relatives.

"I wish Sarah had given us a room a little more private," said Mr. Maxwell, looking at the expensive hangings that separated the parlor from the family living-room. "I'm afraid the children will get a little too friendly."

"Why, Abner!" said his wife, reproachfully. "They are such dear little children."

"I know that, but we're not used to children."

But at the end of a week Mrs. Maxwell confided to her husband that she was nearly worn out with the affectionate ministrations of the children and their cheerful noise. "Thank goodness," she sighed, "when we get to Richard's there will be no children, and we can rest. I just love the darlings, but they worry me nearly to death."

"I'm sorry you can't walk as well as I can, mother," said Mr. Maxwell. "If it were not for my long tramps out over the fields and through the woods I'd go stark crazy. In my day children were

made to mind, but now they do as they please."

"I do think Sarah is a little slack, now that you speak of it," said Mrs. Maxwell. "I never dreamed of allowing my children to do the things her four do, but times have changed."

"Then they haven't changed for the better," growled Mr. Maxwell. "Oh, well, we won't have to stay here forever."

In the course of time they moved on to Richard's, and he and his pretty young wife gave them a cordial welcome. "I'm not going to make old people of you, papa and mamma," said Jessie Maxwell, prettily. "I'm going to give you a hand in everything that's going on. What you need is rest and recreation, and you're going to have both."

The elderly people always doubted whether they had the rest promised them, but they certainly had the recreation. They fairly lived in their "Sunday clothes," and chased over the country to church entertainments, surprise parties, grange meetings, farmers' institutes, and a large variety of gatherings. Having no children to keep them at home Richard Maxwell and his wife had formed the habit of going where they would, and they insisted upon taking the elderly people with them everywhere.

"Going about will keep you from getting old and feeble," said Mrs. Jessie, as she entertained friends or went about to meetings. "I don't like to see elderly people settle down to inactivity before their time. Sleep just as late as you want to in the morning, so you'll be ready to be entertained to-morrow. When you get to Bessie's you'll be quiet enough, for she hardly ever gets to go away from home."

I'm going to try to repair the mischief. I'm plum discouraged."

"So am I, pa," said Mrs. Maxwell, shifting the heavy baby from one arm to the other. "I wish we had taken William's advice and stayed where we were. I've worked harder since I've been here than ever I did in my home, and I'm about worn out. Bessie has such peculiar ideas about bringing up children, and it's so hard to suit her." Her voice quavered and great homesick tears rolled down her cheeks. "At home I could work or not, just as I pleased."

But when evening brought back the old gentleman, his wife did not have to ask the result of his errand. She read the disappointment in his tired face before he said a word. "I just wish you'd see the old place, mother. Fences all repaired, house painted, garden all fixed up, new boards in the walk, and everything. If I hadn't been so busy groaning about my troubles and pitying myself I might have made all the repairs myself. He says he wouldn't sell out for two thousand more than he paid for it, and I don't blame him. It's the loveliest spot on earth. The leaves are just turning yellow, you know the season is so late, and everything is perfect. Your white camphor plants are all in bloom —" But here the old people broke down and cried together as they thought of their lost joys, and the infants were allowed to take care of themselves for an hour or more.

Early the next morning their son, William, appeared, and invited them to go for a drive in his new carriage. "I said as soon as I got it you were to have the first try, and Mamie and I came over early to get you. Put on your wraps



He (Lost): I S—S—Saw Her Last at the R—R—Ribbon Counter!

But when Bessie's turn came an entirely different programme awaited them. "I think it's just terrible the way Dick and Jessie have been gadding over the country with you folks," she said. "Old people like to be quiet at home, and they had you on the rampage all the time you were there. Now you shall rest."

"They meant well," said Mrs. Maxwell, "but we did do a little too much going."

"Of course you did, though I wouldn't hurt their feelings by saying so. You just sit down here by the fire and have a long, cosy evening. John and I are going to a social across the way, and the children will sleep while we're gone, so there will be nothing to disturb you. I want you to just make yourselves at home and have a good time."

But alas and alas! The children wailed and fretted for their mother, and both old people were pressed into service to quiet them. "We won't say a word to Bessie," they agreed at last as they crept into bed, just before that lady arrived home. "Poor child! She has been tied down for years with babies and needs a little pleasure. Besides, when the children get used to us they will get along all right."

After they had been there three weeks, during which time they had scarcely been out of the house, Mr. Maxwell said decisively to his wife one lovely autumn morning: "Mary, I'm going over to our old home and see if I can buy it back. I can't stand this life. It was my fault that we ever gave in to sell out, and

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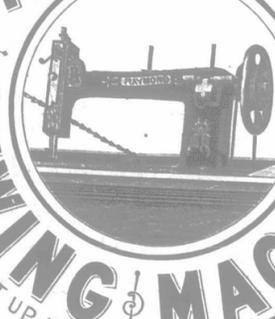
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Men's Best Quality, 2-Buckle Styles, Sizes 6-12. (Same as cut) \$2

Two-Buckle Style, to fit all ages, Sizes 3-12. (Suitable for ladies), \$1.75

Children's 2-Buckle, Sizes 6-2 Fit ages 3-10, \$1.35

Children's Fine Lacing Style, Sizes 6-2, \$1.50

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134-155 Princess, WINNIPEG, MAN.

"Mr. Cleaver, how do you account for the fact that I found a piece of rubber tire in one of the sausages I bought here last week?"

"My dear madam, that only goes to show that the motor-car is replacing the horse everywhere."

Feathers Wanted

We pay highest prices for Goose, Duck, Hen and Turkey Feathers, Furs, Hides, Wool, Beeswax, etc. Prompt return. Send for price list.

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us, and to-morrow we'll see to fixing things up."

"Oh, William, please let us stay here to-day," begged the old lady. "Just forty-five years ago to-day pa brought me here a bride, and I'd so like to stay right here. I don't care if there isn't a thing to eat," she said recklessly. "Don't you want to stay, pa?"

"Pa" had been having a strenuous time with his throat and eyes, but he slipped an arm around the waist, that was far from being as slender as in the old days, and in a choking voice expressed his pleasure at being there and his desire to stay always. "If you'll go back to Bessie and get our things, William, we'll just stay, I guess. Your ma will be better satisfied that way."

Two days later a procession of farm wagons brought back the familiar furniture from six different directions, and the old couple, keeping house with their kitchen things and one bed, joyously welcomed home their belongings.

"Ma, you sit down right here and play 'Home, Sweet Home,'" said Mr. Maxwell, when the wheezy old organ was carried back to its accustomed corner, with the chaff of John Maxwell's hay loft still clinging to it. "Yes, you can, too. Sit right down, and we'll all sing." The cramped old fingers wandered painfully over the yellow keys, bringing out a quavering melody, but the hearty chorus that went up from the sacred best room showed that one and all rejoiced with the happy old people that indeed they were at home again to live in peace and comfort.

New Year Resolutions.

If you are thinking of making good resolutions for the New Year, why not copy those of one of the greatest of the world's famous men. When 22 years of age, Benjamin Franklin drew up the following "rules of conduct," which he followed closely through his life, and to which, no doubt, much of his success was due:

TEMPERANCE.

Eat not to dullness; drink not to elevation.

SILENCE.

Speak not but what may benefit others or yourself; avoid trifling conversation.

ORDER.

Let all your things have their places; let each part of your business have its time.

RESOLUTION.

Resolve to perform what you ought; perform without fail what you resolve.

FRUGALITY.

Make no expense but to do good to others or yourself; i. e., waste nothing.

INDUSTRY.

Lose no time; be always employed in something useful; cut off all unnecessary actions.

SINCERITY.

Use no hurtful deceit; think innocently and justly; and, if you speak, speak accordingly.

JUSTICE.

Wrong none by doing injuries, or admitting the benefits that are your duty.

MODERATION.

Avoid extremes, forbear resenting injuries so much as you think they deserve.

CLEANLINESS.

Tolerate no uncleanness in body, clothes or habitation.

TRANQUILITY.

Be not disturbed by trifles, or at accidents common or unavoidable.

TO AVOID A COLD.

When the sudden fall of the temperature persons run a great risk of catching cold. There is one simple way of avoiding colds: keep your mouth shut while out of doors. The man or woman who comes out of an over-heated room, especially late at night, and breathes through the mouth, will either catch a bad cold or irritate the lungs sufficiently to cause annoyance and unpleasantness. Chills are often the result of people talking freely while out of doors just after leaving a room full of hot air.

News of the Week.

Parliament has been adjourned to January 10th.

A new Canning Company, promoted by C. H. Cahan, and a number of Montreal and Ottawa capitalists, has been formed, and will establish five canning factories in Ontario.

Heavy fighting, in which the Italians had the advantage, has again taken place in the vicinity of Tripoli.

The King, on December 8th, unveiled a statue of King Edward at Delhi, India, where he and the Queen are staying during the Durbar.

Affairs in Persia are still unsettled. The British Government has declared that it is impossible for her to reconsider the ex-Shah if he should be reinstated by Russia. Persia, on the other hand, rejects the demand of Russia, that all future appointments of foreign advisers in Persia be referred to Great Britain and Russia, and has appealed to the Congress of the United States and the German Reichstag for aid and sympathy in the controversy, which she considers threatens her autonomy.

The Shakers.

It is reported that the Shakers are winding up their financial affairs in the State of Ohio and in the one remaining colony of that sect in the State of New York. "These facts," observes the St. Paul Pioneer Press, "call attention to the final failure of one of the longest existing of the many communistic experiments that have been tried in this country." At present remnants of once flourishing Shaker settlements exist in Mt. Lebanon, N.Y., and Enfield, Conn., besides those referred to in Ohio. The Pioneer Press notes that the Shakers first established themselves in the United States just before the Revolutionary War and have kept their organization more or less intact since that time, in spite of the fact that the fundamental basis of their organization offered nothing to promise prolonged existence of the sect. The Shakers were the followers of "Mother Ann" Lee. They believed that she was the feminine counterpart of Jesus Christ. She died in 1784, and the society was reorganized on a communistic basis. Celibacy, non-resistance and equality for women are the simple tenets of the Shaker creed. Their affairs are managed by groups, the authority being vested in two men and two women chosen by the colony. All of their religious and business affairs are discussed in open meeting. They do not worship Christ nor Ann Lee, but "the highest good wherever it may be found." The Shakers had a membership of 4,000 in 1887, but their membership decreased to 1,000 in 1902, and it appears now that they are on the point of dissolution. In the years following the American Revolution more than a score of communistic sects and colonies were established in the United States. Some of them appealed to the sensualities and some of them were plain swindles. The Shakers held out no sensual or financial allurements, and it is surprising that they have endured so long, except on the theory that their simplicity in living attracted recruits, and made them the sole survivors of all these social experiments. With their passing will close one of the most interesting chapters of social experiments in the history of any country.—T. P.'s Weekly.

Her Ladyship—Have you given Fido his soup?

Buttons—Yes, 'um.

And his cutlet?

Yes, 'um.

And his jelly?

Yes, 'um.

Her Ladyship—Then you may have the roast and cheese and go to bed.

GOSSIP.

E. Watson, manager of Mount Victoria Stock Farm, Hudson Heights, Quebec, reports the sale to F. E. Came, of Montreal, of the yearling Clydesdale colt, Lord Aberdeen 2nd, a colt of big size, with good quality, unbeaten at the fall Eastern exhibitions. Also to M. T. Valequette, the champion Hackney stallion, Terrington Lucifer (imp.), and the Hackney mare, Ophelia's Fashion, by Palonius. A few home-bred yearlings are yet for sale.

At the Birmingham, England, Fat-stock Show, the last week in November, the contest for the best beef animal lay between the King's white two-year-old Shorthorn steer, Marmaduke, J. J. Cridlan's yearling Angus steer, his Angus-Shorthorn cross-bred yearling heifer, and Hon. F. G. Wynn's Hereford yearling steer. The King's steer was reserve to Messrs. Garne's red two-year-old heifer, Village Lassie, for the Shorthorn championship, but for the supreme championship, with a bench of four judges—a bad system—a deadlock occurred, and the referee gave his vote to the King's Shorthorn steer.

CHAMPION CLYDESDALES FOR SALE

Alex. Graham, of Oro Station P. O., on G. T. R. line, between Barrie and Orillia, is offering for sale one or both of the following high-class Clydesdale stallions, Baron Gartly (imp.) [4789] (11601), a bay, foaled in May, 1900, sired by the Glasgow champion, Casabianca, dam by the Cawdor Cup champion, Royal Gartly, granddam by Darnley Yet. This is one of the best horses imported in recent years. He was first and champion at the Canada Central, Ottawa, 1904, and first and champion at the Winter Show in Toronto in February, 1905. Up to a big size, he has the much-looked-for combination of scale and quality, and stands among the best living sires in Canada. The other is that grand quality show horse, President Roosevelt (imp.) [7759] (13651), a bay, foaled May, 1902, sired by the C. C. champion, Marcellus, dam by Excelsior, and granddam by Prince of Wales. He was twice first and champion at Ottawa, and second at Toronto. He is one of those clean, flashy, quality horses so much admired in this country, and is a sire of winners. Owing to the many daughters of these horses being of breeding age, Mr. Graham is compelled to introduce fresh blood, consequently one or both are for sale. Their breeding is unsurpassed in the Studbook, they are both toppers as individuals, and no fancy price is asked.

CEDARDALE SHORTHORNS.

A herd established many years ago, whose produce have been shipped from one end of the country to the other, where every one has given satisfaction on arrival, and done good for their purchasers, made up of imported and Canadian-bred animals, pure Scotch and Scotch topped, on English-bred foundation, big, thrifty, strong-constituted, and many of them heavy fleshed, others heavy milkers, such is the Cedardale herd, the property of Hon. T. S. Sproule, M. D., of Markdale, Ont. The stock bull in service is the massive red Minerva-bred Imp, Lord Fyvie, sired by Primrose Fancy, a son of the \$1,600 Primrose Prince, dam Minerva 11th, by the Flora-bred bull, Fortune. He thus combines the best of Scotch breeding, which is proving out its prepotency in the superior type and quality of his get. He is a red, four years old, particularly good in his lines and well fleshed, and is doing a world of good at the head of this herd. On blood lines, the herd represents such fashionable Scotch tribes as the Clarets and Miss Ramsdens, the Scotch-topped are descendants of Imp. Beauty, Imp. Flora, Imp. Margaret, and Imp. Lady Jane. Many of these are heavy milkers, a kind that is eagerly searched for these days. The herd in general is in good condition, many of them extra well fleshed. There are a number of heifers from a few months to two years of age that are good buying for a herd foundation. Only one bull is left, a roan, about nine months old, a straight, nice-lined, good-fleshed young bull that will make a good one. Anything in the herd is for sale.

ABERDEEN-ANGUS FOR CANADA.

At the sale of pure-bred Aberdeen-Angus cattle held at the Stock-yards, Chicago, during the week of the International Exhibition, several choice animals were purchased for Canada. J. D. MacGregor, Brandon, Manitoba, bought over a dozen head. Jno. Lowe, of Elora, Ont., bought three head to add to his already strong herd, and Lt.-Col. McEwen, of Byron, Ont., secured a new herd-header in the International second-prize senior yearling bull, Blackbird Beverly, by Black Lad 2nd, dam Blackbird of Woodlawn 14th. This is a good youngster, and should prove a profitable investment in the Alloway Lodge herd.

The 35th annual convention of the Dairymen's Association of Eastern Ontario, will, as advertised, be held in the town of Campbellford, Ont., January 3rd to 5th, 1912. An excellent programme has been arranged, among the subjects to be discussed being "Crop Production," by Prof. J. H. Grisdale; "Tile Draining," by Prof. W. H. Dey; "The Value of Cow-testing," by C. F. Whitley, Ottawa; "Cheese and Butter-making," by Dairy Commissioners J. A. Ruddick, Geo. H. Barr, and C. F. Whitley, and instructors Prof. H. H. Dean, G. G. Pablow, and G. A. Putnam, together with addresses by Hon. Martin Burrell, Dominion Minister of Agriculture, Dr. G. C. Creelman, and others.

That the horse is not quite going out of demand in consequence of the motor-car rage, was clearly evidenced by the result of the annual Old Glory Sale held in New York the last week in November when several hundred horses of the lighter breeds found ready buyers, many of them, it is true, at low figures, but the most desirable at very encouraging prices. "One of the most encouraging features of the sale," says the Horse World, "was the brisk competition to secure a good brood mare whenever one was offered. The demand shown for brood mares is evidence that breeding is not on the wane, but rather on the increase. When a weanling sells for \$1,300, a yearling for \$7,500, two-year-olds up to \$2,300, three-year-olds up to \$5,000, brood mares up to \$3,100, and stallions up to \$15,000, there is little need to look with any particular degree of anxiety towards the future."

TRADE TOPIC.

Joseph Read & Co., Summerside, Prince Edward Island, dealers in Island produce, eggs, and seed oats, of which latter they make a specialty, write that the seed oats they offer for sale have not been exposed to frost, are all separated by the Farrell machinery, that farmers are sure to get a first-class article, and that of the 50,000 bushels they sold last year they received not a single complaint, but many highly commendatory letters.

DANGERS OF DIALECT.

Andrew Carnegie, at a dinner in New York, talked about the Scotch dialect. "It is a hard lingo to understand," he said, "It often causes awkward mistakes. Once an American divine spent Sunday in a Highland inn. In the morning he gave the maid a tip of a sovereign, and he said, looking earnestly at her—for she was a pretty maid: "Do you know, Kathleen, you are a very good-looking lassie?" "Of course, Kathleen was pleased, but, being modest, she blushed like a rose and answered: "Ah, na. Ah, na! But ma kissin, sir, is beautiful." The divine frowned. "Leave the room, you wicked young baggage," he said sternly. "He didn't know, you see, that modest Kathleen had been simply praising, in her dialect, the superior charms of her cousin."

Constable: What, sir! Dae ye suggest that I would tak' a bribe. Dae ye insult me, sir?

The King: One—Oh, excuse me, I— "Crispian"—But now, supposin' I wis that kind o' man how much wud you be inclined to gif?"

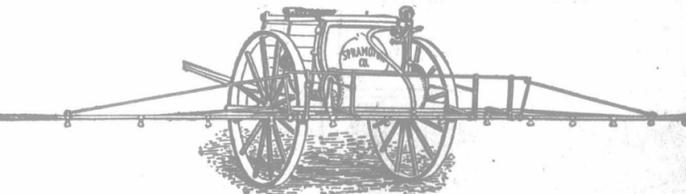
SEED OATS! SEED OATS!

There is probably only one firm and one place from whom and from where Canadian farmers may be sure of getting good, strong, vital Seed Oats this year. As supplies, even here, will be limited, send your orders in early. Put up in three-bushel bags, sufficient for one acre's sowing. Every bag stenciled with firm name and variety.

JOS. READ & CO., LTD. Summerside, P. E. Island

Refer to the Dominion and Provincial Governments' Seed Departments

THE PEST PARALYZER



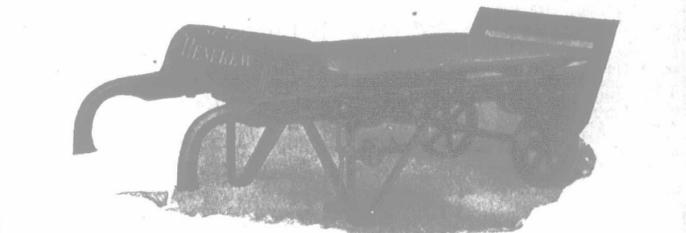
The Horse-Power SPRAMOTOR shown above will thoroughly spray two acres of potatoes or row crop in 30 minutes. The horse does all the work. It also nozzles that will not clog spraying both tops and vines with 125 pound pressure, get after the parasites. Full control from driver's seat. Has automatic regulator and agitator, nozzle protector, pressure relief, 12-gal. air pressure tank draining, air and controlling cocks. Equally efficient on row crops or orchards. Made for 1 or 2 horses or hand. Awarded gold medals at National Horticultural Congress. Write for free literature on crop diseases. AGENTS WANTED.

SPRAMOTOR, LIMITED, 1359 King Street, LONDON, CAN.

MR. FARMER!

Do you know EXACTLY what you are selling?

Is it your knowledge or the other man's word?



Why not know as much as the buyer?

Don't give away your profits.

"The Profit in the last ounce."

RENFREW SCALE CO.

RENFREW ONT.

SEND FOR OUR BOOKLET. Name Address Dealer Address

Please Mention this Paper.

NO WOMEN COMPLAIN NO MEN GROWL ABOUT SHARPLES Tubular Cream Separators

Which shows how very different Tubulars are from all others.

You see, Dairy Tubulars contain no disks to wash, rust and wear. Twice the skimming force of others. Skim faster and twice as clean. Repeatedly paying for themselves by saving what others lose.

This is why other separators are being rapidly discarded for Tubulars.

For your own sake, ask the oldest separator concern on this continent for catalogue No. 193, fully describing the modern separator—the simple Tubular which wears a lifetime. Guaranteed forever.

THE SHARPLES SEPARATOR CO.
Toronto, Ont. Winnipeg, Man.



Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted, and Pet Stock.

TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

AGENTS WANTED—We have an unusual premium proposition; every person will be interested. No outlay necessary. Apply to: B. C. I. Co., Ltd., 228 Albert St., Ottawa, Ont.

BELTING FOR SALE—Over 1,000,000 feet in rubber, canvas, etc.; all sizes and lengths, at 25 to 50% less than regular prices; also large quantities of iron pipe, fencing, etc. Catalogues sent on request. The Imperial Waste & Metal Co., 20 Queen St., Montreal.

CREAM WANTED at the Guelph Creamery. Business run on the co-operative plan. Write for particulars, or call and see us. Stratton & Taylor.

FOR SALE—Choice Rose Comb Rhode Island Red cockerels \$1.00. T. S. Shantz, Berlin, Ont., R. R. No. 3.

FARMS FOR SALE—30 farms for sale, all sizes, Halton, Peel and Wellington Counties. Write for catalogue. J. A. Willoughby, Real Estate, Georgetown.

FOR SALE—150 acres, on the sixth concession of the Township of South Dumfries, County of Brant, 2½ miles from the Village of Ayr. On the farm is first-class stone house, 13 rooms, surrounded by nice lawn and well sheltered by evergreen trees; stabling for 70 head of cattle, 8 horses; good hogpen, driving-shed and henhouse; also large root cellar and silo. Farm is well watered by never-failing springs. House and barn supplied by hydraulic ram. The soil is clay loam, in first-class state of cultivation, and having carried a heavy stock of beef cattle and hogs for many years, is exceptionally productive. 130 acres under cultivation, 1 acre orchard, balance bush and pasture. Would also sell 50 acres of good pasture land near by if suitable. For further information apply to Alex. E. Easton, Ayr, Ontario.

MARRIED farm hand desires situation; good stockman; experienced; references. Address: Stockman, "Farmer's Advocate," London, Ontario.

VANCOUVER ISLAND, British Columbia, offers sunny, mild climate; good profits for men with small capital in fruit-growing, poultry, mixed farming, timber, manufacturing, fisheries, new towns. Good chances for the boys. Investments safe at 6 per cent. For reliable information, free booklets, write Vancouver Island Development League, Room A, 23 Broughton Street, Victoria, British Columbia.

WANTED—Bright young man or woman as correspondent in each town. \$5 to \$50 paid for single item of information. Mercantile Assurance Association, Box 317, Halifax, N.S.

WANTED—A first-class creamery in Central Ontario, with good connection. Reply giving full particulars, to "Creamery," Farmer's Advocate, London, Ont.

WANTED—Rock elm, maple and walnut logs. Bradley Co., Hamilton, Ontario.

WORKING manager desires situation. Good references. Scientific and practical. Understands poultry, incubators, dairying, etc. Box L, "Farmer's Advocate."

YOU GET EGGS YEAR ROUND with Indian Runners. Write Howse, Box 6, Niagara-on-Lake.

WANTED—At the De'hi Tannery, Custom Robe and Fur Tanning. Horse and cattle hides make best Robes and Coats when properly tanned and made up right. Send them to me and have them dressed right, and you will be well satisfied.

B. F. BFLI, Delhi, Ont.

SEED GRAIN

We are in the market to buy clean seed grain of first quality Oats, Barley, Clover and Timothy Seed. If you have No. 1 stuff we have the right price for you. Get our quotations. Send ½-lb. sample of grain, 2-oz. sample of seed.

GEO. KEITH & SONS
Seed Merchants
124 King St. E., Toronto

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.

2nd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer.

3rd.—In Veterinary questions the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

4th.—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

STAGGERS IN PIGS.

Pigs, three months old, are fed on pulped roots, chopped barley and wheat sparingly, apparently doing well. They come to the trough and commence to eat, then throw up their heads, stagger back and fall down. The other pigs then commence to worry them.

J. A. C.

Ans.—See answer to Farmer's Son in this issue.

ALFALFA—STAGGERS IN PIGS.

1. We have about six acres of fall wheat on a well underdrained field. Would you advise seeding it down to alfalfa in the spring?

2. We have a bunch of pigs about three months old that take fits. They let one loud squeal, and then fall down like a pig that was knocked down with an axe, and shake all over, and in a few minutes they are all right. We are feeding them a gallon of shorts and a gallon of oat chop three times a day, and a little milk. Can you tell me the trouble, and give a cure?

FARMER'S SON.

Bruce Co.

Ans.—If you have not already a sufficient acreage of this crop, and your land is in good condition for growing alfalfa, we would advise seeding it with the wheat in the spring.

2. This trouble occurs not infrequently with young pigs in winter, even when in apparent health and doing well. It usually occurs when the pigs are feeding. The cause is not well understood, but is usually attributed to indigestion. Eating too fast may cause it. Change the manner of feeding for a time. Feed meal dry for a few days, and give the swill and milk separately. This may induce slower eating. Feed the milk and swill warm. Give food which tends to relax the bowels, and keep charcoal ashes, old sods, or salt, where they may take it at will.

SILAGE NOT KEEPING — SILO ROOF OPENING.

1. I built a new cement silo last summer and am much disappointed in the way the silage spoils for about six inches around the outside. It has a very smooth surface, as smooth as most plastered silos. I have been told that cement silos will spoil around the outside the first year, caused by air in the wall. The silo has a continuous door, made of 1-inch boards, 12 inches wide, and put in one at a time as the silo was being filled. We also put building paper between to make sure of its being airtight. Against the door the silage is spoiled the most, coming out like black muck. This is our first experience with a cement silo, having used stave silos for fifteen years.

2. Do you know anything about a silo roof that can be opened up at filling time, so you can fill up to top of silo, or higher, and then close again?

FARMER'S SON.

Ans.—1. There has been considerable trouble reported on account of silage at the walls of cement silos drying out when not cement-washed inside, as if enough water was not used during and after construction, owing to the wall absorbing moisture from silage. Especially with unroofed silos, there is sometimes spoiling at walls near the top. The continuous board door would not seem to be a commendable plan. In order to save waste at the doors, the joints and surface should be true and close-fitting. And with a continuous door, the silo wall is much weaker. In the new cement silo at "Weldwood," fed from since filling, the silage has kept well. It is coming out sound and palatable right to the wall.

2. Any of our readers having experience with a silo roof that can be opened

up at filling time, would do well to send us particulars for the benefit of "Farmer's Son" and others.

FATTENING TURKEYS.

What is the proper feed to fatten turkeys? Is it advisable to shut them in crates the same as chickens?

J. W. C.

Ans.—The most successful turkey-breeder we know of advises against confinement in crates. For feed, it is hard to beat a light feed of wheat in the morning and a full feed of good whole corn in the evening. Some feed boiled turnips or potatoes mixed with chopped oats or barley.

NO WILL.

1. What is a first wife's share in property at husband's death—there being no will, and only one child?

2. Can an adopted child, where you give it your own name, claim an equal share of property with your own children?

3. Can it claim any share? Ontario.

SUBSCRIBER.

Ans.—1. Assuming that the wife survives her husband, she is entitled to take one-third of her husband's estate—real and personal—remaining after payment of his funeral and testamentary expenses and debts.

2. No.

3. No. In order that a child, by adoption, should take a share of an estate, provision therefor must be made by will.

TAX ON DOGS.

1. Who is responsible for the dog tax?

2. Did the Government force the municipalities to place a tax on dogs, or have the municipalities any option in the matter?

3. Can the municipalities (if they choose so to do) abolish the dog tax?

4. Do you not think it only fair to the farmer that he should be allowed to keep one dog free of tax? Ontario.

SUBSCRIBER.

Ans.—1. The Legislature of the Province of Ontario.

2. The municipalities have not now any option such as is suggested.

3. No.

4. Inasmuch as any dog, unless continuously confined or chained, is liable to become a cause of mischief, we consider it only fair that all dogs should be taxed, a second one more heavily however, than a single one kept by a certain owner. The writer cheerfully pays taxes on his own dog.

LICE ON CATTLE—UNTHRIFTY PIGS—SORE BACK.

1. I have a fattening steer which has got a lot of blue lice on him. I clipped him with a pair of horse-clippers, and applied International Louse Killer, which killed quite a number of them, but there are a lot on him yet. Please let me know what will rid him of the pest.

2. Have a bunch of pigs which are about three months old and are not doing well. Some have a scurf on the back which machine oil lifts. I can't keep them dry no matter how I fix their bed. Could you tell me how to fix things to get them to thrive?

3. Have a horse which has a sore back, and every time he is hitched it gets worse. When he is left in, it gets almost well. What will cure him? G. S. W.

Ans.—1. We have known insect powder (pyrethrum) sifted into the hair from a flour-dredger to prove very effective in destroying blue lice on cattle. A good plan is to mix the powder with dry cement, which carries it down through the hair to the skin. Any kind of oil or grease will kill them by suffocation. A mixture of coal oil and raw linseed oil two parts of the linseed oil to one of coal oil, will kill the lice. Coal oil alone will blister. Tobacco juice is a sure remedy. In any case, a second application two weeks later may be necessary, as the nits may develop into lice.

2. A mixture of raw linseed oil or lard and sulphur, applied warm, will probably remove the scurf, and the cause of it.

3. A soft pad under the back band, or a shifting of it backward or forward, should lessen the trouble. In a two-horse team, bands may be dispensed with if breeching is used.

POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at two cents per word each insertion. Each initial counts for one word, and figures for two words. Names and addresses are counted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisement inserted for less than 30 cents.

BRONZE TURKEYS—Choice large birds for sale. Are tame and free from disease. George Braven, Dunnville, Ontario.

CHOICE WHITE WYANDOTTES and Rose-comb Rhode Island Reds from prizewinning strains. Satisfaction guaranteed. Alex. McTavish, Chesley, Ont.

FOR SALE—Bronze Turkeys and Silver-Gray Dorkings; grand birds. Apply to W. Stewart & Son, Menie, Ontario.

FOR SALE—Large, well-marked Bronze turkeys, bred from imported stock. Prices reasonable. Mrs. W. R. Armstrong, Newmarket, Ontario.

FOR SALE—Collie pups, Scotch and English, from workers, heeled; three dollars until Christmas. Males only. Geo. Belton, Hagersville, Ontario.

AMMOTH BRONZE TURKEYS—Large, vigorous birds for sale. Apply to Roy Hammond, Port Dover, Ontario.

ROSE-COMB BROWN LEGHORNS—Prices reasonable. Write me your wants. W. M. Sproule, Westbrooke, Ontario.

RHODE ISLAND REDS—Choice utility pull-ets for sale, one dollar each; also a few choice cockerels. Graham, 930 Wellington St., London.

S.-C.-B. LEGHORN Cockerels, of fine laying strain. Large, beautiful birds, sure to please. Very cheap at \$1.25. Order now. I. M. McGrath, Strathroy, Ontario.

TWENTY fine large pure-bred Toulouse Geese, \$3.00 each. Trio Rouen Ducks, \$3.00; also Rose-comb Brown Leghorn Cockerels, \$1.00. J. F. Bell, Leamington, Ontario.

WHITE HOLLAND TURKEYS FOR SALE—Toms, \$4. Miss Mary Caldwell, Box 10, Shanty Bay, Ontario.

218 AND 220 EGGS PER HEN in one year. 50 B. P. Rock and White Wyandotte Cockerels, bred direct from these hens. 25 S.-C. White Leghorn Cockerels; grand breeders. Write to-day for illustrated catalogue and prices. It's free. L. R. Guild, Box 16, phone 24, Rockwood, Ontario.

Important Unreserved Bailiff Sale.

J. AS. FOGARTY & CO., BAILIFFS, 103 VICTORIA ST., TORONTO, are instructed to advertise and offer for sale, at prices quoted, the following high-class goods. Everything must be sold regardless of cost, as they have been taken for debt. All goods guaranteed as represented or money refunded. Full amount allowed on all purchases not satisfactory to buyer.

Silver-plated tea sets, four pieces—teapot, sugar bowl, cream jug and spoonholder—last two pieces gold lined, all satin finish, beautifully engraved; retail price \$12. Bailiffs' price only \$6.50, including large tray. Ladies' and gents' solid gold filled watches, including Walthams and Elgins; ladies' hunting or open face, gents' open face only; cases made and guaranteed by American Watch Case Co.; fitted with GENUINE 15-jewel nickel movements, adjusted, non-magnetic, escapement, exposed winding wheels, demasked; worth up to \$16. Bailiffs' price to clear, only \$6.50 each. A great chance to persons requiring a high-class watch at less than half price. Ladies' solid gold birthstone or signet rings, only \$1.10.

\$5.75 buys 26 pieces of all "Rogers" silverware, consisting of 6 silver knives, 6 forks, 6 dessertspoons, 6 teaspoons, one butter knife and sugar shell, Oxford design; worth regularly \$11. Save half on this.

Ladies' solid gold filled lockets or vanity cases, pearl and brilliant settings, hold two photos; round, square or oval, with filled neck chain complete, worth \$7, will accept \$2.25. Ladies' silk blouses, latest styles; lace and insertion trimmings, or Gibson style; half price, only \$1.25; choice black or white.

Best gold filled extension signet top or plain band bracelets; half price or less; clearing \$1.75.

Gents' heavy solid gold signet or birthstone rings, hand engraved, initialed free; regular \$6, will clear \$2.50 each.

Gents' tie pins, 14k, solid gold, set with real pearls, assorted designs, worth regularly \$4. Bailiffs' price, \$2.25 each; a snap.

ALL MAIL ORDERS CAREFULLY AND PROMPTLY FILLED. TERMS CASH with order. Xmas buyers will save over half by buying this week. Exchanges allowed if not suited. Satisfaction guaranteed when buying from us. Bankrupt and seized goods of various kinds always on hand. Prices quoted.

JAS. FOGARTY & CO., TORONTO.

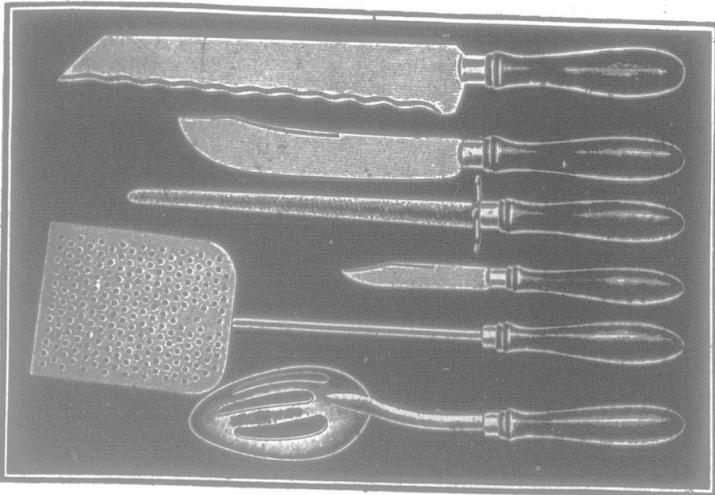
Barred Rock Cockerels CANADA'S BEST

We have for sale ten light to medium colored cockerels at \$2.50 each; ten medium dark colored cockerels at \$3.50 each. Orders filled as received, and only twenty birds at these prices to make room. Satisfaction guaranteed.

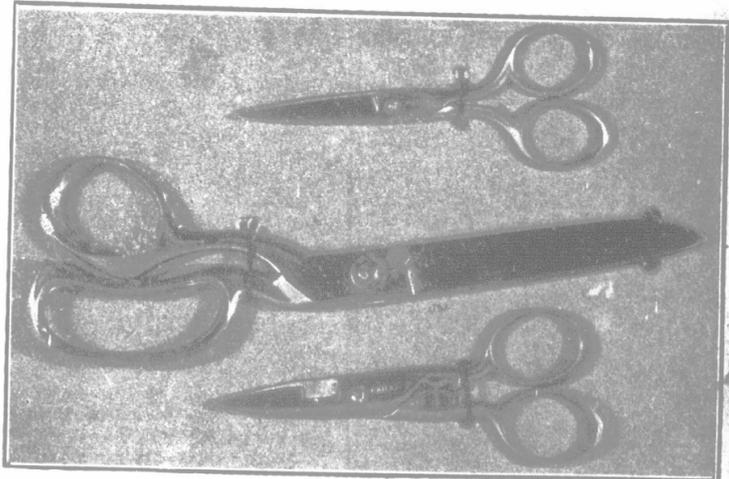
JOHN PRINGLE, - London, Ontario

Suitable Xmas Gifts

Below are described some of the premiums which we are offering this season. You will be highly pleased with any of them you secure. The required number of new yearly subscriptions to "The Farmer's Advocate and Home Magazine" is marked after each.



COMPLETE KITCHEN EQUIPMENT.—A utensil for every purpose. All made of the highest grade of crucible steel. Rubberoid finished, hardwood handles, mounted with nickel-plated ferrules. All six articles for ONE NEW SUBSCRIBER.



SET SCISSORS.—One self-sharpening scissors, one embroidery scissors, one buttonhole scissors. All good quality steel. ONE NEW SUBSCRIBER.

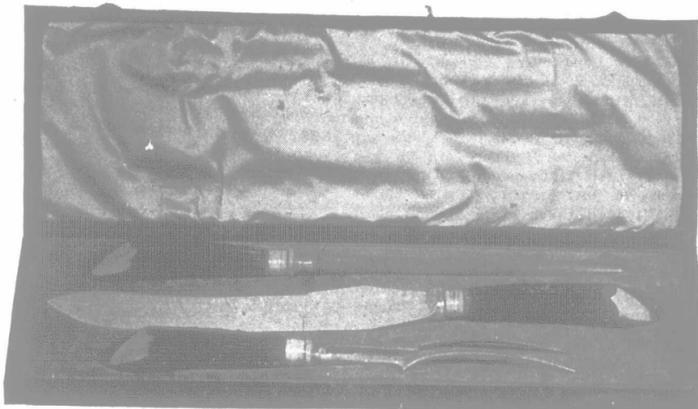
FARMER'S ADVOCATE KNIVES.—Manufactured by Joseph Rodgers, Sheffield, England. Jackknife and Penknife, both nickel-handled and having two blades. Manufactured especially for "The Farmer's Advocate." We expect to receive a shipment of these knives in a few weeks. They are worth, retail, \$1.00 each. ONE NEW SUBSCRIBER FOR EACH KNIFE.

40-PIECE AUSTRIAN CHINA TEA-SET.—Handsome and dainty in shape, coloring and design, ordinarily retailing from \$4.00 to \$6.00, depending on locality. We have only a few sets left, so send your names as soon as possible. FOUR NEW SUBSCRIBERS.

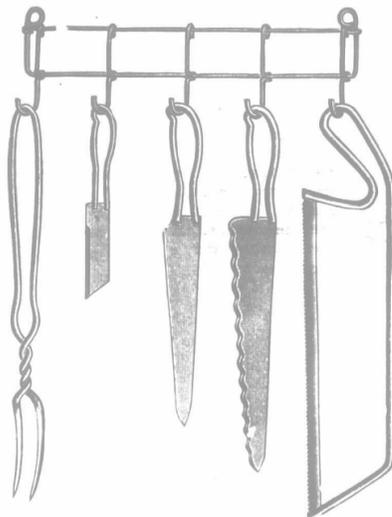
BIBLE.—Old and New Testaments in beautifully clear, legible type; references, concordance to both old and new testaments. Index to names of persons, places and subjects occurring in the Scriptures. Twelve full-page maps; all excellent in type and outline. This book is of most convenient size, being 7 x 10 inches when open; weight, 23 ounces; and would sell at regular retail price from \$1 to \$1.50. ONLY ONE NEW SUBSCRIBER.

"THE VISION OF HIS FACE," by Dora Farncomb, writer of Hope's Quiet Hour in "The Farmer's Advocate," contains 18 chapters, 224 pages, in cloth with gilt lettering. One of the many expressions received regarding it is: "I am pleased, edified and comforted in reading it. It is better, fuller and richer than I expected." Cash price, cloth binding with gilt lettering, 75 cents; handsomer binding, richly decorated with gold, \$1.00. ONLY ONE NEW SUBSCRIBER.

"CARMICHAEL," by Anison North—A Canadian farm story, bound in cloth, illustrated. Buffalo Courier says: "It is far above the ordinary run of fiction." Toronto World says: "Should be in all the homes of the people." Cash, \$1.25, or TWO NEW SUBSCRIBERS.



SET STAGHORN CARVERS.—First quality steel, with staghorn handles and handsome nickel mounting. These carvers will retail from \$3.50 to \$5.00 per set. THREE NEW SUBSCRIBERS.



SANITARY KITCHEN SET.—Best quality steel; five pieces and rack which can be hung on the wall. ONE NEW SUBSCRIBER.

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Send for sample copies and agents outfit to-day.

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RIDLEY COLLEGE

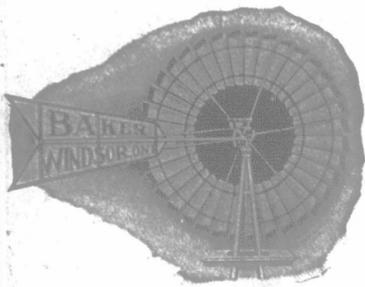
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Three separate residences; new, specially built and equipped. 1. Lower School for Boys under fourteen. 2. Dean's House, for Boys of fourteen and fifteen. 3. Upper School, for advanced Pupils. Gymnasium and Swimming Bath just erected. Fine Hockey Rink. Athletic Fields and Playgrounds unsurpassed. Eighty acres. Mild climate. University Scholarship won in 1909 and 1910. Boys prepared for Agricultural College.

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The "BAKER" Wind Engine is built for heavy duty. Neat and compact in design. Do perfect work because they are built on principles that are absolutely correct, and the easiest-running mill made.



The wheel is built on a hub revolved on a long stationary steel spindle. As a result there is less friction. It has a large number of small sails without rivets. The small sails develop the full power of the wind. The engine is so constructed that the gears cannot wear out of mesh. Has ball-bearing turntable, and self-regulating device. All working parts are covered with a cast shield, thus protecting same from ice and sleet. We make a full line of steel towers, galvanized steel tanks, pumps, etc. All goods fully guaranteed. Write for catalogue No. 58.

THE HELLER-ALLER CO.
Windsor, Ontario.

DAIKYM N'S CONVENTION

The annual convention of the Dairy men's Association of Eastern Ontario will be held in CAMPBELLFORD Wednesday, Thursday and Friday

January 3rd, 4th and 5th, 1912

Some of the greatest authorities on Dairying in America will address the convention.

The public are requested to attend. Special Railway Rates.

HENRY GLE DINANG, President, MANILLA
T. A. THOMPSON, Secretary, ALMATE

QUESTIONS AND ANSWERS.

Miscellaneous.

ONE MILKING A DAY.

Will you kindly tell me, through the columns of your paper, whether or not it is injurious to cows, whose calves are four and five months old, to start milking them just once a day (in the morning)? Does it have a tendency to dry them up?

A. S.

Ans.—We would not advise the milking of such cows any less than twice each day, at regular intervals. Milking cows once a day has a tendency to decrease the milk flow and shorten the lactation period, and should not be practiced until shortly before the cows are to be dried up in preparation for freshening, which should not be until within about two months of that time.

PUBLICATION ON GRASSES.

Inquiries have been received from several readers asking when the proposed publication of the Department of Agriculture, Ottawa, on "Grasses, Clovers, and Other Fodder Plants," is likely to appear. Owing to the amount of colored engraving work required, progress is necessarily slow, and Geo. H. Clark, Seed Commissioner, advises us that probably six months will elapse before the book will be ready for distribution. The text of the first edition is being prepared with a view to make it popular, and adapted to the needs of public-school libraries.

PROPERTY IN LUMBER AND GRAVEL.

1. Last winter I drew forty yards of gravel, intending to put a basement underneath my barn. Now I have disposed of the farm. The purchaser said nothing about the gravel. Can I sell or move it, or does it belong to the farm?

2. I have also a little lumber in the barn. It is just lying loose. Does this belong to the farm?

Ontario. SUBSCRIBER.

Ans.—1 and 2. You are legally entitled to remove both gravel and lumber, provided you do so before the time agreed upon for the purchaser's taking possession of the farm.

HALLOWE'EN PRANK.

Suppose a number of boys went out Halloween night and took off a gate and hid it. After the owner finds who took it (or thinks he does), and it is within $\frac{1}{2}$ mile of his house, who has to take the gate back? Have the boys any right to take it back? Are there any rules for Halloween? SUBSCRIBER.

Ontario.

Ans.—The boys ought certainly to return the gate. But you would find it difficult, if not impossible, to compel such return. Satisfactory evidence might not be forthcoming to fasten the offence upon those suspected. There are no special rules for Halloween. What was done is, in law, as much a trespass as though it had taken place at any other time; and the lads are liable upon conviction to be fined, and imprisoned in default of payment.

CO-OPERATION IN NEW ONTARIO.

I see, by your valuable paper, you are in favor of organized efforts by farmers. I want to suggest a plan to organize in New Ontario which I think would be beneficial to a great many in this district, as funds are very limited with most of us here, and would like to ask your opinion. The thing I have in my mind is: First of all, we need help in the way of horses, and the means to solve this problem to my mind is to club together, say, about ten farmers in a club, and amongst us buy a team of horses and necessary implements for our use, each member to pay a certain amount to a fund, after officers have been elected from the would-be members. I should like to have your opinion as to how much each member should pay, and what rules should be drawn up for, say, ten members, as I think this number would work all right for the first year, as by having this number we could have said teams about three days each per month. The team to have one man as teamster, for the care of same, and to drive them; then each farmer the team is working for, to be on his farm, and another of the members to assist in case of stumps being in the way for plowing, or to help load logs, grain, etc., as the case may be. Could you kindly assist us by some good working rules to work this thing out to a sure success.

SUBSCRIBER.

Ans.—Not having known a case of co-operation in the line suggested, we are not in a position to furnish the desired information. The principal difficulty we should anticipate would be that of agreement as to date when members should have use of team, but rules could doubtless be agreed upon which might work out fairly well. We shall be glad to hear from anyone who has had experience in this line, or to receive suggestions that may be helpful to our correspondent.

ASH FOR SILO.

Would white or black ash be all right for a silo? P. S.

Ans.—We would not advise the use of ash for silo construction. Better sell the ash lumber and buy pine or hemlock.

TENANT TAKING MANURE.

If a man who has a place rented draws much of his feed onto the place, can he draw manure off the place when he leaves, providing he has no written lease authorizing him to do so? The place produces part of the feed, and the man has rented another place and is moving. If he can draw any manure, how much can he draw? A SUBSCRIBER.

Ontario.

Ans.—He is not legally entitled to do so.

DRAINAGE.

May I ask you for information regarding a drain my neighbor put in my farm for an outlet to drain his farm, this being the natural water course?

A drains his farm into B's, and leaves mouth of drain where it gullies B's field. Can B make A continue drain twenty rods farther into a creek, where A's surplus water will be no detriment to B? SUBSCRIBER.

Ontario.

Ans.—We think so. If B cannot arrange a suitable agreement with A, he ought to call upon the Township Engineer, pursuant to the provisions of the Ditches and Water-courses Act.

STANCHIONS.

I purchased some cattle stanchions this fall. The agent guaranteed that no cow could open them; but I find two or three cows loose every morning. I have not paid for them yet, and I don't think I should till they are made to hold the cattle. Can I be compelled to pay for them? W. J. S.

Ontario.

Ans.—You ought to tender a return of them; and, then, if same refused, and you are sued for the price, set up a counter-claim for damages for breach of guaranty. You should be able to resist the action successfully in that way.

NON-SUPPORT OF WIFE.

A sold his farm to B. A's wife signed off her rights. A will not support his wife, C.

1. Can A be made support his wife, C?

2. How much can C take from A for support?

Ontario.

Ans.—1. Yes. C may either employ a solicitor to obtain some suitable arrangement for her support, with instructions to take legal proceedings, if necessary, against A, for the purpose; or she may go to a magistrate direct and lay an information charging A with non-support.

SHEEP DIES.

I appreciate your valuable paper very much, and get a wonderful lot of good information from it. I bought a flock of sheep a couple of months ago, and as I've had no experience with sheep I'm at a loss to know how to make the best of them. They have been on fall wheat for a while, and have got nice and fat. Now they graze in a small field, poor picking, so I feed them a few pulp turnips and a handful each of mixed chop, one-third oats, two-thirds barley, twice a day. I noticed one standing around somewhat dumpish, and inside of two hours she was dead. Could you tell me what ailed her? Was it the feed? I thought it might have been the chopped barley.

A. H. L.

Ans.—It is difficult to state what ailed the sheep. Eating too much of the wheat or frozen grass may have been instrumental in hastening death. It is not likely that the barley chop killed her, although a larger proportion of oats would make better sheep feed. A handful each ewe is a very light grain ration. The sheep will by this time be on dry feed exclusively. A few pulped turnips, good clover hay and a light grain ration, consisting largely of oats, should prove satisfactory. Give plenty of exercise, and do not house too closely. Allow them to be out in the yard every fine day. Keep their pens well ventilated and dry.

Veterinary.

EMPHYSEMA.

Heifer is bloated a little on one side. When rubbed, the tissues crack, and the swelling can be rubbed to one place, and it feels like wind. R. K.

Ans.—This is called emphysema. The skin has been cut, or punctured, and a little air has gained entrance to the areolar tissue. In most cases it becomes absorbed without treatment, but in some cases it is necessary to make a small incision through the skin and press the air out of it. Treat the wound by dressing three times daily until healed with a five-per-cent. solution of carbolic acid. V.

INDIGESTION.

Horse is subject to indigestion. When the attacks come on, he stands and paws, lies down and rolls, etc., etc. I have been feeding four or five carrots three times daily. He will not eat bran or oil meal. G. McC.

Ans.—Purge him with 8 drams aloes and 2 drams ginger. Feed on bran only for 24 hours after giving the dose. If he will not eat the bran, let him go hungry. When the bowels become normal again, give a tablespoonful of the following three times daily, viz.: Equal parts of sulphate of iron, gentian, and nux vomica. Feed moderately on good hay, rolled oats, and a few carrots once daily. Give regular exercise. V.

INJURY TO BULL.

Jersey bull two years old had his penis injured nine weeks ago. We syringed him with warm carbolic lotion and applied an oil. Urination causes pain, and the treatment does not relieve it. His appetite is poor, and he is losing flesh. McD.

Ans.—In addition to the local treatment you are giving, all that can be done is to apply heat to the sheath, either by applying hot poultices or bathing long and often with hot water. To improve appetite and general condition, give a dessertspoonful of the following three times daily, viz.: Equal parts of sulphate of iron, gentian, ginger and nux vomica. V.

The Nova Scotia Agricultural College.

Preparations are being made at the Nova Scotia Agricultural College, Truro, for their Short Courses, to be held from January 2nd to 12th next. The marked increase in the attendance at the regular course this year, amounting to 50 per cent. over the previous year, leads the faculty to expect a record attendance at the Short Course. Last year over 300 farmers and farmers' sons, of all ages, from 16 to over 70, from all parts of the Maritime Provinces, attended the course, and a larger number is looked for in January next. In addition to the features which have made the previous courses so valuable and popular, including Animal Husbandry, Soil Cultivation, Horticulture, Dairying, Poultry, Veterinary Science, etc., there is being added, this year, a course of instruction in Power Engines, more especially gasoline engines. General instruction will be given to the class as a whole, and the instructor will be available during all the days of the course to give private instruction to those most interested. This course will be particularly valuable to men from the fruit sections, who are now using power sprayers, and must become skilled in the running of engines. At the same time as the Men's Short Course, a Short Course for Ladies will be conducted in such subjects as Dairying, Poultry, Horticulture, Domestic Science. This has proved a very popular Course, and should attract a large attendance. Tuition for these courses is FREE to all students from the Maritime Provinces. Railways grant SINGLE-FARE RATES. Write to Principal Cumming, Truro, for circular giving full details.

The smallest horse in the world is claimed to be the Shetland pony, Trinket, which was shown in the toy department of a New York store during the recent horse show week. Trinket is eight months old, weighs 40 pounds, and stands 22 inches high. It is reported that her owner refused \$3,000 for her.

A Christmas Suggestion

Six Pairs of Soft, Fine, Stylish Holeproof Hose—Six Months' Wear Guaranteed

Here are six beautiful pairs of hose with a guarantee ticket and six return coupons enclosed.

You have never seen finer hosiery, such excellent colors or such wonderful grades. "Holeproof" in twelve years has become the most popular hosiery. A million people are wearing it now.

Give a box to man, woman or child for Christmas. They'll be delighted and so will the one who usually darns in that family.

Our Soft Three-Ply Yarn

We pay an average of seventy cents a pound for Egyptian and Sea Island cotton yarn. It is three-ply, soft and yielding. There's nothing about it that's heavy or cumbersome. No one in the United States ever wears anything else, once it is tried.

Carl Fraschl, Pres.

If your dealer doesn't sell "Holeproof," we'll fill your order direct. Look on each pair for above signature. It identifies the genuine. There are scores of poor imitations.

FAMOUS Holeproof Hosiery FOR MEN WOMEN AND CHILDREN

How to Order

Choose your color, grade and size from the list below and state clearly just what you wish. One size and one grade in each box. Colors only may be assorted as desired. Six pairs are guaranteed six months, except when stated otherwise.

Men's Socks—Sizes 9½ to 12. Colors: black, light tan, dark tan, pearl, navy blue, gun metal, mulberry. In light weight, 6 pairs \$1.50 (same in medium weight in above colors and in black with white feet, 6 pairs \$1.50). Light and extra light weight (uncoiled), 6 pairs \$2.00. Light and extra light

weight LUSTRE SOX, 6 pairs \$3.00. Pure thread-silk sock, 3 pairs (guaranteed three months) \$2.00. Medium worsted merino in black, tan, pearl, navy and natural, 6 pairs \$2.00. Same in finer grade, 6 pairs \$3.00.

Women's—Sizes 8½ to 11. Colors: black, light tan, dark tan, pearl, and black with white feet. Medium weight, 6 pairs \$2.00. Same colors (except black with white feet) in light weight LUSTRE HOSE, 6 pairs \$3.00. Light weights in black, tan and gun metal, 6 pairs \$2.00. Same in extra light weight LUSTRE HOSE, 6 pairs \$3.00. Same in pure thread-silk, \$3.00 for 3 pairs (guaranteed three months). Outsize in black, medium weight, 6 pairs \$2.00, and in extra light weight LUSTRE HOSE, 6 pairs \$3.00.

Children's—Sizes 6½ to 10½ for boys, 5 to 9½ for girls. Colors: black and tan. Medium weight, 6 pairs \$2.00.

Infants' Sox—Colors: tan, baby blue, white and pink. Sizes 4 to 7. Four pairs (guaranteed six months) \$1.00. Ribbed-leg stockings, in same colors and black, sizes 4 to 6½, 4 pairs (guaranteed six months) \$1.00. Send in your order now. Write for free book, "How to Make Your Feet Happy."

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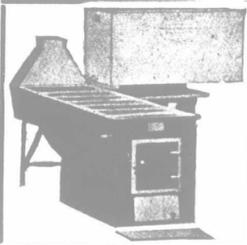
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It makes reading or fine sewing delightfully easy. It enables one to follow the music score in any part of the room. It shows up the true values of the colors in pictures, wall-paper, carpets and furniture, as well as in pretty clothes, bright cheeks and flashing eyes.

The barns, too, can easily be delighted with Acetylene, and the "chores" robbed of much of their drudgery.

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Perfect Maple Evaporator

Price low—quality high—product the best possible—the kind you like syrup—it retains its maple taste—all unnecessary expense and middlemen's profits cut out. Sold at a price the poorest man can buy. Every one guaranteed. Write for pamphlets and recommends. Do it now.

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GOSSIP.

SOME TOPPERS IN CLYDESDALES AND SHIRES.

T. L. Mercer, of Markdale, Ont., is the latest arrival from Scotland with his 1911 importation of Clydesdale stallions, mares and fillies, Shire stallions and fillies, and Welsh ponies. The high-class character of Mr. Mercer's many past importations, and the high standing awarded them in competition with the best at the leading shows, from Toronto on the east, to Vancouver on the west, is well known to all interested in draft horses in this Dominion. It has been the privilege of the writer to make a careful inspection of all the former importations made by Mr. Mercer, as well as this latest one, and we have no hesitation in saying that never before did he bring over so much big draft character, so much style in their tops, so much bone in their underpinning, and of so nice a quality, nor so much of the best blood of the breed. Earl of Brackley is a brown six-year-old, over a ton in weight, ideal in character and quality, a big, handsome horse, that is breeding remarkably well. Few better horses have ever landed in this country. Sired by the noted prizewinner, Blackband, one of the best known sons of the great Prince Thomas, dam by Flashnot, he by the great show horse, Topknot. Baron Chaloch is a brown seven-year-old of grand style and quality, and a sensational mover. His record as a show horse is one continuous win, never being beaten. His record as a sire is equally good, his colts winning wherever shown, sired by the great Baron's Pride, dam by the noted Dumfries champion, Ornament, granddam by the famous Mains of Airies. Lifeguard is a brown four-year-old, a big, high-class horse of style and quality that will be a winner in any section, sired by that splendid breeding son of the famous Hiawatha, Montrave Watchman, dam by King Crawford, granddam by May Duke. Aeroplane is a brown three-year-old that will easily reach the ton in weight, drafty in character, strong, clean, flat bone, a big, high-class colt, sired by Golden Pride, by Baron's Pride, dam by the Glasgow and Royal first-prize horse, Prince Robert. Another big three-year-old that will make a ton horse of superb character, style and quality, is the bay, The Viceroy, by the Glasgow champion, Casabianca, dam by the noted prizewinner, Royal Alexander, granddam by the H. & A. S. champion, McCamon. Another coming ton horse is the brown three-year-old, Baronet, by the Highland and Royal first-prize winner, Prince Shapely, dam by the Glasgow and Royal first-prize winner, Prince Robert. In younger ones there are three two-year-olds and one yearling, sired by such renowned horses as Baron's Pride, (this one's dam is by Macgregor), and the champion sire, Baron of Buchlyvie, dam by the great Montrave Mac. The other two-year-old is by New Blend, and dam by Stately City. One of the best brood mares in Canada to-day is the brown ten-year-old, Lady Moray, by the renowned Royal Favorite. She is up to a big size, with right choice quality, has bred several choice and high-priced animals, and has now at foot a filly foal by Royal Review, that is certainly the best we have ever seen, and will surely make a champion. Other fillies are Rosie, a black two-year-old, by Fickle Prince. And three yearling Shire fillies are an exceptionally nice lot that will be a decided acquisition to the Shire breeding mares of this country. In Welsh ponies there are four two-year-old fillies and one bay stallion. The fillies are a smooth, nice lot. The stallion is a topper, one of the best that ever left the old land. All are for sale. In Short-horns, Mr. Mercer is offering about a dozen yearling heifers, daughters of his rich bred stock bull, Broadhooks Golden Fame (Imp.), and on tribal lines they represent the Missies, Clarets, Stamfords and Veroneses. These heifers are good buying at the prices asked. They are a straight, nice fleshed lot. Owing to so many of his daughters being of breeding age, the stock bull is also for sale or exchange. He is a roan eight-year-old, a Broadhooks, with a pedigree as choice as any in the Herdbook. He is active, safe, and sure. There are also for sale on this noted stock farm, about a dozen

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Will wash handkerchiefs, collars and cuffs, and all small articles, just as easily as the larger pieces, and wash a big tubful of dirty clothes in 5 to 6 minutes.

You will be surprised to see how clean and white the clothes will be—no more rubbing on the wash board, no more hard work.

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is rich in food value and easy to digest. It is just Cocoa—pure Cocoa—ground from the choicest cocoa beans.

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TRAPPERS WE BUY FOR CASH

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NOT AN OLD ONE.
Old-time Scottish ministers had no scruples about preaching the same sermon twice—or more—to the same congregation. Dean Ramsey has a story of a beadle who contrived to give a sly hit at a minister guilty of this practice. As they were leaving the church the minister observed that the beadle had been laughing as though he had triumphed over some of the parishioners with whom he had conversed. He asked the cause. "They were saying," was the reply, "ye had preached an auld sermon to-day, but I tackled them, for I tauld them it was no an auld sermon, for the minister had preached it no sax months syne."

THE BEST WAY TO KEEP THE HANDS CLEAN.

Women have to do dirty work on the farm as well as the men. Cleaning lamps, blacking stoves, paring potatoes, scrubbing floors and milking, are all hard on the hands.
The thousands who are using SNAP find it exactly what women need, and would not be without a can.
It is a wonderful hand cleaner, instantly removes dirt, stains and odor without much rubbing, and keeps the hands smooth and free of chaps. It is healing and antiseptic. 15c. a can. 111



In the New Home

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The Perfection is the best and most reliable heater made. It is a sort of portable fireplace.

It is ready night and day. Just strike a match and light the wick. The Perfection is all aglow in a minute.

The Perfection Oil Heater does not smell nor smoke—a patent automatic device prevents that. It can be carried easily from room to room and is equally suitable for any room in the house. Handsomely finished, with nickel trimmings; drums of either turquoise-blue enamel or plain steel.



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the **TIME SAVING**
METHOD
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Adapted to any style of barn.
WOOD OR STEEL CARS
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The only complete Carrier line on the Market.
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Yorkshire sows, all safe in pig, and about twenty shearing Shropshire rams. Write Mr. Mercer your wants in Clydesdales, Shires, Southdowns, Yorkshires or Shropshires; also Welsh ponies.

COMING EVENTS.

Toronto Fat-stock Show, Union Stockyards, Dec. 11-12.

Ontario Provincial Winter Fair and Poultry Show, Guelph, Dec. 11-15.

Eastern Ontario Dairymen's Convention, Campbellford, Jan. 3-5, 1912.

Western Ontario Dairymen's Convention, Ingersoll, Jan. 10-11, 1912.

Eastern Ontario Live-stock Show, Ottawa, Jan. 16-19, 1912.

Dominion Shorthorn Breeders' Association annual meeting, Toronto, Feb. 6th, 1912.

Richard Honey & Sons, Minster Farm, Brickley, Ont., who are ordering a change in their advertisement of Holsteins, write 'The young bulls we are offering are a very choice lot, weighing up to 700 lbs. at eight months of age, out of R.-O.-P. cows, daughters of R.-O.-P. cows, and others with large private records, and sired by Lakeview Burke Fayne, whose dam, and sire's dam, average 23.14 lbs. butter in seven days. His sire has six sisters that average 31.05 lbs. butter in seven days. We can also spare a few young cows and heifers, also an aged cow, due to freshen in February, all in calf to the above-mentioned sire. In Yorkshires, we have some extra choice young boars and sows, three months old. If interested, write for extended pedigrees of cattle.

QUESTIONS AND ANSWERS.
Veterinary.

RESULT OF WOUND.

Horse was kicked on the leg six weeks ago. The wound has healed, but a hard lump remains, and he limps when he trots. G. S.

Ans.—A kick upon the bone of a leg is usually followed by a chronic enlargement of the covering of the bone, which is very hard to remove. Get a liniment made of 4 drams each of iodine and iodide of potassium, and 4 ounces each of alcohol and glycerine. Rub a little of this in well once daily, and have patience. V.

MALLANDERS.

Horse has a sore behind the knee. It discharges a watery fluid and will not heal. I have bathed with hot water and carbolic acid, and dusted on sulphur without results. A. M. S.

Ans.—This is called mallanders, and on account of the flexion of the knee, is very hard to heal unless the animal can be kept very quiet. Discontinue washing it. Get a lotion made of 1 ounce each of sulphate of zinc and acetate of lead, mixed with a pint of water. Also, get some oxide of zinc ointment. Dress three times daily with the lotion, when he is standing idle, and when about to exercise him, dress with the ointment. If the lotion dries it up too quickly and there is danger of it cracking, open again, and use the ointment to soften the parts even when standing. V.

PUS IN MILK, ETC.

1. I have three pregnant cows. In September, without known cause, they commenced to give pus in their milk. I allowed them to go dry, but there is still pus in their udders.

2. Two-year-old driving colt is frequently troubled with a semi-diarrhea. She is fed on oat chop, bran, hay, and a turnip frequently. E. G. K.

Ans.—Three cows, similarly affected, indicates an infectious form of suppurative mammitis. It will be wise to draw the pus out of the teats once daily until it ceases to form, and it is probable the milk will be all right after calving. Filling the udder occasionally (say once weekly) with oxygen, as per treatment for milk fever, will have a tendency to check the formation of pus. A tank of oxygen and a special apparatus will be necessary for this purpose. These can be procured from dealers in veterinary instruments, or wholesale druggists.

2. Feed whole oats and cease giving turnips, and it is probable the fault will disappear. When a year or two older, the tendency will likely disappear. V.

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SENT ON TRIAL, FULLY GUARANTEED. A new, well made, easy running separator for \$15.95. Skims hot or cold milk; heavy or light cream. Different from this picture, which illustrates our large capacity machines. The bowl is a sanitary marvel, easily cleaned. Shipments made promptly from ST. JOHN, N. B. and TORONTO, ONT. Whether dairy is large or small, obtain our handsome free catalogue. Address:
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Price - \$1.00
Send name and address for my catalogue.
MARTINIUS DYSTHE
Winnipeg, Canada

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Clydesdale stallion, three years old. Will make close to a ton. Apply to:
G. Treleaven, Cambray P. O., Ontario.

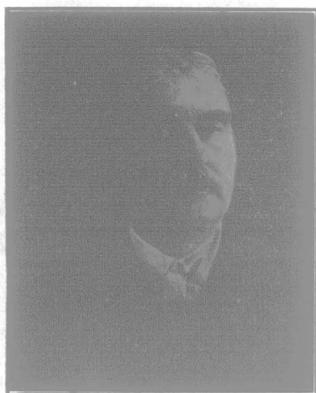
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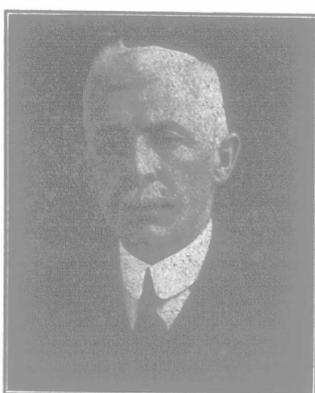
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My importation for November, 1911, are nearly all two or three-year-olds. They are ideal in draft character, with faultless quality of underpinning. They represent the best blood of the breed, being descendants of such horses as Baron's Pride, Hiawatha, Marcellus, Hiawatha Godolphin, etc. They will be priced right and on terms to suit. Farm two miles from end of street car line. Long-distance phone. Call me up and I will meet you in Guelph.

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CHAMPION CLYDESDALES FOR SALE
I am now offering for sale the renowned champion stallions, Baron Gartley Imp. [4789], a bay, 11 years old, and President Roosevelt Imp. [7759], a bay, 9 years old. They are both champions and sires of prizewinners. They will be priced right.

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Full line of prizewinning stallions and mares always on hand.
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BIG QUALITY CLYDESDALES
We have them on hand imported this year. Stallions and Fillies, many of them winners, the best blood of the breed, with size, character and quality. There are none better and no firm can sell cheaper.

R. NESS & SON, Howick, Que.

BEST RESULTS ARE OBTAINED FROM ADVOCATE ADVERTISEMENTS.

QUESTIONS AND ANSWERS.
Miscellaneous.

BUTTER STREAKED.

1. What is the cause of butter being streaked?
2. Is saltless butter streaked?

SUBSCRIBER.

Ans.—1. Streaks in butter are caused by the presence of buttermilk or an uneven distribution of salt. An insufficient amount of working is often the cause. Washing in too cold water may cause the butter to be mottled. Too warm or over-ripe cream may cause white streaks.

2. Saltless butter might be streaked owing to causes mentioned in the answer to question 1.

ARSENIC.

Please let me know how to mix Fowler's Solution of Arsenic. How much arsenic to a quart? If there is anything but water in it. Would it do to give it to a mare in foal whose legs stock badly? C. C.

Ans.—Fowler's Solution of Arsenic is purchased already made up by the druggist. It is known as Liquor arsenicalis, and every ounce of the solution contains four grains of arsenic, or 1 to 120. The less medicine an in-foal mare gets the better. Give her regular exercise, and feed lightly on grain, giving considerable bran. Would not advise giving arsenic for stock legs. The treatment usually given is a purgative of 8 drams aloes and 2 drams ginger, followed up by 1 dram of potassium iodide three times a day. Hand-rub the legs. The purgative and potassium iodide are unsafe for pregnant mares.

THOROUGHPIN.

Have a pair of heavy draft colts, full brothers, rising three and four years; am working the four-year-old. Last spring, puffs started on his hind legs on the outside of the leg, just at the hock joint. Some said they were thoroughpins, others said not, as they did not work back and forth through under the cord, but that they were puffs on the cords and would disappear later. I find they are starting on the three-year-old. Will you advise what they are, the cause, and treatment? E. B.

Ans.—The colts are likely inclined to be a little beefy-legged, especially around the hocks. The swelling may be thoroughpin, and may have been caused by slipping, but the trouble is more likely to result when the horses are naturally coarse-limbed. Get a blister made of 1½ drams each of biniodide of mercury and cantharides mixed with 2 ounces vaseline. Clip the hair off the parts. Tie so that the horse cannot bite them. Rub well with the blister once a day for two days; on the third day apply sweet oil. Turn loose in a box stall and oil every day. As soon as the scale comes off, tie up and blister again until the swelling disappears.

CORN FOR SILO—KILLING PIGS.

1. Kindly inform me how much corn it will take to fill a silo 12 x 24 feet, when tramped to the level full, the corn to be White Cap Yellow Dent, planted three feet apart each way, so that it could be sculled both ways, five stalks to be left in a hill?

2. Does it pay a farmer to kill and dress pigs at about 200 lbs. live weight, or 150 lbs. dressed, at current prices in Toronto? C. W. J. C.

Ans.—1. A silo 12 feet in diameter and 27 feet high, if filled, allowed to settle, and refilled, would hold 60 to 65 tons of silage, which, on an average, would grow on about five acres.

2. Provided the cost of delivering the pigs, either live or dressed, is the same, at prices quoted on Nov. 30th, it would pay a trifle better to dress the pigs. The live weight price quoted was \$6.35 per cwt., and the dressed \$8.50 to \$9. Fat pigs dress about 80 to 83 per cent. of their live weight. Allowing for your time, labor, and fuel, there would still be a little gain in killing when the value of the lard, etc., was reckoned. If the pig weighed 200 lbs. alive, and only 150 lbs. dressed, it would not pay to kill him. Of course, in butchering, much depends upon the rush of other work as to whether or not it pays.

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Because they are made to last a lifetime.

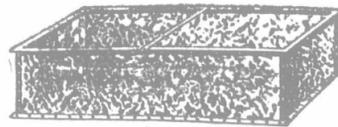


Fig. 3

May cost a little more at first—but they last, so are the cheapest in the long run.

Made of the very best American galvanized steel—every rivet galvanized, every joint soldered. No leaks, no rust, no bulge, no strain. If that's the kind YOU want, write for our free catalogue.

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For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hock, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle, and to remove all unnatural enlargements.



This preparation (unlike others, acts by absorbing rather than blistering). This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by **Dr. Frederick A. Page & Son, 7 and 9 Yorkshire Road, London, E. C.** Mailed to any address upon receipt of price, \$1.00. Canadian agents:

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SOME TALKER.

"Your wife is a brilliant talker. could listen to her all night!"
"Gee! I have to!!"

NOTHING LIKE THEM FOR A SORE BACK

Dodd's Kidney Pills still doing great work

Mrs. T. G. Alexander, of Hawthorne, after twelve years' suffering, tells the public what they are doing for her.

Hawthorne, Ont., Dec. 11.—(Special.)—"There is nothing like Dodd's Kidney Pills for a sore back." That is the statement of Mrs. T. G. Alexander of this place, and all her neighbors agree that she should know. "I suffered for twelve years from a pain in my back, Rheumatism and Heart Disease," Mrs. Alexander continues. "I was always tired and nervous, and my sleep was broken and unrefreshing. Since taking Dodd's Kidney Pills I am feeling so much better that I feel I must say a good word for them."

No matter how long you have suffered, Dodd's Kidney Pills cannot fail to help you if your trouble is of the Kidneys. If you use Dodd's Kidney Pills early, the cure will be quick. If your trouble is of long standing, it will take them longer to cure you. But they always cure. People from all parts of Canada who have been cured, are telling about them in the newspapers almost every day.

IMPORTED
Clydesdales of Quality



I have now on hand a stock of
Clydesdale Stallions and Fillies,
Percheron Stallions, Shire
Stallions, Standard-
bred Stallions, etc.

Totalling over 90 head. I have more size,
more quality, more style and better breeding
than was ever seen in any one barn in Canada
before. If you want a big, ton stallion, or a
high-class show stallion, or a big, well-bred quality filly, let me hear from you.

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UNION STOCK YARDS,
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every Monday and Wednesday. Horses and Harness
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A full stock of CLYDESDALES, imported and home-bred, always on hand,
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Four years old, by Benedict. He is a beauty and sure foal getter,
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If you want a Clydesdale or Shire stallion or filly, or a Welsh pony,
let me hear from you. I have the best blood of the breed. Horses
over a ton in weight. Colts that will grow to the ton and over,
with tautless characters, style and quality. I will not be under-
sold, and your terms are my terms.
T. L. MERCER, Markdale P.O. and Sta. L.-D. 'phone.

OFF FOR MORE CLYDESDALES!
We wish to announce to all interested in the best Clydesdales that about Oct. 1st we sail for
Scotland for our 1911 importation. If you want a show stallion or filly, watch for our return.
BARBER BROS, Gatinau Pt., Quebec.

ROSEDALE STOCK FARM HAS FOR SALE
Imported and Canadian-bred CLYDESDALE and SHIRE HORSES, PONIES, SHORTHORN
CATTLE and LEICESTER SHEEP. A choice importation of the above animals was personally
selected in June. For further particulars write:
J. M. GARDHOUSE, WESTON P. O., ONT.
8 miles from Toronto by G. T. R., C. P. R. and electric railway, and long-distance telephone.

Clydesdales, Stallions and Fillies, Percheron Stallions
My 1911 importation have arrived—20 Clyde stallions, 18 Clyde fillies, 6 Percheron stallions.
I have many winners at Old Country shows. Big, choice, quality stallions and mares,
bred from the champions, and the best Percherons in Canada. Prices right.
Long-distance 'phone. **T. D. ELLIOTT, Bolton, Ont.**

Shire Stallions and Mares, Shorthorn Cattle (both sexes); also Hampshire Swine. Prices reasonable.
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Bay View Imp. Clydesdales We have got them home, 11 fillies and 7 stallions, show horses bred in the purple, big in size, and quality all over. If you want something above the average come and see us. Prices and terms the best in Canada.
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I have Clydesdale stallions and fillies for sale, every one of them strictly high-class in type, quality and breeding; stallions over a ton and very fleshy; fillies of superb form and quality. If you want the best in Canada, come and see me.
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CLYDESDALES (Imported) CLYDESDALES
SPRING HILL Top Notchers. Stallions, mares and fillies. 65 per cent. guarantee with stallions. Every mare guaranteed in foal. Ages, 3 years old and upwards.
J. & J. SEMPLE, Milverton, Ontario, and La Verne, Minnesota.

Mount Victoria Stock Farm, Hudson Heights, P. Q.
We have for service this season the Champion Imp. Clydesdale stallions Netherlea, by Pride of Blacon, dam by Sir Everard; a so Lord Aberdeen, by Netherlea, and the Champion Hackney stallion Terrington Lucifer, by Copper King. For terms and rates apply to the manager.
T. B. MACAULAY, Prop. ED. WATSON, Manager.

QUESTIONS AND ANSWERS. Veterinary.

PARALYSIS IN DOG.
English setter has lost power of her hind legs. She has been this way for about four weeks. She eats well, and appears healthy in other ways.
W. H. M.
Ans.—This is paralysis, and it is very doubtful whether she will recover. Purge her with 4 drams jalap and 5 grains calomel. Follow up with a tablet containing one-twentieth grain strychnine three times daily. If this causes well-marked twitching of the muscles, reduce the dose to one-thirtieth grain. Feed on bread and milk, potatoes and gravy, etc. Give very little meat.

Miscellaneous.

DEHORNERS.
Please inform me, through the columns of your valuable paper, where I may secure repairs for the Keystone Horn-clipper (cattle clipper)?
W. J.

Ans.—Write R. H. McKenna, 219 Robert street, Toronto, mentioning "The Farmer's Advocate."

POULTRY FEED HOPPER.
I would like to try hopper feeding for my hens, and have searched back numbers of "The Farmer's Advocate" for a description of one, but failed to find anything in that line, so am writing this to ask if you would give dimensions, etc., for making one. We have about 70 pullets. Our chicken-house has an earthen floor, and the litter gets damp in less than a day, so thought we would try all grain fed in a hopper. Thanking you in advance.
E. M. A.

Ans.—On page 595, of the April 6th, 1911, issue of "The Farmer's Advocate," there was illustrated a poultry feed hopper for outdoor feeding. The exact dimensions and amount of all materials required in the making were given. This hopper is quite suitable for inside feeding as well, provided you have a large pen and a large flock. In case you have lost the issue containing this illustration, you can get a bulletin entitled "Farm Poultry," by Prof. W. R. Graham, of the O. A. C., which contains this and other very valuable information.

COWS FAIL TO CONCEIVE—POTATOES ROT.

1. All the cows in this neighborhood, with the exception of a few, failed to conceive this season. The bull, a Short-horn, feeding well, was kept tied in the stable all the season. This was his first year's service. Would you advise keeping this animal for the same purpose next summer, if he was given plenty of exercise, for instance, loose in a pen, and more liberal feeding?
2. A considerable quantity of seed potatoes rotted in the ground last spring. Nearly all of these were planted in drills, directly on the manure, the drills having been made several days before planting. Where the potatoes were plowed in under the manure, very few missed. It appears planting under a hot sun favors development of rot. What might have been the cause of the potatoes rotting? Please state a good way of planting potatoes.
N. S.

Ans.—1. The bull may possibly have been overworked. Lack of exercise and proper feed may also have had something to do with the cows not conceiving. If he is of valuable breeding, he could be kept for another season and given a change of feeding and abundance of exercise. If of no particular breeding value, he might be fattened off and another procured to take his place. If kept, and he does not get the cows with calf after careful treatment, dispose of him.
2. The ground may have become very dry, and the hot sun may have killed the sprouts or eyes of the potatoes, after which they would rot. Good results have been obtained by dropping the potatoes in furrows and plowing them down about four to five inches deep. Drop the cuts about 1 foot to 18 inches apart. Planted in this manner, and at this depth, they require no hilling. Planting in hills, and also in drills, has also given good results.

Horse Owners! Use GOMBAULT'S Caustic Balsam
A Safe, Speedy, and Positive Cure
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. SUPERSEDES ALL CAUSTIC OR FIRING. Impossible to produce scur or Blemish.
Every bottle sold 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 descriptive circulars.
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Any person, however inexperienced, can readily cure either disease with Fleming's
Fleming's Fistula and Poll Evil Cure
—even bad old cases that skilled doctors have abandoned. Easy and simple; no cutting; just a little attention every five days—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sound and amplex. All particulars given in Fleming's Vest-Pocket Veterinary Adviser.
Write us for a free copy. Ninety-six pages, covering more than a hundred veterinary subjects. Durably bound, indexed and illustrated.
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SAVE-THE-HORSE
SAVE-THE-HORSE BOOK is an encyclopedic of practical and complete references. It is the latest, most reliable and highest authority. It is scientific but not technical. Takes in every scope and character of diseases causing lameness.
Tobias, Neb., June 4th, 1911.
Troy Chemical Co., Binghamton, N. Y.—A year and a half ago I had a bottle of your spavin remedy. I cured my horse with it and then gave what I had left of it to a friend who had a mule with a spavin, which veterinarians had failed to cure. My friend today says, "It's certainly a sure cure." Paid \$5.00 for another bottle.
Very truly,
TASO. RHOADS.

When discriminating, cautious, hard-headed bankers, farmers and business men write for information and then select "Save-the-Horse" from the mass of remedies presented, and these are the kind of men our testimonials are from, in there need to ask why?
EXPERT ADVICE FREE Describe case. We'll advise frankly and clearly what to do.
\$5 a bottle, with a contract to absolutely and permanently cure Bone and Bag Spavin, Thoroughbred, English (except low), Curb, Splint, Capped Neck, Windgal, Shoe Rot, Injured Tendons and all lamenesses or related the money, No scap or loss of hair. Horse works as usual.
\$5 at all Druggists or Dealers and Express Paid.

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Live Stock of all Descriptions.
Horses a specialty. We buy from the breeder in Europe, and ship direct to our clients, who thus obtain what they require very much cheaper than they can do any other way.

Our Mr. Hickman will be at the International, Chicago, and can be found at the La Salle Hotel, or on the show ground, upon enquiry at the sheep exhibit. He will also be at the mid-winter fair, Guelph, Ont., and can be found at the Wellington Hotel, or on the show ground, upon enquiry at the secretary's office.

All those who are ever likely to want imported stock, should take this opportunity to interview Mr. Hickman, as it may mean a saving of thousands of dollars in the future.

ABSORBINE STOPS LAMENESS
from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone or similar trouble and gets horse going sound. Does not blister or remove the hair and horse can be worked. Pure if in pamphlet with each bottle tells how. \$1.00 a bottle delivered. Horse Book 9 E free.
ABSORBINE, J. R., liniment for man-kind. Removes Painful Swellings, Enlarged Glands, Gout, Wens, Bruises, Varicose Veins, Varicosities, Old Sores. Always Pain. Will tell you more if you write. \$1 and \$2 a bottle at dealers or delivered. Manufactured only by **W. F. YOUNG, P.D.F., 258 Lyman Bldg., Montreal, Ca.**



Lump Rock Salt, \$8.00 for ton lots, f.o.b., Toronto
Toronto Salt Works, 128 Adelaide St. E., G. J. CLIFF, MANAGER. Toronto, Ont.

MENTION "FARMER'S ADVOCATE."

Ring-Bone



There is no case so old or bad that we will not guarantee

Fleming's Spavin and Ringbone Paste to remove the lameness and make the horse go sound. Money refunded if it ever fails. Easy to use and one to three 45-minute applications cure. Works just as well on Spavin and Bone Spavin. Before ordering or buying any kind of a remedy for any kind of a blemish, write for a free copy of

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Ninety-six pages of veterinary information, with special attention to the treatment of blemishes. Durable bound, indexed and illustrated. Make a right beginning by sending for this book.

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Aberdeen-Angus Cattle—For Sale: A choice young bull (15 mos.) of richest quality and breeding; also females.

Glengore Stock Farm,
GEO. DAVIS & SONS, Props. Aiton, Ont.

Aberdeen - Angus

Now is the time to buy a bull; eleven for sale; also females any age or price. **WALTER HALL,** Drumbo station, Washington, Ont.

Balmedie Aberdeen-Angus I am offering for sale young bulls and heifers of the highest type of the breed. Show stock in show condition a specialty. Bred on the most popular lines. **Thos. B. Broadfoot, Fergus Sta., Wellington Co., Ont.**

WILLOW BANK STOCK FARM

Shorthorns and Leicesters

Herd established 1855, flock 1948, have a special good lot of Shorthorns of either sex to offer of various ages; also a grand lot of Leicester sheep of either sex—a few imported ones to offer.

JAMES DOUGLAS
Caledonia, Ontario.

"The Manor" Scotch Shorthorns

Present offering: 1 choice yearling bull, an "Undine," g. dam imp. Young cows in calf. Yearling heifers: Clippers, Minna, Wimples, Julias, etc. Inspector solicited. Prices moderate. Phone connection.

J. T. GIBSON, DENFIELD, ONTARIO

SHORTHORNS

About 14 head of bulls and heifers, good rears and reds, all from a milking strain. Also Shropshire shearlings and ram lambs. Barred Rock cockers. Inspection invited. Prices reasonable.

JOHN RACEY
Lennoxville, Que.

MAPLE LODGE STOCK FARM

1854—1911

Am offering a splendid lot of young Shorthorn bulls for sale now; good colors and choice individuals; several of them from high-class milkers. A few select Leicesters for sale yet.

A. W. SMITH, Maple Lodge, Ontario
Lucan Crossing, G. T. Ry., one mile.

OAKLAND SHORTHORNS

We have another lot of young bulls ready for fall and winter trade, out of good breeding dual purpose dams and sired by our herd header, Scotch Grey, 7762, one of the best bulls in Ontario; good cattle and no big prices. Will also sell a few cows and heifers; about 50 to select from.

JOHN ELDER & SON, HENSAI L, ONTARIO

Fletcher's Shorthorns and Yorkshires

Stock bull "Spectator" (imp.) =50094= for sale or exchange; also choice heifers. I also offer my (imp.) Yorkshire boar for sale or exchange.

GEO. D. FLETCHER, Binkham, Ont.
Erin station, C. P. R.

SPRING VALLEY SHORTHORNS

Herd headed by the two imported bulls, Newton Ringleader, =73783=, and Scottish Pride, =36106=. The females are of the best Scotch families. Young stock of both sexes for sale at reasonable prices. Telephone connection.

KYLE BROS., - - Ayr, Ontario

Shorthorns of Show Calibre

I have only three young bulls left, but every one will be a topper; sons of the greatest stock bull in Canada, Mildred's Royal, out of big, thick Scotch cows. For a show bull or show heifer, write us.

GEO. GIER & SON, Grand Valley, Ont.

Shorthorns Choice selections of bulls and heifers at all times for sale at very reasonable prices. **Robert Nichol & Sons, Hagersville Ont.**

Shorthorns and Swine—Am now offering a very choice lot of cows and heifers, safe in calf, and some choice young bulls for the fall trade; also Berkshire and Yorkshire pigs; showyard material.

ISRAFI GROFF, Fimra, Ont.

Shorthorns, Shropshires and Berkshires—For sale: I have young bulls and heifers, bred for milk production. High-class flock-heads, winners, and covered to the ground. Berkshires, both sexes of breeding age, show stock.

W. Wilson Brickley P. O., Hastings Sta., G. T. R.

Calves Raise them without milk. Booklet free. **CLOUGH & CO., Lennoxville, Que.**

QUESTIONS AND ANSWERS.

Miscellaneous.

TAX RATES.

Could you kindly give me some information, through your paper, regarding the tax rate of the different counties of Ontario, as I have been informed that Wellington is the highest in Ontario?

G. S.

Ans.—We have no record of the tax rate of the various counties in the Province. The county and township rates may change from year to year, according to expenditure necessary. You might get some information out of the Annual Report of the Bureau of Industries, or from Municipal Bulletin No. 4, entitled "Municipal Statistics." These could be obtained by writing to the Ontario Department of Agriculture, Parliament Buildings, Toronto.

LANTERN GLASS BREAKS.

I am troubled with lantern glass breaking. Put on one last night, and before I got to the barn it flew to pieces. This is the fourth glass this fall. Can any subscriber give reason, or tell me what kind to buy? I believe there are plenty of farmers troubled the same way.

A. F. D.

Ans.—No doubt the some lantern glasses contain flaws which cause them to break, but more often they break as a result of the wick being turned too high when first the lantern is lit. This causes an unequally rapid heating of the glass, the heated portions expanding more rapidly than the cooler portions, causing it to crack. Many lantern glasses have been known to crack when taken out in the rain. The cold water on the heated glass causes a contraction, and thus the glass cracks. It is always best to have the flame turned low when first lighted, and after the glass has become heated it can safely be turned higher.

CULTIVATION AND FEEDING QUERIES.

1. Is there any method of guiding the horses straight while sowing grain and cultivating?

2. I am feeding twelve fat cattle. What grain ration would you advise starting and finishing them on? I am feeding them silage and cut feed mixed.

3. Our land is in a good state of cultivation. Could you tell me how much it should be worked in the spring seeding to make a good seedbed?

A. A. S.

Ans.—1. Take special care in the first time across the field by using stakes or following a straight furrow, after which make good use of the lines to guide the horses and keep the work straight.

2. As the size and condition of the cattle is not given, and you do not state what grain feed you have, it is difficult for us to formulate a ration. Then, again, different individual animals require different rations. It is necessary to study them carefully. Your roughage ration is good. If the silage is well preserved, and contains a good proportion of cobs, and the cut feed contains a good proportion of clover or alfalfa hay, the grain ration will not need to be very heavy. If the steers have had no meal, commence feeding on about one to two pounds per day, and gradually increase the ration until they get from eight to nine pounds per day during the finishing period. Corn is a good fattening food, and at present prices could be profitably used as a large proportion of the grain ration. A small proportion of bran is advisable, and during the finishing stage about 1.5 to 2 lbs. of cake might be added.

3. No satisfactory answer can be given to such a question. The amount of tillage required depends upon the kind of soil, the season, the crop to be grown on it, and a hundred other things. Ordinarily, if the ground has been fall plowed and is in a good state of cultivation, two strokes with a spring-tooth cultivator or disk harrow should prepare it for seeding. It can then be sown and harrowed once or twice as occasion demands. No rule can be laid down, however, and what is good for one field may not do for another, and good cultivation in one season may be inadequate the next year.

IMPORTED ABERDEEN-ANGUS CATTLE

We have a large selection of IMPORTED ANGUS BULL CALVES and YEARLINGS for sale. Also a few heifers and cows. These cattle represent the most desirable blood lines and families of this breed in Scotland, and are an exceptional lot of fine individuals.

Prices Reasonable

This is an opportunity to introduce the best imported blood in your herd. Angus sires are noted for their prepotency, and thus are extremely desirable for improving and building up herds of grade cattle. You are cordially invited to inspect our herds and stock.

Breeder and Importer

Clydesdale Horses
Jersey Cattle
Aberdeen-Angus Cattle
Shropshire Sheep
Berkshire and Yorkshire Swine

LARKIN FARMS

Queenston, Ont.
Canada

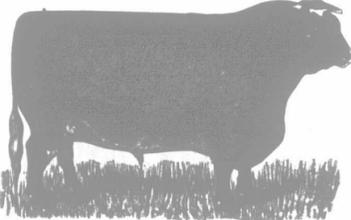
J. D. LARKIN, - Owner
Buffalo, N. Y.



ORCHARD GROVE HEREFORDS

Champions of 1911 shows, winning both senior and junior herds at Winnipeg, Brandon, Regina, Edmonton, Toronto and London; also fifteen championships. Young stock, both sexes, for sale at reasonable prices.

Long-distance Phone **L. O. CLIFFORD Oshawa, Ont.**



ARTHUR J. HOWDEN & CO.
ARE OFFERING

15 High-class Scotch Shorthorn Heifers

At moderate prices, including Cruickshank Nonpareils, Cruickshank Villages, Marr Emmas, Cruickshank Duchess of Glosters, Bridesmaids, Bruce Fames, Kinellars, Clarets, Crimson Flowers, and other equally desirable Scotch families, together with a member of the grand old milking Atha tribe, which have also been famous in the showing.

Arthur J. Howden & Co., Columbus, Ont.

SHORTHORNS

Have now a choice lot of young bulls to offer; also with something nice in heifers. Catalogue of herd and list of young animals on application.

H. CARGILL & SON, Proprietors, Cargill, Ont., Bruce Co.
JOHN CLANCY, Manager



Shorthorn Bulls and Clydesdale Mares

If you are in the market for a young bull, write us for particulars, or, better still, come and see them. We have 13 young bulls, from 8 to 14 months old, of good breeding and quality. We also have four imported Clydesdale mares, safe in foal.

W. G. PETTIT & SONS, Freeman, Ontario

Bell phone. Burlington Jct. Sta., G. T. R., 1/2 mile from farm

THIS IS A GOOD TIME, AND I HAVE A GOOD PLACE, TO GET A HIGH-CLASS SCOTCH SHORTHORN BULL CALF by my great Whitehall Sultan sire, or a young cow in calf to him, to start a herd that will be gilt-edged. **SHROPSHIRE RAMS AND EWES**, too, at low prices. **CHILDREN'S PONIES**. A **CLYDESDALE FILLY**, such as I can send you, is one of the best things any man can buy. Just write me and say as nearly as possible what you want, and I will surprise you with prices on goods that are genuine.

ROBERT MILLER, STOUFFVILLE, ONTARIO



ELMHURST SHORTHORNS & BERKSHIRES

I have now a particularly choice lot of young Berkshires; over 50 to select from; bred from imported stock. Strictly high class, from breeding and down. Also choice young Scotch Shorthorns. **H. M. VANDERLIP, Catsville P.O., Langford Sta., on Electric Road, between Hamilton and Bradford.**

SALEM SHORTHORNS Headed by (Imp.) Gainford Marquis, undefeated junior championship honors at Toronto, 1911. Have on hand two yearlings and a number of bulls under a year for sale at reasonable prices.

J. A. WATT, Salem, Ont. Elora Sta, G. T. R. and C. P. R.

Scotch Shorthorn Females for Sale I am offering at very reasonable prices, females from one year to five years of age. The youngsters are by my grand old stock bull, Scottish Hero (imp.) =55042= (9095), and the older ones have calves at foot by him or are well gone in calf to him. Their breeding is unexcelled, and there are show animals amongst them. **A EDWARD MEYER, Box 378, GUELPH, ONT.**

Scotch Shorthorns FOR SALE: 14 blocky, low-down bull calves, from 6 to 11 months old, all from imported stock. 20 yearling and two-year-old heifers of best Scotch breeding; also one imported bull, an extra size. Farm 1/4 mile from Burlington Jct. Sta. **Mitchell Bros., Burlington, Ont.**

Pleasant Valley Farms Shorthorns—For Sale: 7 good young Scotch bulls high-class bull; also cows and heifers. Correspondence solicited. Inspection invited.

GEO. AMOS & SONS, Moffat, Ont.
Farm 11 miles east of Guelph on C. P. R., 1/2 mile from station.

Shorthorn Bulls—Special offering: Scotch breeding, full of flesh and quality, with plenty of scale and from good milking dams. **H. SMITH, Hay P.O., Huron County, Ontario.**
Exeter Station, G. T. R., 1/2 mile.

WHEN WRITING ADVERTISERS MENTION THE FARMER'S ADVOCATE.

Suffered With Nerve Trouble For Two Years.

WAS IMPOSSIBLE FOR HIM TO SLEEP.

Mr. Chas. W. Wood, 34 Torrance Street, Montreal, Que., writes:—"For two years I suffered with nerve trouble, and it was impossible for me to sleep. It did not matter what time I went to bed, in the morning I was even worse than the night before. I consulted a doctor, and he gave me a tonic to take a half hour before going to bed.

"It was all right for a time, but the old trouble returned with greater force than before.

"One of the boys, who works with me, gave me half a box of Milburn's Heart and Nerve Pills. I took them and I got such satisfaction that I got another box, and before I finished it I could enjoy sleep from 10 p.m. until 6 a.m., and now feel good."

The price of Milburn's Heart and Nerve Pills is 50 cents per box, or 3 boxes for \$1.25. They are for sale at all dealers, or will be mailed direct on receipt of price by The T. Milburn Co., Limited, Toronto, Ont.

Welcome Stock Farm Holsteins

We have in our herd granddaughters of Pietette Hengerveld De Kol (one of the greatest sires of the breed), in calf to the grandson of the Colantha 4th's Johanna, whose yearly record stands unequalled. We have also granddaughters of Pontiac Korndyke (the only sire having two thirty-seven pound daughters), bred to the best sires of the breed. Our herd bull is King Blanche Lyons, whose two granddams have a record of over 33 lbs and 34 lbs, respectively. Address: C. Boller and J. Leuszler, R. R. No. 6, Tavistock, Ont.

HIGHLY-BRED HEIFERS

We have at present some choice yearling heifers for sale, off A. R. O. dams and sired by Idalin's Paul Veeman and served by King Seg's Pietertje, and one three-year-old heifer just freshened; also some bull calves, from 3 to 5 months old sired by Idalin's Paul Veeman. Write for particulars.

H. C. HOLTBY, Belmont, Ont.

A GREAT COMBINATION

Bulls eight months old for sale, combining the blood of Pontiac Korndyke and Hengerveld De Kol, with five 30-lb. cows in their pedigree, whose milk contains over 4 per cent. fat. These are the two greatest Holstein-Friesian bulls in America.

A. A. Farewell, Oshawa, Ontario

Purebred Registered
HOLSTEIN CATTLE
The most profitable dairy breed, greatest in size, milk, butterfat and in vitality. Send for FREE illustrated descriptive booklets. Holstein-Friesian Assoc., F. L. Houghton, Sec'y, Box 127, Brattleboro, Vt.

The Maples Record of Merit Holstein Herd

A few choice bulls ready for service, sired by King Posch De Kol; also a few young bull calves, sired by Prince Aaggie Wechthilde, whose dam was first at Toronto, 1911, and sire's dam first in dairy test at Guelph, 1908 and 1909; his three nearest dams average over 25 lbs. butter in 7 days.
WALBURN RIVERS, FO. DEN'S, ONTARIO

HOLSTEIN BULLS

Minsters Farm offers bulls fit for service in spring from Lakeview Burke Fayne, whose dam and sire's dam average 23.14 lbs. butter in 7 days, and R. O. P. cows; also cows for extended pedigrees. Write: RICHARD HONEY & SONS, Brickley, Ont. Also Yorkshires of both sexes.

NOTICE!

We are offering at the great sale on Jan. 2nd, males and females from sweepstakes winners; high % butterfat; for herd headers or foundation stock. Write, or come and inspect.
M. L. HALEY, M. H. HALEY Springfield, Ont.

Maple Line Holsteins and Yorkshires—Herd headed by Homestead Colantha Sir Abbekerk 2nd, whose dam, sire's dam, g. dam average 29.61 lbs. butter 7 days. For sale at bargain prices, choice bull calves from R.O.P. cows.
W. A. BRYANT, Middlesex Co., Cairngorm, Ont.

Holsteins both sexes for sale from dams that yield 65 to 70 lbs. milk per day, and 14,000 to 15,000 lbs. per year. Records carefully kept. An excellent opportunity to procure foundation stock. Write for prices, or call and see:
Neil Campbell, Howlett Ont.

Holsteins and Tamworths—For sale: One yearling bull and several bull calves. Two boars fit for service (prize winners); sows bred to farrow in January; pigs ready to wean. Phone connection, via, Cobourg.
BERTRAM HOSKIN, The Gully P. O.

QUESTIONS AND ANSWERS. Miscellaneous.

SUCCESSION DUTY.

A man dies, July, 1911, in Ontario, 52 years old. Had no wife nor child living; father and mother both dead; three brothers and three sisters living. Was worth \$12,000.

1. Are there any succession duties?
2. If so, what percentage of total?

A. H. T.

Hastings Co., Ont.

Ans.—1. Yes.

2. Five per cent.

SOWING RAPE AND ALFALFA—FILLING SILO—PLANT FOOD FOR TIMOTHY AND CLOVER.

1. I would like to know whether you consider it more advisable to sow rape, which I intend to cut and feed to pigs, in rows, so that it could be cultivated, or broadcast?

2. I have a piece of high, dry ground, which I plowed out of clover sod this fall. There is a little wild grass in it. Would it be best to work it up and put in with spring crop, and seed with alfalfa, or to work well till some time in June and seed alone? What is the proper treatment of alfalfa seed to insure a good catch? Does the Experimental Farm send the treatment to any who ask for it, and on what terms? I had thought of manuring the ground this winter. Would this be wise? Do the roots of alfalfa clog tile drains? I have heard they would.

3. Do you consider filling a silo in the winter with corn that has been shocked, and is in good shape, a good plan, and should there be much water put on it?

4. Would you inform me as to what plant food is taken from the land in growing clover, compared with timothy?

W. H. F.

Ans.—1. If the rape is to be cut and fed as a soiling crop, it is much better to be sown in rows. Sow from 1 lb. to 1½ lbs., in drills, like turnips, and work well with the cultivator until it gets too large to permit of further cultivation. A larger crop of fodder will result.

2. Summer sowing of alfalfa has done very well in South-western Ontario. It would give you a chance to get rid of the wild grass, which should be done before sowing. If you decide to seed with a nurse crop, why not manure the ground, and plant it to corn next year and seed to alfalfa the following spring? If you wish to get it seeded next spring, would give a light manuring this winter and cultivate well until some time in July and sow the seed alone. If alfalfa has never been grown on the field, inoculate the seed with a pure culture, which can be obtained by applying to the Bacteriological Department of the O. A. C., Guelph. It costs 25 cents a bottle, and a bottle will treat a bushel of seed. The risk of the roots clogging the drains is not so great as to warrant not growing the crop.

3. A better plan is filling the silo at time of cutting the corn. However, with fodder corn of good quality and well preserved, provided a sufficient quantity of water is added, we see no reason why it would not make fair feed. It would require a large quantity of water, especially at the top.

4. Warrington allows 2 tons as an average yield of red clover per acre. This contains about 98 lbs. of nitrogen, 83.4 lbs. of potash, 24.9 lbs. of phosphoric acid, and 90.1 lbs. of lime. These are the main fertilizing constituents. One and one-half tons of meadow hay is given as an average yield, containing 49 lbs. of nitrogen, 50.9 lbs. of potash, 32.1 lbs. of lime, and 12.3 of phosphoric acid. Hopkins gives 3 tons of timothy as an average yield per acre, and 72 lbs. of nitrogen, 9 lbs. of phosphorus, and 71 lbs. of potassium as the amount of these constituents removable per acre. While clover yielding 4 tons per acre removes 160 lbs. of nitrogen, 20 lbs. of phosphorus, and 120 lbs. of potassium. It must be remembered, however, that clover is a leguminous crop, and has the power of gathering nitrogen from the air and storing it in the root system, as well as in the upper part of the plant. A clover crop removes more lime, potash and phosphoric acid than timothy.

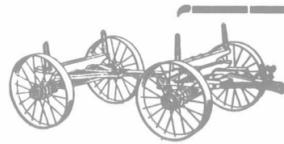
This Wagon Will Carry Heavier Loads At a Saving of Time and Horses



T-K Wide-Tire Steel Wheels Make Farm Work Lighter.



The farmer who investigates at once sees points of great superiority in these wheels. He sees the reason for wide steel wheels, stagg. red spokes and indestructible hub. He sees why, under any road condition, there is no danger of accidents, side strain or wear on his farm wagon, and how it is possible to haul 25 to 50 per cent. greater load without tiring the horses. There are other points of superiority. Write for catalogue, and learn how farm work is made profitable with our vehicles and equipments.



TUDHOPE-KNOX CO., LTD., ORILLIA, ONT.



Holsteins and Yorkshires—Sir Admiral Ormsby 4171.

Our main stock bull, has only had 4 daughters tested so far, and they average 26¼ lbs. butter in 7 days as 4-year-olds, and one holds the world's record for yearly work as a 2-year-old. We offer for sale 20 heifers in calf to Sir Admiral Ormsby; also bull calves by him and from 27¼-lb., 26-lb. 4-year-old and 25¼-lb. 4-year-old cows. Come and see the herd. No trouble to show them. Our Yorkshire hogs will be at Toronto Exhibition, bigger and better than ever. It is our intention to double our breeding herd in order to supply the increasing demand for Summer Hill Yorkshires. See them at Toronto and London Exhibitions. D. C. FLATT & SON, Hamilton, Ont. R.F.D. No. 2. Phone 2471, Hamilton.



LAKEVIEW HOLSTEINS

Young bull, sired by Count Hengerveld Favne De Kol, and out of Rose Rattler, 24.19 pounds butter in seven days. This calf was born 25th March, 1911, is well marked, about one-half black. Another, by the same sire, calved March 24th, 1911, out of Inka Sylvia 4th D. Kol, 21 pounds butter in seven days, and 88 pounds in 30 days. Send for prices on these and several others equally good.



Telephone E. F. OSLER, Bronte, Ontario

FAIRVIEW FARMS HERD STILL LEADS ALL OTHERS.

We own the world's champion cow, Pontiac Pet, 37.67 lbs. butter in 7 days. We have here her sire and over 50 of her sisters. We can offer you young bulls that are more closely related to her and to Pontiac Clothilde DeKol 2nd, 37.21 lbs., than you can get any place else in the world, and our prices are right. Nearly 200 head in herd. Come and look them over.

E. H. DOLLAR, (near Prescott) HEUVELTON, NEW YORK

Centre and Hillview Holsteins—We are offering young bulls from Sir Ladie Cornucopia Clothilde, the average of his dam sire dam and grand dams is 662.8 lbs. milk and 30.58 butter, 7 days, and 2,750.00 milk and 114.5 butter in 30 days; also Brookbank Butter Baron, who is a proven sire. He is sire of champion 3-year-old 30-day, 2-year-old 7-day and 2-year-old 30-day. Long-distance phone. P. D. EDE, Oxford Centre P. O. Woodstock Sta.

Silver Creek Holsteins

We are now offering about a dozen yearling heifers and 3 young bulls. They are all of superior type, and the dams of these calves, a few equal to the best in the country. Bell phone in house. A. H. TEEPLE, CURRIES P. O., Ont., Woodstock Station. Phone connection.

Evergreen Stock Farm Holsteins—Herd headed by Prince Abbekerk Mercena, whose eight nearest dam average over 25 pounds butter in seven days, and whose dam produced \$150 worth of milk at Toronto—wholesale prices—in four months. We have taken a milk contract, and don't want to feed many calves, consequently we will sell young calves, heifers and bulls, at attractive prices. Our females, the dams of these calves, are equal to the best in the country. Bell phone in house. A. E. HULET, NORWICH, ONTARIO.

High Grove Jerseys & Yorkshires

No better blood in Canada. Present offerings: Choice young sows due to farrow in March. Jerseys, all ages, both sexes. Arthur H. Tufts, P. O. Box 111 Tweed, Ont.

Don Jersey Herd

Offers young bulls and heifers for sale; heifers bred to Eminent Royal Fern. D. Duncan, Don, Ont., Duncan Stn., C.N.R. Phone Long-distance Agincourt.

Brampton Jerseys

Production and quality. B. H. BULL & SON, BRAMPTON, ONT.

CRAIGALEA AYRSHIRES!

Our record: Every cow and heifer entered in Record-of-Performance, and retained in herd until test was completed, has qualified. Heifers and young bulls for sale of show-ring form. H. C. HAMILL, BOX GROVE P. O., ONT. Markham, G. T. R.; Locust Hill C. P. R. Bell phone connection from Markham.

Choice Ayrshires

Good tests, heavy producers and high testers. Prices low considering quality. White Wyandottes, \$2 each. WILLIAM THORN, Trout Run Stock Farm, Lynedoch, Ont. Long-distance phone in house.

HIGH-CLASS AYRSHIRES

If you are wanting a richly-bred young bull out of a 50-lb a day and over cow, imported or Canadian-bred dam and sire, write me. Females all ages. Prices are easy. D. A. Macfarlane, Kelso, Que.

Stockwood Ayrshires

are coming to the front wherever shown. This herd is now headed by White Hill Free Trader (Imp.) No. 33273, championship bull at Sherbrooke; also headed the 1st-prize aged herd. Stock of all ages for sale. Satisfaction guaranteed. D. M. WATT, St. Louis Station, Que. Telephone in house.

City View Ayrshires

Several R. O. P. cows and others just as good, 2-year-old heifers, one yearling bull and six 1911 bull calves, with one to three crosses of R. O. P. blood. Prices reasonable. Write or phone. JAMES BEG & R. R. No. 1, St. Thomas.

Ayrshires

Bull calves, from 4 months to 9 months, from imported sire and Record of Performance dams. Records 50 to 63 pounds per day. N. Dymont, R. R. No. 2, Hamilton, Ont.

Ayrshires and Yorkshires—We have still some good young bulls. Now is the time to buy for the coming season, before the best go. We have females any age, and can fill orders for cartlots of Ayrshires. Pigs of either sex on hand.
ALEX. HUME & CO., Menie, Ont.

STONEHOUSE AYRSHIRES

Are coming to the front wherever shown. Look out for this at the leading exhibitions. Some choice young bulls for sale, as well as cows and heifers.
HECTOR GORDON, Howick, Quebec.

Dungannon Ayrshires and Yorkshires

For immediate sale are: Three choice young bulls and a few heifers; also young sows of breeding age, quality and breeding combined.
W. H. FURBER, Cobourg, Ont. L.-D. Phone.

HILLCREST AYRSHIRES

—Bred for production and large tests. Record of Performance work a speciality. Fifty head to select from. Prices right.
FRANK HARRIS, Mount Eglon, Ont.

Try This Pinex "Sixteen Ounces of Cough Syrup"

A Family Supply for 50c, Saving \$2. The Surest, Quickest Remedy You Ever Used or Money Refunded.

A cough remedy that saves you \$2, and is guaranteed to give quicker, better results than anything else, is surely worth trying. And one trial will show you why Pinex is used in more homes in the U. S. and Canada than any other cough remedy.

You will be pleasantly surprised by the way it takes right hold of a cough giving almost instant relief. It will usually stop the most obstinate, deep-seated cough in twenty-four hours, and is unequalled for prompt results in whooping cough.

A 50-cent bottle of Pinex, when mixed with home-made sugar syrup, makes sixteen ounces of the best cough remedy ever used. Easily prepared in five minutes—directions in package.

The taste is pleasant—children take it willingly. Stimulates the appetite and is slightly laxative—both excellent features. Splendid for croup, hoarseness, asthma, bronchitis and other throat troubles, and a highly successful remedy for incipient lung troubles.

Pinex is a special and highly concentrated compound of Norway White Pine extract, rich in gualic acid and other natural healing pine elements. Simply mix with sugar syrup or strained honey, in a 16-oz. bottle, and it is ready for use.

Pinex has often been imitated, but never successfully, for nothing else will produce the same results. The genuine is guaranteed to give absolute satisfaction or money refunded. Certificate of guarantee is wrapped in each package. Your druggist has Pinex or will gladly get it for you. If not, send to The Pinex Co., Toronto, Ont.

PIGGY CAN'T



GNAW THIS TROUGH

Made of heavy galvanized steel, your hog cannot gnaw or damage this feed trough. So successful have these troughs stood the test during the past 5 years that we are willing to ship any size you select to your station on the understanding that you can ship them back at our expense if not first-class in every detail. We know you will be delighted with them. Send for Catalogue 22 to-day. We supply tanks in stock sizes or to order.

STEEL TANK CO., Tweed, Ont.



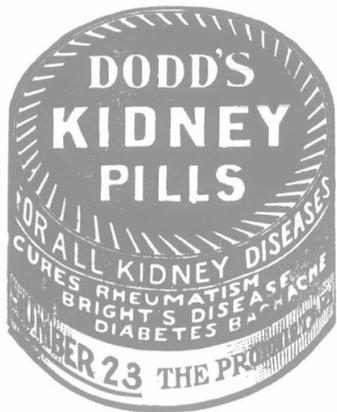
Dorset Horn Ram Lambs

Four extra good ones for sale. Quality and price right. Excellent for crossing. Also Angus Stock Bull.

FORSTER FARM
Oakville, Ont.

"Madam," remarked the weary wayfarer with the bandaged eye, "I was not always as you see me now."

"I knew it," replied the stern-visaged woman at the back door. "The last time you were here you had on a deaf-and-dumb sign."



QUESTIONS AND ANSWERS. Miscellaneous.

HOLLOW BUILDING BRICK.

I have heard of a hollow, burnt brick, for building wall for bank stable. Do you know if they give satisfaction, and how they compare with cement? In regard to expense, which would be the cheaper? A. P.

Ans.—Hollow building brick are, in many respects, very suitable for a basement wall, making a dry, well-insulated wall which, provided the necessary precaution is taken, should prove fairly durable. They are not extra strong, however, and cases have been known where horses have kicked holes in them. They should be protected against such mishaps by a well-supported plank lining behind the horses. Cement would likely prove the most economical, especially for a large basement, and it would doubtless be most durable, and would make the neatest wall. The bricks soon show the effect of weathering, and for a large barn we think the cement would make the better wall. A slop wall may be built with a hollow space.

REMODELLING STABLE.

Could you give me a plan for remodeling my stables? I want to put in a cement floor, single stalls, and stanchions. I intend to use wood for stalls and cement for trough. My stable is 41 feet long, and I intend to put in 12 cows.

1. Do you think it is long enough for 12 cows?
2. I do not intend to water in stable. What would be best?
3. How wide, how deep, and what shape would you make trough?
4. How would you make stalls, and what size timber?
5. How far back to drop would you make stalls?
6. Would you put planks on cement where cows stand?

YOUNG FARMER.

Ans.—1. Allowing for eleven partitions of two inches in thickness, would leave 39 feet 2 inches for stalls, which, if divided into stalls of equal width, make twelve stalls a trifle over 3 feet 3 inches wide. The size of stall depends largely upon the size of the cow. It is often advisable to provide for some small and some large cows, thus half the stalls could be made 3 feet in width, which would leave the other six 3 feet 6 inches wide. This should be large enough for the twelve cows.

2. Good results are claimed by those who follow either the practice of watering in bowls or troughs inside and those who water outside. Outside watering, if properly managed, may be beneficial to the cows. It gives them a chance to get the fresh air, and, at the same time, to move around and get necessary exercise. Care must be taken, however, that the animals are not allowed to become chilled. The length of time the cows are left out can be regulated to suit the severity of the weather. If very cold, a few can be let out at a time, and returned immediately they have finished drinking; on milder days, they can be left out a short time. Watering inside has the advantage of there being a supply of water before the cows at all times. There is, however, unless great care is taken, a danger of the bowls or troughs becoming rather slimy and unwholesome.

3. From twenty-two to twenty-four inches is a good width for feed trough, and six inches a good depth. Have the bottom corners rounded so as to avoid their becoming clogged full of feed refuse, making it difficult to keep the trough clean.

4. Why not use, with the stanchion ties, a metal pipe partition? If using plank partitions, use 1½- to 2-inch planks. A partition which slants from the back up to the front of the stall is very good.

5. Stalls should be different lengths, to suit the large and smaller cows. With stanchions, stalls could be made from 4 feet 6 inches for the smallest cows, to 5 feet for the largest. Chain ties would require longer stalls. From 5 feet to 5 feet 6 inches, would be a good length.

6. Planks are not necessary on the cement in a cow stable where plenty of bedding is used, otherwise planking might be advisable.

LINCOLN LONG-WOOL SHEEP And Shorthorn Cattle.

The Riby Grove Flock and Herd, owned by

MR. HENRY DUDDING,

is the source to which practically all the leading export buyers have resorted from time to time to obtain stud sires and dams, and rams and ewes of unrivalled merit and quality. The record of its show-yard success is unequalled, and so are its sale averages. Selections of Sheep and Cattle always for sale.

Applying: THE OWNER, RIBY GROVE, STALLINGBOROUGH, GRIMSBY, ENGLAND

When Writing Mention Advocate

BLAIRGOWRIE FOR CANADA'S BEST

In Clydesdales, Shorthorns, Cotswold and Shropshire Sheep and Welsh Ponies, I am offering a particularly choice lot of flock headers shearing and lambs in Cotswolds and Shropshires; also ewes and ewe lambs. High-class stock a specialty. Write me your wants. Phone. JOHN MILLER, JR., Ashburn P. O., Myrtle Station

Shropshire Sheep, Shire Horses and Poultry—I have bred very many winners in Shropshires, and never had a better lot of both sexes for sale. Order early. Also a big quality shire filly and White Wyandotte poultry. W. B. MONKMAN Bond Head, Ont. Phone connection.

When writing mention this paper

Southdown Ewes

A few good shearlings, and two-shear ewes in lamb to my Terontio champion ram.

Angus Cattle

Buy an Angus bull to produce steers that feed easily and top the market.

Colliers

that win at the shows and make excellent workers.

ROBT. McEWEN, Byron, Ont.

Tower Farm Oxford Downs

I am offering 12 good shearling rams; one imported shearing ram bred by Geo. Adams. A few shearing ewes, also lambs of both sexes. All by imp. sire. E. BARBOUR, Erin, Ont.

Fairview Shropshires

offered to close out the season's trade. We offer at a bargain a few shearling and ewe lambs, bred to our imported Fairview ram. One crop of lambs will be worth far more than the price we hold the lot at. See our exhibit at Guelph Winter Fair.

J & D. J. CAMPBELL, Fairview Farm, Woodville, Ont.

O.I.C.

We have those fine Chester White boars for sale, 1-5 mos. old, 1-6 mos. old, 1-2 years old, and four sows over one year old; none are better, few as good; all are registered.

GLEN ATHOL FRUIT RANCH

ST. CATHARINES, ONT.

Elmwood Ohio Improved, Chester White pigs, largest strain, oldest established registered herd in Canada. Choice lot of young sows, bred; young pigs, 6 weeks to 6 months; pairs not akin. Express prepaid. Safe delivery guaranteed. E. D. GEORGE & SONS, Putnam, Ontario

Tamworths and Poultry

We can supply Tamworth Swine both sexes and any age, bred from the champions of Canada; show stock a specialty. Also Toulouse Geese, Pekin Ducks and S. C. White Leghorns. D. DOUGLAS & SONS, Mitchell, Ontario.

The Tamworths in Canada—I have a particularly nice lot of young Tamworths just now of both sexes, from youngsters up to breeding age. If you want the best types of the breed, write me. HERBERT GERMAN, St. George, Ont. Long-distance phone.

Tamworths

—Am offering just now some extra nice fall toms, also young pigs, both sexes. If you want the best types of the breed, write me. Long-distance phone.

HERBERT GERMAN, St. George, Ont.

Hampshire Pigs

Get acquainted with the best bacon hog in existence. Both sexes for sale from imported stock. Write for prices. Long-distance phone.

J. H. RUTHERFORD, Box 62, Caledon East, Ont.

Hilton Stock Farm

Holsteins and Tamworths.

Present offering: 6 yearling heifers and several younger ones. All very choice. Of Tamworths, pigs of all ages and both sexes; pairs not akin. R. O. MORROW & SON, Hilton, Ont. Brighton Tel. & Stn.

Monkland Yorkshires

7 months of age. An exceptionally choice lot, full of type and quality; also a limited number of young boars.

MATTHEW WILSON, FERGUS, ONTARIO

Duroc - Jersey Swine.

Largest herd in Canada. 100 pigs ready to ship. Pairs and trios not akin; also a few sows ready to breed. Bell phone at the house.

MAC CAMPBELL & SONS, NORTHWOOD, ONT.

Shropshire and Cotswold Ewes

At bargain prices, shearing ewes and a few aged imported ewes, bred to a first-class ram. In Cotswolds, shearing and two shear ewes, bred to the best rams of the breed; also ewe lambs, both breeds.

JOHN MILLER, Brougham, Ont. Clarendon Stn., C. P. R.

Cattle and Sheep Labels

Metal ear labels with owner's name, address and any numbers required. They are inexpensive, simple and practical. The greatest thing for stock. Do not neglect to send for free circular and sample. Send your name and address to-day.

F. G. JAMES, Bowmanville, Ont.

Farnham Farm

Oxfords and Hampshire Downs

We are offering very reasonably a number of first-class yearling and ram lambs, by our imported champion ram; also fifty ewes of both breeds. Long-distance phone in house; ask Guelph for 152, two rings.

HENRY ARKELL & SON, ARKELL, ONTARIO

Southdown Ewes

A few good shearlings, and two-shear ewes in lamb to my Terontio champion ram.

Angus Cattle

Buy an Angus bull to produce steers that feed easily and top the market.

Colliers

that win at the shows and make excellent workers.

ROBT. McEWEN, Byron, Ont.

Poplar Lodge Southdowns and Berkshires

I can supply Southdown sheep, rams or ewes, ram or ewe lambs, Berkshires, from youngsters up to breeding age, of both sexes; the highest types of the breeds in proper fit. SIMEON LEMON, Kettleby P. O., Schomberg or Aurora Stns. Phone.

Fairview Shropshires

offered to close out the season's trade. We offer at a bargain a few shearling and ewe lambs, bred to our imported Fairview ram. One crop of lambs will be worth far more than the price we hold the lot at. See our exhibit at Guelph Winter Fair.

J & D. J. CAMPBELL, Fairview Farm, Woodville, Ont.

LARGE WHITE YORKSHIRES

Have a choice lot of sows in pig. Boars ready for service, and young pigs of both sexes supplied not akin, at reasonable prices. All breeding stock imported, or from imported stock, from the best British herds. Write or call on:

H. J. Davis, Woodstock, Ont.

C. P. R. and G. T. R. Long-distance phone.

Maple Grove Yorkshires

ARE EQUAL TO THE BEST.

Present offering: Twenty-five sows bred to farrow from Aug. to Oct. All first-class, bred to No. 1 quality boars. All pig, roomy, growing stock, and ranging from six months to two years old. Eight young boars fit for use; choice long fellows of excellent breeding, and young pigs of various ages. Pairs not related. Our prices will suit the average farmer, but are consistent with the best quality. Stock shipped C. O. D. and on approval. Correspondence and personal inspection invited. Long-distance phone via St. Thomas.

H. S. McDIARMID, FINGAL, ONTARIO.

Shedden Station, P. M. and M. C. R.

Hampshire Pigs

Get acquainted with the best bacon hog in existence. Both sexes for sale from imported stock. Write for prices. Long-distance phone.

J. H. RUTHERFORD, Box 62, Caledon East, Ont.

Hilton Stock Farm

Holsteins and Tamworths.

Present offering: 6 yearling heifers and several younger ones. All very choice. Of Tamworths, pigs of all ages and both sexes; pairs not akin. R. O. MORROW & SON, Hilton, Ont. Brighton Tel. & Stn.

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7 months of age. An exceptionally choice lot, full of type and quality; also a limited number of young boars.

MATTHEW WILSON, FERGUS, ONTARIO

Duroc - Jersey Swine.

Largest herd in Canada. 100 pigs ready to ship. Pairs and trios not akin; also a few sows ready to breed. Bell phone at the house.

MAC CAMPBELL & SONS, NORTHWOOD, ONT.

Improved Large Yorkshires

FOR SALE

A lot of or fine young boars and sows of different ages. Full strength. Correspondence solicited.

SENATOR F. L. BEIQUE
P. O. Box 106
Lachine Locks, Que.

PINE GROVE BERKSHIRES

Boars fit for service; sows ready to breed; younger ones coming on. Show stock a specialty. Price right for quick sale.

Milton, C. P. R. Georgetown, G. T. R. W. W. BROWNDIDGE, Ashgrove, Ont.

Morrison Tamworths

Bred from the best blood in England, both sexes for sale, from 1 to 10 months old; young sows, dandies, in furrow to first-class boars. Chas. Currie, Morrison, Ont.

Spring Bank Yorkshires

For two weeks, at reduced rates, a few choice young sows, registered, four months old. Long-distance phone. WM BARNET & SONS, Living Springs, P. O., Ontario. FERGUS, ONTARIO. C. P. R. and G. T. R.

How Much Does it Cost By the Year?



The first price of a cream separator is no basis for figuring its cost. Suppose you paid \$2 for a pair of shoes which, with \$1.00 worth of repairs, lasted 12 months, making an average monthly cost of 25 cents. At another time, you paid \$3 at the start, only 50 cents for repairs, and the shoes lasted 24 months—an average cost of less than 15 cents per month. Which was the better buy?

The same principle holds good in cream separator buying. You may pay a low price at the start—but such a separator will need frequent repairing—and won't last. The cost per year will be double that of a good separator.

I H C Cream Harvesters Dairymaid and Bluebell

are famous for their durability. They skim close and run easy for years. They are built for long, hard, steady service. Here are some of their advantages:

Milk and dust-proof gears which are easily accessible—a feature found on no other separators; a patented dirt-arrester which removes the finest particles of dirt before the milk is separated; frame entirely protected from wear by phosphor bronze bushings; large shafts, bushings, and bearings.

I H C Cream Harvesters are made in two styles—Dairymaid, chain drive, and Bluebell, gear drive—each in four sizes. Let the I H C local agent tell you all the facts, or, if you prefer, write nearest branch house for catalogues and any special information you desire.

CANADIAN BRANCHES—International Harvester Company of America at Brandon, Calgary, Edmonton, Hamilton, Lethbridge, London, Montreal, North Battleford, Ottawa, Regina, Saskatoon, St. John, Weyburn, Winnipeg, Yorkton.

International Harvester Company of America
(Incorporated) Chicago U S A



I H C Service Bureau
The Bureau is a clearing house for agricultural data. It aims to learn the best ways of doing things on the farm, and then distribute the information. Your individual experience may help others. Send your problems to the I H C Service Bureau.

Livingston's Cake and Meal

have from 1/5 to 1/4 more real flesh-forming food value than other feeds. This has been proved by actual tests on the Livingston Farm. From the very first they fatten the cattle and better the milk.

Made by skilled experts, with every up-to-date manufacturing aid to help them—by the Old Patent Process, which cooks the food, insuring its keeping for any length of time and making it more easy to digest.

Neither too soft (which means waste), nor too hard (which hinders digestion)—the animal gets the full strength of each particle. Suppose you try them at once—they both

Save and Make Money

Talk to your dealer to-day about Livingston's Cake and Meal—or write us direct. Address: The Dominion Linseed Oil Co., Limited, Baden, Ontario.

In Auto, Sleigh or Wagon on Cold Days Use a Clark Heater

We make 20 styles of these heaters from attractive carpet covers with asbestos lining. They have been on the market ten years and please every purchaser. We guarantee that you will be pleased or money refunded. They fit in at the feet, occupy little space and are just the thing.

DON'T SHIVER AND BE UNCOMFORTABLE

When one of these heaters will keep you warm and cozy and comfortable on every business or pleasure trip in cold weather. Ask your dealer for a CLARK HEATER—the only kind that will last indefinitely, never get out of order, and heat as long as you want. Insist on the CLARK. Write for complete catalog—a postal brings it. WRITE NOW. CHICAGO FLEXIBLE SHAFT COMPANY 110 La Salle Ave. CHICAGO



Every Farmer His Own Painter.

Any man can do an average job of painting, and can thereby not only improve the appearance of his place, but can add greatly to the durability of the buildings. Too many seem to think that paint is used solely for ornament, and the farmer is of all men most keenly practical, eschewing what he regards as an unprofitable luxury. It is perhaps the rule rather than the exception in some sections to see houses and agricultural implements sadly in need of repaint. Of course, paint does improve the appearance of property, but it is far more useful as a protector rather than an ornament. The expenditure of a small amount of money and time in painting a valuable piece of farm machinery or a building, will add greatly to the length of its life. Another useful object accomplished by painting is the improved sanitary conditions of buildings and outhouses. The cost of such work is small, the necessary equipment not expensive, and with proper care will last a long time. In order to supply information which will enable the farmer to purchase the paint economically and apply them intelligently and to the best advantage, U. S. Secretary Wilson caused experts in the Bureau of Chemistry to investigate the subject and prepare Farmers' Bulletin No. 474, calling attention to the economic importance of painting farm buildings and equipment, and giving details as to the cost, purchase, and care of brushes, cost of the ingredients needed, how to mix and apply them. The Secretary, in addition to urging the proper use of paints for both useful and ornamental purposes, for he does not think anything too good or attractive for the farm homes, emphasized several precautions: "Do not use any paint containing compounds of lead about stables or outbuildings where the fumes from decaying organic matter occur, since these gases are likely to darken the lead paints. Do not use with lead compounds any pigment which may liberate compounds of sulphur. For example, ultramarine blue-white contains sulphur in a form in which it may be set free, is a beautiful and very permanent blue, and may be used with zinc-white, but should not be used with white lead or any other lead pigments. Prussian blue, on the contrary, does not contain sulphur, and may be used with lead pigments. Remember that turpentine and benzine are very inflammable, and especial precautions should be taken not to bring paint containing these substances near any light or open fire. Many pigments are poisonous, and the workman should be particularly careful to remove all paint stains from the skin, and not under any circumstances allow any of it to get into his mouth. A man should not eat in the same clothes in which he has been painting, and before eating should not only change his clothes, but wash all paint stains from his skin. It is not advisable to use turpentine or benzine in removing paint stains from the hands, but by oiling thoroughly with linseed oil, or, in fact, with any fatty oil, and then thoroughly washing with soap, the paint may be removed, provided it has not been allowed to dry too thoroughly on the hands."

J. & D. J. Campbell, Fairview Farm, Woodville, Ont., in sending copy for new advertisement, report as follows: "This has been the most successful year in our flock's history. Last week we sent out three shipments, and this week four lots went out to Ontario, Manitoba, Ohio and Indiana. We now have but a few of our surplus left to offer, as per copy of advertisement sent herewith. The trade has been satisfactory, but what has given peculiar pleasure, are the many kind expressions of appreciation sent us regarding our manner of filling mail orders, from near and far. As in past years, we are still determined to please and satisfy our customers, even if that would mean some loss to ourselves."

NATURAL.

"You've been making speeches all through the corn belt," said the political manager; "do you notice any result?" "Yes," answered the spellbinder; "my voice has become quite husky."

Don't Wear A Truss

After Thirty Years' Experience I have Produced An Appliance for Men, Women or Children That Cures Rupture.

I Send It On Trial.

If you have tried most everything else, come to me. Where others fail is where I have my greatest success. Send attached coupon to-day



The above is C. E. Brooks, of Marshall, Mich., who has been curing Rupture for over 30 years. If ruptured write him to-day.

and I will send you free my illustrated book on Rupture and its cure, showing my Appliance and giving you prices and names of many people who have tried it and were cured. It is instant relief when all others fail. Remember I use no salves, no harness, no lies.

I send on trial to prove what I say is true! You are the judge, and once having seen my illustrated book and read it you will be as enthusiastic as my hundreds of patients whose letters you can also read. Fill out free coupon below and mail to-day. It's well worth your time, whether you try my Appliance or not.

FREE INFORMATION COUPON.

C. E. Brooks, 236 Brooks Bldg., Marshall, Mich. Please send me by mail in plain wrapper your illustrated book and full information about your Appliance for the cure of rupture.

Name
Address
City State

On the news that J. P. Morgan had tripped in passing the contribution box, steel common declined a point.—Independent.

SEVERE COLD DEVELOPED INTO PNEUMONIA DOCTOR SAID HE WOULD NOT LIVE.

Next to consumption there are more deaths from pneumonia than from any other lung trouble.

There is only one way to prevent pneumonia, and that is to cure the cold just as soon as it appears. Dr. Wood's Norway Pine Syrup will do this quickly and effectively.

Mr. Hugh McLeod, Esterhazy, Sask., writes:—"My little boy took a very severe cold, and it developed into pneumonia. The doctor said he would not live. I got some of your Dr. Wood's Norway Pine Syrup and he began to improve right away. He is now a strong, healthy child, and shows no signs of it coming back."

Do not be talked into buying any other Norway Pine Syrup, but insist on getting the original "Dr. Wood's." It is put up in a yellow wrapper; three pine trees the trade mark; price, 25 cents.

Manufactured only by The T. Milburn Co., Limited, Toronto, Ont.

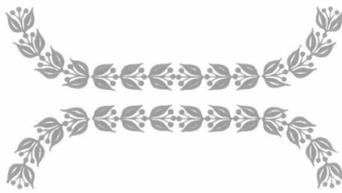


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FOR 1912

THE COCKSHUTT Line radiates an air of progress. In addition to the well-known Cockshutt Implements, we are adding Harvesting and Haying Machinery, Manure Spreaders, Wagons, Sleighs and Gasoline Engines. The Cockshutt Line is now the most complete we have ever offered. Moreover, every implement we sell is replete with the newest improvements and is of the highest possible quality.

Special Catalogues and Folders illustrating the above mailed on request.



Appreciation

The spirit of the Christmas Season prompts us to sincerely wish you, our friends, the compliments of the season. We trust also that the New Year for you will be most prosperous. We cordially thank our dealers and patrons for the business they have given us during the past year.

COCKSHUTT

PLOW
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BRANTFORD

Sole selling agents in Canada, Peterboro' West and North for Frost & Wood Farm Implements, Kemp Manure Spreaders and London Gasoline Engines