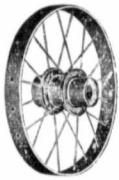


# The Farming World

A Paper for Farmers and Stockmen

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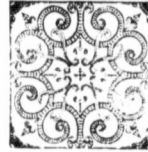
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# The Farming World

For Farmers and Stockmen

VOL. XVIII

NOVEMBER 27th, 1900.

No. 13

## Inter-Provincial Trade

**D**URING the past few weeks several events have transpired of vital importance to the live stock interests of the Dominion. These have been noted previously in these columns, but they will bear repeating. On October 30 we announced that the United States Government had decided to send inspectors to Great Britain to tuberculin test all cattle purchased before being shipped to the United States, thus leaving the way clear for American breeders to import direct from the Old Land rather than through Canadian channels, as many of them had been doing previously. Following this, on Nov. 6, came the announcement that the Washington authorities had decided to adopt the same course in reference to animals purchased in Canada destined for the United States, thus putting a stumbling block in the way of free exchange of stock with American breeders. To this, however, there cannot be very serious objection if it does not lead to something more drastic, or is not manipulated by the inspectors in a way that may work serious injury to Canadian breeders. Then came a third announcement on Nov. 13, which was in the shape of a warning to the effect that if Eastern breeders were not more on the alert, and did not bestir themselves, there was a chance of the whole Western Canadian trade, especially in the Territories and on the Pacific coast, being diverted to American channels. In other words, American breeders are making a strong effort to capture our Western market for pure-bred stock for themselves.

These three movements may be fraught with the gravest consequences to Canadian breeders. They may mean in the near future the loss of the American market for our surplus stock, and which has proven such a profitable one, while the encroachment of American breeders upon our western trade may cause that market to be lost to Canadian breeders unless a big push is made to retain it. Has our live stock industry, therefore, not reached a most critical period—a time when strong, definite and persistent efforts are required to place the industry on a surer footing? From our own point of view we see several grave problems before our breeders which must be promptly and successfully met. The united and determined action of the breeders backed by substantial government assistance can accomplish wonders. But there should be no waste of time. If we are likely to be deprived of the American trade efforts should be made to build up one at home or elsewhere. As we pointed out a few weeks ago there is a splendid opening just now for making a trial shipment of some of our best cattle and sheep to the Argentine and which might lead to something of importance later on.

However this may be, the question of importance just now is the development of the home trade. In our opinion we are only at the beginning of

what can be done in the way of developing the market for pure-bred stock in Canada itself. Our great Western country is developing very rapidly and is destined to become a very large purchaser of good stock. It is in the Western States where there is the greatest demand for good stock at the present time. And so Western Canada will in a very short time be our very best market if it is not so to-day. That is the goal upon which the best efforts of our breeders and those interested in the development of our live stock trade should be directed. "Canada for Canadians" works well in many lines, but it will not hold the Western market for Eastern breeders unless they make a strong and determined effort to capture and retain it.

At a meeting of the executive of the Dominion Short-horn Breeders' Association held last Monday in this city Live Stock Commissioner Hodson presented some figures relative to the Canadian live stock trade that bear directly upon this important question of inter-provincial trade. On our northwest ranches there are 200,000 head of cattle and the annual increase is 20 per cent. This means 40,000 calves every year the half of which will be females. Mr. Hodson estimates that the number of bulls required annually for these herds will be 3,600 and that about 2,500 will be furnished by the Northwest itself. This means a market for a little over 1000 Ontario bulls every year. In addition to this there is a market in British Columbia for a thousand more. But to quote Mr. Hodson: "If we want that trade we must get after it and get there quickly." As we have already pointed out the Americans are already after this trade. During the first three months of this year there were imported from the United States for use on the ranches around Calgary \$125,000 worth of cattle. This trade is certainly worth having.

Mr. Hodson also referred to the large market in the West for Ontario stockers. In the first seven months of this year 178 car loads of stockers left Ontario for the West, valued at \$128,000. Stockers from this province, nine to fifteen months old, are selling at Medicine Hat at \$15 to \$18 each. Taking the whole of the territories stockers of this class range from \$13 to \$21 each, and over a year old from \$25 to \$28 each. The average price received for Ontario stockers sent West this year was \$17.15 each. It is estimated that there are 40,000 calves knocked in the head in Ontario every year. If, as Mr. Hodson points out, Short-horn bulls were used on good dairy cows the calves would be too valuable to be "deaconed."

Dealing with the efforts now being made to build up inter-provincial trade, Mr. Hodson said:

"We are trying to arrange for a rate of \$100 per car of 20,000 pounds from Ontario to the Northwest, this rate to apply both to stockers and pure-bred animals. We are trying to arrange for a rate from Quebec and the Maritime Provinces to the Northwest of \$125, and we are also trying to secure a rate from Ontario to British Columbia of \$125.

We are furthermore endeavoring to secure special rates for men coming from the West to the East to buy stock. We want to secure a rate of 1c. per mile for men from the Northwest who buy in Ontario a car load of cattle for the Territories. We want to secure a free passage for a man who comes here and buys two car loads. We want to secure a free passage, both for a man and his assistant, when more than two car loads are purchased. Again, a man who goes all out here in Ontario buying stock for shipment to the Northwest, under the auspices of the Live Stock Associations, has to pay full rates while doing so. This man is really doing work for which railways should be glad to pay \$1,000 a year. What we ask is simply that he be granted free transportation while engaged in this work. We also desire the C.P.R. to place a free car at the disposal of breeders coming from Vancouver in the West and Halifax in the East for the purpose of attending the Provincial Winter Fair and our co-operative sale of pure-bred stock."

We have presented this question as strongly as we know how and we trust that breeders will see the importance of it and act accordingly. There should be no half-way measures but strong and persistent effort. As we pointed out a few weeks ago in referring to the encroachment of the Americans upon our Western trade, Eastern breeders should arrange to send a couple of car loads of their very best stock to the larger fairs in the West next season. We must let our Western brethren know that we have good stock to sell, and they are Canadian enough to desire to encourage home trade if Eastern breeders will do their part. Already very much has been done to develop this trade, but much more will have to be done before it will be placed on a permanent and sound footing. Let there be no relaxation of effort.

## Breeding Shorthorns

In the *Drovers' Journal* of last week appears an interesting account of a meeting of farmers and stockmen held recently in Michigan, and which was addressed by Mr. Robt. Miller, of Stouffville, Ont., on the above subject. The following is a partial report of what Mr. Miller said, and which will be read with interest by Canadian breeders:

"The Bates and Booth strains represent, probably, two of the oldest and best-known families of the Shorthorns. It was considered a few years ago that anyone breeding Shorthorns, and not handling one of these families, was not a first-class breeder of Shorthorns. Pedigree was largely the whole thing in breeding. This, while valuable in many respects, was carried too far, so that many valuable herds were either injured or ruined by paying too much attention to pedigree and too little attention to individual merit and the common laws of breeding.

"Many breeders would have nothing to do with an animal that was not of the purest line breeding from the beginning and on down through its whole course. This was production of too close line breeding, consequently many valuable animals were damaged by being too greatly weakened in breeding strength.

"The climax of this was reached a few years ago when the Shorthorns were selling up into the thousands of dollars each. It became to be generally thought that a man could not have first-class stock without paying a small fortune for each individual. This led to still closer breeding, and did not end until the bottom of the boom dropped out. Men began to understand then that everything did not lie in a line pedigree. The change came when the value of the pedigree was discredited. Some even went so far as to favor throwing out the pedigree entirely, but the wiser ones favored a broader system of breeding and a good pedigree. To-day the individual characteristics of the animal are taken into consideration, and the Shorthorn is being bred with due attention to individual merit.

"The typical Shorthorn is a moderate sized animal as compared with the extreme. It should have a good clear cut head set off with a fair pair of horns.

Perhaps the horn should turn downwards slightly. As a matter of fact, the horn should be regarded as a comparatively minor feature in comparison with many other much more desirable characteristics. The neck should be medium in length; rather short as compared with the other extreme.

"The shorthorn should be well filled just back of the shoulder. This is particularly true of the beef Shorthorn as denoting good feeding qualities. A good, well-developed loin is also essential. In males the loin should be arched a little; not so important nor as readily secured as in cows. Thighs in bulls should be plump and full, something after the plumpness of a well-developed pig's thigh. The Shorthorn should stand well on its legs. It should have the usual straight lines, broad back and well sprung ribs. Great depth of breast means great lung power, and consequently, more vigor and endurance.

"The breeder at present does not hesitate in crossing different families under reasonable circumstance. To a great extent danger of too close breeding is consequently largely obviated."

The *Journal* then summarizes the closing of his address as follows:

"Mr. Miller referred to their own practice and experience in breeding and selecting sires. He does not insist on certain families from which to draw blood. They select the bull that seems best fitted for their purpose. A large percentage of their bulls have come from Scotch families, though not on any family score.

"Mr. Miller referred to one point in particular with some hesitation, saying as he did so that while generally held by some of the breeders of the country to be true, it would be difficult to prove it conclusively, and this was that the very best show herds are not producing the show animals. A good show animal is more or less a freak, otherwise it would be possible to breed good animals without limit. All things equal, a breeder mating two extremes is liable to produce a first class show animal, and on the other hand the offspring may be more or less worthless. It is not an uncommon thing for the best breeder to produce ten inferior animals to every show animal he breeds.

In drawing his remarks to a close Mr. Miller spoke very highly of the Scotch Shorthorn and Scotch method of breeding and rearing stock. They allow the calves to run with the cows almost invariably, and the result is, he believes, that there is a greater tendency to develop the calves in long power, general strength and vigor.

## Auction Sale at Guelph

At the Shorthorn breeders' meeting referred to elsewhere Mr. Hodson stated that the first of the co-operative sales of pure-bred stock under the auspices of the Dominion Government and the Breeders' Associations will be held at Guelph on February 13 next. This is an important announcement and should be made a special note of by parties desiring to procure the very best stock at its market value. There are already guarantees of orders for 96 bulls, provided that the bulls are right, and these orders are coming from men who never bought in Ontario before. An effort is also being made to induce the local fairs to expend their grants on the purchase of good bulls instead of holding a fall show. Two townships have already adopted this course. One of them has 17 pure-bred bulls on hand at the present time.

After some persistent and what appeared to be purely selfish objection on the part of one or two members, the Shorthorn Executive decided to hold the next annual meeting of the association at Guelph on Feb. 13, at the same time as the auction sale. This will be a decided change from other years, when this important meeting has always been held in Toronto. The change is not without its advantages, however, as a great many members of the association come from the western part of this province. The organization is a Dominion one and there appears to be a feeling that the annual gathering should move around.



It is possible that a deputation from the cattle breeders may go to Washington in order, if possible, to secure a change in the American regulations regarding the tuberculin test so as to permit the trade in pure-bred stock between Canada and the United States to be continued in the old way.

## The Value of Gluten in Wheat

The subject of gluten in wheat is one that is attracting world-wide attention at the present time. A few weeks ago we published some extracts from the address of an English authority on this subject which attracted considerable attention. Some very important work has been done along this line during the past year or two by Mr. R. Harcourt, assistant chemist, Ontario Agricultural College. A short article on this subject by Mr. Harcourt appeared in the last college report, which has been copied by the *London Times*, and also reprinted by the *Sydney, Australia, Mail*. A correspondent asks us to publish this article and we have very much pleasure in doing so. It is as follows:

The two constituents found in largest quantities in the cereals are the starches and proteids, the former averaging about 60 to 70 per cent., and the latter 9 to 12 per cent. The starches may all be detected by the same chemical reaction, but the kernels differ in size and shape and in their behavior towards ferments. The character, the composition, and even the number of the proteids, or nitrogenous bodies, contained in the different cereals are not thoroughly understood. It is known, however, that owing to a peculiar property of the proteids of wheat flour, which it has in common with rye flour, it forms a dough when mixed with water, and this on leavening and baking produces a light, porous bread. This property is due to the composition of the proteids of wheat and rye. These grains contain what is commonly known as gluten, the sticky substance left in the mouth after chewing wheat. The gluten from different varieties of wheat or from different parts of the same wheat may vary in quality, some being firm and elastic, some soft and sticky. It is owing to this gluten in wheat flour that when it is made wet a dough is formed, and that when the dough is impregnated with a ferment or any gas-producing material the dough rises. The height to which it rises will depend largely upon its capacity to retain the escaping gases, or upon the toughness and elasticity of the dough, and this in turn depends upon the quantity and quality of the gluten. It follows, therefore, that the gluten content of a flour has much to do with the quality of the bread.

The commercial examination of a flour turns upon three characters—strength, yield and color. The strength is largely determined by the quantity and quality of the gluten, the yield of bread depends chiefly upon the amount of water the gluten will absorb, whilst the color of the flour is affected by the wheat from which it is made, by the amount of bran left in the flour, and by the quantity of germ that escapes separation. Thus the value of a flour, apart from the color, depends almost entirely upon the gluten it contains. Investigations into the gluten content and bread-yielding power of some of the Ontario varieties of winter wheat indicate that quality in gluten is almost, if not altogether, as important as quantity.

Climate and soil greatly influence the character of wheat; apparently there is as great a difference in the strength of flour made from the same variety of wheat grown in favorable and unfavorable seasons as in the strength of samples from different varieties of wheat, while change of soil may greatly change the nature of the wheat. A fertile soil and a comparatively short season of growth are the most favorable to the production of a wheat with the best quality of gluten. A long-growing season favors the development of a large, plump grain, rich in starch. A short, quick-growing season forces the crop on the side of gluten formation, as less time is given to the filling out of the grain with starch. When it is considered that the environment, as climate and soil, may force the wheat crop to

produce starchy grain or glutinous grain, that the stage of ripeness, the quality of gluten, and the ferment bodies all give character to the grain, and also that when the wheat is milled a mechanical separation of the proteids takes place, it is evident that there are many factors which help to determine the quality of the flour. Hence, probably, arise the differences of opinion amongst millers as to what wheats should be grown. A prominent Ontario miller not long ago contended that farmers should grow those varieties of wheat which would give the largest yield and be of the proper color, and pay no attention to the gluten content. At the same time an equally prominent miller declared that unless farmers would grow wheats rich in gluten, irrespective of yield, the milling business in Ontario would be ruined. Some millers prefer the gluey-looking, opaque wheat; others the fine, white, transparent grains. Practically, so little is known with any degree of certainty that a wide field seems to offer itself for investigation.

Millers assert that Ontario wheat does not make so strong a flour as it formerly did, and the same complaint is now being heard respecting the wheat from Manitoba and the Northwest territories. It is not unusual, also, to hear farmers remark that their flour does not make such good bread as it did years ago. At the same time, while certain varieties of wheat are spoken of as deteriorating, it is claimed that some of the soft winter varieties are improving in the quality of gluten. Efforts are now being made to study the change in the gluten content of wheats grown on newly broken land and on land that has been cropped for a number of years, in order to ascertain whether the difference is one of quality, or quantity, or both; also to discover if there are any means of preventing the deterioration.

## The Wheat Yield and Phosphate

A correspondent sends us the following, and as it bears upon the important question of quality in wheat, we have pleasure in publishing it:

"That the large deposits of phosphate rock in Canada must eventually assume great importance cannot be doubted, as the evidence of scientific men and practical agriculturists emphasizes the intimate relation of phosphates to the wheat yield. It is only as the agricultural experiments and reasonings of science take practical form that we have realized that phosphate affects the yield as well as the quality of grain. For a long time the fact that nitrates increased the yield was accepted as proof that some form of nitrogen for application, such as nitrate of soda or sulphate of ammonia, would be required to raise the yield so as to meet the demands of an increasing bread-eating population in the world.

"That an increased yield per acre will have to be attained in the near future is very ably reasoned by Prof. Crooks, who estimates that by 1931 the population of bread-eaters will equal the possible yield of wheat at the present low average of crop production. Science and research have now shown that we can procure the needful nitrogen through the agency of clover and other leguminous crops, and that the power of these plants to fix and so supply us with nitrogen freely from the atmosphere is measured by the available phosphate presented to the plant in the soil.

"It is shown that when a plentiful supply of available phosphate is given to the clover that it fixes enormous amounts of nitrogen. Much of the phosphoric acid remains in the plant, but as it is mostly conveyed to the seed or reproducing parts, the unrequired surplus after having done its work of toning or assisting the utilization of nitrogen passes back to the soil as plant excrement and is used by following crops. The clover thus grown when worked into the soil makes the best preparation for grain growing and it is even found advantageous to apply more phosphate so that there may be no waste of the valuable nitrogen and that the wheat may be thus provided with full power to use it up and

thus produce us increased crops. The grain yield then is after all mainly dependent on the phosphatic base and this is also the case if the nitrogen is supplied by rich farm manure or nitrate of soda.

"The quality of the grain is still more importantly affected by the phosphate and it is interesting to note that almost ninety per cent. of the phosphoric acid utilized and kept by the plant enters into and remains in the seed or grain, while only about seventy-five per cent. of the nitrogen of the plant is found in the grain. This fact is very suggestive of the reduced grain yield of our lands when it is remembered that phosphates have not been the fashion with our farmers in supplying the food to their crops. Silicon also has an important place in grain production, although agricultural teachers seem to steadily overlook it. To make the silica in the soil quartz available, caustic lime is valuable and in applying phosphoric acid we should use a phosphate containing plenty of lime or else apply lime previous to phosphating if we use a super-phosphate. Thus we get silicates of lime for the grain. The grain plant requires as much silica as it does of all the other minerals combined and probably the milling quality of the wheat is much affected by the available supply of silica."

## Rotation in Crops

By Prof. Thos. Shaw

The necessity for rotation in crops is based on the desirability of maintaining an equilibrium in the fertility of the land, and in the mechanical condition of the same, which is equivalent to saying that it is based on the desirability of maintaining an equilibrium in its producing power.

### RESULTS FROM THE ONE CROP SYSTEM.

The inevitable results from the one crop system are the impoverishment of the land. As surely as the soft winds come from the sunny south, the tendency of the one crop system is to deplete the land of some of the elements of its fertility. When such a result is reached, its producing power is gone, even though other food elements should remain still in ample supply. Land can no more produce if one of the important elements of fertility is gone, until the exhausted element is restored than a machine can be made to do its work in which some of the important parts are wanting, until these have been restored. The one crop system means land robbing in ninety-nine cases out of one hundred. In nearly all instances it means selling the product thus grown from year to year to the constantly increasing impoverishment of the land. The only exceptions are those instances in which purchased fertilizers are applied to the soil to restore the waste, and even though this should be done, no system of applying artificial fertilizers can be adopted that will keep soil for any prolonged period in a healthy mechanical condition, in the absence of a judicious system of rotation. If the one crop system means land-robbing, then by parity of reasoning those who practise it are land robbers. There is no getting away from such a conclusion, and, in so far as they are land robbers, they are the enemies of the country. The most precious material heritage in all the United States, what is it? Not the mighty cities by the sea that furnish a refuge for the ships of nations, laden with the merchandise thereof, nor those on the inland waters, with their millions and millions of wealth; not the great sea monsters that guard our shores from the possibility of invasion; not the mountains of the East and the West, with their untold wealth of hidden treasures; not the remnants of the forests that were once the pride and glory of the nation; not the banks with all their stores, nor the national mints, with all their gold and silver. It is none of these, nor is it, indeed, all of them combined. It is the first foot of soil that covers this entire nation from the East to the West and from the North to the South, through all its borders.

The school-boy definition for a desert, in their old geographies, read as follows: "A desert is a large tract of

land or rock where nothing will grow." But it is quite possible to make a desert without sand or rock. Give one of those one-crop land spoilers long enough, and he will make a desert of the alluvial soil of the prairie, and he will do so by that system of farming which ignores rotation. It may take him a long time to do it in any of the happy valleys of the Mississippi and its tributaries, thanks to the past ages for the fatness given to the land, but no thanks to the man who is fleeing it.

Who is the patriotic farmer? Not necessarily the man who votes for Laurier or Tupper, but the man who does his best to leave the precious heritage of soil fertility to his children and his country at least as good as he found it. Among farmers, who furnishes the highest type of patriotism, the men who left the plow standing idle in the furrow at the call of the country to help the oppressed in South Africa were patriots, and so were the men who left the seed drills in the fields at the call of country to cross the distant sea that 10,000,000 of their fellows might be lifted to a higher plane of civilization. Their deeds are the deeds of heroes; their story will never die. But, tell me, how much behind them is the man who on his farm, through all his life, does his best to make more and more productive that little portion of that most valuable material possession, the soil of this great country? Think of the nation in which this splendid heritage is wasted. In all the Northwest fertility goes up in smoke and flame by day and by night in the straw that is burned. In all the West the precious stores of plant food furnished by the stables of the cities and towns that dot the land is in great part dumped into streams to feed the fishes of the sea, or is turned into ashes by the relentless fagot. Over all the East from one-fourth to one-half of all the fertilizer made on the farms is wasted through inconsiderate handling. And that continued outflow of food for live stock that goes out from the Mississippi basin alone is beyond all question depleting the soil of that region of its fertility to the extent of \$50,000,000, yes, twice \$50,000,000, and even more than that every year, a frightful annual offering to place on the altar of inconsiderate farming. A judicious rotation will tend to reduce such waste in all its forms, especially when life stock is one feature of that rotation, since it necessitates the consumption of coarse and bulky food products on the farm.

### BENEFITS FROM ROTATION.

There are many, but only some of them can be enumerated here. Rotation prolongs the producing power of the land. That it should do so is easy of explanation. Grow wheat only, or corn, and the soil in time will become exhausted of its nitrogen content; but grow clover or some other legume in some kind of alternation with these crops, and the nitrogen depleted by the wheat or the corn is restored by the clover. Even though legumes should not be grown when other crops alternate some of them draw more heavily on the nitrogen than others; others draw more heavily on its content of potash, hence, though there should be no attempt to restore the fertility of the land, it will take a considerably longer period to deplete the soil of its fertility than if only one crop were grown. 2. Rotation means diversity, which is always a safer system of farming than the growing of one crop. When all is staked on one crop, and that totally fails, then all is lost for the season. If it partially fails, then the loss is proportionate to the extent of the failure. If, on the other hand, various crops had been planted, while some had failed others would probably prove a success, and the revenue from these would go far to make up for the loss from the failure of the other crops. The man who stakes all on one crop is like the general who stakes all on the result of one battle and who may not have made any provision for retreat. Diversity in crop production also leads eventually to the growing of stock to consume the coarse products grown on the farm, and this means a long stride in the direction of the conservation of the fertility of the soil. 3. Rotation hinders the multiplication of weeds and insects. Of course it does so only relatively. When one crop only is grown

certain weeds will sooner or later ripen their seeds in it. They will so ripen their seeds in it every year, especially if it is a grain crop, and will therefore continue to multiply as long as that crop is grown. Thus it is that certain of the richest sections of the wheat belt have become a proverb, and, it may be added, a reproach, because of the abundance in their weed production. When other crops alternate which call for a different kind of cultivation, or which grow and mature in a different portion of the season, the growth of these crops so far hinders the multiplication of these particular weeds. Especially is this true when one of the alternating crops is a cultivated crop, that is to say, a crop that requires cultivation while it is growing. That particular crop will be made a cleaning crop. The same thing results, in part at least, from growing meadow or pasture as one crop of the rotation. Both of these so far assist in cleaning the land. While they are growing many weed seeds in the soil lose their power to grow.

Again, insects of certain kinds infest certain crops. They do so, probably, not only because these crops furnish food for them, but because the cultivation which they call for may also be favorable to the multiplication of such insects. Alternate with other crops and the cultivation which they demand may bring great tribulation to the insects. There is no form of weed that ever grew on tillable land, and no form of insect that ever preyed upon crops, that cannot be fought in this way. Though these should not be thus fought to a finish they can thus be kept reasonably at bay.

Rotation so diversifies the work of the farm that the farmer is not so pressed with work at some seasons that he cannot properly save his crops. Nor has he so little to do at other seasons that he has nothing to do but wrangle over politics the whole winter, when he ought to be fattening steers at home or producing milk for the dairy. The man who does the most good work in the year is the man who does a reasonable amount every day, rather than the man who is rushed at certain seasons to the extent of making life a burden, and who at other seasons has nothing to do but count his fingers. It is simply depressing to witness the loss of immense quantities of grain betimes in the Northwest, because of lateness in the reaping, and also to notice millions of acres of splendid corn fodder go to waste every year in the corn belt, because the grower has so much of this one crop that he has no time to gather it. When the rotation is much diversified, the farmer and his family are far less dependent upon hired help; they are kept at work all the year, which is good for both, and they are sure in the long run of a higher margin of profit.

And rotation helps to maintain a proper mechanical condition in the land. That is to say, it helps to keep it in that condition which will make it easy of tillage, it gives it increased power to hold moisture, and, as a result, it renders it far more productive. And let it be remembered that one of the most important features of all rotations is the grass crop. This more than any other will favorably affect the mechanical condition of the soil. The aim should be, therefore, to introduce this crop, as frequently as possible, into the rotation. Where this cannot be done, let some other crop, the equivalent of grass, take its place. Due attention to this matter alone would revolutionize farming in the Northwest. Again I say, due attention to this matter alone will revolutionize farming in the Northwest. When light soils are filled with decaying grass roots they hold the moisture which would otherwise be lost. When vegetable matter is buried in heavy soils, they are made more friable. When humus is thus kept in ample supply in the land, like bit and bridle in a horse, it makes the land respond to the desires of him who tills. The greatest triumphs in experimentation in land tillage in all the Northwest will, in the near future, be made in this line. Once again I say, the greatest triumphs in experimentation in land tillage in all the Northwest will be made in this line. Whosoever will, let him note this statement.

#### CONDITIONS THAT GOVERN ROTATIONS.

It is not possible to give rotations that will have equal adaptation for all soils, or even for localities, with soils sim-

ilar, but where the climatic conditions differ materially. Far better it is to give principles that should govern rotations, and which must be fitted according to the nature of the conditions. Important among these are the following: 1. Aim to make the rotations as short and free from complications as possible. It has already been said that the more frequently a grass crop can be interjected in the rotations, the better. Some three years' rotations are unexcelled, as, for instance, clover, corn, grain, but in some localities, of course; this rotation cannot be had. The great sin of some good brethren who work at rotations at the Experiment Stations is that they are working them in the clouds. It will take half a lifetime to get through these rotations. How many farmers will copy them when worked out? Judge ye. Again I urge, make rotations short and simple. 2. Always aim to apply the farmyard manure on the pasture crop the previous winter, or on the pasture some time in the season before it is broken up. It is questionable if any method of applying manure ever tried will equal this one in preventing waste in fertility, in economy of labor and in stimulating growth.

3. Always try to have the pasture crop followed by some grass feeding plant, as corn, field roots or potatoes. But sugar beets should not come thus in the rotation, as the decaying vegetable matter will force too rank a growth. A year hence would be amply soon for them. Corn, potatoes and roots will, in a normal season, make a prodigious growth when thus planted. 4. Invariably try to follow the cultivated crop with some kind of small grain, such as may be needed, for the reason first, that the ground is then clean, second, that it is still rich, third, that it is in good tilth, because of the humus that it contains, and, fourth, that it is moist because of the cultivation of the previous year. Try, also, to put in the grain crop by simply pulverizing the soil without ploughing it, for several reasons that might be given. 5. Always aim to sow the grass and clover seeds on this grain crop. The land is then clean and moist, and it is still fairly rich, hence a stand is likely to be secured. And 6. Never summer-fallow land without burying at least two green crops in the soil to enrich the land, add to its store of humus, and thus increase its power to hold moisture.

#### SOME SHORT ROTATIONS.

It will not be possible to give rotations that will apply equally to all sections of even a single county, where the soil conditions differ, nevertheless the following short rotations are submitted in the hope that each will be found helpful in some part of this wide agricultural empire. They are only a few among the many that may be given. 1. Follow clover with corn, and corn with any kind of small grain that may be desired. This three years' rotation is one of the simplest and best that can be adopted in any country. Like the brook, it might go on forever, were it not for the fact that the supply of phosphoric acid and potash in the soil might run low sometimes, where the fertility in the clover is taken away from year to year. But in localities where clover is not an assured success, this rotation cannot be practiced as already intimated. 2. Grass grown two or three years. That is to say, meadow one year or two, and pasture the remainder of the time. Follow with corn, and then two crops of grain in succession. This gives a five years' rotation. Any kind of grass will answer that will make good hay and give good pasture. Grass grown thus for three years will form a sod on the top of which three crops of grain, that is, one of corn and two of small grain, may be grown before the influence of the decaying grass roots is gone. In this rotation the hazard of losing a stand of grass comes only once in five years. 3. Grass one, two or three years, corn, small grain and winter rye and cow peas or soy beans are grown the same year, and both may be pastured. In this rotation are two cleaning crops, viz., the corn and the cow peas or soy beans, and the last named bring nitrogen to the soil. 4. Pasture, corn, grain two or three times. The duration of this rotation will depend on the duration of the pasture. It has

special adaptation to those localities where grazing is profitable and where such abiding grasses as blue grass and orchard grass grow freely. In growing the grass, a mixture may be sown as of clover, timothy and orchard grass. The crop may be mowed if desired for one or two years, and then pastured. This rotation is eminently labor saving. The weakness in it lies in the proneness of insects to breed in the grass and make trouble when the pasture is broken up, and also the proneness of parasites injurious to sheep to make such a pasture their abiding home. 5. Summer-fallow followed by wheat, wheat, wheat. This rotation is for the farmer who persists in growing wheat. It gives him an opportunity to clean the land and to partially renovate it, for, when he follows it, he should bury two green crops, one of which should be a legume, as for instance peas. Those farmers who till soils brim-full of the fatness of past ages will be prone to say that burying two crops thus will force such a growth that the wheat would lodge and be ruined. I answer, if they were to say that to their sheep, the latter would bleat back at them derisively for not knowing enough to allow them to graze on the wheat during the early stages of its growth, to prevent it from becoming too rank and strong. And it should be stated that in the above rotations field roots or potatoes may at any time be given the place occupied by the corn.

Farmers of Canada and farmers of the United States, give heed to this question of rotations. It means the better conservation of soil fertility, larger returns and happier and more prosperous homes. Again I say that the depletion of soil fertility is the greatest physical calamity that can come upon any country. It is worse than pestilence. Pestilence may stalk abroad over the land and smite down its thousands. Where the land is rich, the tide of emigration will flow in and soon the only traces of the pestilence will be found in the new-dug graves of the cemetery. It is worse than famine. Though the heavens should turn to brass and the earth to iron because of the drought, though gaunt famine should make havoc in the city and lay the dead farmer beside his ploughshare, if the land retained its richness, with the return of normal rainfall the glad song of the harvest home would drown the echoes of the wail that went up from the famine-stricken sufferers. It is worse than war. The dread of desolating armies may be heard in a country; they may leave its cities a ruin and its fields a waste, but if there is fatness in the soil, it will soon be re-peopled, cities greater and mightier will rise on the ashes of those that were burned. The fields will again be tilled; live stock will soon again feed in rich meadows and happy homes will soon again dot the land. But rob a land of its fertility, and what do you do? You turn it into a wilderness for a time at least not worth fighting for by the wild beast that comes to inhabit it. And thus it must remain until, through the renovating power of long successive years, the vengeance of heaven is satisfied for the wrong done to the land in robbing it of its fertility. The story henceforth must be the story of abandoned homes, the story of loneliness and silence.

## Some Sheep-Feeding Experiments

Last winter some interesting sheep-feeding experiments were conducted in Dumfries, under the auspices of the West of Scotland College, the results of which cannot but be of value to Canadian sheep-raisers. Dr. Paterson, of the College, in a recent address, summarizes these experiments from which we take the following:

For the experiment ninety-six blackface wether hoggets (two-year-old sheep) were employed, the animals being bred by Mr. Kennedy in the parish of Carsphairn. The experiment extended over twelve weeks, and during the whole time not a single sheep died, which, he thought, spoke volumes at any rate for the health of the diets. Previous to the commencement of the experiment, five and a

half score of the hoggets were fed for a couple of weeks on a mixed diet. At the end of that time the experimental animals were drawn out, and were divided into eight lots of twelve each. Half of the lots were fed outside in roomy pens, enclosed by means of wire netting. The other four lots were separately fed in a sheep house, roofed with galvanized iron. The house cost £17. It would have held six dozen sheep, but they only put in the four dozen. Each of the lots, both outside and in, were fed in the same way. No. 1 lot in each case getting turnips, hay, linseed cake and oats; No. 2 lot, turnip, hay and linseed cake; No. 3, turnips, hay, decorticated cotton cake and maize; and No. 4, hay, linseed cake, decorticated cotton cake and maize. At the start the amount of turnips given in the case of the first three lots in each case was 11½ lb. per day per 100 lb. of live weight, as determined by the first weighing. The amount of hay was 33 lb. on the same basis, and the concentrated foods 75 lb. Lot 1, for concentrated foods, got a mixture in equal proportions of linseed cake and oats; No. 2 got pure linseed cake; while lot 3 got a mixture of decorticated cotton cake and maize. Lot 4 got no roots, but got a mixture containing hay and other concentrated foods, equal to 280 lb. per day. Afterwards the roots were increased by 10 per cent. at the end of each month, while the concentrated foods were increased 20 per cent. at the end of the first month, and 10 per cent. at the end of each fortnight thereafter. The actual amounts of food consumed during the twelve months were as follows:

Lot 1.		Lot 2.	
Turnips.....	9156 lb.	Turnips.....	9156 lb.
Hay.....	238 "	Hay.....	238 "
Linseed cake.....	324 "	Linseed cake.....	648 "
Oats.....	324 "		
Lot 3.		Lot 4.	
Turnips.....	9156 lb.	Hay.....	672 lb.
Hay.....	238 "	Linseed cake.....	444 "
Decorticated cotton cake.....	324 "	Decorticated cotton cake.....	444 "
Maize.....	324 "	Maize.....	

In previous years, when the food was not increased, feeding became unprofitable between the fourth and the eighth weeks. In the present instance, the increases in the food already indicated what seemed from the increases at the different weighing to have been well adapted to the necessities of the case. The sheep were weighed at intervals of, as nearly as possible, four weeks, weather permitting. The first weighing took place at the end of twenty-four days, the second at the end of thirty-one days thereafter, and the final at the end of twenty-nine days from that. The total number of days of the experiment were eighty-four, the increases in the different lots at the different weighings being:

	Lot 1.	Lot 2.	Lot 3.	Lot 4.
After 24 days.....	79 lb.	72 lb.	119 lb.	105½ lb.
After 31 days.....	108½ "	82½ "	129 "	10½ "
After 29 days.....	134 "	168½ "	150½ "	164 "
Total.....	321½ lb.	323 lb.	398½ lb.	373 lb.

In every case the house-fed lot had made the best increase, the total increases over the four lots being respectively 49, 64, 51½ and 10 lb. Calculating the difference due to housing for each food in terms per cent. of the total increases made by each lot, the gain would be: Lot 1, 15.4 per cent.; lot 2, 19.8 per cent.; lot 3, 12.9 per cent.; and lot 4, 2.7 per cent. These figures would seem to show that, according as the foods were more laxative in character, they were better adapted for house-feeding, lot 4, for instance, where the foods were all comparatively dry, only increasing 2 per cent., as against 15, 19 and 12 per cent. in the first three lots where turnips were all given.

The chief lessons to be learned from the whole experiment were (1) that a limited quantity of roots was good; (2) that hay should be given always when roots were given; (3) that linseed was too laxative to feed alone with roots and hay; (4) that linseed cake and oats, half and half, were too low in nitrogen to feed with roots; (5) that decorticated cotton cake and maize was best for this purpose; (6) that decorticated cotton cake and oats would probably be equally well suited; (7) that for short feeding linseed cake should not be used; (8) that food should be increased.



during fattening, in order to ensure steady increase; (9) that housing should not be undertaken for less than six weeks; (10) that for longer periods the benefits depend very much upon the nature of the weather; (11) that in bad weather it was advantageous; and (12) that, in any kind of weather, it was most advantageous with the most laxative foods.

## The Stabling of Cows

That veteran Ohio dairyman, John Gould, is always to the front on matters pertaining to the cow and her keep. Ontario dairymen who have listened with so much pleasure to his familiar talks on the care of the dairy cow will appreciate the following from his pen under the caption which heads this article:

It is no use to dispute the fact that there is a rapidly-changing sentiment and practice among the better half at least of the dairymen of the northern part of America, respecting the stabling of their cows and better sanitation therewith, and the change is by far for the better. For years untold, there was an opinion—not gotten from the cow—that the winter months were in reality intended to serve as a period for hardening the cows to make them constitutionally more vigorous, and so exhibit more vitality in the hot months; and tens of thousands of cows gave up their lives, and the barn poles were festooned with their hides, to prove (?) the supposition.

### EXTREMES.

The sentiment is changing, and now from just tying a cow up over night in a cold, comfortless stable, and feeding her out of doors it has gone to the other extreme of keeping cows in a warm stable, feeding and watering them in their stalls, and turning out only now and then, if at all. One reason given for this practice was that if kept in a warm stable nature would only grow for the cow a thin coating of hair, and to turn the cow out into severe or stormy weather gave them by far too sudden an exposure, and the reaction upon the system which followed proved a serious detriment to milk giving. Some contended for a fifteen minutes' run in the warm mid-day sun. While there were others who said: keep them in all the time.

### DIVERSITY.

In another matter there was much diversity of opinion. By many it was thought that a cow could only be kept warm in the stable by making it so close that she with the other cows in common, must breathe over and over the vitiated air, and that mingled with—what to them seemed to be impossible to eradicate—the foul odors and supposed associated smells of a stable; and based on these suppositions, it has been claimed that a healthful stable would be impossible if made warm.

### A CHANGE.

At the farmers' meetings for the past year or more, the talk has taken a change, and the warm stable, better sanitation, less out-door freedom for the cow advocated, making her comfortable in a clean, dry stall, plenty of food with succulence, fresh air and water, and there was only the necessity for a sun bath, and a half hour's swim in it on a "pleasant, warm day only," which when thought over, was only "Homeopathic" out-door life after all when compared with the other 23 hours and 30 minutes of the 24 hours. What was thrift and health in a cow and how best told, was answered: "That when a cow was eating full rations, giving full flow of milk, hair sleek and oily, eye bright, no amount of exercise could make another cow show the healthy thrift of the first. That there was no more sense in turning a cow out of doors in January to give her robustness, than to put her into cold storage six hours a day in June to give her vigor."

### SPOOKS.

The "spook" that was looking over the barnyard wall, was the man that feared that cows caught lung trouble in stables, but had no proof that a cow in a warm, comfortable stable with sanitation, fresh ingress of air, and windows that turned in the sunlight in abundance—as all stables may be made—ever caught lung trouble from the stable, or such a case was ever aggravated by such a stable life. The dark, damp, foul stable of the past is fast disappearing. There is wonderful progress being made in stable construction, especially in the West. The silo and winter dairying is responsible in a degree for this. It is a question of milk with these farmers, and the feeding of a soft, green food has made a better, warmer stable imperative with a sanitation far superior to the ordinary.

### COW COMFORTS.

Cow comforts have come apace, until one now sees stables galore with many large windows; floors on the ground, warm, clean and dry; cow ties, stables white-washed, ventilating flues, and water in the barn, often buckets for each cow, and it all is in evidence, the better these stables, the better the health of the herds, and finer the flow of milk. Cow killings, and issuing of "bulls" by health boards are not finding disease increased by these methods, but rather decreased. It is not proven that a cow is more subject to lung troubles by being kept in good warm stables than one that is turned out every day, into all sorts of weather and subjected to the radical changes.

### THE STABLE.

While it is not hard to see what an extreme case would be of neglect in the care of cows, and what should not be in a stable, it is not so clear to define the limit of the other extreme of the school of radical departure in stabling cows. Of course a stable can be made too close, too dark, and the like; but given a light, clean well-ventilated stable, and good sanitation, it is quite a difficult problem to find just where to draw the line at exercise; or wherein sunlight is better for ten minutes direct, than for hours pouring through a good liberal spread of glass; or in what way water is better and more healthful drunk twice a day out of an open tank wherein every cow plunges her nose, than to drink when ever thirsty from an individual basin in the manger. In some way we are led to think that the early fall stabling has much to do in answering the whole matter, granted first that the man has a good, wholesome stable with what are known as cow comforts a feature.

### FALL STABLING.

Cows left out at night when the chilling rains are frequent, frosty nights are common, and winds pierce, are put quite as much in line for disease and ailments generally, as from too good stabling in the winter.

Straw is cheap, road dust is plenty, and a cow can be made more comfortable in a warm, dry stable during cold, rainy October or November nights, than she can be forced to believe she is in a fence corner, rain soaked or frost plated, as the case may be. Some one has said that a "rain-wet cow was like putting a wet cloth about a pitcher in July to cool the water within it." This fall-stabled cow, with her food of some sort before her, is nearer in the pathway of good health than the other, for no one has yet proven that the physical suffering of cold and exposure is part or parcel of nature's plan of either health restoration or the building up of constitutional vigor.

### EASE.

This we know, that warmth and comfort are conducive to milk giving, and the reverse is milk shrinking, and a cow well stabled that gives her full flow of milk, with thrifty look, can be counted upon as not being injured by her stable life. There are things to be considered in this matter. Are these cows in the stable milk-givers with calf dropping months in the future; or are they dry or practic-

ally so with calves due in early spring? Here is a question. One dairy is milk-giving and putting the energy of surplus food into milk, an indirect product of nerve force; in the other dairy, with no such draft upon their systems, the surplus food must find more demand than that made by embryo life, and such cows do need a certain amount of muscular movement, and should have it for many reasons, chief of which is that of the coming calf now being fast fashioned. The other cow, bred in December and January, has the whole summer of pasture rambling to give the needed influences; and in this there needs to be a distinction in the stable life of the two classes of cows.

#### VENTILATION.

It is not so much the question of warmth—too much—in a stable, as to ventilation and constant change of air, without draughts, and frequent changes in temperature. The sub-earth duct, bringing air into the stable from 400 feet away and distributing it in the stable, and the galvanized chimney stack with cowl surmounting the barn, coming close to the floor, taking away air as fast as brought in, is an ideal ventilation for the stable, and makes it possible to maintain the temperature close to the 55 degree mark. Then with individual mangers, water buckets and a tie, instead of rigid stanchion, good silage and clean grains for a ration, can anyone tell why this cow should have, or needs, a 15 minute per day run in the barn, or any other yard, for her health and comfort?

### CORRESPONDENCE

#### Liming Soils

Editor THE FARMING WORLD:

Would some of the readers of THE FARMING WORLD give me their views on lime as a fertilizer? How many bushels per acre would be a fair dressing and would it lose any of its strength by sowing on top of the snow in winter, or, better, hauled in the winter and put under cover to be applied in the spring? My idea was to sow on the meadow this winter, mow once and plow for wheat. How long would a fair dressing of lime last?

Welland, Nov. 19, 1900.

JNO. W. HEMMAYS.

NOTE.—There is no doubt that many Ontario farm lands would be greatly improved by the judicious use of lime. It should not, however, be looked upon so much as a fertilizer but rather as a means of making the plant foods already in the soil more available to the plants. Prof. McAlpine in his lecture on the germ theory and soil fertility which was referred to in THE FARMING WORLD of Nov. 13, states that a supply of lime is necessary in the surface soil in order to enable the soil bacteria to discharge their functions. Therefore if his theory is correct the use of lime in some form is essential in all soils. On the heavy English soils it is customary to apply as much as 1,000 pounds per acre of lime. But conditions here are different and except on heavy, stiff, clay soils about 500 pounds per acre would be sufficient. Care should be taken not to apply too much or too often. An application of 500 pounds per acre on other than stiff, heavy, clay soils would be sufficient to last fully ten years. On heavy clay soils 1,000 pounds every ten years might be applied with safety. Lime applied during the winter should work all right, though it might be applied in the spring. When lime is required in the soil many advocate using some form of phosphate of lime.

We would be glad to hear from parties who have applied lime to soils as to how much they use and when they apply it.—EDITOR.

### Agricultural Pursuits as Health Restorers

EDITOR THE FARMING WORLD.

There can be no doubt that the cultivation of the soil and the different operations relating thereto, cannot be proposed, without notice, to a patient as a means of healing pathological affections, by the attractions of botany, gardening, and the cultivation of fields.

This treatment rests upon two principal ideas. One is to give a different direction to the functions of the brain by

occupying the muscular system, so as to determine in this last a happy union of the different organs, and an abundant vital afflux, or, in other words, to augment irritability, at the expense of sensibility.

The other consists in employing all the organs at one and the same time, and especially those of the thoracic and abdominal cavities, so that, by compressing and stimulating all the ducts, lubricating the nerves, and notably those under the diaphragm, we succeed in restoring the injured organ to its special attributes, to concur in that general harmony of action which constitutes health.

These results having been obtained, we must avoid the return of the physical and moral causes that provoked the disease, and give a very substantial and easily digestible nourishment to the convalescent, so as to augment the general organic impulse.

Agricultural pursuits, exercising at once all parts of the body, and thus constituting a state of perfect health, demonstrate the indispensable necessity of alternating with this art the greatest number of the occupations of life, whether of the body or the mind. It would doubtless be an interesting labor to form a table of signs predisposing an approaching malady, or a desperate malady, which could be healed by work on a farm or garden, each malady with regard to the kind or sort of occupation which would prevent or heal it.

The doctors of antiquity recommended, for the healing of nervous diseases, frequent walks in gardens embellished with various plants, doubtless because the stimulus which the aroma of the flowers and the different vegetable emanations which accompanied the most ravishing of spectacles produced upon the senses a sweet, equal and constant action without presenting the picture of physical and moral miseries that attack the animal existence. These are doubtless the happy consequences for the preservation or restoration of health which invite so imperiously to an agrarian life, or at least to the cultivation of a little garden, even in the midst of a city—men bent down by misfortune, even as those whom a happier destiny permits to accompany them in the course of an honorable and successful career.

A. KIRKWOOD.

Toronto, Ont.

### John I. Hobson Dead

Just as we go to press we learn of the death of Mr. John I. Hobson, Guelph, Ont., after a very short illness. Mr. Hobson was in Toronto on Monday last attending a meeting of the Executive of the Dominion Shorthorn Breeders' Association, of which organization he was the honored president. He complained then of not feeling well, and after returning home his illness took a serious turn, resulting in his death on Friday evening.

Breeders all over Canada will learn of Mr. Hobson's death with the greatest regret. He was well and favorably known in all parts of Canada and especially in his own province, where his work in behalf of higher agriculture and improved methods in live stock breeding had endeared him to farmers and breeders generally. He was a prominent Institute worker and in the announcement of the January and February meetings in last week's issue Mr. Hobson was one of a deputation billeted for Division 2. His most important work, perhaps, was in connection with the Provincial Winter Show, the great success of which has been in no small measure due to his efforts. He was its president at the time of his death. He was also a director of the Industrial Fair.

Mr. Hobson was 65 years of age. He was a brother of Mr. Joseph Hobson, chief engineer of the Grand Trunk, and was born and raised on the farm at Mosboro, a few miles west of Guelph. After retiring from the farm a few years ago, he removed to Guelph, where he has resided since. He leaves a widow and an only daughter, Mrs. A. F. H. Jones, of Guelph.

## Studies in Nature

### A Monthly Review of Insect and Bird Life on the Farm

Edited by C. W. Nash

#### Their Own Names.

I knew a charming little girl  
Who'd say, "Oh, see that flower!"  
Whenever in the garden  
Or woods she spent an hour.  
And sometimes she would listen,  
And say, "Oh, hear that bird!"  
Whenever in the forest  
Its clear, sweet note she heard.

But then I knew another—  
Much wiser, don't you think?—  
Who never called the bird, a "bird,"  
But said "the bobolink!"  
Or "oriole" or "robin"  
Or "wren," as it might be.  
She called them all by their first names,  
So intimate was she.

And in the woods or garden  
She never picked a "flower,"  
But "anemones," "hepaticas,"  
Or "crocus" by the hour.  
Both little girls loved birds and flowers,  
But one's love was the best;  
I need not point the moral,  
I'm sure you see the rest.

For would it not be very queer,  
If when, perhaps, you came,  
Your parents had not thought worth while  
To give you any name?  
I think you would be quite upset,  
And feel your brain a whirl,  
If you were not "Matilda Ann,"  
But just "a little girl."

—Alice Wellington Rollins.

**The training of our pupils to see things as they are, to use their senses, to observe correctly, to think for themselves so that they may become observant, wide-awake, self-directing, thoughtful, progressive and independent citizens—herein, it seems to me, lies one of the greatest, if not the greatest, object of our teaching.**

—C. C. James.

#### BIRD NOTES.

All too soon the gorgeous coloring of our autumn landscape has faded away. The woods which only three weeks ago were resplendent in scarlet and gold now show only leafless trees, with here and there an oak to which the brown foliage will cling until whipped off by the winter winds. As yet the pines, hemlocks and cedars appear stiff and heavy to our eyes, which have for so many months been accustomed to the ever-changing lights on the glancing foliage of the deciduous trees. Presently, when the snow comes and we have forgotten the summer effects, we shall better appreciate the form and color of our evergreens, which give so much character to the Canadian winter landscape.

Our summer birds have all gone south except a few robins and meadow larks that still cling to favorite places where food is plentiful. Some robins will stay with us all through the winter

in sheltered gardens where there are evergreens in which they can roost and mountain ash berries on which they can feed. The habit our robin has of roosting in large communities has been generally overlooked, although some of their roosting places have been regularly resorted to year after year for long periods. One of them in the valley of the eastern branch of the Don has to my knowledge been occupied by the birds every season for nearly thirty years. The trees in which they roost are cedars and hemlocks growing thickly along the steep bank on one side of the valley. I have not noticed any great number of robins roosting in these trees before the middle of July in each year, but from that time onward the number coming in every evening about sunset increases daily until October, when thousands of them may be seen there on fine days. They begin to arrive just before the sun goes down and they come singly, in small parties, and in large flocks, from all points of the compass. On arriving they first alight in the tall elms and maples that grow in the bottom of the valley and remain there for a long time calling and holding apparently a very animated conversation upon their adventures during the day. As the twilight fades the birds gradually drop into the thicket and retire for the night. In the morning they disperse much in the same way as they came in.

The crows have settled down into their winter quarters and the number of them that remain with us through the cold season seems to be increasing every year. The largest crow roost I know in this province is in the evergreen trees which grow along the steep bank of the Niagara River just below Niagara Falls. I visited this spot early last February and was amazed at the vast numbers of these birds that came in at dusk to roost there. Near Toronto there are several roosts; one just east of the city limits is very large. I have had this one under observation for some years and have particularly noticed the great increase each winter in the number of birds frequenting it. As they come in at sunset their proceedings are rather interesting. On fine evenings they fly towards their roosting trees in straggling lines from three or four directions, winging their way along in the stolid, straightforward fashion which is peculiar to the tribe, until they nearly reach the pine grove which is their home they then frequently start and make all sorts of erratic curves in the air, ending the performance with a final swoop downward, like that of the

night hawk when it "booms"; in fact, all their antics remind one of the evening flight of the night hawk. When the crows are engaged in these manoeuvres, and particularly when swooping downward, they utter a continuous rolling croak, which probably expresses their ecstasy over the day's successes. After reaching home they often perch close together on the tops of the trees, and discuss public affairs from the crow point of view. Among the topics considered at these meetings I fancy that "men and their evil ways" will be the most interesting. We are divided in opinion as to the utility of the crow. I wonder what the crows think about our value in the great scheme of nature.

At this time of the year crows do a great deal of good. They forage all over the fields and about the market gardens and orchards, and destroy vast numbers of hibernating insects, and no inconsiderable number of mice, of which they are particularly fond. If the snow becomes so deep that they can no longer glean their food from the ground, they can subsist for some time upon birch birds, etc., eked out with any carrion they may be lucky enough to discover.

One of our interesting winter visitors that has arrived here from the North is the northern shrike or butcher bird (*Lanius borealis*) the largest of the two Canadian shrikes and a winter visitor only. The loggerhead shrike which much resembles the northern in coloration but is rather smaller, is a summer resident and leaves this Province in the autumn. The shrikes in appearance and habits are quite unlike any other birds we have, the only one that in any way resembles them being the Canada jay or whiskey jack so well known to hunters in the northern woods, but the Canada jay does not frequent the open country and it is there the shrike is to be found. The northern shrike is clear slatey grey above. Below white, marked with very fine, wavy, blackish lines. A black bar along each side of the head. Wings and tail black with conspicuous white markings. Length about nine inches, that is just about the same size as a robin. They are very solitary birds. Two may at times be seen hunting together and apparently keeping each other company but not often. When seeking food they generally perch on the top of some small tree, or a fence post, from which they can get a clear view all round them. Here they will sit in an erect hawk-like attitude, silent and

watchful until some large insect, a mouse, or small bird comes within range of their vision when it is at once pounced upon and killed. If a small bird is the intended victim and the first dash is not successful a sharp chase ensues, which rarely terminates without the capture of the quarry. If the shrike is hungry at the time its prey is devoured at once, but if not this bird has the curious habit of impaling its victims upon thorns or twigs on the bushes it frequents. And upon the prairie where trees are not to be found I have seen the barbs of a wire fence liberally stocked with the bodies of grasshoppers, beetles and mice which had been killed by these birds and hung up. Whether the shrikes ever return and eat these bodies or not I don't know, probably they would do so in times of scarcity, but at any rate if a shrike's haunt is examined a good many specimens of its butchering will be seen perfectly dried up and past the stage when they were likely to afford any sort of nourishment.

The shrikes are handsome bold birds, very fair singers and mimics. I have often heard them imitate the screams of a small bird in distress, apparently for the purpose of attracting others to the spot to see what the row was about, and I have no doubt the ruse would be successful for it is the habit of all the smaller birds to flock to the place from which such cries proceed.

I have never seen the loggerhead shrike attempt to kill a small bird, though it probably does so occasionally; however the birds killed by either of them are very few, compared with the number of mice and destructive insects they destroy, so that they may be considered among the beneficial species.

Early in April the northern shrikes leave us for their summer home in the north, returning to us again about the end of October.

Not many of our usual winter visitors have put in an appearance, the fine weather is still keeping them back I suppose. A few snow buntings have passed along the lake shore and one snowy owl has been seen but not much else. The goldfinches are abundant just now, feeding greedily on the seeds of the birch; they are all in the winter plumage and do not much resemble the bright, jolly, yellow and black birds we see in summer. Males, females and young are now alike clad in the quiet colors of the female except that the old males may in some cases show a clearer yellow tint about them, but this is not noticeable unless you examine them closely; their only notes now are a bright cheery twitter which perhaps serves for conversation and a loud call note with which they invite passing flocks to come down and join them at their feed.

ANSWERS TO CORRESPONDENTS.

E.D.—Are *Danais archippus* and

*Anosia archippus*, two different butterflies or the same?

These two names and *Danais plexippus*, are all given to the Monarch or milkweed butterfly by different authors and there are probably others also. This sort of thing is very confusing, and I think it is about time that Canadian entomologists formed a union with the same functions as the American Ornithologists' Union and settled upon some uniform system of nomenclature.

I.P.F.—I have not been able to satisfy myself about your *arvicola*, but I have recently taken a specimen which may prove to be the same. I will send you this as soon as it is dry, and you may then be able either to recognize it, or point out where it differs from yours.

T.A.C., Nova Scotia.—I have used living decoy ducks, but have generally found them more bother than they are worth, if they have to be carried any distance. Will write you as to other matters.

Wm. L. K.—I will write an article on the Yellow Rail at the first opportunity. My knowledge of its habits, however, is not very extensive. I have taken a good many in the last twenty five years, but they are very secretive and hard to observe.

J.S.—I will try to give the life history of the Hessian fly in the December issue. The reason for its abundance this year is probably the long term of dry and still weather we had at the time the flies swarm. This enabled the females to deposit their eggs successfully.

The best remedy is to defer the sowing of fall wheat until after the flies have disappeared.

Dr. I.J.B.—The larva sent us is that of the Drone Fly (*Eristalis tenax*) one of the syrphidae. These larvae are commonly known as rat-tailed grubs, from the curious tail-like appendage they possess. This appendage is the breathing tube of the insect. The larvae live in stagnant water, and in foulest places, cess-pools, and the like. The adult which bears some slight resemblance to a drone may often be seen during the summer and winter hovering over flowers, or dirty wet places.

The adults and larvae of this family vary very much in habits and appearance, many of them being among our most beneficial insects, the larvae feeding on Aphides and plant lice. Some of the adult syrphidae are bright colored flies much marked with yellow and somewhat resembling wasps; they nearly all have the habit of hanging poised in the air over flowers.

#### The Plague of Flies.

"If you burn insect powder in an old tin pan it will kill mosquitoes. A person, I mention no names, tried it

to kill flies. It made the house smell like the Fourth of July, though quieter. The flies went about their business as usual, and never so much as coughed. Two or three alighted on the edge of the pan. 'Hello!' said one, 'What's this? Something new? Say, where was you yesterday, I was looking for you all over.' It never feazed them. Lavender flowers they say will discourage flies. Don't you believe it. They won't do anything of the kind. At the soda fountains, though, where otherwise the sweet slops would attract flies by the millions, the druggists scatter essence of sassafras. It is rather amusing to watch a fly sail in the door and make for the counter. 'Lemme see now,' you can almost hear him say, 'I think I'll take vanilla ice-cream' and then he strikes that sassafras and cries: 'Pue! Let me out of here quick!' Flies do not like sassafras at all. It is rather an insistent perfume, and I do not know that I myself should care for it for breakfast, luncheon and dinner for weeks and weeks, all through fly-time.

"Hear the conclusion of the whole matter. The armies of flies are to be discomfited only by attacking the base of supplies. It is an old saying that if you kill one fly, forty will come to the funeral. These little skirmishes with fly poison and sticky papers are useless. To fence ourselves in with screens is hardly worthy of civilized people. It is like living in forts besieged by savages. It is sometimes said that the old-fashioned housekeeper who is forever cleaning up is bothered with few insect visitors of any kind. But I put up an umbrella against the storm of indignation sure to break over my head by declaring that the most scrupulous cleanliness will not avail when there is a stable near. One stable will keep a large neighborhood amply supplied with flies daily in the season. It is possible by throwing the manure, in which they breed, into a pit and covering it with quicklime to kill the eggs and larvae, but where one man is thus careful, nine hundred and ninety-nine will not take the trouble. So great has been the progress of the trolley-car, the bicycle and the automobile that every one has confidence in the ability of invention to give us horseless travel, but we shall look long and look in vain for the day of cowless milk. Till then we shall have to endure, with Pharaoh of the Exodus, the plague of flies."—*Harvey Sutherland in Ainslee's.*

"When all the steady stars are lit,  
And the light sleeps, for weariness,  
Night stands with pitying hands outspread

To give her pardon and to bless.  
"Earth creeps so near to heaven then  
That scarcely may one watching,  
mark

Where they are twain—so potent is  
The benediction of the dark!"

—*Ainslee's Magazine.*



# The Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario.

## THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders', \$1; Swine Breeders', \$1.

### BENEFITS OF MEMBERSHIP.

Each member receives a free copy of each publication issued by the Association to which he belongs, during the year in which he is a member. In the case of the Swine Breeders' Association this includes a copy of the Swine Record.

A member of the Swine Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the Sheep Breeders' Association is allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale, are published once a month. Over 10,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 15th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue.

A. P. WESTERVELT, Secretary.  
Parliament Buildings, Toronto, Ont.

## FARM HELP EXCHANGE.

The Farm Help Exchange has been started with the object of bringing together employers of farm and domestic labor and the employees. Any person wishing to obtain a position on a farm or dairy, or any person wishing to employ help for farm or dairy, is requested to forward his or her name and full particulars to A. P. Westervelt, Secretary, Live Stock Associations. In the case of persons wishing to employ help, the following should be given: particulars as to the kind of work to be done, probable length of engagement, wages, etc. In the case of persons wishing employment, the following should be given: experience and references, age, particular department of farm work in which a position is desired, wages expected, and where last employed.

These names when received together with particulars will be published FREE in the two following issues of the "Agricultural Gazette" and will afterwards be kept on file. Upon a request being received the particulars only will be published, the names being kept on file.

Every effort will be made to give all possible assistance, to the end that suitable workers, male or female, may be obtained. Every unemployed person wishing to engage in farm or dairy work is invited to take advantage of this opportunity.

## Stock for Sale.

The following stock for sale was omitted from the last issue of the GAZETTE:

### Shorthorns.

Douglas, Jas., Caledonia—Young bulls and heifers, various ages.

Smith, A. W., Maple Lodge—Young bulls and heifers.

### Leicesters.

Douglas, Jas., Caledonia—Shearing ewes and one shearing ram. Ewe lambs.

Smith, A. W., Maple Lodge—Rams and ewes.

## Notice to Members of the Dominion Cattle, Sheep and Swine Breeders' Association.

At the last annual meeting of the above association, it was decided that the members should be admitted free to the Ontario Provincial Winter Fair. In order to obtain free admission, it will be necessary for members to present their membership tickets for 1900 at the office of the secretary of the Show, when they will receive a ticket admitting them to the Show three times daily.

## Farmers' Institute Members at the Provincial Winter Fair.

The following arrangements have been made with regard to the free admission of the members of Farmers' Institutes to the Winter Fair, to be held at Guelph, December 11 to 14, inclusive:

Each member of a Farmers' Institute that has affiliated will bring with

him to the Winter Fair his membership ticket for 1900, and present the same at the office of the Secretary, when each one will be given a ticket which will admit him free to the fair three times daily during its continuance. As the Ontario Experimental Union will hold its annual meeting the 10th and 11th, the first two days of the same week, there will be gathered together at that time probably the largest number of prominent Canadian stockmen and farmers ever assembled in this country. A new stone building, 310 x 150 feet, has been specially built for the purpose of holding the fair, and everything is being done to make the fair a highly educational institution.

The railroad rates are, from points in Ontario, Sharbot Lake, Kingston and West, single fare for the round trip, good going December 10 to 14, returning good until the 15th. Exhibitors in any department, upon presentation of a certificate from the Secretary, may obtain a round trip ticket for single fare from any point in Ontario and in Quebec west of Montreal, good going December 7 to 14, good to return until December 18. It will not be necessary to obtain a standard convention certificate in any case.

The following Farmers' Institutes have already paid the five dollars to the Secretary of the Winter Fair: W. Lambton, E. Northumberland, S. Brant, Haldimand, C. Wellington, N. Perth, W. Bruce, S. Waterloo, E. Wellington, E. Durham, Halton, N. Wentworth, S. Bruce, W. Durham, S. Ontario, S. Oxford, N. Waterloo, W. Wellington, W. Kent, W. York, Peel, Monck, South Wellington and N. Bruce. Others have promised to affiliate; all Institutes should do so.

N.B.—Only membership tickets for 1900 will be accepted.

## Help Wanted.

Good, married man wanted by the year. Work is general farming and fruit growing. Furnished house free. Will hire at once or on Jan. 1. Farm is near St. Catharines. No. 615. a

Single man wanted, as foreman on farm of 120 acres, on which general farming is practised and some stock kept. Tomatoes are grown for canning purposes in summer. Man must be a good plowman, quiet, and must furnish satisfactory references. Work to begin on Jan. 1, 1901. No. 614. b

## Domestic Help Wanted.

Wanted, for small family on a farm, good respectable housekeeper. Wages, \$6 a month. No. 616. a

## Situations Wanted.

Man wants a good place on a farm. Is reliable and competent. No. 457. a

Housekeeper, with thorough knowledge of housework, wants a place on a farm. Can furnish good references. No. 458. a

Unmarried man, Englishman, wants a position in State of Ohio. Is 34 years of age and has good references. Has been in Canada five years. No. 455. b

## Domestic Situation Wanted.

Wanted, a situation as housekeeper, by an elderly woman, who understands dairy and general housework. No. 456. b

N.B.—Where no name is mentioned in the advertisement, apply to A. P. Westervelt, Parliament Buildings, Toronto, giving number of advertisement.

### Farmers' Institutes.

Under this head the Superintendent of Farmers' Institutes will each week publish matter relating to Institute work. This will include instruction to Secretaries and other officers, general information about Institutes and Institute work, suggestions to delegates, etc. He will also from time to time review some of the published results of experiments conducted at the various Agricultural Colleges and Experiment Stations of Canada and the United States. In this way he hopes to give Institute members some valuable agricultural information which they might not otherwise receive, on account of not having access to the original publications. If any member at any time desires further information along any of the lines discussed, by applying to us he will be put in direct communication with the Institution that has carried on the work.

G. C. CREELMAN,  
Superintendent Farmers' Institutes.

### Speakers' Subjects.

(Continued from last issue.)

REYNOLDS, A. J., Danforth—"Silo and Ensilage;" "Cultivation of the Soil;" "Weeds;" "Growing Clover;" "Summer and Winter Dairying;" "Farm Implements;" "Farming Past and Present;" "Selection of a Home."

ROGERS, MRS. M. J., Kinsale—"Home Influence upon our Young People;" "Farm Life—Why Successful or Otherwise;" "The Road to Success, or How to Make a Real Success of Life;" "The Signs of the Times;" "How the Usefulness of the Farmers' Institutes May be Increased;" "The Ideal Home."

ROSE MISS L., Guelph—See GAZETTE, October 30, 1900.

ROSS, H. R., B.S.A., Gilead—"The Relative Value of Rolling Land, Not Rolling, and Harrowing after Rolling;" "Soil Moisture;" "Influence of Breed Types;" "Balanced Rations;" "The Value of the Babcock Test to the Farmer." Evening subject: "Insect Foes and Their Remedies."

SHEARER, W. C., BRIGHT—"Growing Corn in Hills or Drills for the Silo;" "Improving and Maintaining a Dairy Herd;" "Breeding and Feeding Hogs for Profit;" "The Benefits of Soiling Cows in Summer." Evening subjects: "Making Prize Butter;" "Raising Pure-bred Poultry on the Farm;" "The Advantages of Farm Life."

SHEPPARD, F. A., Queenston—"Propagation of Fruit, Grafting, Budding, etc.;" "Planting and Care of Orchards;" "Small Fruits, Varieties and Cultivation;" "Packing and Transportation of Fruit;" "Summer Cultivation and Conservation of Soil Moisture;" "Spraying." Evening subjects: "The Codling Moth and Its Effect on the Apple Crop;" "Birds and Their Relation to Agriculture."

SHEPPARD, MAJOR JAMES, Queenston—See GAZETTE, October 30, 1900.

SMITH, MRS. J. L., Whitby—"The Boy Who Stays on the Farm, His Advantages and Disadvantages;" "Women's Institutes, Their Objects and Aim;" "Farmers' Wives and Daughters, Their Duties, Delights and Discouragements;" "A Talk on Domestic Economy;" "In and About the Farm House;" "A Common Sense Talk to Young Farmers and Their Wives;" "The Days and the Ways of Our

Grandmothers;" "The Food We Eat and Its Preparation."

SMITH, WM., Columbus—"Breeding and Care of Heavy Horses;" "Cultivation of the Soil in Spring and Fall;" "Elements of Success in Farming;" "Breeding and Care of Sheep."

SOMERVILLE, N. G., Lanark—"What the Farmer of To-day must do to Secure More Profit in Dairying;" "Proper Care of Milk for Cheese Factory, Creamery and Private Dairy;" "Use of the Babcock Tester, Its Value on the Farm and at the Factory;" "Paying for Milk According to the Quality;" "Why We Must Control Temperature in Curing Rooms." Evening subject: "Influence of the Farm Home."

STEVENSON, R. S., Ancaster—"The Selection and Breeding of Dairy Cows and how to Feed Them Economically;" "The Breeding and Feeding of Beef Cattle;" "Corn Growing and the Silo;" "The Breeding and Care of Sheep;" "The Advantages of the Cream Separator in Butter Making, etc.;" "Farmers and Farm Life."

THOMPSON, R., St. Catharines—"Care of Small Fruit and Fruit Trees;" "Corn Growing for Grain and the Silo;" "Swine Breeding and Feeding;" "The Export Bacon Trade;" "Ice Houses and Cold Storage for the Farm;" "Under-draining;" "The San Jose Scale and How to Fight It;" "The Future of the Coming Farmer;" "Poultry Raising for Profit."

TOLTON, JAS., Walkerton—"Mistakes in Sheep Breeding;" "Care of Breeding Ewes;" "Preparing Cattle for the British Market;" "Breeding and Feeding Hogs;" "Cultivation of Roots;" "The Farmers' Orchard;" "Making a Country Home Attractive."

TWISS, ROBT., Woodburn—"Raising Hogs for Profit;" "A Remedy for Soft Pork;" "The Dairy Cow;" "Silo, Corn and Clover." Evening subjects: "Young Men Stick to the Farm;" "Advice to Boys in Order to be Successful."

USHER, HUDSON, Queenston—"Cement and Concrete; Their Use on the Farm."

USHER, I., Queenston—"Cement and Concrete; Their Use on the Farm."

WHARTLEY T. C., Blackwell—"Our Weed Enemies" (with fifty mounted specimens of the newer ones now threatening us); "Native and Introduced Grasses" (illustrated with numerous specimens); "How we may add to the Interest and Beauty of the Farm and Its Surroundings;" "The Importance of Farm Accounts and How most Conveniently to Keep Them;" "How Education May Aid in Making Farming a Success."

HARCOURT, R., B.S.A., Guelph—"Flour and Bread-Making;" "Lucerne as a Fodder Crop;" "Soil Moisture in Relation to Plant Growth;" "Feeding."

ZAVITZ, C. A., B.S.A., Guelph—"A

Talk on Co-operative Experiments in Agriculture;" "Results of Several Years' Experience in Growing the Following Crops: Grass Peas, Egyptian Peas, Cow Peas, Soy Beans, Hairy Vetches, Crimson Clover, Lucerne and Dwarf Essex Rape;" "Important Results of Practical Experiments in Growing Potatoes;" "The Selection of Seed in Its Relation to Good Farming;" "The Leading Varieties of Grain Crops for the Farms of Ontario;" "A Half-dozen Five-minute Talks on subjects relating to Field Agriculture." (The subjects to be suggested by the members present at the meeting.) Evening subject: "The Ontario Agricultural College in its Relation to the Agriculture of the Province."

### List of Reserve Speakers.

The following is a list of reserved delegates whose services may be obtained by local Institutes at the time indicated after each name, and on the following terms: The legitimate expenses of the delegate must be borne by the Institute employing him or her from the time he or she leaves home until he or she returns thereto, together with a per diem amount of \$2.50 for the time the person is absent from home, Sunday excepted:

Jas. Battle, Thorold, any time; G. A. Brodie, Bethesda, occasionally during January and February; G. C. Caston, Craighurst, January; G. R. Cottrell, Milton, December, and occasionally during January and February; D. Drummond, Myrtle, February; John Echlin, Carleton Place, January and February; V. Ficht, Oriol, any time; W. S. Fraser, Bradford, December and February; A. C. Hallman, New Dundee, occasionally during February; R. Honey, Brickley, any time; W. N. Hutt, Southend, December; F. M. Lewis, Burford, December and February; R. McCulloch, Snelgrove, any time; Jas. McEwing, Drayton, December; A. McLean, Carleton Place, any time; Mungo McNabb, Cowal, any time; J. E. Meyers, Kossuth, an occasional meeting in February; Nelson Monteith, M.P.P., Stratford, an occasional meeting in December or January; C. W. Nash, 105 Waverley road, Toronto, February; J. E. Orr, Fruitland, December; A. P. Purvis, Maxville, January and February; Wm. Rennie, Toronto, any time; A. J. Reynolds, Danforth, any time; H. R. Ross, Gilead, occasionally in January and February; W. C. Shearer, Bright, December; F. A. Sheppard, Queenston, December and January; Wm. Smith, Columbus, occasionally in January and February; N. G. Somerville, Lanark, any time; R. Thompson, St. Catharines, February; Jas. Tolton, Walkerton, February; Robt. Twiss, Woodburn, February; Hudson Usher, Queenston, occasionally during January and February; Isaac Usher, Queenston, occasionally during Janu-

ary and February; T. C. Wheatley, Blackwell, any time.

#### LADY DELEGATES.

Miss A. Hollingworth, Beatrice, February; Mrs. A. Kinney, Grand View, December and February; Mrs. M. J. Rogers, Kinsale, any time; Mrs. J. L. Smith, Whitby, any time.

#### Apples for Export.

Mr. A. W. Peart, one of our Institute staff, who lives at Burlington, writing to me on November 10, says: "I wound up my shipment of apples last Monday. I sent in all 11 separate consignments to Glasgow, one lot going each week. I used boxes altogether, each box holding  $\frac{1}{4}$  of a barrel. The returns so far have been very satisfactory. My pears I also shipped in boxes, wrapping each specimen in tissue paper and using excelsior or bass-wood shavings between the layers. It may be of interest for you to hear that some of my "Kings" (apples) sold at 7s. 6d. per box in Glasgow, while some fall apples went as low as 3s. 6d. On the whole, however, we did well.

"The barrel package is a relic of by-gone days and should be relegated to the lumber room of musty antiques. I have no longer any use for it except for second-class apples."

#### Bacon, Cold Storage and Poultry.

A Letter From the Superintendent to the Delegates who are to Address Farmers' Institute Meetings this Winter.

PARLIAMENT BUILDINGS,  
TORONTO, Nov. 14, 1900.

SIR,—You have been selected from our list of Institute speakers to address a series of meetings during the coming winter. The subjects which you submitted earlier in the season are being printed in our annual bulletin, and as they represent the special lines of agricultural work in which you have been engaged, they will indicate to our Institute officers the general trend of the work we wish to accomplish.

Last winter, at the request of the Hon. Minister of Agriculture, the "Bacon Hog" was discussed at all of our meetings. The wisdom of this course is already manifesting itself. A better class of hogs is being offered for sale this fall than ever before. The registrar of live stock for the province states that for the first time the bacon breeds lead in the numbers of thoroughbred animals registered, and we are receiving inquiries from all parts of the province in reference to the breeding, feeding and finishing of this class of animals. It is likely, therefore, that this subject will come up for discussion again at many of our

meetings this winter. Our duty does not lie along the line of advising farmers to take up hog-raising as a business, but rather to assist those who are already pork producers to raise and put on the market a better article than they have done heretofore. We have not a home market now for thick fat pork, and we cannot successfully compete with the Americans in their market so long as they have cheap corn with which to feed their hogs. Bacon, therefore, must be our principal pork product, and the kindly reception which our Canadian "Wiltshire sides" have been accorded on the British market is sufficient to justify us in recommending the farmers to breed to the bacon type. Much has already been done by our progressive swine-breeders to improve the bacon classes, and it was a noticeable feature at our fall fairs this year that in all classes of hogs there were longer individual animals, and the judges gave the highest premiums to those animals that showed the least indication of carrying superfluous fat.

The subject of cold storage for farm products will be discussed this winter at our meetings. You must be prepared to discuss this question. New laws have been passed in Ontario relating to this subject and with these you should familiarize yourself. I have already sent you the latest published information on the subject, and you will please study the principles involved and the method and cost of construction of such a plant as would be practicable for the average Canadian farmer. When we assemble in Guelph at the time of the Experimental Union and the Provincial Winter Fair it is expected that an expert will be there to address you on this topic, and we hope also to have a cold storage plant there at that time for practical demonstration.

Another industry that is deserving of more attention than it receives, and which the Hon. Minister of Agriculture is anxious to promote, is that of poultry raising and fattening for the home and foreign markets. I am arranging for a series of special poultry meetings in connection with our regular and supplementary meetings, but the number of farmers who will attend these district meetings must of necessity be limited and I request that you acquaint yourself with what has been done and is being done in this country to promote this industry. You will find that Prof. J. W. Robertson's bulletin on "Feeding Chickens," which I mailed to you last spring, contains a lot of up-to-date information on this subject. Special instruction on poultry matters will also be furnished at the Winter Fair and you will there obtain good practical hints and information that should be useful to you in your winter meetings.

I am sending you by this mail a copy of the Acts Relating to Agriculture in the Province of Ontario.

Many of these are new and all of them are important. Please read them carefully and take them with you when you go out on your next trip. In the same envelope you will also find a pamphlet on "The Teaching of Agriculture in our Public Schools." Mr. C. C. James, Deputy Minister of Agriculture for Ontario, has given years of study to this subject, and I request that you read it carefully and take from it such information as you feel will help you in the work.

In our annual report for this year one of the most valuable features is the Question and Answer Bureau. I request that at each meeting this winter you record in the note book that will be furnished you, all of the pertinent questions asked and the replies which follow. When the questions are answered by someone in the audience try to find out the names of the persons and give them credit for the replies.

The year 1900 showed a vast increase in our membership and the total attendance at the meetings. 138,000 persons listened to our delegates and the information gained by these people must help the progress of agriculture in Ontario. You have a splendid opportunity to help your fellow-farmers and incidentally to help yourself by aiding the general prosperity of the country. I trust that you will put forth every effort again this winter to make our meetings a universal success.

Yours very truly,  
G. C. CREELMAN,  
Sup't Farmers' Institutes.

#### Soiling.

By F.S. Peer, Mt. Morris, New York. Price, \$1.00. For sale by the author.

A short time ago I prepared, at the request of the Department of Agriculture, a bulletin entitled "Books for Farmers." Since the publication of this bulletin Mr. Peer's new book on Soiling has been brought to my notice, and I take this opportunity of recommending it to the farmers of this country.

It deals principally with soiling. On this point many will be inclined to consider him extreme; but he presents for the reader's consideration not arguments deduced from theory, but facts gleaned from practical experience as a farmer.

Other topics dealt with are Ensilage, which he styles winter soiling; and barn, stable and silo construction. His chapters on these topics are fresh and up-to-date.

J. B. REYNOLDS,  
Prof. of Physics, O.A.C., Guelph.

What makes summer so pleasant is the fact that man works himself to death for six weeks so he can get ready to go somewhere and stay ten days.

# The Farm Home

## Don't Worry.

When things go contrary, as often they do,  
And fortune seems burdened with spite,  
Don't give way to grieving all dismal and  
blue—

That never set anything right!  
But cheerfully face what the day may reveal,  
Make the best of whatever befall;  
Since the more that you worry the worse you  
must feel,  
Why waste time in worry at all?

We have our troubles, some more and some  
less,

And this is the knowledge we gain—  
Its work and a brave heart that lightens the  
stress

In a life's share of sorrow and pain.  
Then face with this knowledge fate's cruellest  
deal.

Too plucky to faint or to fall;  
Since the more that you worry the worse you  
must feel,

Is it wisdom to worry at all?

—*Ripley D. Saunders, in St. Louis Republic.*

## The Interference of Cornelius.

### A Cat Tale.

By Hattie Lummis.

The father and mother of the minister's wife were to celebrate their golden wedding in the fall. The minister's wife herself told Beth about it, at the same time describing the weather-beaten farm-house where the old couple had spent most of those happy fifty years, and the quaint New England village where her own childhood had been passed.

"This wedding's going to be quite an affair," said the minister's wife. "Mother's as excited as if she was going to be married for the first time," and she laughed a little. "Her folks are coming from all over the state, and some clear from Maine."

"Of course you'll go, too," said Beth, lifting her serious eyes.

"O dear no!" cried the minister's wife, with another laugh that ended in a sigh. "Why, the fare for the round trip is twenty-two dollars and a half. That would buy the children's winter coats and hats," she added, just as if Beth had been grown up, and could appreciate the anxious economies of mothers. It was singular how many people made the same sort of mistake when talking with this twelve-year-old girl.

"But folks have to take vacations anyway," said Beth, wisely.

"Not vacations that cost so much money, though," cried the minister's wife, shaking her head as if to shake out a tempting thought that had been lodged there. "No, I mustn't think of it. Of course I should like to see the old place again—and the little room where I used to sleep when I wasn't any bigger than you are, Beth—and father and mother. They call me their baby, yet," she added,

smiling brightly through her tears. "Doesn't that sound silly when I've four babies of my own?"

Beth had come to the parsonage to borrow the last week's paper for her mother. She went home with the paper under her arm and a new idea fermenting in her busy brain. "Don't you think," she asked her mother anxiously, "that we could raise enough money for Mrs. Williams to go home to her own father's and mother's wedding?"

"I'm a'fraid not, dear," said Mrs. Fuller, dolefully. "There's the new church carpet not paid for, and the missionary collection to be raised, and the preacher's salary a little behind. Your father feels pretty poor this year, taxes are so high, and most of our folks are in the same straits. To be sure, there's Miss Watson. She could pay it all and never feel it."

"I'm going straight up to tell her about the wedding," cried Beth, jumping to her feet. "Mustn't it be lovely to be rich, so you can help people whenever you like?"

Perhaps this is not the idea of wealth which appeals to the most of us. Certainly it did not seem so appeal to Miss Watson. She listened to Beth's recital with an unsmiling coldness that blighted the girl's enthusiasm as a frost blackens the flowers of summer.

"I really shouldn't have thought," she observed, presently, "that Mrs. Williams would have put you up to this."

Beth sat up straight and gasped: "O, she wouldn't! She never! I thought of it myself."

"I should look on it as really sinful," said Miss Watson, pressing her thin lips together, "for a minister's wife to spend that amount of money on selfish pleasures when there's so much to be done in the Lord's vineyard. As for weddings, it's my opinion they're silly enough to start with, without repeating the folly. And then calling her their baby!" sniffed Miss Watson. "The mother of four children. Ridiculous."

Beth stumbled toward the door, blinded by angry tears, but Miss Watson's sharp voice pursued her. "Sinful and silly both. That's what I think. You may tell Mrs. Williams I wouldn't give her the value of a newly-hatched chick for such a purpose."

Beth went home and sat in a disconsolate huddle on the front piazza. Her throat ached with the sobs she choked down. "I don't see why she had to be so cross," she told herself. "I wouldn't have minded if she'd said so nicely."

Something purred at her elbow, and Beth turned to stroke her pet, Cornelia, but, instead, she jumped and screamed.

A bunch of yellow dropped from the cat's mouth to the piazza, struggled a little and then propping itself on two stem-like legs, peeped pitiously. It was a chicken, a damp, frightened chicken, dizzy from its travels, perhaps, but quite unhurt.

Beth picked it up into her apron and ran to her mother, who held up her hands in astonishment.

"Now, where could he have stolen that from?" she said. "Mrs. Mellen's, maybe. She's the only one I know of in this neighborhood who raises chickens."

But Mrs. Mellen disclaimed all ownership in the bunch of yellow down, and Mrs. Deacon Potts, to whom Beth went next, shook her head and said she guessed the chicken must have fallen from the sky, as no one around, as far as she knew, had that sort of fowls.

Beth had just returned home, and was telling all this to her mother, when Cornelius slipped through the fence and, marching up to his mistress, dropped something at her feet. Beth screamed again. "O mamma mamma, look! He's got another."

"And he'll get a good whipping, too," said Mrs. Fuller, indignantly, starting in pursuit of Cornelius, who was under the piazza in a twinkling. Beth picked up the new comer, and examined it curiously. In every respect it was the counterpart of the first chicken, just as yellow, just as frightened, and absolutely uninjured.

It is a story hard to be believed, and yet it is an actual fact that three more times that same day did Cornelius start out on a foraging expedition, and three more times did he return carrying a chicken. When Beth awoke next morning, another waif was peeping dismally in the wet grass of the front yard. Thus unexpectedly Beth was provided with a brood of six fine chickens, which, as Mrs. Deacon Potts said, seemed to have dropped from the sky. "Coming just when I wanted to get some money for Mrs. Williams," Beth told her mother, in awed tones; "it makes me think of Elijah's ravens. It does truly."

In spite of the lack of maternal care, no chickens ever fared better than these six. They ate their numerous meals out of a blue china bowl, and at night were put to bed in a nest of soft rags. Beth spent considerable time in calculating how much they would bring in the fall, how far that sum would go towards paying Mrs. Williams' fare home, and what means could be devised for raising the necessary remainder.

One day these dreams ended abruptly. Mrs. Fuller came home from the sewing circle looking distressed. "I'm just upset," she told Beth. "You'll feel awfully, too, but the sooner you know it the better."



"Why, what's the matter?" cried Beth, thinking of a dozen dreadful things.

Mrs. Fuller hastened to explain. "At the circle to day Miss Watson began to tell how she started out to raise chickens this spring, the first time for years. Somebody gave her a setting of extra fancy eggs, but only six of 'em hatched."

"O!" quavered Beth.

"She said that one day, when they were about two weeks old, one of the neighbors came in and said she's seen a big black cat running off with a chicken in its mouth. When they went out to look there was just one chicken left, and in the morning that was gone too. I could scarcely hold my head up while she was talking," sighed Mrs. Fuller in conclusion.

There was no help for it. Beth cried all the time she was packing her happy family into a covered basket, and when she reached Mrs. Watson's her eyes were unbecomingly red. Her task was all the harder because Miss Watson did not recognize these ungainly, pin-feathered chicks as the treasures she had lost. When she began to grasp the meaning of Beth's explanation, she actually turned pale and dropped into a rocking chair.

"Do you mean to tell me," she asked, huskily, "that your cat brought them to you without hurting the cat?"

"Yes'm. He did, truly," said Beth, almost crying again, for she thought her word was being doubted. "And I wanted some money for Mrs. Williams so much; I thought perhaps the Lord was using Cornelius just as He did Elijah's ravens."

"Yes, yes. I don't wonder. I never thought," said Miss Watson, rocking very fast, "that I'd be taught my duty by a cat. A black cat, too," she added, explosively, as if the color were a strong obstacle.

Beth only stared, unable to follow the windings of her thoughts.

"Take those chickens home, child," said Miss Watson. "Raise them and sell them for what they'll bring. I'll put enough money with it to pay Mrs. Williams' fare back to that silly wedding. Now don't say a word," she cried sharply, as Beth's lips parted. "If you want to thank anybody, thank Cornelius. A black cat, too," said Miss Watson, shaking her head solemnly. "It's surely enough to set a body to thinking, if the Lord has to use such instruments to carry out His plans."—*In Congregationalist.*

### Hints by May Manton.

Ladies' Seven-Gored Flare Skirt with Double Inverted Plaits in Back, No. 3649.

The skirt that fits the hips snugly and without folds and flares freely below the knees is the accepted model for fall and winter gowns. The seven-gored pattern is best for all narrow

goods, and those women who aim to reduce apparent size will do well to choose it for material of all sorts, as it gives a slender effect, and the number of shapely seams provide a perfect fit, as well as the perpendicular lines that are always to be desired. The excellent design shown is suited alike to silk



3649 Seven Gored Flare Skirt.  
22 to 32 in. waist.

and to wool, but as illustrated is made of cheviot in a mixed tan color. The gores are narrow at the top and widen below the knees to provide the generous flare. The fulness at the back is arranged in a double inverted plait which, while it is flat at the upper portion, provides additional fulness and flares for the demi train. The skirt may also be cut in walking length, the pattern providing for the correct shaping.

To cut this skirt for a woman of medium size,  $8\frac{3}{4}$  yards of material 21 inches wide,  $8\frac{1}{4}$  yards 27 inches wide,  $4\frac{3}{4}$  yards 44 inches wide, or  $4\frac{1}{4}$  yards 50 inches wide, will be required.

The pattern No. 3649 is cut in sizes for 22, 24, 26, 28, 30 and 32-inch waist measure.

The price of above pattern post-paid is only 10 cents. Send orders to "The Farming World," Confederation Life Building, Toronto, giving size wanted.

### Economy in Eggs.

At this season of the year, when eggs are beginning to get scarce, it is well to remember that exactly the same result can be obtained by dividing eggs and using the yolk only in custards and desserts, and salad dressings demanding a thickening of eggs. The whites of the eggs are then left for sweet cakes, meringues and other dishes where the white of the egg is the essential part needed.

It should be remembered that the yolk of the egg gives rich, delicate consistency to a baked or boiled custard, and one made with it alone is not so liable to curdle as one made with the white also. Pumpkin pies, like cocoanut and lemon pies, are just as nice without the whites of the eggs. In the case of cocoanut and lemon pie the whites should be used for a meringue.

In hot breakfast cakes or muffins eggs are an element that often toughen the bread without adding any desirable quality. Do not use more than two eggs, as a rule, to a pint of milk in wheat cakes. One is generally enough. The quantity of eggs to be used in cornmeal cake varies with the taste, as this meal is so granular there is no danger of making a tough cake from it. A sweet cake, made of the whites of eggs, can be as easily rendered tough and unfit for food by too liberal use of eggs as a cake can be made heavy and greasy by too liberal use of butter. Where eggs are used in a cake like sponge cake, which has no butter in it to render it tender, the juice of a lemon should be added. The yolks of eggs do not make a nice icing, imparting an eggy taste very disagreeable to most people. The whites of eggs should alone be used.—*New York Tribune.*

### When Missionary Boxes are an Insult.

There have been missionary boxes sent to the heroes and heroines of the church, fighting her battles in the van, that have done more harm than good, in hurt pride and damaged self-respect. To a lady and a gentleman—I use the terms advisedly—were sent clothing, old shoes, old hats, old collars, cravats, gloves, fit only for the rag bag. Ashamed to send them anywhere else the donors sent them to the unknown missionaries, and as everything that came to the church to be sent was jammed in without care or discrimination, the arrival of the box partook of the nature of an insult to these heroic gently-bred people. Fortunately this state of affairs is not often found; it ought never to be.—*A Minister's Wife in the Ladies' Home Journal.*

### A Man Says a Woman Will

Suffer the discomforts of a short shoe to make her feet look small.

Wonder for a half-hour what time it is, forgetting the watch tucked into her belt.

Walk a mile to save a nickel, then spend it for candy.

Raise her skirt at the side to show her silk petticoat, and let it drag at its longest point.

Go without lunch, get a headache, and spend the price of the lunch for headache cures.

Pull her waist in, while pitying the foot-bound Chinese woman.

Buy cheap dress goods and expensive trimmings.

Wear an imported wrap and bargain underwear.

Wear her husband's necktie and her brother's scarf-pin.

Buy a silver tea service and borrow a sugar-dredger.

# The Farming World

A PAPER FOR FARMERS AND STOCKMEN.

Managing Director, . . . . . D. T. McAINSH  
Editor, . . . . . J. W. WHEATON

The Farming World is a paper for farmers and stockmen, published weekly, with illustrations. The subscription price is one dollar a year, payable in advance.

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TORONTO

## Pan-American Commissioner.

Mr. C. C. James, Deputy Minister of Agriculture, has been selected to represent Ontario at the Pan-American Exposition at Buffalo next summer. The appointment does not carry with it any emoluments. Mr. James will carry on any correspondence that may be necessary between the Exposition and the Government. The province could not have a better representative. He is thoroughly in touch with the agricultural industries of the province, which will receive every attention.

## Judges at New York.

Mr. Robt. Beith, Bowmanville, and Mr. Robt. Graham, Claremont, Ont., were two of the judges in the hackney classes at the New York Horse Show last week. The big exhibit of hackneys was one of the chief features of the show, and shows that this fine type of horses is coming rapidly to the front.

## Manitoba Dairy School.

The Manitoba Dairy School will open at Winnipeg on Jan. 7 next. The home dairy course will begin on Jan. 7, and continue till Feb. 2. The second course begins on Feb. 4, and continues until March 2, and the third course begins on March 4 and ends March 30. The butter and cheese-makers' courses begin on Feb. 4, and continue till March 30. A full and competent staff of teachers and lecturers have been secured for the work.

## Ontario Experimental Union.

The next annual meeting of the Ontario Agricultural and Experimental Union is announced for Monday and

Tuesday, the 10th and 11th of December, commencing at 1.30 p.m. on Monday. The meeting will consist of five sessions and will be held at the Agricultural College at Guelph.

From the programme which has been received it is seen that practical experiments were conducted this year by three thousand, six hundred and thirty three Ontario farmers.

Besides the reports on experimental work, addresses will be delivered by Prof. I. P. Roberts, Cornell University, Ithaca, N.Y., Prof. Allen H. Richards, Institute of Technology, Boston, Mass., Hon. John Dryden, Dr. James Mills, Superintendent Creelman, and other good agricultural authorities. The meeting will be made interesting to stockmen, dairymen, poultrymen, and fruitmen and to all persons engaged in mixed farming or in household affairs.

There will be excursion rates to Guelph from the 10th to the 11th of December. All are welcome. For particulars apply to the Secretary, C. A. Zavitz, Agricultural College, Guelph, Ont.

## Industrial Fair Reorganized.

An important meeting of the Industrial Fair Board was held on Tuesday last. The most important business was the adding of 25 more representatives to the membership of the Association. Seven were added to the Canadian Manufacturers' Association, giving that organization twelve representatives, as follows: 4 miscellaneous manufacturers and agricultural implements, 2 machinery, 2 transportation, carriages, waggons, etc., 2 musical in-

struments, and 2 heating apparatus. The City Clerk was added to the city representation; 2 were added to the Board of Trade delegates, making 5; 2 were given to the Retail Merchants' Association of Toronto; 3 to the Canadian Press Association; 2 to the Canadian Kennel Club; to the Toronto Clinical Society, instead of the Educational Association; 1 additional each to the Hackney Horse Association and the Shire Horse Association, and 1 each to the Builders' Exchange, Brewery Association, Canadian Pony Society and Toronto Camera Club. This gives the association a membership of 120, as follows:

City Council	15
Electoral District Society	12
Horticultural Society	2
Board of Trade	5
York County Council	3
Can. Manufacturer's Association	12
Ont. Soc. Artists	2
Educational Dep.	2
Com. Travellers' Association	5
Can. Horse Breeders' Association	2
Can. Institute	2
Ont. College of Pharmacy	2
Can. Holstein Freisian Association	2
Can. Jersey Breeders' Association	2
Dom. Sheep Breeders' Association	2
Gardeners and Florists	2
Dom. Cattle Breeders' Association	2
Labor organizations	3
Toronto Clinic Soc.	2
Brewery Association	2
Can. Pony Soc.	1
Ont. Poultry Association	2
Tor. Poultry Association	2
Natural History	2
Clydesdale Breeders' Association	2
Shire Horse Association	2

# Provincial Winter Fair

A Combined Exhibition of Fat Stock, Dairy Cattle, Live and Dressed Poultry

Will be held at

GUELPH, ONT.

December 11th to 14th, 1900

NEW BUILDINGS! NEW EQUIPMENT!

See FARMING Nov. 20th, page 295

Every provision made for the convenience and comfort of Exhibitors and their Exhibits.

Entries should be made before Nov. 24th. After that date an extra fee will be charged. Positively no entries will be received after Dec. 1st. Poultry Dept. Dec. 3rd.

Special R.R. rates from Kingston, Sharbot Lake and points West good going from 10th to 14th, returning until the 15th. Judges and exhibitors, on presentation of certificate, single fare, Dec. 7th to 14th, returning good until 18th.

All Applications should be made to the Secretary.

A. P. WESTERVELT,  
Parliament Buildings, Toronto.

PRIZE LIST NOW READY. OVER \$7,000 OFFERED IN PRIZES

SPECIAL PRIZES are offered by the Dominion Cattle, Sheep and Swine Breeders Associations, and by prominent manufacturers. Also special prizes for Poultry. LEADERSHIP will be delivered by experts in the different departments during the time of the show, which will prove interesting and instructive.

JOHN I. HOBSON, President.

Guelph, Ont.

Hackney Horse Association.... 2  
 Ont. Bee Keepers' Association.... 1  
 Can. Press Association..... 3  
 Dom. Millers..... 1  
 Butter and Cheese Associations... 3  
 Dom. Shorthorn Association... 2  
 Ont. Veterinary Association.... 2  
 Ont. Fruit Growers' Association... 2  
 Dom. Ayrshire Breeders' Ass'n... 2  
 Hereford Breeders' Association.. 1  
 Dom. Swine Breeders' Association 2  
 Draught Horse Breeders' Ass'n... 2  
 Retail Merchants..... 2  
 Can. Kennel Club..... 2  
 Builders' Exchange..... 1  
 Toronto Camera Club..... 1  
 Lumbermen's Association..... 2

A letter was read from F. D. Ward, of the New York State Fair, suggesting a conference with the Pan-American people regarding the dates for showing horses and cattle. It was pointed out by Mr. W. E. Wellington, one of the directors, that there were many complaints from farmers, fruit-growers, poultrymen, etc., that the dates for holding the show were too early. President Smith and Manager Hill were requested by the Board to attend the proposed conference at Buffalo in regard to arranging the time for a live stock exhibit.

**Chicago Live Stock Show.**

The great International Live Stock Show to be held at Chicago on Dec. 1-8 promises to be a huge success. The show has expanded far beyond the expectations of its most sanguine promoters; 2,230 premiums are to be awarded, aggregating \$75,000 in cash. To designate the prize-winning animals will require about 750 yards of ribbon. The present indications are that there will be 10,000 entered for competition. The exposition is arousing interest outside of the United States and Canada. The German Government has reserved space for a display.

**National Good Roads Convention.**

At the Good Roads Convention, held at Chicago last week, a plan was outlined whereby work in all parts of the country can be uniform and directed from a central body. A measure for the utilization of convict labor under the system already in use in Missouri and Tennessee was drawn up for submission to the various State Legislatures. Good Roads Commissioner Campbell, of Ontario, was present, and addressed the convention on several practical subjects related to road making. Mr. A. Pattullo, M.P.P., Woodstock, Ont., also addressed the meeting.

**Canadian Eggs in England.**

The Department of Agriculture at Ottawa has received the following regarding the shipments of Canadian eggs from their agent at Bristol, England:

"Consignments of eggs landed in very good shape, boxes in fine condi-

tion, and breakage of eggs very light. If covers could be fastened similar to those on butter boxes it would save a certain amount of breakage of covers, as several are opened by the custom officers on landing. As the covers are now nailed on, they are badly broken in being removed."

**Western Dairy School.**

This well-equipped dairy school, located at Strathroy, under the able management of Supt. Smith, is quickly coming to the front as a place where an up-to-date and practical education in dairying can be obtained. No efforts are being spared to make it a success. We have just learned that Mr. Geo. E. Goodhand, Milverton, Ont., has been engaged for the coming session, which opens on Dec. 3. Mr. Goodhand has had a wide and successful experience as a cheese-maker, and will bring practical and everyday knowledge to bear on his work.

**American Shropshire Association.**

The annual meeting of the American Shropshire Registry Association will be held at the Chambers of Commerce rooms, Union Stock Yards, Chicago, Ill., Wednesday, December 5, 1900, at 10 a.m. This will be during the great International Live Stock Exposition which will be held at Dexter Park Pavilion, Union Stock Yards, December 1 to 8.

Special arrangements have been made for our members at the Transit House, Union Stock Yards, and at the Lexington Hotel, corner of 22nd and Michigan Avenue.

**Awkward for Him.**

Tam—"I'm sayin', man, my cairt o' hay's fa'en ower. Will ye gie's a haund up wi' 't?"

Jock—"Deed will I. But ye'll be in nae hurry till I get tae the end o' the raw?"

Tam—"Ou no, I'm in nae hurry, but I doot my faither 'll be weyther!"

Jock—"An' whaur's yer faither?"

Tam—"He's in below the hay!"—  
*London Punch.*

**When writing to advertisers please mention The FARMING WORLD.**

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 possess accuracy and endurance under all conditions and in all degrees of temperature.  
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 Costs little, but lasts practically forever. 15,000 agents are selling it. There should be an agent in your town. See him. If no agent write to the makers.  
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We challenge competition for speed, ease, quality of work and durability. The **LONDON** is a thoroughly up-to-date machine and stands without a rival for weaving square mesh-coiled spring fence.  
 The best and strongest fence in the world.  
 The **LONDON** is sold at a price which every farmer can afford and save the price in 40 or 50 rods.  
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**Office: 151 York St., London, Ont.**  
**RESPONSIBLE AGENTS WANTED.**

## PURE-BRED STOCK

### NOTES AND NEWS FROM THE BREEDERS

*These columns are set apart exclusively for the use of breeders of pure-bred stock and poultry. Any information as to importations made, the sale and purchase of stock and the condition of herds and flocks that is not in the nature of an advertisement, will be welcomed. Our desire is to make this the medium for conveying information as to the transfer of pure-bred animals and the condition of live stock throughout the country. The co-operation of all breeders is earnestly solicited in making this department as useful and as interesting as possible. The editor reserves the right to eliminate any matter that he may consider better suited to our advertising columns.*

#### Horses.

A feature of the big horse show at New York last week was the number of hackney horses shown in the heavy harness classes. Heretofore the wealthy hackney breeders of the United States have flocked together in the hackney breeding classes, showing few of their steppers in the open harness classes. It is well-known that for several years past nearly all the winning carriage horses were trotting-bred animals of the hackney or carriage type. Last week the hackney breeders made a big showing in the carriage classes, bowing out many of the Yankee shippers with the best types of British hackneys.

#### Cattle.

The first show and sale of the recently formed English Aberdeen-Angus Cattle Association has been fixed to take place at Bingley Hall, Birmingham, on Thursday, March 14, next. Messrs. Lythall & Walters will be the auctioneers. Prizes will be offered for yearling bulls and two-year-old and yearling heifers, although old bulls, cows, and heifers may also be entered for sale.

Mr. Norman Reid, Eilanreath, Inverness, has purchased a number of shorthorns in the north on behalf of the Maharajah of Nepal. The order was given through General Wylie, the British commissioner, and the animals were despatched by train from the north on Wednesday. They number twelve in all, are excellently bred, and of the best shorthorn strains. Six of the number—a bull and five heifers—were purchased from Messrs. Law, Sanquhar Mains, Forres. Four heifers came from the herd belonging to Mr. Inglis, of Newmore, which was recently dispersed, while a splendid bull, possessing many of the characteristics of his famous sire Ringleader, was purchased from Mr. Ross, Meikle Tarril. Two young promising cows from Messrs. Cran & Cruickshanks, Keith, completed the consignment. The animals were all strong and healthy, and if nothing befell them on their long voyage, are sure to prosper in India, and be the object of much attention in the dominions of their princely owner. May he be tempted to come back for more.—*North British Agriculturist.*

Mr. J. A. Gerlaugh shipped a nice lot of Shorthorns from Scotland Oct. 24. The lot included Lord Cowslip for Messrs. Hanna—a bull of great style, great substance and much quality. For Col. Casey, Mr. Gerlaugh brings along the bull Bapton Marquis, of the Sittony Crocus family. The Marquis was got by Proud Duke of Gloster from Carnation, the queen cow of Mr. Deane Willis' Bapton Manor Herd. This bull is a very beautiful specimen of the Shorthorn breed, and rarely well bred. He has done remarkably well lately, and should prove a most valuable sire. Mr. Gerlaugh also purchased for Messrs. Wolf & Son the bull Prince Lovely, by Captain Ingelwood out of Princess Lovely and by Scottish Archer, second dam Princess Lovely by Field Marshal. Lord Cowslip, referred to above as bought by Mr. Gerlaugh for Messrs. Hanna, is by Lord of Fame out of Cowslip 26th, by Paul Jones, grandam Cowslip 14th, by Duke of Albarmarle. Mr. Gerlaugh's cattle have all been thoroughly tested by highly competent veterinarians appointed by the Canadian Government, and all passed well.—*Breeders' Gazette.*

The second meeting of the secretaries of Pedigree Record Associations will be held in Farlor O., Palmer House, Chicago, Tuesday, at 7.30 p.m., Dec. 4. At the meeting of secretaries held in Chicago May 1, the following programme was arranged for the December meeting: "Exhibition of Stock," J. H. Pickrell, secretary American Shorthorn

Breeders' Association. "Public Sale of Stock," Thomas McFarlane, secretary American Aberdeen-Angus Breeders' Association. "Registration of Stock," Wm. H. McFadden, secretary American Poland China Association. "Exporting Live Stock," W. I. Buchanan, director Pan-American Congress. "Testing Dairy Breeds," C. M. Winslow, secretary American Ayrshire Association. F. L. Houghton, Brattleboro, Vt., is temporary chairman, and Charles F. Mills, Springfield, Ill., secretary pro-tem.

#### Sheep.

The eleventh annual meeting of the Hampshire-Down Breeders' Association of America will be held in the Palmer House, Chicago, Wednesday, December 5, at 7.30 p.m. This being the week of the International Live Stock Show a good attendance is expected. Jno. I. Gordon, secretary, may be addressed at Mercer, Pa.

Breeders of Shropshire sheep will be interested to know that at the recent public sales, held in various parts of Great Britain and Ireland, no fewer than nine rams have, says Messrs. Mansell & Co., realized 100gs. and upwards, and have made the splendid average of £130 10s.; whilst several others have made between 40gs. and 90gs., and that several ewes have realized between 20gs. and 30gs. each.

North America, as usual, has largely helped the general run of prices, but Australasian breeders have done the most to enhance values, and have been spirited bidders at several of the sales, giving in one case 240gs. for a ram, and in others 140gs., 120gs., and 90gs. The Australian demand has been greatly fostered by the wonderful results obtained by the Shropshire ram on cross-bred Merino ewes to produce fat lambs for export. Mr. G. S. Kempe, a well-known Australian authority, says Shropshire cross lambs are now to be seen in every farmer's paddock, and that the breed has secured a very strong foothold in Australia. These facts should encourage home breeders in their efforts to maintain and improve the valuable qualities of the breed.—*Mark Lane Express.*

#### Stockmen's Meetings in Chicago

Tuesday, Dec. 4, 7.30 p.m.—American Polled Durham Breeders' Association, Saratoga Hotel.

Tuesday, Dec. 4, 7.30 p.m.—Secretaries of Pedigree Register Associations, Palmer House.

Wednesday, Dec. 5, 10 a.m.—American Association of Importers and Breeders of Belgians, Grand Pacific Hotel.

Wednesday, Dec. 5, 10 a.m.—Red Polled Cattle Club of America, Sherman House.

Wednesday, Dec. 5, 7.30 p.m.—American Aberdeen-Angus Breeders' Association, Grand Pacific Hotel.

Wednesday, Dec. 5, 7.30 p.m.—American Shorthorn Breeders' Association, Palmer House.

Wednesday, Dec. 5, 7.30 p.m.—American Duroc-Jersey Swine-Breeders' Association, Clifton House.

Thursday and Friday, Dec. 6 and 7.—American Association of Fairs and Expositions, Sherman House.

A little city girl had never before seen an ox with its large, well-formed horns. "Oh, mamma!" she exclaimed, with wide open eyes, "just see that animal's handle bars."—*Wisconsin Agriculturist.*



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by the use of

### Wilson's Ear Drums

The only scientific sound conductors. Invisible, comfortable, efficient. They fit in the ear. Doctors recommend them. Thousands testify to their efficiency.

Information and Booklet Free.  
WILSON EAR DRUM CO.,  
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#### WHY NOT HAVE ONE?

If you are a paid-up subscriber to THE FARMING WORLD you may have a \$2.50 4-inch reading glass for \$1. This glass shows how clear small type appears when viewed through its lens. It is a great comfort to those whose eyesight is not strong and is valuable in examining seeds and insects.

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The Slocum System goes to the Very Source of the Disease Performing a Cure Step by Step.

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The Slocum system cures grip and its painful after effects, dangerous coughs, bronchitis and every known form of pulmonary disease.

It makes weak lungs sound, strengthens them against any ordeal, and gives endurance to those who have inherited hollow chests, with their long train of attending dangers. To enable despairing sufferers everywhere to obtain speedy help before too late, Dr. Slocum offers

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YOU or YOUR sick friends can have a FREE course of treatment. Simply write to THE T. A. SLOCUM CHEMICAL CO., Limited, 179 King St. West, Toronto, giving post office and express office address, and the free medicine (The Slocum Cure) will be promptly sent.

When writing for them always mention this paper.

Persons in Canada, seeing Slocum's free offer in American papers, will please send for samples to the Toronto laboratories.



# Market Review and Forecast

Office of THE FARMING WORLD,  
Confederation Life Building,  
Toronto, Nov. 26, 1900.

Though the close of navigation usually makes a lull in Canadian trade, this feature is not so noticeable this year, as in most wholesale lines a fairly active business is being done. Remittances are improving and trade generally is in a very satisfactory condition. Money keeps firm at 5 per cent. on call and discount rates on mercantile paper are quoted at 6 to 7 per cent.

## Wheat

There is nothing new to report in wheat circles. The market has ruled fairly steady during the week with very little change in the general tone of the market. There have been liberal receipts in the English markets of American and Argentine wheat so that things there are quiet. There are indications of an increased demand for Ontario flour, chiefly from Quebec, the Lower Provinces, Newfoundland and Great Britain. This has been due to the relatively cheaper prices for Ontario flours as compared with Manitoba flour which ranges in prices at \$1 per bbl. ahead of the former. Some authorities claim that it will not be long before this wide difference in the price of Manitoba and Ontario flour will be materially lowered.

No. 1 Manitoba hard wheat is quoted at Fort William at \$2 to \$2½. The market here keeps dull and prices are practically unchanged at about 63 to 63½. middle freights. Goose is quoted at 62c. west, and spring wheat at 65 to 66c. east. On Toronto farmers' market red and white bring 68 to 68½, spring life at 68½c. and goose wheat 63 to 63½c. per bushel.

## Oats and Barley

The oat market is firmer, an advance of 1 to 1½c. is reported at Montreal. Prices for Canadian oats have advanced in England. Oats are steady here at 26c. for No. 1 white east, and 24½ for No. 2 white middle freights. On the farmers' market they bring 28½ to 30c. per bushel.

The barley market keeps quiet, though a little more inquiry is reported here where prices range from 37 to 43c. as to quality and grade. On Toronto farmers' market barley brings 42 to 47c. per bushel.

## Peas and Corn

Some little improvement is noticeable in the export market for peas and quite large shipments are reported to have gone forward last week. Prices are steady here at 60½c. east, 59½ to 60c. middle freights, and 58½c. high freights west. On the farmers' market here peas are quoted at 60c. per bushel.

The corn market is rather quiet. American old, No. 2 yellow, is quoted at 47c. and new at 46c. Toronto.

## Bran and Shorts

Ontario bran is quoted at Montreal at \$14.75 to \$15 in car lots in bulk, and shorts at \$17 to \$18. City mills here quote bran at \$13.50 and shorts at \$15.50 b. Toronto. Mills west of here quote bran at \$11 and shorts at \$12 in bulk lots.

## Eggs and Poultry

The egg market continues strong and active and large shipments continue to go forward to Great Britain. The Montreal market is firm at 18 to 19c. for strictly fresh eggs in case lots. The supply is not equal to the demand. On Toronto farmers' market eggs bring 20 to 22c. per dozen, and new-laid 30c. per doz.

The dressed poultry season is now on though the mild weather has interfered with this trade. Montreal quotations are, fresh-killed turkeys, 8½ to 9c.; geese, 5 to 6½c.; ducks, 7½ to 8c., and chickens 7 to 7½c. per lb. There has been a large accumulation of fowl here during the week, which has depressed the market. Retail dealers here seem

to be well stocked and are not anxious to buy unless they can get bargains. Good new stock is fairly steady. Turkeys are quoted at 6 to 7c., and geese at 5 to 5½c. per lb., and chickens at 20 to 35c., and ducks at 30 to 60c. a pair in a whole aie way. On Toronto farmers' market turkeys bring 7 to 8c., and geese 5 to 6c. per lb., and chickens 30 to 40c., and ducks 40 to 60c. per pair. Live ducks bring 25 to 50c. per pair.

## Potatoes

Car lots of Ontario potatoes are quoted at Montreal at 37½ to 40c., and smaller lots at 50 to 55c. per bag. Prices are unchanged here at 35c. in car lots, and 40c. out of store. On Toronto farmers' market potatoes bring 30 to 35c. per bag.

## Hay and Straw

It is expected that a big export business will be done in hay this winter and that Great Britain, the continent and the United States will have to get a large supply of their hay from Canada. This should bring good prices and is not inclined to sell, and consequently prices keep strong. No. 2 baled hay is quoted at Montreal at \$9 to \$9.50 and choice lots at \$10. Clover is quoted at \$8 to \$8.50 in car lots. Offerings are light here, car lots on track are quoted at \$9.50 to \$9.75 for No. 1 and \$8 to \$8.50 for No. 2 quality. Baled straw is quoted at \$5 to \$5.50 per ton in car lots. On Toronto farmers' market hay brings \$14 to \$14.50, sheaf straw \$12 and loose straw \$6 per ton.

## Seeds

The seed market keeps quiet. On Toronto farmers' market alfalfa brings \$5 to \$6.50, red clover, \$5.75 to \$6 and timothy \$1.40 to \$1.80 per bushel.

## Fruit

The Montreal *Trade Bulletin* sums up the apple trade of the week as follows:

"Quite an improvement has taken place in this market, sales having taken place at \$1.75 for No. 2, and at \$2.30 for No. 1, which is an advance of 50 to 60c. per barrel during the past four or five weeks. Last cable advances from Liverpool are also more encouraging, as they report an advance upon

last week's prices. Shippers have done fairly well this season so far, and have recovered a portion of their heavy losses last year."

On Toronto farmers' market apples being 75c. to \$2.00 per bbl. as to variety and quality.

## Cheese

There is a kind of uncertainty about the cheese market. The exports from Canada and the United States this season to date were nearly 400,000 boxes greater than for the same period last year, and stocks on this side are as large as last year. It is expected, however, that supplies are no larger than what will be sufficient to meet the needs of the trade till next season's make arrives. The *Trade Bulletin* sums up the trade of the week as follows:

"The market is in a very uncertain state at the moment and it is hard to reconcile the different opinions. For instance, at London, Ont., prices have been made of 5,000 boxes at 10½c. and at Woodstock sales transpired at 10 to 11c., while here sales of Quebec cheese were made at 9½ to 9¾c. Of course, the difference must be partly accounted for by the quality, but it should not be as much as represented by the above figures. Then again, the demand which a few days ago was active for the cheaper October and November is said to have fallen off. On the other hand, it is said that the retailers in England have been buying only from hand-to-mouth, and they will be compelled to replenish stocks shortly. There is said to be only 20,000 to 25,000 boxes in factory-men's hands east of Toronto, while this province has been pretty well cleaned up to date. Prices are more or less nominal, as follows: Finest Western, 10½ to 11c.; finest Eastern do., 10½ to 10¾; undergrades, 9 to 10½c. But if an order for finest Western Septembers had to be filled, over 11c. would have to be paid."

Very little business has been done at the local markets during the week. Prices have ranged from 10 to 10½c. for Octobers and from 9½ to 10c. for Novembers.

## Butter

"The improvement in the English market does not appear to have helped Canadian creamery to any extent, for the reason that

## Hoard's Creameries' Paris Exposition Butter

Among the prize-winning exhibits of American-made butter at the Paris Exposition, which were almost exclusively the product of the "Alpha-De Laval" Separators, was that of the Hoard Creameries, Fort Atkinson, Wis.

Few Creameries are more widely known than those of the Hoard Concern, both by reason of the pre-eminence of "Hoard's Dairyman" as the leading dairy publication of America, if not the world, as well as of the magnitude, splendid equipment and superior merit of the output of the Hoard factories. Hence, while every big and successful creamery enterprise is to-day using De Laval Separators, what the Hoard Creameries may be doing in that regard is of interest to others with less experience.

The following letter speaks for itself:

### HOARD'S CREAMERIES

(COPY)  
The De Laval Separator Co.,  
31 45 W. Randolph St., Chicago.

FORT ATKINSON, WIS., Oct. 23, 1900.

GENTLEMEN: Yours of October 20th in regard to our Paris medal receive I. In addition to the medal awarded our butter, our Superintendent, Mr. C. L. Fitch, received a silver medal for original processes in butter-making and apparatus and tests therefor.

The cream from which the prize butter was made came from two "Alpha" No. 1 Belt power machines, and from one 20th Century Turbine "Alpha" No. 1. We are running ten "Alpha" No. 1 Belt machines, one "Alpha" No. 1 Turbine, one "Alpha" No. 2 Belt, and own only one other separator—which we wish was an "Alpha" Turbine.

Respectfully Yours, HOARD'S CREAMERIES.

While the separator does not make the butter, practically all prize-winning butter is to-day made from De Laval separated cream, and there is no question in the mind of any well-informed person that under like circumstances and equal conditions any butter-maker will make better butter from an "Alpha-Disc" machine than is possible from the product of any other separator.

A De Laval catalogue will make plain the reasons for this to anyone who may not already understand them.

General Agents for Canada:

## Canadian Dairy Supply Co.

327 Commissioners St., Montreal

the quality of our creamery is not as choice as it should be, and the better feeling on the other side refers only to choice and fancy grades. Manchester cables Danish 2's, up in Copenhagen, while Canadian in London is steady at last week's prices. In this market sales of real choice creamery have transpired at 20½ and 21c. for export, while smaller parcels for the local trade have brought more money. A lot of nearly 300 pks. of very fine goods sold at 20½c. Creamery butter, which sold in New York a few days ago up to 27½c. is back again to 26c., the high prices at once cutting off consumption." The above is the *Trade Bulletin's* summary of the butter market of the week at Montreal. Here there is a good demand for creamery at 23 to 24c. for prints and 21 to 22c. for tubs and boxes. The receipts of dairy are large but the market is active. The demand for choice dairy is keen and the best lots sell readily at good prices. The best dairy lb. rolls bring 20c., and tubs 18 to 19c. There is an over-supply of moderately good butter. On Toronto farmers' market butter brings 20 to 25c. per lb.

#### Cattle.

The cattle markets of the week have ruled fairly steady with very little change in values. At Chicago on Friday trade, generally speaking, was steady with some lines of butchers' stock weak. Cables were steady with steers 10 to 20c. lower at New York. At Toronto cattle market on Friday there was no special change to report. The fat cattle offered were nearly all of the butchers' class, with quality generally medium with few choice animals. Short keeps and heavy feeders of good quality were scarce.

**Export Cattle.**—Choice lots of these are worth \$4.40 to \$4.60, and light ones \$4 to \$4.25 per cwt. Heavy export bulls sold at \$4 to \$4.25, and light ones at \$3.12½ to \$3.35 per cwt. Loads of good butchers' and exporters' mixed sold at \$3.90 to \$4.10 per cwt.

**Butchers' Cattle.**—Choice picked lots of these, equal in quality to the best exporters and weighing 1,000 to 1,100 lbs each, sold at \$4.20 to \$4.40, good cattle at \$3.75 to \$4, medium at \$3.25 to \$3.50, and inferior to common at \$2.40 to \$3 per cwt.

**Feeders.**—There is a good demand for short-keep feeders, which are hard to get. Heavy, well-bred steers, weighing 1,000 to 1,150 lbs. each, sold at \$3.60 to \$3.90, and other quality at \$3.40 to \$3.60 per cwt. Short-keep steers, 1,100 to 1,200 lbs. each, in good condition, sold at \$4 to \$4.15 per cwt. Light steers, 800 to 900 each, sold at \$3 to \$3.37½ per cwt., and bulls for the byes, 1,100 to 1,600 each, sold at \$3 to \$3.25 per cwt.

**Stockers.**—The bulk of Buffalo stockers offering are inferior to medium in quality. Yearling steers, 500 to 700 lbs. each, sold at \$2.25 to \$3, and inferior quality at \$1.75 to \$2 per cwt. Yearling bulls, 600 to \$900 lbs. each, sold at \$2 to \$2.25 per cwt.

**Calves.**—There is a lighter demand at Buffalo and prices are lower at \$7.25 to \$7.50 for choice to extra and \$7 to \$7.50 per cwt. for good to choice. Here calves sell from \$3 to \$10 each.

**Milk Cows.**—Good to choice milk cows are scarce and are wanted. On Friday the general run sold from \$30 to \$53 each.

#### Sheep and Lambs.

There is a better demand and higher prices at Buffalo. On Friday Canadian lambs were quoted at \$5.25 to \$5.35 for choice to extra and \$4.75 to \$5 per cwt. for good to choice. There is little change in values here, though on Friday the market was cleared up of everything in the sheep line. Prices were steady for sheep at \$3 to \$3.40 for ewes and \$2.50 to \$2.75 per cwt. for bucks. Spring lambs sold for \$2.50 to \$3.25 each and \$3.25 to \$3.75 per cwt.

#### Hogs.

The hog market continues to improve. On Tuesday the deliveries were 1934. Best select bacon hogs, 160 to 200 each sold at \$5.50 per cwt. and thick and light fats at \$5 per cwt. Unculled car lots sold at \$5.30 to \$5.40 per cwt. The prospects for higher prices this week are good. Hogs are in fairly good demand at Montreal where quotations

are \$5 to \$5.12½ per cwt. The *Trade Bulletin's* London cable of Nov. 22 re Canadian bacon reads thus: "The market is firmer and higher and with a good demand, prices have advanced 2s. with a good demand."

#### Horses.

The event of the week in horse circles was Seagram's sale of thoroughbreds held at Grand's on Tuesday last. Considering the quality of the horses sold and their fitness for breeding purposes prices were low and ranged from \$55 to \$200 each. The noted horse Saragossa sold for \$150, the purchaser reselling him a short time afterwards for \$400. This horse which is now rising ten was purchased by Mr. Seagram when a yearling for \$5,000. Some splendid brood mares were sold at very low prices. Thoroughbred blood is very desirable in army remounts and this sale furnished a splendid opportunity for farmers to secure some of the very best type which they were slow to take advantage of. Hendrie's sale takes place on Dec. 5.

The regular trade is quiet. There is some demand for heavy lumbering horses at \$85 to \$125 each for animals weighing 1400 to 1600 each. They need not necessarily be in shipping condition, but good workers.

The Wm. Davies Co., Toronto, will pay \$5.75 per cwt. for select bacon hogs this week.

### VIRGINIA FARMS FOR SALE

Good land, neighbors, schools and churches convenient. Mild healthy climate. Low prices and easy terms. Write for free catalogue. E. B. CHAFFIN & Co., Inc., Richmond, Va.

## A SPAVIN

Ringside, Splint or Curb w/1 reduce the selling price of any horse 50 percent. You might just as well get full value for your horse. Cure him with



Bony and unimpaired enlargements, also all forms of Lameness yield readily to this remedy. It is certain and sure in its effects and cures without blemish as it does not blister.

Yonkers, N.Y., Dec. 17, 1897.  
Dear Sir—Enclosed find stamp for your Treatise on the Horse. I am truly recommeded your Kendall's Spavin Cure, for I have used it for several years on Spavins, Splints and Lameness. It has always given me satisfaction. I am never without a bottle on hand. Use my name if desired.

JAS. C. MOORE.  
It works thousands of cures annually. Endorsements like the above are a guarantee of merit. Price, \$11.50 for 40¢. As a liniment for family use it has no equal. Ask your druggist for Kendall's Spavin Cure, also "A Treatise on the Horse," the book of your address.  
DR. B. J. KENDALL CO.,  
Enosburg Falls, Vt.

## Deafness and Head Noises



Drum, full size.

Relieved, the progress of Deafness stopped and sensitive ears protected by

### The Common Sense Ear Drums

Which are made of soft rubber only; are absolutely invisible and comfortable, and can be worn at all times both day and night, by infants and children, as well as adults, with perfect safety and comfort.

Call or write for pamphlet and testimonials showing benefit in cases of Catarrhal Deafness, Roaring and Hissing Sounds, Discharge from Ears, Relaxed, Sunken or Thickened Drums.

## The Common Sense Ear Drum and Medicine Co. Limited

Freehold Building, TORONTO, CANADA.

Mention this paper.

## The Razor Steel Secret Temper, Cross-Cut Saw

WE take pleasure in offering to the public a Saw manufactured of the finest quality of steel and a temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than by any process known. A Saw, to cut fast, "must hold a keen cutting edge."

This secret process of temper is known and used only by ourselves.

These Saws are elliptic ground thin back, requiring less set than any Saws now made, perfect taper from tooth to back.

Now, we ask you, when you go to buy a Saw, to ask for the Maple Leaf, Razor Steel, Secret Temper Saw, and if you are told that some other Saw is as good, ask your merchant to let you take them both home and try them, and keep the one you like best.

Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand.

It does not pay to buy a Saw for one dollar less and lose 25c. per day in labor. Your Saw must hold a keen edge to do a large day's work.

Thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws.

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# The Farming World

MAKES THE

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