

# THE POSSIBILITIES OF THE SHEEP INDUSTRY

(By Walter James Brown Editor of the Canada Farmer.)

One of the oldest branches of Canadian agriculture is sheep raising. The first settlers established little flocks of sheep to supply both food and clothing for their families. It is stated that in the early days even when the bears and wolves were plentiful sheep were kept by a much larger proportion of the farmers of this country than at the present time. It is doubtful if there is any country in the world which has larger areas than Canada adapted to sheep-raising. Certainly no country offers greater opportunities for the development of the industry. The soil of Canada, the climate, physical features, and the farming population are all favorable to the production of mutton and wool of the highest quality.

This country has unfortunately been going backward instead of forward in the production of sheep. In 1881 the total number of sheep was estimated at 3,048,678, while in 1901, the year of the last Dominion census, the number was down to 2,510,239. During these twenty years the numbers of horses, cattle, swine, throughout Canada, increased from about 30 to about 50 per cent., while during the same period the sheep decreased about 17 per cent.

The time has come when Canadian farmers should arouse themselves as to the possibilities of the sheep industry. With proper handling, it is estimated that a good flock of sheep will pay the average farmer a profit of 300 per cent. on his investment. They will help to clean and fertilize his land, will utilize rough lands, are easy to keep, and will yield each year a crop of wool, and a crop of lambs; both of which can be disposed of to advantage. It is essential however, that attention should be given to the breeding and selection of the animals and they should be free from annoyance. Professor Thomas Shaw says: "Sheep that have been chased by dogs once or oftener, become so apprehensive that in some instances they never again are profitable. The injury done by dogs to sheep and the apprehension of loss from this source, has probably retarded the sheep husbandry, more than all other causes combined."

The presence of excellent flocks of sheep in all parts of Canada is proof positive that each and every province is well adapted to sheep breeding. It is also proof that the industry may be profitably carried on in all parts of the country. Each farmer may keep a few sheep without interfering with the number of other stock kept on his farm. It is, however, in those sections of the Dominion, where thousands of acres of rugged country that are at present yielding practically nothing that sheep raising may be introduced to excellent advantage and be made to yield splendid returns.

Is the person who keeps male and female stock a breeder? If so the country is full of them. In what respect does the average farmer differ from the man who advertises himself as a breeder of easy Berkshire hogs, or Angus cattle or Southdown sheep, Buff Plymouth Rocks, or what not?

We doubt if every advertiser is a true breeder. We feel sure that some farmers who do not advertise are breeders in the truest sense.

If breeding were simply the mating of animals then it would be easy. But no. Breeding is travelling by the blood route to a certain desired destination. It is an attempt to get somewhere. The average farmer is to the skilled breeder as the tramp is to the traveller. The tramp is on the go but goes nowhere in particular. His destination is wherever fate lands him. He desires to go, how he expects to get there, and about what it will cost, the average farmer mates male and female. He wants an increase of stock and trusts to fate to give him something better than he has, if he cares at all. The breeder selects his matings with care, he has studied the science of breeding, knows the history of his stock, their family lines, their strong and weak points, and mates to establish the strong and eliminate the weak. He knows that it is fatal to cross certain families of a breed because for years a certain trait in one has been sought for and perhaps a conflicting trait in the other has been established. The careless farmer is playing a tenpin game of knock down and set up, while the breeder is like the skilled forester who cuts down the ill-shaped, over crowded trees and leaves the best specimens in the forest.

Why is it that there are so many commonplace specimens of live stock everywhere? Why is it that the pure-breds are so few and so high priced? Simply because there are so few farmers who are willing to become breeders, or if unfitted, to ask a skilled breeder to help them. Not every man is fitted by nature to be a breeder. But he can buy good sires of others who make it their business, and in that way gradually grade up his stock.

There is absolutely no excuse for anyone having a scrubby stock in five years as he has to-day. Look at it from any standpoint and no one can say that he can afford to ignore breeding. The scrub male is cheap at purchase, but he becomes an awful extravagance as the years go by. The pure bred male is a little more costly, but he pays his way all the time and leaves a profit.

But selecting pure bred males to take the place of scrubs is not all. There must be intelligent matings of pure breeds, no crossing of breeds or distinct families of breeds. Any breeder will be glad to advise a farmer who feels he is incapable of breeding correctly.

We wish we could inspire hundreds of young men to study breeding and then practice it. There's money in it in the end.

Crops are not necessarily an exhausting crop. Wheat, for example, removes less total fertility from the soil than corn and many other farm crops. It is estimated that an acre of corn will remove about 75 lbs. of nitrogen, 60 lbs. of potash and 20 lbs. of phosphoric acid; while an acre of wheat, yielding 20 bushels, will remove only about 35 lbs. each of nitrogen and potash and 15 lbs. of phosphoric acid. Wheat does not remove any more total fertility from the soil than prairie hay, timothy or any ordinary forage crop. Wheat, however, has gained the reputation of rapidly exhausting fertility, and it is true, as many are aware from their own experience, that whenever wheat is grown upon the same land for a series of years it greatly reduces the fertility. This decline in crop producing power, as previously stated, is not due to the crop itself removing from the soil the elements of fertility, but to the rapid decay of the vegetable matter, the loss of nitrogen, and changes in the form of the mineral plant food in the soil. Wherever wheat has been systematically grown, no decline in crop producing power has occurred.

When we consider that the principal element of the gluten of grains is nitrogen, and that nitrogen must be obtained from the soil, the reason is apparent why we must have a good supply of available nitrogen in the soil in order to produce high grade cereals. But neither must the other elements of plant food be disregarded, for often the nitrogen cannot be economically used on account of lack of some other important element. The best means of conserving and restoring nitrogen to the soil is through the use of farm manures, rotation of crops and the cultivation of clover and alfalfa.

Improvement of highways is a subject of perennial discussion, and always the main theme is great magnitude, enormous expense, national participation in and support of highway construction and so on. All well enough in their way, and possibly necessary to a complete and high-class highway system, but it will take time, many years of time, to realize the desired consummation. In the meantime, suppose less pretensions and less costly highway improvement be engaged in, as a temporary expedient at least. As a pointer—the following incident is submitted; it would have been related at the late country life conference by an actor in it if opportunity had offered:

A farmer, four miles from his nearest town, made a log or "King" road drag. With it he "worked" the highway one summer along the line of his farm thereon after showers which temporarily suspended farm work. He soon had a fine roadway which had cost practically nothing but the slight cost of the drag. He kept this work up two years before the first neighbor "tumbled to the racket" and in three years from the initiative step a fine highway had been built to town. It could have been done the first summer as well, if the farmers had been so disposed. The cash outlay for this four miles of road did not exceed \$15, principally the cost of the drags. In districts where most farms are improved this experience can be duplicated, resulting in thousands of miles of infinitely better highways than the present ones.

## DAIRYING

### SOME GENERAL PRINCIPLES OF STOCK FEEDING

Home-Grown Feeds Are Economical—Silage and Roots Most Important.

THREE THINGS REQUIRED.

(By Thomas Shaw.)

Feeding dairy cows is a comparatively easy matter when the required foods are at hand in abundance and without excessive cost. But if food of all kinds is scarce and dear it is an entirely different matter. In feeding dairy cows successfully, three things are called for. The first is a bulk product, commonly spoken of as roughage. The second is some succulent product, which adds materially to milk elaboration, and the third is a sufficient supplement of concentrated

## POULTRY

### THREE DISTINCT TYPES IN THE HEN FAMILY

The Best Breed, the One That Gets the Best Attention.

CROSSING INJURES LAYERS.

(By Theo. Hewes.)

To the fancier or thoroughbred breeder has been left the task of improving the shape and feathers of our domestic poultry to fit the standard requirements. The standard makers have tried to be practical in framing their word descriptions for the several breeds and varieties, keeping at all times in mind the true value of domestic poultry as to its laying and table qualities. They, realizing that

## HORTICULTURE

### LENGTHENING VEGETABLE SEASON UNDER GLASS

Successive Crops of Lettuce Are Sown Every Week.

A FEW SUGGESTIONS.

(By F. H. Gibbs.)

To lengthen the vegetable season, glass is an important adjunct. The shape of the hotbed yard must depend on your location in regard to shelter. Though the shape makes little difference if it is protected from the north and west winds and has good drainage if you can, also have an east wind-break without shutting out the sunlight, so much the better. About Dec. 1 the fresh horse manure for hotbeds is gathered, but instead of piling it, it is spread out thin over the entire yard. The second time over, alleys are left every 1 1/2 feet north and south. The manure is spread in this manner till Jan. 1, when it is about one foot thick. It can now be piled on till it is 3 feet thick and allowed to heat.

Snow is shovelled out of the alleys into the manure to keep them free from ice. When one block is filled, the alleys are abandoned and are filled with hot manure from each side, which soon draws the frost out of the ground, and the beds may be put down. We begin at the north side of the yard and pitch over from the pile enough manure to put down the first row of boxes. This clears about 6 feet of ground. By following this method none of the manure has to be pitched over 6 feet. By having the ground all warm, one-third less manure is required than when beds are put down on frozen ground.

Starting Jan. 1, successive crops of lettuce are sown every week. Lettuce is large enough to transplant in 14 days. When the first house is planted full, the other has been warmed and dirt prepared so there is no delay in transplanting. The first week in February lettuce is transplanted the second time and given more room. They make better plants if twice transplanted.

March 15 is early enough to start cucumbers for the beds. The seed is sown in boxes and plants transplanted in 4-inch pots and again removed May 1 to the sash—one hill to the sash; four lettuce plants having been left out of the centre for the cucumber plants. After the lettuce crop is cut, the ground is mulched with fine manure and the cucumbers given the entire sash, which they are not slow to fill. The sash are not removed except for ventilation till the nights are warm, early in June.

It is well to plant some of the sash to radish about the middle of March; when they are sold the sash is put back where the radish were and cucumbers forced under them. As sash do not belong to a labor union, they do not object to doing double duty.

When the cucumbers are done bearing, immediately pull up the vines and pile the dirt for the next year, and as nearly as possible remove the rotten manure that was under the beds to the field. I like it for onion ground, as it is entirely free from weed seed.

## SWINE

### HOW BEST TO WINTER THE BROOD SOWS

Good Blood Counts For Much When Considering Economy in Feed.

QUIET DISPOSITION NECESSARY.

(By N. A. Clapp.)

There is a proposition before us just now in regard to the cost of wintering the sows that are to furnish the supply of pigs next year. In this connection I will say that very much depends upon the character of the sows to be wintered. Good blood counts for much when we are considering economy in feeds. A well-bred sow can be wintered on less feed and will bring better results than one of low breeding. She should be feminine in make-up, for the semi-masculine sows are heavier eaters and are not as prolific. The sow should have a quiet disposition and be a good feeder. With the qualifications mentioned we are ready to begin operations.

Instead of confining the sows and feeding all grain give them a chance at the grass late in the fall, feed moderate

NEWHAM DUKE (IMPORTED). First prize in the class for Clydesdale Stallions foaled previous to January 1st, 1905. Sir Marcus is a bay.



scratched on Feb. 1, white legs, foaled 1904. Bred by William Burns, Howfield Scotland. Exhibited by Graham Bros., Clarendon, Ont. Sire, St. Simon; dam, Bowfield, by Broadbaine.

ately on the grain feeds, and supplement with cheap feeds that will furnish a part of the necessary sustenance, like corn and small potatoes, cull roots, like beets. When freezing weather sets in do not confine them to grain feeds, but supply a variety. Give some sloppy feed regularly, and yet in moderate quantities. If one has sweet cornstalks, a small feeding once a day will be relished and prove beneficial. Field cornstalks, ears and all, in small quantities, make good feed. If one has clover hay, they are well equipped to winter the sows. Remember that they cannot hold large quantities of clover at a time but will eat a small amount twice a day and give better returns for the grain consumed than they will without it. Two ears of corn fed in connection with clover twice a day will produce better results than four ears fed without the clover. Sows wintered on cornstalks and clover will make good feeders. In the spring than those that are fed all grain. Try it this year.

NEWHAM DUKE (IMPORTED). First prize in class for Shire Stallions, foaled previous to January 1st, 1906. Newham Duke is brown, star on forehead, near hind stocking white.



foaled 1899. Bred by F. W. Dancer, Newham Grange, Eng. Exhibited by M. G. Dwyer, Weston, Ont. Catthorpe Irving, dam, Blossom by Warwickshire Hero 2nd.

THE COW BARN. Clean, dry, light, well ventilated—that's the modern cow barn. These necessary qualifications are somewhat expensive, but the lack of them costs more.

Maybe it will be necessary to grade up and fill in around the stable door. Gravel or cinders are fine for the finishing coat. Surely the cows should not be compelled to wade into or out of the barn.

Maybe the tread of hoofs has carried out much of the dirt in the alley, if not floored. That needs filling again. Clay makes a good hard floor in the alley. Some have nothing but dirt for the cows to stand on. That needs frequent attention to keep it from getting full of holes where the cows stand. They can't lie in comfort unless the floor is level floor. Better put in plank or concrete floor.

Lots of windows are necessary. You must have light in the barn to kill disease germs. Sunlight is the best preservative of tuberculosis. Plenty of light saves much danger from doing cows by lantern light.

Ventilation is absolutely essential for the health of the cows, but is one of the hardest problems to solve in most barns. It is quite easy to provide for the King system in building a new barn, but in applying it to an old barn or cow stable is not so easy. You know that in order to get a good draft through a stove you must have a tight chimney, a tight stove and a good grate. The same is true of ventilation. Tight must be tight, the height sufficient to draw well, and the barn tight.

## ANSWERS TO CORRESPONDENTS

NOTE—Not more than one question from one correspondent can be considered at one time. Questions should be specific, clear and concise, and should be addressed to the Editor of the Agricultural Department of this paper. Any person requiring answers by mail must enclose stamped envelope.—Editor.

Subscriber, Brandon, Man.—My cows have a disease of the eyes. The lids swell and eyes turn white. What can be done for them. Ans.—Dust a little powdered boric acid in the eyes once daily.

S. Stewarke, N.S.—I have a mare that was burned for bone spavin, but is still lame. Ans.—There is little more you can do; as the bone spavin becomes hardened the lameness may disappear.

M. E. J. Morden, Man.—Have a mare that is weak in the back. Ans.—Give 1 dram fluid extract of nuxvomica at a dose in a pint of cold water twice a day for one week, then skip a week and give again if needed.

H. B. M. Roxton Falls, Que.—Mare's knees are sore, crack open, heel and break out again; are worse after travelling. Washing with soap and water and the application of liniments not effective. Ans.—Try 10 cent. resorcin ointment; apply each night.

G. F. E. Welland, Ont.—Horse had a wire cut on lower eye lid last spring. Being covered by the upper lid when eye is closed it is difficult to treat. It does not heal. Ans.—The edges of the wound should be freshened and stitched together; if properly done healing will take place at once.

J. J. H. Bobogoon, Ont.—I have two heifers that have lumps on side of the windpipe. It feels as if a cord is swelling there, lumps are not tender to the touch and are hard. Heifers are well otherwise. Ans.—Paint lumps with equal parts tincture iodine and camphor, once daily for three weeks, and report result.

A. P. Waterloo, Que.—Have a mare that is lame in her front legs. When she stands she puts her feet forward. There is no swelling in any part of the legs. The animal has been in this condition for a year. Ans.—The above symptoms are those of chronic founder, which is incurable. Such a horse is fit for farm work only.

Subscriber, White's Mills, Ont.—The front feet of a 9-year-old mare are sore, worse after driving, feet are red and dry and seem to be growing close at heels. Ans.—The trouble is in the navicular joint in the foot. Keep feet soft and shoe with high heel shoes. The lameness can be removed by cutting the nerves which supply the feet. This should be done by a veterinarian.

C. F. H. Newmarket, Ont.—I have a 4-year-old colt that has a slight discharge from one eye. A film forms over the eye and it grows smaller. After using an injection prescribed by a veterinarian the trouble was better, but returned after a few months. Ans.—Iodide of potassium in 1/2 dram doses twice daily for some weeks may be tried. The disease is generally thought incurable.

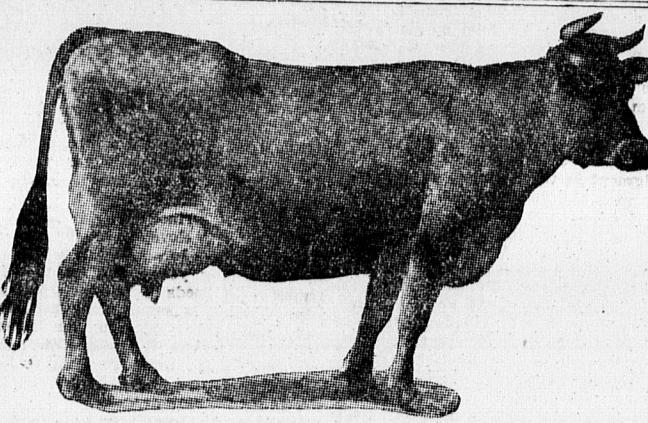
W. E. R. Guelph, Ont.—Have a cow whose udder swelled in one quarter. It was treated and the swelling disappeared, but at times it will swell again. Ans.—Give 1 1/2 lbs. epsom salt dissolved in water at one dose. After the physic operates, give 1 dram iodide of potassium at a dose twice a day in bran mash and continue it for two weeks.

J. F. Mattawa, Ont.—Cow has a cough. She sneezes thin, although she has a good appetite. Has she tuberculosis. Ans.—Chronic cough is a very common derangement among cows. It is caused by a thickening of the mucous membrane of the throat. Cows that have tuberculosis seldom have a cough. The only way to find out if a cow has tuberculosis is to have her tested with tuberculin.

J. McV. Thames, Ont.—Horse (he) has a ravenous appetite and keep (he) in flesh. Ans.—Give him 4 qts. oats at a feed three times a day and mix in a little dry bran to prevent him from swallowing the oats before they are masticated. Also mix 4 ozs. each sulphate of iron and nitrate of potassium divide into 24 doses and give one at a time in a small bran mash until all are taken.

W. R. Rawdon, Que.—Two cows, fresh last spring, at times give bloody milk. Cows have good feed and care and warm barn. Ans.—Cause may be a congested or spongy condition of the glands of the udder or sores in the tubes of the teat. If there are no sores bathing with cold water after milking and the application of camphor ointment should give relief. If there is no change in the teat or udder the condition probably is not in any way dangerous.

SIZE OF SQUABS. Many persons would raise squabs if the market were staple for them. So often you cannot find a steady or satisfactory market. The small producer must, as a rule, depend on the middleman. There must be certain days to deliver the squabs, and certain days to kill. If you raise heavy squabs the better your price, the dozen price will vary from \$2.50 to \$3.50 per dozen. Eight-pounders to the dozen are few, but if not dark-skinned, which lowers the price of any size, will bring fancy prices in market.



CHAMPION JERSEY COW, LORETTA D. She carried first honors at the St. Louis World's Fair Contest in 1904. She is now counted the champion Jersey in the world. Her best one day's performance was 3.71 pounds of butter from 60.5 pounds of milk. In the 28th test she produced 5,802.7 pounds of milk, containing 280.161 pounds of butter fat (equal to 330.32 pounds of butter, estimating butter to be 85 per cent. fat). This test at St. Louis showed that of the four Jerseys competing the Jerseys made a pound of butter for the least last day of feed.

food. It may also be mentioned that these foods should be used in approximate balance with reference to their chemical constituents. It will be at once evident that the character of the amount of any one of these classes of foods will have a qualifying influence on the feeding of the others.

Some farmers have alfalfa or clover hay for their cows in sufficient supply, some have only a partial supply of hay and can supplement it with cornstalks or the straw of cereals, or it may be, with millet hay. As the fodder is usually grown on the farm, the aim should be to utilize it as far as it will serve the purpose, for it will prove a cheap feed. The nature of the roughage will exercise powerfully the amount of concentrates needed to give what is required.

For instance, should good clover hay or alfalfa or pea vine hay be abundant, about one-half the concentrate would suffice, compared with the amount that would be called for with other feeders, such as corn. When alfalfa and cornstalks furnish the roughage, it will frequently pay to chaff them and mix the ground concentrate in feeding them to insure increased consumption. Those are fortunate at the present time who can reduce the quantity of concentrates by feeding a relatively large proportion of home-grown roughage.

Happy are those dairymen who have an ample supply of succulent food for feeding during the winter. Succulent food comes chiefly from two sources. These are, corn in the silo and field roots in the cellar. Succulent food has a marked influence on milk secretion. Feed two foods the same in analysis, but one succulent and another not, and the result in milk will be materially increased by feeding the former. Succulent foods are of the roughage class. They are cheaper than concentrates, and they are home-grown.

Where they are in plentiful supply the more expensive concentrates may be fed more sparingly. Why does not every dairy farmer in the land furnish himself with a silo? See what it would mean this present winter. It would probably be safe to say that not one dairyman in 100 has a supply of field roots to feed his cows this winter. In justification the dairyman will answer that it will not pay because of the work. That will depend on the number of the cows which he feeds, at least, to some extent, and to some extent on the help which he has from his own family. This question of how much work is far too frequently on the lips of many dairymen. What do we get that is good without work?

The extremes of requirement in cows giving milk should be included in the nutritive ratios, 1:5.5 to 1:8. The standards given by Wolff claim that a cow weighing 1,000 pounds and giving 22 pounds of milk daily should be given 2 1/2 pounds of protein daily in the food. American investigators lean to the view, based on experiments, that the amount of protein called for is less than 2 1/2 pounds but more than two pounds; 2 1/2 pounds may be given as an approximate average. The wisdom of keeping the amounts of protein reasonably low is based on the relatively higher price of protein feeds.

CHIPS FROM THE FARM BLOCK. Begin farm work at the right end. The business end. Remember the old adage, "the mule is lamest in front." How about that harness, to make it look like new. Apply a dressing on by neatfoot oil one pint, add to this a large tablespoon of lampblack and an ounce or two of beeswax. Look up and not down. Look forward and not backward. Look out and not in, and lend a hand. Look out there! Don't drive that bright hay and those nice corn stalks into the mud or snow to be trampled on by stock and a large amount wasted. If you are going to feed them out of doors provide some racks to put the fodder in. It will pay you. Don't forget. Keep the boys and girls well shod. "An ounce of prevention is worth a pound of cure." There are days that bring colds and sore throat from wet feet. Milk is an excellent egg-producing food and should be liberally given wherever it can be cheaply obtained. Any kind of milk, whether fresh or sour or curdled will do for the hens. They will drink it if set before them or it may be put in the soft food, adding a tablespoonful of bread soda to every quart of milk.

## WATER HORSES BEFORE FEEDING

A horse should be watered before feeding, and never given a large quantity of water after a meal, for the simple reason that the water will wash the food out of the stomach before stomach digestion has taken place, and the food will not be well prepared for absorption; and beside, it is sometimes the cause of colic.

There is a popular idea that a warm horse should not be allowed to drink, and unlike a great many other popular ideas, there is a little truth in it. If you water a warm horse in the ordinary way, letting him drink all that he will, you are likely to have a founder horse on your hands. This is especially so if, at the time, the horse is fatigued. Nevertheless, it is always safe to allow him from six to ten swallows, no matter how warm he is. If this be given on going into the stable and he be allowed to stand and eat hay for an hour, and is then offered water, he will not drink nearly so much as he would had none been given before.

The lather is not in the first swallow, as we often hear it asserted, but in the excessive quantities he will drink if not restrained. The most dangerous time to give a horse a full draft is when he has cooled down from fatiguing work and has partaken of a meal.

UTILIZING REJECTED FEED. There is quite an art in using rejected food to advantage. By rejected food is meant food that is left uneaten by animals because of lack of relish for it. Take the dairy cow, for instance. When fed hay a little coarse, it may answer the purpose if the cow is contented to eat it. If not, she will take out the finer and more leafy portions and will reject more or less of the stalks. The rejected portions may be eaten with avidity and profit by yard cattle. It will be much more profitable to feed it to them than to compel the cows to eat it.

The same may be said of hay fed to horses. Food rejected thus by horses may answer well for such cattle. In this way what would otherwise be wasted or used only for bedding, is turned to good account. Thus it is that the gradations in the use of fooders may be made to turn them to excellent account, with almost no waste. Food rejected thus by horses when foods are cheap, but in a time like the present, when all kinds of food are dear, it may mean much.