Kildonan Farmers' Institute.

[Address by Prof. Geo. Day, O. A. C., Guelph.]

The annual meeting of the Kildonan Farmers' Institute, held on July 3rd, was addressed by G. E. Day, Professor of Agriculture and Animal Husbandry at the Ontario Agricultural College, Guelph, and Mr. D. A. Stewart, of Pilot Mound. The meeting was not largely attended. The officers of the preceding year were all re-elected. Prof. Day spoke briefly on the "Selection and Feeding of Live Stock." From what he had seen of Manitoba, he had not any doubt but that Manitoba would yet be a large producer of live stock. In Ontario the breeding and feeding of live stock had become an absolute essential to successful farming. They had to raise stock to be able to raise grain, and to raise grain, to be able to raise stock. The sooner Manitobans take up stock-raising, the better it would be for the country, as it was not only much safer than exclusive grain-raising, but gave profitabie employment throughout the year, and would keep the young men out of mischief during the winter months. He had heard people in this country remark that they did not intend to go in for stock-raising on account of the *drudgery* necessitated in feeding and caring for stock during the long months of winter. Whether stock-feeding is drudgery or not depends largely upon how you look at it. Given *good* stock, in which the feeder can take a pride, and there is no drudgery in caring and feeding such; and once get the boys of the farm interested and proud of the live stock that they have to work with, and there will no longer be the complaint that the boys leave the farm for other occupations.

One of the great difficulties is that men do not possess the dogged perseverance necessary to success in stock-raising. Men are not satisfied to start at the bottom, or according to their means, and stick to it with unwavering perseverance until they reach the top. In starting a herd or flock it is not necessary to have pure-bred females, but it is necessary to have an *ideal* in one's mind in order that an intelligent and persistent effort be made to attain a high standard. A man must *know* a good animal, and knowledge must be the basis upon which success is founded. In stock-breeding, of whatever breed is decided upon, the best individuals only should be retained, culling out those that are inferior. In common practice it is generally the best that are sold, simply because they bring the most money at the time; and in consequence the herds and flocks are continually degenerating. Then, for lack of a fixed purpose, people switch off from one breed to another. This practice he could not too strongly condemn, and believed that whatever breed a man selected he should stick to that breed, using the best sires obtainable.

In addition to careful selection, it was most essential to feed, and to feed properly. He was often asked, "What is the best ration for dairy cattle or for beef cattle?" He did not think there was any best ration. It depended very largely upon what feed was at hand. It was important, however, if it was necessary to buy feed, to understand the composition of a proper ration in order that the most economical feed might be bought. The fact is frequently overlooked that an animal can only return a profit in milk or beef out of the feed consumed above what is required for the maintenance of the body. An animal that will not pay for good feed cannot be made to pay at all. Nowadays more attention is given, in feeding stock, to the cheaper part of the ration — the coarse fodders. By careful study along this line, together with experience, it was found that considerable saving can be made in the amount of grain fed by making the fodder ration so palatable that the animals will eat a large amount of it. If cattle are fed good hay one meal and straw the next, they will not eat the straw, but wait for the next feed of hay; but if the hay and straw are cut and mixed together, along with ensilage or roots, or both, the cattle will eat all clean, and thus get the benefit of whatever nutriment there is in the straw. In this way meal rations for stall-fed cattle have been reduced within the past few years about one half. He cited a number of tests that have been made at the Agricultural College in feeding cattle. He strongly recommended roots, and was sure they can be grown in any part of this country with satisfactory results. Roots are also particularly useful in hog-feeding, and where they are fed during the winter months in suitable proportion there is much less trouble from crippling, and the hogs are in much better shape to be finished off with a heavy grain ration.

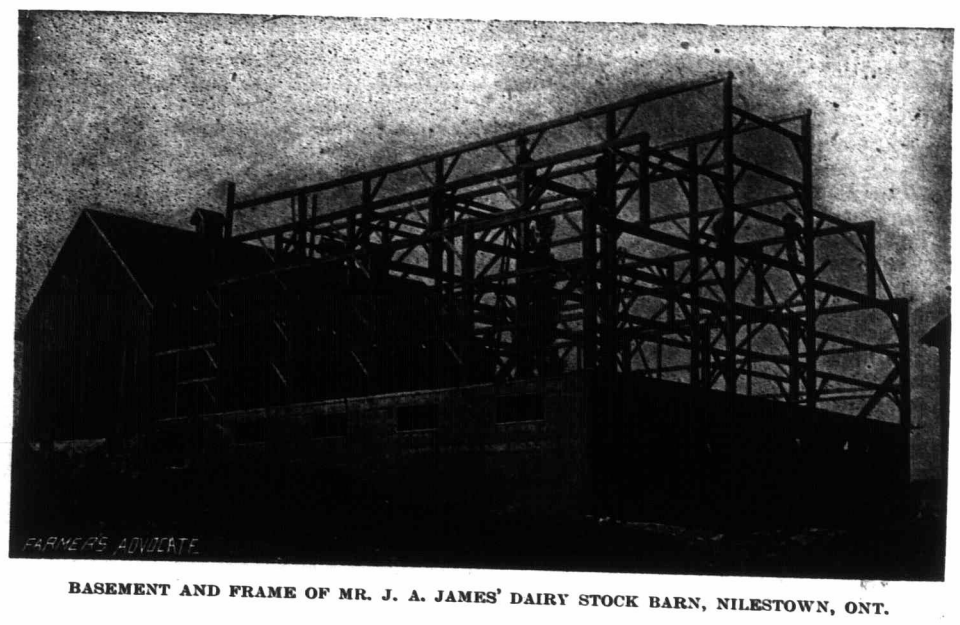
Mr. Stewart exhibited samples of Brome grass, which, he said, was doing exceedingly well wherever tested in the Pilot Mound district. He strongly recommended it for pasture and for hay, for renewing old land by supplying humus or root fiber to the soil, to prevent drifting of light soil or baking of heavy soil, and also pointed to its usefulness on dirty land to hold weeds in check. He had found that seven pounds of seed per acre of home-grown seed was sufficient in his district, and thought likely that quantity would be suitable anywhere on the heavy lands of the Red River Valley.

A New Dairy Stock Barn in Course of Erection.

The barn basement and frame represented by the accompanying illustration is on the 150-acre dairy farm of Mr. J. A. James, Nilestown, near London, Ont. The new portion is 72 feet long by 60 feet wide, and butts against the old barn with stone basement, which it becomes a continuation of. The basement walls of the new portion are of cement concrete, made from Thorold hydraulic cement. The walls are eight feet clear inside, and on account of the barn being on sloping ground average about twelve feet high outside. There was used in the construction of the walls 100 barrels of cement, 150 loads of gravel, and as many small stones as the cement would take. It was built by four men in two and one-half weeks, and presents, both in our illustration and upon close examination, a most substantial appearance.

The basement is divided lengthwise into two rows of single stalls and a row of box stalls, with nine-feet passages behind the cows, and an eleven-foot feed passage, which leads through the old basement to cement silo beyond it. The entire floor is to be of cement, as are also the mangers and gutters. The feed passage is to be 14 in. higher than the floor where the cows stand, so that the side of the passage will form the back of the manger. There will be put in a complete watering system, supplied from a hydraulic ram. The windows, of which there are five on either side and three in the end, are each 5 ft. long by 2½ ft. deep.

The superstructure is to have five mows on either side of the 16-ft. driveway. The corner and side posts are 16 ft. long and 10x10 in. square. The purline posts are 8x8 in. square and 34 ft. long, and the peak of the roof will be 39 ft. from the barn floor. The barn will, when finished, be painted on the outside and fitted on the inside with every convenience that appears necessary for the comfort and support of the capital Ayrshire herd it is being constructed to accommodate.



BASEMENT AND FRAME OF MR. J. A. JAMES' DAIRY STOCK BARN, NILESTOWN, ONT.

Cleanliness in Dairying.

To the Editor FARMER'S ADVOCATE:

A great deal has been written upon this subject, but I think that a few more lines would not be out of place, judging from what I observed to-day while taking in the milk at the College creamery. It is not at all unusual to find all sorts of filth in the bottom of a can, such as grounds, manure, etc., etc. Such a state of affairs cannot be tolerated much longer if we expect to be able to compete with Denmark and other countries in the leading butter and cheese markets. We must educate the producer in order that he may fully realize the vital importance of perfect cleanliness in dairying.

Of the many reasons for the necessity of cleanliness in handling milk, one of the first is that milk is a liquid and will dissolve a large portion of the foreign matter that finds its way into it. When this matter is once dissolved, no amount of straining can remove it.

Another reason for giving especial care to the handling of milk would be that from the necessity of the case it is not the so-called unobjectionable kinds of dirt, that are sometimes distinguished as "clean dirt," to which milk is usually exposed, but to the germ-laden dust and obnoxious odors of the cow-stable, as well as particles of dried manure, hairs, and other minute particles, so apt to drop into the pail during milking.

We must bear in mind that it is not the dirt of itself that gives rise to so much trouble, but that it is the undesirable kinds of bacteria which enter the milk along with the dirt, as they exist in untold numbers in these objectionable contributions. When the forage and bedding are handled just before milking, as is often the case with men who have not made a special study of dairying, a very objectionable kind of bacteria (known as hay bacillus) find their way into the milk with the dust. In addition to the sources referred to, it oftentimes happens that the unwashed hands of the milker, together with some old coat that has previously served a period of more esteemed service, but now serves as a special garment for the grooming of horses and milking the cows, furnishes a smaller, though very objectionable, part to the general supply.

Again, we may find that good housewife or domestic who has not learned the superiority of a good brush to the much-used dishrag has been unable to remove all the slimy substance that adheres so tenaciously to the vessels. Thus a supply of bacteria sufficient for an undesirable seeding is in this way preserved. Not only is milk liable to contamination from the above-mentioned sources, but it is of such composition that when once seeded the bacteria can neither be skimmed off nor strained out, but are there to stay, as it furnishes temperature, moisture and food supply so admirably adapted to their growth and increase that under these favorable conditions they multiply at an inconceivable rate of rapidity. This increase in undesirable bacteria very materially affects the keeping quality of the milk, thus greatly shortening the time in which it can be put upon the market in an apparently fresh condition. Or if the milk is to be used for the manufacture of butter or cheese, the presence of these germs will prevent a proper ripening of the cream, thus making it impossible for the buttermaker to secure that much-sought-for quality, good flavor, in his butter. In the production of cheese they produce gassy and floating curds, which cause the cheese to be spongy and "pinholey."

After these things have been considered, there is yet the influence that uncleanliness may exert upon the health of the consumer of the milk or its products, and also as regards securing the best price for the article offered for sale. As regards health, there is no longer any doubt that impure milk is not only undesirable, but positively dangerous, from the disease germs that are likely to abound wherever there is dirt, filth or decay. The milk may not only serve as a means of conveying the germs of such diseases as typhoid fever, tuberculosis, and numerous other virulent diseases, but the decomposition that is set up in the milk by the putrefactive bacteria may produce in milk or its products toxic compounds that are extremely poisonous, and which often produce sickness or even fatal results.

This form of poison, as well as various other troubles, develops in cheese also, and is, like other cheese diseases, supposed to be the outcome of improper care of the milk.

In butter, one of the most annoying effects of undesirable bacteria is the earlier development of butyric acid and the consequent rancidity of the butter. From some experiments made here at the Iowa College creamery in regard to the keeping qualities of butter made from cream that had been separated from milk which had been exposed to unfavorable conditions that are so frequently to be met with, and other cream that was free from all undesirable kinds of bacteria, I am firmly convinced that uncleanly conditions are more directly responsible for rancidity in butter than is indicated by any authority that I have read upon that subject. I do not hesitate to venture the opinion that if more thorough cleanliness was rigidly practiced by all who put butter upon the market, the reduction in the amount of rancid butter would be sufficient to silence those champions of oleomargarine and other imitation butters who have been successful [In the United States.—ED.] in persuading so many that these products of the great packing corporations should be allowed to supplant butter as an article of food on account of their better keeping qualities. While it is possible, by resorting to pasteurization and pure culture starters, to improve the quality of butter made from milk that has been poorly cared for, I think it is admitted that there is no process by which poor milk can be made to produce the very best butter or cheese. We must also bear in mind that while commission merchants purchase the poor butter with reluctance at a lower price than is profitable to the producer, they are eagerly watching for the very best, and will often pay from half a cent to one cent a pound above market quotations to customers who can always supply them with the very finest article. W. J. KENNEDY, B. Sc. AG.

Iowa Agricultural College.

The Practice at St. Mary's Creamery.

To the Editor FARMER'S ADVOCATE:

SIR,—In a few words I will endeavor to give you our method of making first-class butter.

In the first place, aroma or a good flavor is obtained by being careful as to the quality of milk taken. To get a uniform flavor we pasteurize all our cream, cool it to a good ripening temperature (60 degrees), then add a pure culture starter, which will have the same flavor each day if proper precautions are taken.

The Texture is influenced by the temperatures and handling of cream and butter, stirring the cream gently when ripening and before putting it