one drawback of not having partitions between the cows.

A noticeable feature of all the stables was the amount of light. This is essential to the health of the cows and to the sanitation of the stable. Light is destructive to the disease-producing bacteria, and every stable should have as much of it as possible.

The care of the stable is an important factor in the production of good milk. Regular cleaning, whitewashing and liming should always be practiced. Seven of the stables were not kept whitewashed, and they were not so light or so clean as those which were. Lime was used in the gutters after cleaning the stables each day in seven stables. This, the owners stated, was a good method of suppressing odors. The cleaning of the stables was done regularly on nearly all the farms, two men having them cleaned three times daily, eight twice daily, and the remaining eleven once each day. There was a tendency on the part of some, owing to press of other work, to neglect the stables a little in summer, and a couple of cases were noted where the stables were only cleaned twice per week. While these stables were not in a very dirty condition, they were not to be compared with those which were cleaned and limed daily. Foul odors quickly arise. Manure heaps in the yard over summer, hogs kept in the same stable with the cows, bad eggs in the stables, and stagnant water close to the buildings, should always be avoided.

WATERING.

Watering dairy cows, particularly during the winter months, is something that good dairymen differ on. One man will see no harm from turning the cows outside to water, while another would not think of letting them out, preferring that the water be kept before them at all times. Of the 21 herds, 13 were watered outside, and their owners claimed that no falling-off in milk was noticeable, provided the cows were not left out too long at once or until they became chilled. On rough or very cold days, only a few are let out at a time, so that the others do not have to stand in the cold and wait until the boss cows are through drinking. They are tied in again as soon as they get their drink, and the owners stated that they believed that the exercise did the cows good, instead of harm. The eight men who were the exponents of inside watering all had practically the same system installed. Some pumped the water to the supply tank with a gasoline engine, while others used a windmill. The water was retained in a small bowl in front of the cows, and they were never let outdoors during the entire winter. A little difficulty is experienced in keeping these water bowls clean, but most of the dairymen stated that this did not give them much trouble. One advantage of the inside watering is that the cattle have the water before them constantly, and can take a drink whenever they like, and, according to some who have observed them, they drink far more inside than when let outside, the water is warmer, and they are not so likely to become chilled. Cows not accustomed to watering outside go back considerably in milk flow if turned out, but cows accustomed to going out for drink usually do very well, and the little exercise and fresh air thus obtained is good for their general health.

SUMMER FEEDING.

This season has been comparatively dry, and the pastures have suffered as a consequence, making it a necessity to feed some kind of fodder other than pasture grass, if it is hoped to keep up the milk supply. Some good practical information on this subject should be of value to dairymen, and for this reason special care was taken to get the rations being fed during the summer months, with a view to keeping up and increasing the milk flow. The herds will be known by number, and range from number one up to number twenty-one, and, as far as possible, the summer feeding will be given in full. The rations fed were as follows :

Herd No. 1—Each cow is fed 1 pound of mixed grain to 3 pounds of milk given. The grain consisted of one-third oats and two-thirds bran, with a little oil meal added. No soilage or silage was fed, and, to keep up the supply, which began to fall off, a little rolled oats was fed, and the grain ration increased.

No. 2—This herd got alfalfa and green peas and oats, fed as a soiling crop. Ensilage was fed until the middle of June. No grain was fed in summer.

No. 3—Brewer's grains were used in this herd, and were fed about 10 pounds per cow twice a day. The owner did not approve of this method, but, as he had no silage or green feed available, he considered these the cheapest feed.

No 4.—Cows in this herd were getting three quarts of meal each twice per day, the meal consisting of a mixture of 1 ton of corn, 1 ton of shorts, 1 ton of oats, and ½ ton of bran.

No. 5—This herd was being well fed, each cow getting about 8 pounds of a mixture of rolled oats and bran each day, as well as about 15 pounds of ensilage twice per day.

No. 6—This herd had a very large pasture field of some 160 acres, and consequently were able to get enough green feed. The grain ration consisted of about 4 pounds of bran and shorts each per day.

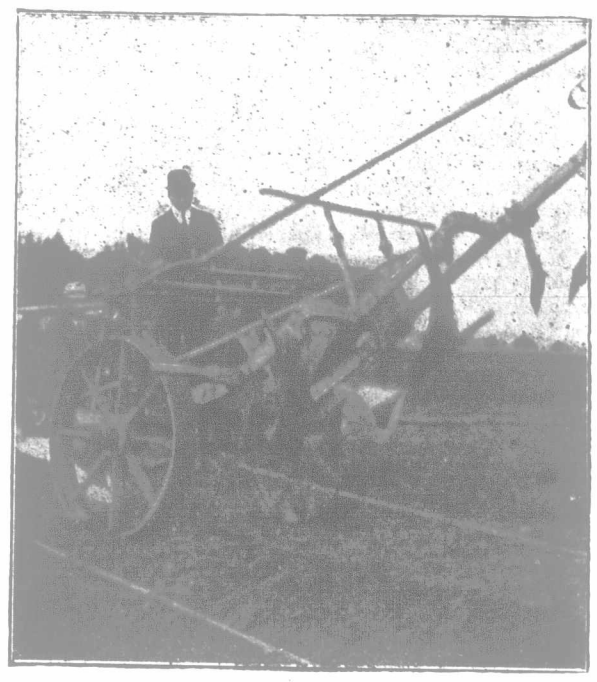
No. 7—No green feed fed until corn is ready. About ten pounds of brewer's grains twice per day constituted the grain ration.

No. 8—Brewer's grains, one-half bushel per cow per day, and about 40 pounds of silage makes the feed of cows on this farm, besides good pasture.

No. 9—Brewer's grains, 10 pounds at a feed, twice per day, made the extra feed for a cow in this herd.

No. 10—This herd was getting brewer's grains and silage, about a bushel between two, twice per day.

No. 11—No summer feeding of any kind was practiced in this herd, and the cows fell off two quarts each at a milking during the severe weather the beginning of July.



An Electric Plow.

Tested by Hon. Adam Beck, near Munich, Germany. Plowing 25 acres per day.

No. 12—Bran, oats and barley chop, mixed and fed 1 gallon at a feed once per day, and this supplemented by fodder made up of oats, barley and peas, pastured nights, formed the summer ration of this herd.

No. 13—A grain ration of 2 quarts of bran and 1 quart of mixed chop, twice per day, was fed each cow in the herd.

No. 14—No summer feeding practiced.

No. 15—Three quarts of bran twice each day, and a basket of silage between three cows, morning and evening, was keeping up the supply on this farm.

No. 16—Feeding alfalfa as a soiling crop. Grain feeding to commence this month and consist of 4 quarts of chop and bran, mixed, twice per day.

No. 17—Brewer's grains, 10 pounds at a feed, twice per day, and 1 quart of shorts each and a small amount of silage.

No. 18—Two quarts of oat chop twice per day, and ¾ bushel of silage morning and evening, is the ration of cows in this herd in summer.

No. 19—Three quarts of oat chop and ½ bushel of silage each, twice per day, was fed on this farm.

No. 20—Three-quarters of a bushel of silage per day, in two feeds, with no grain.

No. 21—Clover hay night and morning, with ½ bushel of silage, constituted the ration of a cow on this farm in summer.

Nearly every owner reported a slight falling off in milk supply during the dry, hot weather, but those that were not giving the cows any feed other than pasture grass were the heaviest losers. Nearly every man called upon signified his intention of going more extensively into summer feeding, and the general opinion expressed was that soiling crops, prominent amongst which were alfalfa and oats and peas, or summer silage, should be produced on every farm on which dairy herds were kept, if the largest possible returns were to be expected. Every farm visited had a comparatively high acreage of corn, and all intended feeding this as a green food as soon as it was ready. The pastures on some farms were standing the dry weather and heat very well, while on others they were very short and parched, but whether the grass is scarce or not, it certainly pays to feed some grain and fodder, if high returns are to be expected. The herds that were being fed were in good condition and were not being depleted in flesh by scant pastures. If feed is not available, the cow draws upon her body for the production of milk, and if cows are to be kept in the best condition while milking, special feeding is necessary during the summer, as well as the winter months. Silage bids fair to become a staple summer feed for the dairy cow, as also do soiling crops, one of the best of which is alfalfa.

[Note.—The last of this series of articles will be published next week, and will include the winter feeding of these same herds.—Editor.]

Ropiness in Milk.

A number of complaints have recently been made by some very good dairymen that their cows are giving ropy milk, and, as many other farmers and retailers of milk may have like trouble with their supply, and be in the dark as to the cause and control of this unsatisfactory state of things, a short explanation of the trouble may be of value at this time.

While it is possible that certain affections of the udder, such as inflammation or garget, may cause ropy milk, it is far more likely to be caused by a bacillus. It is not generally caused by any disease in cattle, and, in fact, is not caused by a disease-producing germ, but by a common bacillus that lives in water, and is not harmful to either man or beast. The specific germ causing the trouble is known as Bacillus *lactis viscosus*. It lives indefinitely, and multiplies in water containing organic matter. The germ, though extremely minute, has a comparatively thick, gelatinous covering when it grows in milk; and as one germ, when dropped into milk, will increase into millions of its kind in twenty-four hours, it is an easy inference as to what makes the milk sticky. The milk becomes practically a mass of these organisms.

The source of the organisms in the milk is usually from water from the wells, cisterns and cooling vats. Just one drop of such water in a can, or accidentally dropped into the milk from

A Suitable Dairy Outfit.

Barn, silo, and some of the dairy cows belonging to Mr. Hourd, Middlesex Co., Ont.