

drops of turpentine are added and the mixture well shaken again.

I should like to say here that any cow needing much bathing of a caked or swollen udder should be protected from any chilling drafts, and should have plenty of bedding to keep the udder from resting on a cold, hard floor.

I always find it wise, if a cow is due to freshen later in the year, when out on grass, to shut her in a box-stall every night for at least a week before due to calve, and feed her lightly. In this way trouble with cake can often be avoided.

In any case of caked or swollen udder—no matter what time of year—all the drinking water should have the chill taken off, the warmer the cow will drink it the better, but both water and food should be given in moderation until the trouble is under control.

Middlesex Co., Ont.

A. C. B.

Hot Weather Dairy Suggestions.

EDITOR "THE FARMER'S ADVOCATE":

During the recent hot spell in June the writer was in a milk-condensing factory. The proprietor told me that on the previous Monday and Tuesday he had lost ten thousand pounds of milk because of the bad effects of heat on his raw material. At two dollars per 100 pounds milk, this represents a loss of \$200 in two days. Not many dairy manufacturers could stand a loss of \$100 a day for very long.

The week previous to the time this article is being written, a creameryman was in my office who reported that they had recently lost about fifty dollars on a small shipment of butter which graded No. 2, on account of the hot weather.

These are but two instances of probably hundreds, which have occurred all over Canada, during the unlooked for, and almost unprecedented hot weather of June this year. From a cold, wet, dreary May, to August heat in June, was an experience dairymen in Canada were not prepared for. We are sure to have a hot spell at some time, during every summer and the wise dairyman aims to be ready for it, no matter when it comes. The weather is now moderating for the last week in June and we may not have such another again this season, but we cannot tell for certain. Someone has discovered "a hole in the sun," which according to the "weather-wise," means a hot summer. If it proves such, it will find many dairymen unprepared. Owing to the mild winter of 1918-19, very little ice was put up on the dairy farms of Southern Ontario. No ice, means sour milk and cream. In fact, dairy farmers under these conditions have concluded it is useless to try to ship sweet cream and they are simply cooling cream as best they can with water, and allow the creameryman to do the best he can with the sour product.

Taking conditions as we find them on Canadian dairy farms where there is little or no ice, what can be done to improve matters? The first thing is to provide a proper cooling tank for the milk and cream. On a recent visit to some dairy farms near Norwich, Ontario, in Oxford County, I was much pleased to see the excellent arrangements for cooling milk. A large cement tank in a room with cement floor, and adjacent to the cow stable, was filled with water, pumped directly from a deep well by means of hydro power. I did not test the temperature of the water with a thermometer, but judging from the taste in the mouth, it must have been about 50 degrees F., or under. The cans of milk are plunged into this tank of cold water as soon as filled and are quickly cooled to the temperature of the water. Some of the difficulties on many farms are: the water is not cold enough to cool the milk properly as it is obvious the milk or cream can be cooled no lower than the temperature of the water; a second difficulty is that the tank for cooling is not large enough—very often it is the wash-tub, which holds no more water than there is milk to cool, in which case, if the water be 50 degrees, and the milk 90 degrees, the milk cannot be cooled below 70 degrees without frequently changing the water, which is not done, as a rule, because on many farms water is scarce; a third difficulty is that warm morning's milk or cream, is often put into the partially cooled, previous lots which starts the fermentations in vigorous form and we have consequently sour, bad-flavored milk or cream delivered at the factory.

If the supply of ice be limited, cool the milk or cream as low as possible, then add ice to fresh water, thus saving the ice. Where there is no ice at all, a good-sized cement or properly insulated wooden tank, should be placed in a spot sheltered from the sun and preferably between the water supply for the stock and their drinking place, so that all water pumped for the cattle and horses will pass through the cooling tank, thus "killing two birds with one stone." If care be taken to keep the

cooling tank clean and to have the overflow near the top, this arrangement is one of the best possible on farms where no ice is available for cooling milk or cream.

Where the supply of water is limited, and no cooling tank available, except the family wash-tub, it is good practice to thoroughly soak a clean sack or blanket with water, and throw this over the can with one corner in the water. This will cause evaporation and cooling, and keep the milk and cream much sweeter. The principle of this method is the well-known fact that in order to evaporate water, heat is required. The heat in this case is taken from the milk and cream in the can, thus the temperature is lowered several degrees with a very small volume of water. Where milk or cream is delivered by the owner, direct to the factory, or to a shipping or buying station, it is a good plan to throw a clean, wet sack over the can while on the way to the factory or shipping point. Some shippers use a special covering for the cream can made of heavy felt, or quilted canvas to keep out the heat during transportation. The chief difficulty with these is, that they are likely to become badly contaminated from conditions as met with on trains and wagons, more particularly if there be a leak or spill of milk or cream, which in hot weather produces a very foul smell in a short time, and these can covers are not easily cleaned. The double jacketed can is also advocated, but they are heavy to handle, take up too much space on wagon and car, and if they "spring-a-leak," the smell is very bad, as it is practically impossible to get at the cause, which is located between the inside and outside parts. All that can be done is to "plug-the-hole" and allow the smell to be bottled inside.

Minor Remedies and Their Causes.

Among the more or less minor causes of sour and badly tainted milk and cream, may be mentioned, that of improperly washed cans, pails, strainers, separators, etc. The bacteriologists say that the water left in cans and pails is one of the most fruitful causes of "germs." Because of this, nearly all the up-to-date milk dealers have installed special drying apparatus, which, by means of blasts of hot, dry air, all the milk cans are thoroughly dried after washing and before

already "worked-to-death," the plan of washing separators twice a day, say some farmers, "is a very pretty theory, but isn't practicable." Well what are we going to do about it? We have "a condition and not a theory" and must make the best of it, by advocating a method which is practicable, and this seems to be, rinsing the separator parts in cold water after the evening milking and separating.

Where milking machines are used, we frequently have another source of "germs" in milk and cream. One of the American stations has recently issued a Bulletin on this question and they found that almost invariably the hand-milked product was free of bacteria than where the machine was used, on the inspected dairy farms. As a result of their experience with the Station machines and with those tested on near-by farms, they recommend a mixture of common salt and chloride of lime solutions as the best antiseptic for keeping the teat-cups, rubbers, etc., in a sanitary condition.

Truly, when one considers the many things which may contaminate milk and cream, and the lack of proper means on most farms to control these, the wonder is that milk and dairy products are of such good quality as we find them. The present prices for milk, butter and cheese are none too high to compensate the dairy farmer for all his labor and trouble to produce the "vitamine" carrying products which are essential for the growth and improvement of the human race. There is need of an educational campaign among consumers of dairy food products, showing the great care needed in order to keep milk and cream sweet during not only hot weather, but at all times. A "movie-film" taken at one of our best farms, showing just what our best dairy farmers do, in order to produce clean, wholesome milk, would be a splendid lesson to town-dwellers, and would do much to counteract the prevailing impression which city-people have, that farmers are "profiteers" and that dairy farmers in particular will soon be in the millionaire class, judging by the prices which are charged for milk and milk products.

O. A. C. Guelph, Ont.

H. H. DEAN.

Ayrshire Demonstration at Ormstown.

On June 27 a demonstration and judging class was held at Ormstown by the Howick-Hungtingdon Ayrshire Breeders' Club. A Field Day had been arranged in addition, but this was prevented by inclement weather. E. S. Archibald, Director Dominion Experimental Farms, conducted the demonstration, and passed judgment on the work of fourteen boys who took part in judging a class of seven cows. Professor Archibald spoke highly of the Howick-Hungtingdon district, and commented on the community spirit existing in the district. He thought that competition at exhibitions did very much to appeal to the best in young manhood and develop individuality. The speaker also commented on the progress made in Ayrshire breeding advising breeders to adhere to the present type but to get more ruggedness, openness and size. He also advised breeding for production, urging an endeavor to make larger records so as to advertise the breed, although he said that the idea of the R. O. P. was not so much to make big records as to establish a line of good ones which would be of value in establishing families. Pure-bred Ayrshires are kept now on four Dominion experimental farms, and it is expected that they will have Ayrshires on at least ten farms within two years. The boys who won in the judging contest, and their awards, are as follows: 1, Jas. Winter, Ormstown, \$10; 2, Brodie Ness, Howick, \$8; 3, Wm. Ness, Howick, \$6; 4, Wm. Logan, Howick, \$5; 5, Lawrence Bruce, Huntingdon, \$4; 6, Wm. Winter, Ormstown, \$3; 7, Bruce Ness, Howick, \$2.

HORTICULTURE.

Celery is a shallow-rooted plant and should never be cultivated deeply.

Now is the time to consider renovating the old strawberry patch. Some very good crops can be secured the second year.

Don't allow the farm garden to suffer for lack of horse cultivation. Half an hour will go through most farm gardens once or twice.

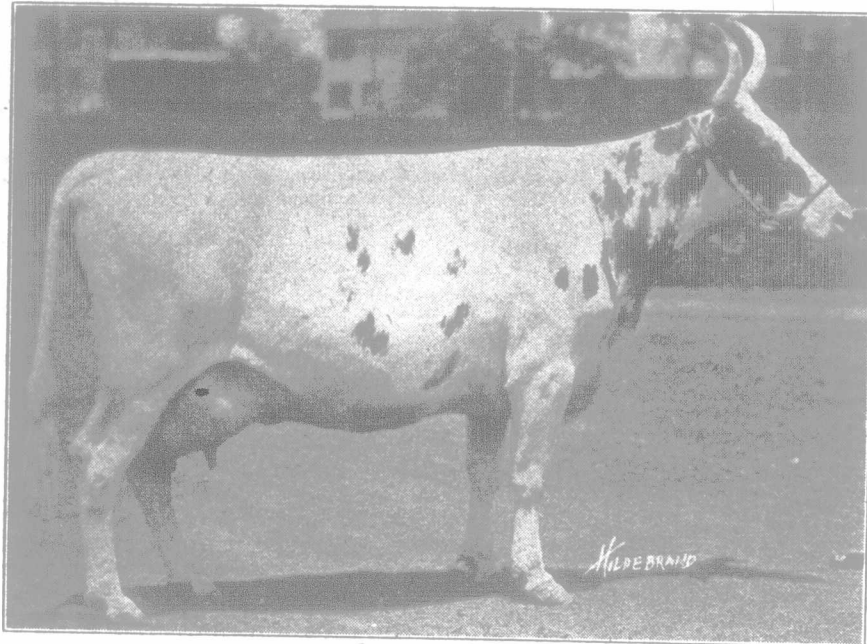
All apple orchards that have been cultivated this year should by this time have been sown to a cover crop, in order to avoid winter injury.

Care in the harvesting and handling of small fruits will put them on the market in better condition and so prejudice consumers in their favor.

Tomato plants in the garden should be staked up for best results. Stakes about five feet out of the ground will allow more fruit to form than will ripen.

Cultivating of raspberries should cease when the berries begin to color up, unless they can be cultivated without injury to the crop. One or two cultivatings after the crop is harvested will loosen the ground up.

Black rot of cabbage is caused by bacteria that find their way into the thick cabbage leaves through wounds made in cultivation, or it may occur from infected seed. Weeds such as mustards and other cruciferae help to spread it and it can be controlled partially through rotation of crops.



Chapmanton Nell 3rd.

Sold by R. R. Ness at Springfield sale for \$4,100.

returning them to the farms. This has resulted in a much improved quality of milk for town and city trade. Where cans are washed at the condenseries, creameries, and cheeseries, steam is usually relied upon to cleanse and dry the cans after washing. On the farm, neither hot air nor steam are available, as a rule, hence the person who washes the milk cans, and pails, has to rely on hot water. After thoroughly washing with a brush and the use of an alkali powder to remove the grease, the dairy utensils should be rinsed in boiling water, and then be allowed to dry of themselves in the sun and pure air. They should not be wiped with a dish-cloth, or any other kind of a cloth.

The milk-strainer needs special attention. If made of fine wire, it should be kept in good repair and be thoroughly scalded each day. A cloth strainer must have good care or it will soon smell badly and be a source of trouble for all milk which is strained through it—in fact some strainers are worse than useless. They have a very bad odor and will spoil the milk strained through them. As soon as the milk is strained, the cloth strainer should be rinsed in cold water until the water is no longer milky. Then it should be washed in hot water having a washing compound or powder dissolved, which will remove the grease. Then wash in clean, hot water and hang in the sun and air until needed for the next milking. As soon as it has holes in it, or becomes "smelly" it should be discarded and a new one purchased. Double-ply cheese-cloth is the best material for a cloth strainer.

Where the separator is not washed twice a day, as should be done, the bowl should be flushed and emptied and all the parts which come in contact with the milk, also the milk-pails, should be rinsed with clean cold water to remove all traces of milk. We do not like this plan, but on farms where labor is scarce and women are

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