

shed, procure a gallon of coal oil and a twenty-five cent brush and apply a coat of the oil to the bright parts of castings and wherever liable to be injured by rust. Do this twice a year. Also get half a gallon of boiled linseed oil and apply to woodwork, especially where the paint has worn off. Repeat this operation once in five years. Use good machine oil on all bearings.

Run the binder and other harvesting machines in shelter every day soon as the day's work is over. Allow no implement to remain in the field for any lengthy period, but place in the shed in the condition described. It is thus ready to be taken out when the rush of work comes on in good order. Tighten all loose bolts before using an implement. Keep all machinery knives, colters, skimmers, etc., sharp and in good repair, thus resulting in good work, lighter draft, and heavier crops. A work bench with vice and a few tools for repairing would be a good investment. The building should have a good large window and it ought to be placed over the work bench.

When the foregoing suggestions are neglected the results as seen on many farms are most pernicious. Plows, harrows, seed drills, etc., lie exposed to the weather the year round, and even the binder for months after the harvest, and the vehicles fare much the same; in fact, all are most shamefully neglected. None give satisfaction while in use. We consider that such negligence causes an annual loss to the owner of at least twenty per cent. of their original cost. T. B. Terry, of Ohio, a very eminent authority, estimates the loss at two-thirds. For instance, take two binders, each costing \$125, each doing the same amount of work, but cared for under the two different modes of treatment; he estimates the one neglected to last but four years, while the one well cared for will last twelve years. I trust that others of your readers will take up this important subject, dealing with any essential points which I may have overlooked.

Middlesex Co., Ont. J. W. MCKENZIE.

#### Mr. Plain's Water Supply.

To the Editor FARMER'S ADVOCATE:

SIR,—In regard to S. Plain's article on "Trouble with Water Pipe" in ADVOCATE of July 1st, I volunteer the following in connection with what Mr. J. B. Reynolds has given: The pipe is too small to convey water 80 rods. It will require considerable force to overcome friction on water running through 80 rods of pipe, therefore the pipe should be larger to allow for this friction. Iron pipes often contain obstructions in the shape of blisters, and these blisters would have a tendency to destroy the action of the siphon, as all the air could not be expelled from pipe by action of water. However, if the outlet is six feet lower than the inlet, and the workmanship complete, a continuous flow should be had sufficient to feed one hydrant. The 15-foot hill need not be taken into consideration at all. To sum it all up, I do not hesitate to say that the workmanship is incomplete, or that there is some obstruction in some part or parts of the pipe between inlet and top of hill.

Simcoe Co., Ont.

A. T. GILBERT.

## DAIRY.

### Dairy Tests at the Shows.

A feature of the shows which can be made more attractive, instructive and helpful to farmers is the testing of dairy cows for milk and butter production either by the Babcock test or the churn, or, better still, by both these agencies. A couple of the smaller Ontario shows introduced this feature with good effect last year. We hope to see a larger entry and more competition of breeds in this class of tests at the fairs where such prizes are offered, and that a larger number of the local fairs will have this feature added to their attractions.

The English Jersey Cattle Society offered prizes at the recent Royal Counties Show, at Reading, for a butter test of cows for one day's work. Thirteen cows came forward for testing. The two milkings were mixed, heated to a temperature of 90 degrees and separated, the Alpha Turbine being used for this purpose. The cream was placed in the lock-up dairy for the night, and churned the next morning. The results were exceedingly satisfactory, the whole of the animals tested averaging within a trifle of 2 lbs. of butter each. The first-prize cow, from 52 lbs. 8 ozs. milk, made 2 lbs. 12½ ozs. butter. The second, from 50 lbs. 12 ozs. milk, 2 lbs. 12½ ozs. butter. The third, from 47 lbs. 12 ozs. milk, 2 lbs. 12 ozs. butter.

### Care of Milk for Factory.

Since the hot weather has come we hear of great quantities of milk returned to patrons because of being sour and gassy when it reaches the factory. At one Ontario factory on Monday morning, July 5th, over 15,000 pounds was returned. This is apparently the only plan to get some patrons to brace up and attend properly to the night's milk. One maker informed us that he might go to some of the farms a number of times and advise owners as to aeration and cooling milk, and still they will persist in their indifference. The only practical method is to make them feel the loss down in their pockets by returning their milk when its condition would render it unsuitable for manufacture. That there are difficulties to overcome in case of a large herd where there is no cold

running water through milk room or ice is obvious, and more particularly where an effort is made to preserve Sunday morning's milk for the factory. The following suggestions will prove helpful:

See that the cows drink nothing but pure water, and breathe air untainted by bad odors. That green, scum-covered pond hole must be shut out.

Milk with clean, dry hands, and keep the milk free from stable dust or other contaminating particles.

Strain at once thoroughly, then run the milk through an aerator, or if you have none use the dipper freely pouring and stirring.

Then cool the milk down and stir again before retiring for the night. A deep shotgun can filled with cold water may be set in the large can of milk to do the cooling. Most expert cheese dairymen now consider aeration more important than cooling, but when the latter is done in conjunction with the former the milk will certainly keep sweet longer.

Another plan of keeping night's milk is to strain it into large milk pails, suspend by hooks to a stout pole, and, by having one pail more than enough to hold all the milk, pour from one to another several times during the evening. Some set the pails to cool in a cold-water trough.

P. S.—Empty the whey from the can as soon as it returns from the factory. Rinse out with cold water, then scald thoroughly, rinse again with cold water, and leave the sun to do the rest.

By some of the above plans or modifications scores of dairymen are keeping even Sunday morning's milk sweet and pure for factory use on Monday, and what others can do so can you.

### Keeping Milk and Cream Sweet for City Trade.

"The best and quickest way is to run the milk over an aerator or cooler. This utensil can be bought for a few dollars and would save its cost in a short while. When cooled, pour in a creamer or other tall, narrow can, and place in a box through which spring water runs constantly. The water should rise to the level of the milk, or the cans may be entirely submerged if a tin dish is set over each can, with a small weight on the top. If a spring is not handy, a water-tight box, filled from the well three or four times a day, will answer. In either case, have the box in the shade.

"In carrying to market, keep a damp bag drawn down over the can. There may be periods, excessively warm and sultry, when even this will not give a perfect article. During such times, first cooling the milk, then heating to 160 degrees, and again reducing to 55 degrees by running over the cooler two or three times will enable one to furnish cream that will be acceptable to the most fastidious in the city.

"To heat it, place covered vessels containing the milk in a larger vessel of hot water, using a thermometer to tell when it is right. Do not heat much above 160 degrees, or it will give a boiled flavor to the milk. This will make extra work, but it pays to take a little trouble to hold a good trade these times."—Southern Planter.

### Cleanliness First Essential in Home Dairying.

As to managing milk from time it leaves the cow until made into butter ready for the consumer:

1. Keep milking pails and creamer cans (if used) perfectly clean.

2. I keep milk in the creamer cans, as I find I get much sweeter cream from them than shallow pans.

3. I put the cans in a well of water that is not used for household purposes, and I obtain nearly double the cream from the same quantity of milk that I would if kept in a tub of water. I churn every three days, and never allow the cream to become very sour. It should be kept in a cool place.

4. After the cream is churned, I rinse well before salting, and to a churning of five pounds add two tablespoons of granulated sugar, mixed with the salt, as it gives the butter a finer flavor. I rinse once after salting, and work well before putting it in a roll. Keep in a cool place. The only fault I can find with butter made in this way is it does not last long enough.

MRS. T. A. STANLAKE.  
Cameron Municipality, Man.

### Ice, Boiling Water, Cleanliness and Stick-to-it-iveness Essentials to Success in Dairying.

1. I prefer cows to calve in the fall. More milk and butter. I find spring cows cost more for return during the following winter than fresh cows.

2. I take calf from dam, tie it in stall next her. The calf is taught to drink. Feed each calf separately, because some will drink faster than others. My greatest difficulty has been not to overfeed, especially during the first six weeks. Give new milk for a few days, then gradually substitute skim milk, until about six or eight weeks old, when the calf gets all skimmed milk. Then oil cake or oatmeal to take the place of butter-fat. As soon as calf is old enough to eat, I place before it a little clean hay or oats in straw. I think now commences the most important time in the heifer's life, if she is going to be a success. I begin to teach her to take any kind of feed, dry feed mixed with water and made sloppy, whole grain, any kind and every kind, or ground. The reason I give different kinds of grain and in different ways, is to get her

used to taking anything, for I have found that if the heifer is fed only hay and a little grain she will refuse to take what I offer when she is milking. By teaching her to eat anything when young, there is no trouble when she is a cow. I endeavor to develop a large breadbasket. The second winter I feed all the hay she will eat up clean, and twice a day oats in straw. I am differently situated to most farmers in Manitoba and Northwest, as I live in the bluffs. I have about five acres fenced in, and in spring I turn my spring and fall calves into it. This year I am letting my fall calves run with cows, and so far am well satisfied. If I were living on prairie I would keep calves in at least during part of the day. But here, if flies are troublesome or the sun is hot they can go into the bluffs and feed on vetches, which are abundant.

3. Prefer the heifer to drop her first calf at two years old.

4. My four best cows last year on grass alone after milking all winter averaged 2 pounds butter a day each. I used Babcock tester last year. Lessie and Prize of the West tested 68 per cent, Bell of Rosedale (2 years old), 55 per cent, and a grade Jersey 5. per cent. I weighed milk, but through a mishap, I lost weight and have only quantity. Lessie and Prize gave together 2½ pails a day, Bell 1 pailful, and the grade (fresh in spring) 2½ pails a day.

5. The milk, after leaving the cows, is put through two strainers into deep-setting cans and placed in ice water for 24 hours. Then the cream is put into tin cream cans and, if very warm weather, placed in ice water. If necessary, a starter is used to ripen cream. We use the barrel churn (Daisy). We never guess at temperature, but use the thermometer. We heat the cream to from 62 to 68 degrees, according to season, and churn from 30 to 50 minutes. Different herds will require different degrees of heat to churn, common sense will be necessary to determine it. We churn to the granular stage, draw off the buttermilk, wash till all the milk is drained off, then salt, about ½ oz. to 1 lb. butter, work the butter, then let butter stand for one hour, work again, and pack in tubs. White & Co., Belleville, Ont., make about the best butter box. We would use them, but they cost so much to get the few we require that we have to fall back on the spruce tub. I have tried to induce a number of merchants to get in a few hundred, but up to present have failed. We ship nothing but first-class butter; if a churning is spoiled, it is kept at home. We keep butter and cream away from all taints. This year we are sending to Moosomin creamery. In conclusion, I might say it is almost impossible to succeed in dairying without ice, and plenty of it. Cleanliness is an absolute necessity. Plenty of boiling water, and stick, STICK, STICK to it if success is to be obtained.

Eastern Assiniboia.

J. B. POWELL.

### Home Dairy Buttermaking.

I advocate regularity in milking; strain milk as soon as possible and set in ice cold water (when you cannot afford a separator). I let milk stand twenty-four hours before skimming, or, better, running milk off by a tap at bottom of can. I gather the churning before letting it sour, then stir frequently until twenty-four or thirty-six hours after I put in the last cream. For those who cannot prevent their cream from souring while gathering I advise to strain the cream before churning. Perhaps some will think if they give it a trial that they are losing considerable cream; but I think it is only sour milk that is much better out of the butter. In warm weather I churn at sixty-two, earlier in season sixty-six, and in real cold weather at seventy. Use a rocker churn. Run off buttermilk when butter is in granular form, then again I find the benefit of strain dipper. I may say here I was greatly benefited by the dairy superintendent's trip through here; besides, I read with interest all the different ideas I see on dairying. Have not got a butter worker yet, but do the best we can with the old bowl and spoon. I do not like butter worked much, just enough to make the color uniform. As I sell to home customers, I salt to individual taste.

MRS. J. AIKENHEAD.  
Cameron Municipality, Man.

### Ensilage and Butter Flavor.

Last year the FARMER'S ADVOCATE devoted considerable space in one issue to a report on the silos in the Avonbank creamery district (Ont.), incidentally touching upon the vexed question of the effect of ensilage upon the quality of winter butter, a large quantity of which Mr. J. B. Muir had been making for several years. At that time we found from the houses handling the Avonbank butter that the quality was unexceptionable. A Hamilton firm (C. H. Peebles) that makes a specialty of handling high-class butter, in closing the past winter's business, writes Mr. Muir as follows: "I take this opportunity of paying you a very high compliment for the very great satisfaction your butter has given us this season. From start to finish we have not had a single chance to find fault with the quality. To put the matter in a few words, 'it was simply perfection.' I would like to put it stronger if I could."

President B. F. Koons, of Storrs Agricultural College, Conn., has resigned, with two of the faculty, owing to dissatisfaction of the Alumni Association with the college management.