

## The Dairy.

### Water for Dairies.

BY JOHN GOULD.

It is a source of wonder to many that men who have conducted dairying for years know so very little about the cause and effects that influence their business, and in fact go on year after year in the one groove, and that often one furrowed out by their grandfather. There is one thing that dairymen as a class are very unmindful of, and that is the water supply of the farm, and farmers in supplying their stock, often, it would seem, imagine that a cow resembles a camel—in only requiring water about once a week.

When one considers that the best milk is nearly nine-tenths water, its importance then becomes apparent, and what is quite as imperative is that it should be pure, and adapted to the wants of the system without any filtering process needed to make it healthful. The cow is not an ambitious animal, and therefore requires that the water be brought very near to her; and in large pastures the one drinking place is not enough, but several are required, for when deprived of water for some hours, either from distance or being outside the trail—for dairy cows range the pasture by a sort of swinging-round-the-circle plan—they, upon approaching the water, rush in and gorge themselves to the utmost, and the discomfort that follows has its deplorable effect.

It is true that all farms are not naturally watered as one would wish, but it as true that labor, or small expense, will do quite as well where nature failed to place where men afterward desired. On the Western Reserve of Ohio the water supply is in the main abundant, and yet this summer hundreds of wells are going down, and wind-mills being erected to make the supply abundant and better distribute it for the convenience of the dairy. And it is from these rock wells that a supply, both unfailing and uncontaminated, comes.

The day has not wholly passed when large dairies during the summer draw their supply from some shallow clay pond, in which the stock, in their efforts to rid themselves of flies, plunge, and by standing, aided by their excrements, soon poach into a mass of pollution, called water, for lack of anything better, and even then dairymen often complain that their cows are shrinking badly and falling off in flesh. The feed is good, but that the two losses were caused by bad water has never occurred to them.

It is now a recognized fact that there is not a perfect assimilation of the food and drink that a cow takes in the way of nutriment—in other words nature does not fully change the character by digestion of all the elements that go to make up her food, and so it is possible to find traces of the food consumed in the milk unchanged. Especially is this true in the case of cows obliged to drink filthy water, or eat improper food; for, as has been shown, "non-volatile foods may in part be appropriated without essential change by the milk;" also we find in the case of filthy water, filled with disease germs, that they are not decomposed, but pass into the milk, and thence into the butter and cheese, and then establish a disorder that first causes a disarrangement of the curing process, and ends in hastening decay, a fact that a great cheese manufacturing firm in Ohio established in the case of patrons feeding the refuse of the glucose factories at Buffalo.

The ordinarily constructed pond, where springs are absent, is faulty unless very large and very deep, so as to prevent drying out and stock standing in its every part. Scarcely a farm is so level but that higher ground could be selected on which

to construct this pond, and if a discharge pipe were put into it and run to some distance and then discharged into a long drinking box, the purity of the water would be maintained, and the stock quite as well favored with drink. By this means the pond is fenced in to protect it. If the pond is quite large and deep, a rough calculation might be made of its capacity, and a hydraulic ram put in; the supply of water being thus calculated and an abundant supply forced to the barn-yard. Such an arrangement near me amply provides for 40 cows and other stock the year round, and the total expense of making the dam and the apparatus was not to exceed \$75, and it has been in use nearly fifteen years, without expenses. If the pond could be made on higher ground than the barn, the ram would be unnecessary, the expense being simply for galvanized iron pipe and labor.

If the pasture is a large one, two or three places should be constructed for the cattle to obtain drink. The same plan if spring brooks are not present, of a small fenced pond, with drinking trough below; its feed pipe so regulated as to run six or eight barrels per day, and would furnish the required amount of water through the season, for it is probable that rains would replenish the reservoir before it had been drawn off. If a pasture has a stream of running water, so that contamination is not possible, I am greatly in favor of "splashing pools" in shady nooks, and if none were found in the stream, I would dredge out a few, for the cow in hot weather exhibits a trace of the proof that Darwin was right about the first life on the earth being aquatic, though it does not satisfactorily prove how all the water gets into the milk.

The rock well, with its wind engine, costing not far from \$200, best solves the water supply, for it never gets low, is never foul, is always pure, and never carries in its current the germs of disease, or a suspicion of decaying elements, to the butter and cheese. Drink is fully as important to the dairy as food; for the perfect assimilation of the latter depends upon it, and the employment of reasonable expense to procure pure, good, and abundant water for the dairy, should be put in force at once by every progressive dairyman.

### Dogs on Dairy Farms.

It is rather difficult to discover any profitable use for dogs upon dairy farms. A dairy farmer kept a dog for driving his cows to the pasture and bringing them home from the field, and never tired of praising the sagacity and usefulness of his dog. "A hundred dollars would not buy the dog," he was wont to say, "I could not get along without him. He saves a lot of running." But one day this useful dog came up missing. Perhaps he fell a victim to some chance lead aimed at a nightly marauder among a neighboring flock. No one knows. Bose disappeared suddenly, and the grumbling farmer drove the cows to the pasture and brought them home. And very soon he was astonished beyond measure to note the greatly increased flow of milk, and his wife remarked casually, soon after, "I don't know what's come over the cows, but I am getting near twice the butter I used to; what are you giving them? And we don't have any bad milk, and the heifer that used to give bloody milk so often, is quite well now. I do believe its because we've no dog. I always told you he drove the cows too much, and you used to say, 'Oh, women don't know anything.'" "Perhaps you are right," said the husband; I notice the cows are doing better and we have no hard bags or sore teats any more. And, after all, its no great job to go down with the cows, and indeed I have them trained now to come down to the gate, when I call, for the handful of salt I give them. Poor 'Bose' did as well as he knew how, and was always willing and ready; but I begin to think driving cows with a dog won't pay for the time saved, by a good deal."

This experience is by no means singular, and although a dog wins upon our good nature by his kind, affectionate, and faithful ways, yet, as a matter of business, it does not pay to keep one on a dairy farm, unless he is securely chained up out of sight of the cows, and then the profit is so small as to be invisible.—[Dairy.

### Dairymaid Competition.

On the last day of the show of the Royal Agricultural Society of Ireland, perhaps the most interesting and instructive feature in it took place—viz., the butter making contest, in which seven entries were made. And it was a pleasure to see such a large number of elegant girls, many of them highly educated and accomplished, whose parents were large occupiers of land, thinking it not beneath themselves in the slightest degree to compete thus publicly for the prizes offered for what has been, until lately, a much neglected part of Irish agriculture—viz., butter making. Equal quantities of cream having been weighed to each competitor, on a signal from the steward, whose arrangements for the competition were as perfect as possible, a capital start was made. No. 7 had her butter ready for working in thirty minutes, followed very shortly by the others. The butter of each competitor, as taken from the Holstein butter worker, was carefully weighed in the lump, and again weighed when made up in one pound rolls; but so carefully had the working been done that it was found only the 120th part was lost in this operation. The butter was found to be of very fine quality, the texture, flavor, and color, being excellent. These gratifying results are doubtless due to the instruction the competitors had received in the Munster Dairy School, the manager of which took a lively interest in the success of his pupils. Only two prizes were offered in the catalogue; but so keen was the competition that a number of gentlemen placed five other prizes at the disposal of the judge. This example might be profitably followed by our Agricultural Societies.

Very hot water is undoubtedly the best final manner of cleansing milk utensils. When a person recommends galvanized ware as fit for milk, he makes a mistake, because milk utensils cannot help but be exposed to acid, and as galvanized ware is coated with zinc, and zinc is very easily corroded by acid, and is then strongly poisonous, such ware is dangerous. Tin, of the heaviest plate, is the best. In our dairy a set of block tin pans, which have been in use for two generations, are to-day in perfectly good order, and have been the cheapest utensils that could be procured. Heavy tin plate is by all means the best material. The first cleansing should be by cold water, which removes all the soft sour milk, while hot water will harden it, and cause it to adhere in every seam and leave a little leaven to spoil the next milk. Then hot water should be used, and a stiff, round-headed bristle brush will be found to be the best thing to scour the pails and pans with, when the water is so hot—as it should always be—that the hand cannot be borne in it. A final rinsing with cold water then completes the washing. A good airing in the shade comes after all.

The novice who will believe he can take a scrub cow, and, by feeding her, make her equal to a good Jersey or Ayrshire cow, must be sought for in a lunatic asylum. And yet, in spite of what a professor may say about it, it is quite certain that a common native cow that has been fed on poor grass and gives 3 lb. of butter a week, may be made to double her yield by as good feeding as is given to the pure bred cows that are so much talked of. There are thousands of common farmers' cows, that give five or six quarts of milk a day and half a pound of butter, that can be brought up to ten quarts and a pound of butter by good pasture and four or five quarts of good feed. It is a novice, indeed, who can be induced to believe that Jersey cows give 10 lb. to 20 lb. of butter a week on pasture alone. This prevalent idea, that breed makes butter and feeding goes for nothing, is a delusion. Any Jersey cows will prove the contrary in two months feeding.—[Exchange.

What shall be done with the old cows? Years ago the farmers used to feed up an old cow, and fatten her on turnips and corn meal, and the beef we used to get in those days was as much better than what we buy from the butcher now as "gilt-edge" is better than lard. No cow should be kept in a dairy after she's seven or eight years old, unless she is a good one, and her calves are good too. At that age a cow is just past her prime, and there are fools enough who will pay a good price for such cows rather than rear their own. And a farmer may turn off some excellent beef from a good Ayrshire, Dutch, Devon, or Durham grade, or any fair kind of a native cow, when she is retired from dairy work at eight years old.