

THE DAIRY.

Milk Standards.

Editor "The Farmer's Advocate":

Definition:—A milk standard is a legal limit as regards chemical composition below which milk must not be sold or offered for sale. This minimum standard is usually expressed in terms of milk-fat (incorrectly called butter-fat), and solids not fat, or total solids.

What strikes the student of this question as being, to say the least very peculiar, is the great variety of standards. For instance in the United States we have a variation of fat percentage from 3.0 in the States of California, Colorado, Illinois, Michigan, Nebraska, New Jersey, New York, North Dakota, Ohio, Oklahoma, and Wisconsin, (the little State of Rhode Island has a 2.5 per cent. fat standard) to 3.5 per cent. fat in the District of Columbia and the States of Louisiana and Maryland. The solids not fat standards vary from 8 to 9.75 per cent., and the total solids from 11.5 to 12.5 per cent. (Circular 218, U. S. Dept. Agr., Apr. 1, 1913.)

The Department of Inland Revenue, Ottawa, has fixed a standard of 3.25 per cent. milk-fat and 8.5 per cent. of milk solids other than fat.

An Act to prevent fraud in the manufacture of cheese and butter, R.S.O., 1897, Chap. 251, reads in the first section: "All milk containing less than thirteen per cent. of total solids of which three and three-quarters per cent. must be chemically dry butter-fat, shall be deemed below the standard required in creameries for butter manufacture."

The Ontario Milk Act of 1911, section 5, (1) reads: "The Council of every Municipality is hereby authorized to enact by-laws fixing the standard for butter-fat and total solids of milk sold in such municipality, but no milk shall be sold for human consumption which contains less than twelve per cent. of solids, of which three per cent shall be butter fat."

In the same Bill, section 11, clause G, we read under standard for certified milk: "It shall contain twelve to thirteen per cent. of milk solids, of which at least three and one-half per cent. is butter-fat."

It is unnecessary to give further instances of the great variation in legal standards for milk. Nearly every legislator who has tackled the problem arrives at a different conclusion as to what milk should test for fat and total solids. The reason for this is that no one can say what are the limits of variation in milk composition. We have in our office hundreds of cases, sworn to by two or three persons, furnishing evidence that would be accepted in any court of law, that it is practically impossible to set limits to the variation in fat content of normal milk, or milk as given by the cow. We have in these cases another illustration of the law, "Nature Loves Variety."

To pass legislation making it a crime to sell milk which comes below a certain percentage of fat and total solids, and branding such persons as dishonest who sell milk as it comes from the healthy, clean cow, is as absurd, as it would be to pass legislation that all babies born, weighing less than ten pounds, shall be thrown into the sewer, and their mothers fattened and sold to the Cannibal Islanders.

The International Dairy Congress, which met in Stockholm, Sweden, 1911 passed the following: "Whole milk is the well-mixed, unaltered milk obtained from one or more healthy cows by a careful and exhaustive milking. The fixing of a certain minimum percentage of butter-fat in milk offered for sale is unreasonable and purposeless." The foregoing represents the consensus of opinion of the most noted dairymen of Europe, yet in the face of this we have legislation making standards for milk in nearly all civilized countries where cow's milk is used for human consumption.

There must be some reason for such almost universal legislation. The reason is probably to be found in the fact that milk is so easily adulterated by the addition of water, or skim-milk, or the removal of cream, or the withholding of what is known as "strippings" which is rich in fat. We have not a particle of sympathy for a man who adulterates milk, but we have a good deal for the man who sells milk as he receives it from a cow with nothing added to, and nothing taken from, except animal heat, yet is accused and sometimes convicted of adulterating his milk. Such a man deserves consideration and is entitled to be considered innocent until proven guilty of adulteration. We have known cases where the accused party has quietly paid the fine imposed, rather than suffer from the publicity necessary in order to defend the case. The whole question is fraught with dangers and diffi-

culties. If the matter is left too open, then the dishonest person takes advantage and perpetrates a fraud on the dealer or consumer; whereas, standards tend to incriminate the honest man, and open a way whereby the crafty person may lower good milk to the legal standard and thereby reap a double profit. We heard a prominent American Agricultural College Professor say some years ago, that the milk standard law of his State had made more rogues than any other law on their statute books.

Taking everything into consideration, we believe that the definition of pure milk as laid down by the International Dairy Congress is the safest and best.

WHAT ABOUT THE CONSUMER?

I fancy some of the milk consumers are ready to ask the question, has the consumer no rights? Is he not to be guaranteed milk of a standard composition? These are fair questions which we shall endeavor to answer.

We should like to observe at the outset that taking it on the whole, it is our judgment that consumers would receive milk of higher chemical composition if they insisted on getting it as it comes from the cow, with nothing added and nothing removed. But, if they (consumers) desire milk of high chemical composition, then they should be willing to pay for it. The Director of the New York Experiment Station in his report for 1913 says: "No real progress will be made, unless the consuming public recognizes the fact that it must pay enough for milk of high quality to justify its profitable production."

The Editor of "Hoard's Dairyman" writes: "There is no question but that a city has a right to make a milk standard, but we have thought for some time that it would be better to do away with all standards for milk and demand that any firm or person selling milk be compelled to state upon the package or in writing, approximately the amount of butter fat contained in the milk. For instance, if a milkman were producing milk that tested only 2.5 per cent. to 3 per cent. fat, let there be placed upon the bottles, 'This contains between 2.5 per cent. and 3 per cent. fat.' This would let the consumer know the quality of milk he was receiving and at the same time permit a man to sell milk that tested lower than any of the legal standards without becoming a criminal. It would also give the man whose cows produce rich milk a better opportunity to get the price that such milk warrants, and give the man whose cows produced a low per cent. of fat a right to sell his products."

We would agree with the statement that a city has a right to make a milk standard, but we do not agree that a city has a right to say all milk below its standard is adulterated. This is the crucial point. We have a good deal of sympathy for the Medical Health Department of any city which is trying to improve the character and quality of the milk supplied to citizens, especially for children; but at the same time it is our judgment that if more attention were paid to the health of the animals producing the milk, cleanliness of the stables and surroundings, including pails, cans, etc., greater care observed in the immediate cooling of the milk; clean waggons and cars for hauling milk to the city, refrigerator cars to be insisted on where the distance is over 25 miles, pasteurization of all milk sold for human consumption; mono-service milk bottles, clean and sanitary city milk plants—the quality of milk would be improved faster than where too much time is spent on testing for suspected adulterations.

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Watered Butter.

We often hear of watered milk, but watered butter goes it one better. An item in the Census and Statistics Monthly is deserving of some attention. It appears that a good deal of adulterated butter, that is butter containing more than 16% of moisture, has been lately manufactured in Montreal, and this is strictly against the law. It is brought out in this item that butter properly made should not contain more than 16% of water, and in most countries this is the legal limit, the same as in Canada. As a rule butter made in Canada does not contain more than this percentage of water, but within the last year or two, according to this report, a fraudulent practice has been developed by unscrupulous dealers, principally in Montreal, of adding as much as 30 or 40% of water to butter, the adulterated product being sold as ordinary butter. The fraud is practiced and the poor people are the sufferers, as it is in the poorer quarters of the city that this fake butter is sold. The Dairy and Cold Storage Division of the Dominion Department of Agriculture is putting forth a determined effort to stamp out the evil. Several manufacturers have been convicted, and at the time the report was sent to the publication in question many other actions were pending.

Building up a Holstein Herd.

Before beginning this discussion on Building up a Holstein Herd, I wish to call attention to a few qualifications that a man must possess in order to make a success in breeding Holsteins, and if he does not possess these qualifications he better not start in the business. A prominent educator has said, that there are two classes of people that should never go to college. One was the man lacking in moral backbone, and the other was the man lacking in mental ability. As it is true that there are certain people who should not seek higher education, so it is just as true that there are men who should not invest in higher bred cattle, in fact the scrub, to say nothing of the good grade, is too good for them. They are scrub men with scrub methods, and the scrub cow is the only animal that will stand their scrub treatment. Do not misunderstand me and think because you have not been doing things as they ought to have been done that you belong to this class, but look about you and see where your errors are and then set about to remedy them, and you may find to your surprise that you possess qualifications that will eminently fit you for a successful breeder of Holstein cattle.

First of all, a man should be in love with the business and the cattle, for a man cannot do his best work in a business that he does not like. Another essential is, that a man will be willing to sacrifice his own pleasure and comfort for the good of his cattle, and this he will do if he is really in love with his business. He must be a man that can succeed with grades before he can expect to succeed with pure-breds. The first thing to do after a man is satisfied that he is fitted for the business is the getting together the females he expects to use for his foundation herd, and right here depends largely his future success.

The reputation of one great herd is largely due to the choosing of Lillian Walker, Prilly, Mary R. Pietertje and Daisy Pietertje Hartog, as foundation animals. The combining the blood of Lillian Walker and Prilly has produced the great Prilly family, one of the three families of the breed that has a mother, daughter and granddaughter, that have each made over 80 lbs. of butter in 7 days, and the only family of the breed that has six generations of cows that have records that average over 28 lbs.

Daisy Pietertje Hartog, bred to Clothilde Goudgeld Hugo, produced Buttercup Clothilde Pietertje, whose record is 32.91 lbs. butter for 7 days, and 129.17 lbs. for 30 days. The breeding of a son of Lillian Walker upon Mary R. Pietertje, produced Admiral Walker Pietertje and breeding him to Buttercup Clothilde Pietertje produced Mary Walker Pietertje, record 31.81 lbs. butter for 7 days, and 130.87 lbs. for 30 days. Beauty Pietertje Butter King was also sired by Clothilde Goudgeld Hugo, and was a son of Beauty Pietertje, a daughter of Prilly, sired by a son of Lillian Walker and breeding Beauty Pietertje Butter King to Mary Walker Pietertje, produced Marion Walker Pietertje, record 31.63 lbs. for 7 days, and 121 lbs. for 30 days, or in other words, the combining of the blood of the four cows mentioned and the bull, Clothilde Goudgeld Hugo, has produced the only family of cows of three generations that have each made over 31½ lbs., and also the only family whose 30-day records average over 126 lbs. In considering these foregoing results, it is very evident that the proper selection of the foundation animals was absolutely necessary for their accomplishment, although there are many other factors entering in, before they can be accomplished.

The care, handling, feeding, growing and developing the animals are very important factors entering into the bringing about desired results. I fear, however, many place too much emphasis upon the latter, as I have heard men say, "Your success is due to the care you give your cattle." But I will give you an illustration which will prove to you that the breeding of the animal is of even more importance than the care. I will take for example, Joe Gelsche De Kol Burke, the son of Prilly, a bull, that I bred and sold to my brother, when a calf, and none of his daughters have ever been developed in my barn, and my brother sold them and they were tested by disinterested parties. One being tested by an inexperienced man this past winter, made, as a senior four-year-old, 32.88 lbs. of butter in 7 days and over 126 lbs. for 30 days, and two others, as three-year-olds, made over 30 lbs. each in the same barns, where the daughters of the great King of the Pontiacs are being developed. One of these was for some time the youngest 30-lb. cow of the breed, and the other this past winter made a world's record in her class for 30 days.

The bull now has fifteen or sixteen tested daughters, and I think the average for them all is higher than any bull of the breed with that number of daughters.

Another striking illustration is that of Artis De Kol Walker, a bull bred about the same as