

The Dairy.

A Contrast.

BY L. B. ARNOLD.

While standing one morning by the weigh-can in a cheese factory in which I was to make cheese during the day, to notice the condition of the milk as it came in, the factory manager remarked, as he took two large cans of milk from the load before the door:

"This is the largest mess I get from one man, and it is the best milk that comes to the factory. There are but two large dairies among my 78 patrons. The rest have only a few cows each. The next mess I shall take in is from the other large dairy. The number of cows in both these dairies is 30, but the mess from the dairy to which the next cans belong is always much the smaller, and is about the poorest milk I get; it is often unfit to use, and I should have sent back several cans of it if the situation was not just as it is. The owner lives just about half way between this and another factory, and if I should reject a can of milk it would kick up a dust, and he would take his milk to the other factory. It is a large mess and I cannot afford to lose it, so I take it in and do the best I can with it." This remark led to a particular notice of the milk in the two lots. There was a wide contrast as to condition and quantity. The milk in the first mess weighed 795 lbs., or 26½ lbs. to the cow, there being 30 cows in the dairy. It was the milk of the morning and previous evening, which had been kept separate till it reached the factory, and had been well aired and cooled, and was sweet and clean. The next patron's milk was announced at 405 lbs., or 13½ lbs. to the cow—almost half less than the first. The night's milk had been distributed into all the cans for keeping through the night with only the cooling it got by a little stirring, and the morning's milk turned in to fill the cans. This mixture at the farm, and the scanty stirring, made the milk smell strong, and carried it almost to souring by the time it reached the factory, and the specks floating on its surface raised a query as to the fact of its ever having passed through a strainer. The contrast excited a curiosity that led to interviewing the two dairymen, who may be distinguished as Smith and Jones, in the afternoon at their homes. They had farms of about the same size, and located in the same neighborhood. The exact number of acres does not appear from the notes made at the time, but it was not far from 200 in either farm; but the management was as different as the milk they delivered. Smith was always short of keeping, and turned his cows to grass early in the spring to save fodder. They kept the pasture down all the early part of the summer, and when in August the grass stopped growing from a season of heat and drought, scanty fare reduced their milk to the pittance above noted, no extra feed being furnished. Jones always had plenty of fodder, and was never in a hurry to turn out before grass got start enough to keep ahead of the cows, and had plenty of soiling crops for the drought. This made his August yield a large one. Both milked in the stables used in the winter, but Smith milked at sunrise and sunset, the cows being hurried into the stable in a confused manner by a hired boy and a dog, and the two were also companions in taking the cows to and from the pasture. Dogs were an interesting item on this farm. There were on it, just at this time, "more curs than pigs." It rejoiced in two adult dogs and a numerous litter of smaller growth. At some other times the pigs outnumbered the puppies. Jones had no taste nor use for

dogs and kept none. He was particular, especially in the flush of the season, to make the times between milkings equal, and his cows went into the stable of their own accord, each taking its own place every time. There was always something in the stable to make the place inviting. On this occasion it was green clover and fodder corn in equal parts, and both wilted. After turning out at night the manger was filled for morning, and the evening feed was put in before noon. They were let into the stable in season to get through eating before milking time. There were no living streams or springs on either farm, but both had plenty of water in the yard, so that the cows could drink all they wished when they came up for milking. Jones supplied the defect in his pasture by aid of a wind-mill. Smith did not. Smith recruited his dairy by purchasing such animals as he could pick up. He seldom raised calves because, as he said, "I don't like to bother with them." Jones kept a thorough-bred bull, sometimes a Shorthorn and sometimes an Ayrshire, and raised the heifer calves from his best cows, and selected the best of these to keep his herd supplied. As a consequence he had large, high grade cows that were extraordinary milkers, and as he gave them at all seasons all the good food they could make use of, they kept in good order and always looked sleek and smooth, and hence gave an extraordinary product, and were turned to good account after they had run their career as milkers.

Smith's stable was a good place to milk in when the weather was hot, because its floor was up from the ground, and a good ways from tight, and the sides were also full of cracks made by the seasoning of boards which had evidently been put on green, and as it was empty overhead, with only a loose floor over the cows, there was nothing to prevent a current of air, if any was stirring, and it served to keep away the flies. It must have been an expensive place to winter cows in, for the warmth which would be dispelled by the free admission of cold air in winter, could not do otherwise than result in a needless waste of food or a loss of flesh to keep up animal heat enough to sustain life. Indeed, Smith complained that it cost him more to keep his cows than it did his neighbor. Jones, he said, would winter his cows well on straw and a little grain, but his would fall back on all the hay they could eat. An inspection of their barns made the reason apparent. One was tight and as warm as a kitchen, the other was open and as cold as a saw-mill. From the tenor of his conversation on this point, it was evident that his loss from exposure to cold was divided between the consumption of an enormous quantity of hay and the loss of most of the small stock of flesh his cows had at the beginning of winter.

There was a similar difference running through all their farming operations. The soil on one farm was kept in good heart, and clear of weeds and brush around the fields, and the buildings and fences were in good shape, all betokening thrift. On the other was an air of neglect and waste which indicated that the owner had all he could do to make the ends of the year meet. Smith, however, was not behind in everything, but he had taste of a different kind. He had the nicest carriages, the finest harness, and the fastest horses. Though he starved his cows he gave his horses grain enough to keep them in fine order. He enjoyed a fast drive, and appreciated a showy horse and a fancy dog. While he cared so little about cattle that he hardly knew the difference between a Shorthorn and a Jersey, he was posted to the last minute on all that related to thoroughbred dogs, and knew all about every trotting nag in the country. All this contributed something toward his enjoyment of life, but not much toward a living.

An examination of the milk-book of the cheese factory for the previous year showed the exact results of the different modes of caring for their

dairy farms. Smith's cows were credited with a total of 107,535 lbs. of milk for a season of 214 days. This was 3,584½ lbs. per cow, and a daily average of 16½ lbs. The net proceeds for 100 lbs. of milk that year at their factory was 83 cents. It made his total income \$892.54, equal to \$29.75 per cow. Jones' total milk was 174,945 lbs.; 5,831½ per cow, and 27½ the daily average, which is 10½ pounds per cow above Smith's. His total net was \$1,452.04; \$48.40 per cow, an excess over Smith of \$18.68 a cow, and on the whole dairy a difference of \$559.50, which Smith paid as the price of his neglect, and which caused a difference of opinion between the two which has not yet been settled, and is not likely to be soon. Smith says dairying don't pay. Jones says it does. Both think their opinions are sound because they are both based on experience.

What is Flavor?

BY JOHN GOULD, AURORA, OHIO.

It seems a little strange that some of our text books upon dairy science leave out all reference even to the cause of, or how to retain the delicate flavor of butter. It makes but little difference whether the butter be well or poorly made; it is the flavor that delights the palates of the consumers. Not that badly made butter can have true flavor, but it is a fact that the best looking butter may yet have deficient flavor, or treasure noxious tastes that destroy its value when sold upon its merits. Two packages of butter standing alongside may in general appearance be equally valuable, but by the difference in flavor the one may be quickly sold, while the other at last finds its way to some soap-grease rendering establishment. It is not quite possible for one maker to obtain uniform results in this respect, for a change of food, or even sudden or prolonged changes of weather, either from wet to dry, or from heat to cold, will greatly influence the product not only in quantity, but in quality as well, and by this term we include flavor.

If enquiry is made as to the origin of flavor, the kind of flavor will in part answer the question, for there are different flavors, natural and artificial, but the true, natural, delicate aroma is the oft eluding object of this article, and it may even elude us. The "off" flavor of butter is not to be considered under this head, as that is the element of caseine, acted upon by the milk sugar ferment, and is the result of decay and not a naturally imparted flavor. There is no doubt but that flavor is produced by the combination of the different elements of the butter fats, of which chemists detect some seven or more in varying quantities, and it seems the most plausible that as the proportions vary under the influence of changed treatment, climatic influences, or different foods, the flavor is affected—for this much we do know, that certain kinds of foods impart noxious flavors, and other kinds contribute to its delight.

It is in the variety of flavors that the dairyman suits all customers, and is enabled to sell all his wares, for while the one consumer asks for the delicate aroma of sweet cream butter, another wants a strong, sharp flavor, produced by sour cream; but even these do not determine the source of other flavors.

Primarily, butter fats are of two classes, animal and vegetable, flavored and unflavored, the one derived from vegetation, in some cases actually unchanged, while from their chemical composition others must be the result of changed material furnished by the animal organization. And that color and flavor are not imparted by all of the elements contributed to form butter fats, it is proven that some of these elements are without color, and of flavor are distinct from the true butter flavor. On the other hand, there are elements in butter that no food affects, like caproin, caprin, and the like, neither can they be found by any analysis in flesh or fat-forming foods.

The chemist, by consummate art, has been enabled to counterfeit nearly all of the fruit flavors, and very perfectly, but no man has yet given us a true butter flavor. Why? Simply because the natural flavor of butter is not stated, and the different changes under which butter goes so varies that element that it eludes capture. It used to be asserted that flavor was the result of acidity; then it was announced that it was the result of complete airing or oxydation which produced chemical changes, but as both are different from the flavor of butter made from fresh drawn milk,