## THE FARMER'S ADVOCATE.

## were a great many *defects*, especially in the fall and spring make. He pointed out the danger of inexperienced makers being permitted to manage factories for the sake of saving a few dollars, but were almost certain to insure losses before the season passed. The standard qualities of cheese are solidity, close texture, fine-flavored, mild, rich, sound, handsome and clean looking. The cause of lack of solidity in fall cheese arises from insufficient breaking of the curd and lack of sufficient cooking, besides not allowing the curd to become sufficiently changed towards acidity before it is salted.

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Of the five requisites of a good cheese, flavor, color, richness and shape, the following was offered by Mr. McAdam :- Flavor-this depends upon contingencies which originate with the cows' food and drink, absorption, care of milk, surroundings, etc. The aim of patrons and makers should be to preserve in its natural purity the natural flavor of the milk. Fineness in flavor is one of the most pressing demands of cheese trade. Color-Consumers demand a colored article. London, Liverpool and Glasgow markets call for different shades, and makers should govern themselves accordingly. Seek uniform ity; secure the best coloring ; use accurate proportions, according to the quality of milk ; mix immediately and completely with the milk. Never mix curds of different shades of color or expose to destroying influences. Many cheeses, from insufficient cooking and when remaining in the curd, become mottled, streaked, tallowy looking, sometimes nearly white. Insufficient heat in the curing-room aggravates these defects. Richness-Cheese lacking this quality are often erroneously suspected of being "skimmed." It arises in some cases from too much stirring and cooking; in others, from over salting and from the fact that the curds are frequently salted before the necessary change has been sufficiently developed, when the curd assumes the soft mellow feel which accurately indicates the proper time for salting. The amount of salt is easily ascertained. The proper time at which to salt requires vigilance and keen perception. Taste-Mildness is a most desirable quality, to which purity of milk, care in manipulation, aeration of curd in hot weather contribute. Badly kept milk is the fruitful source of tainted, off-flavored, bitterish, sourish, mussy-surfaced cheese. This, com bined with careless scalding, liberates part of the butter, making the cheese rancid. Too much or impure rennet has a bad effect on flavor. Shape-The demand is greatest for cheddar-shaped cheese, ten inches deep and fif teen wide. There is considerable demand for the flat shapes, five deep and twelve to fifteen inches wide. Mr. C. C. Buell, of Illinois, presented a paper on "The Cream-gathering Creameries" of the U.S. The essay altogether dealt with this system in the Western States, such as Illinois Iowa, Minnesota, Nebraska, Kansas and Missouri. This gentleman was not sure whether the system would operate to equal advantage all over. The difficulties that he found were in the qualities of different specimens of cream presented; and hence a shortage took place to the patrons, and this struck at the difficulties of the system-how to make proper and satisfactory tests. One way that had been adopted

was by changing the unit of standard to the milk measured in a pail. Then samples as churned, according to specific gravity, were sent to the patrons and a record given. Another plan which had been adopted was to test by small tubes by the unit of measure, and each patron's milk or cream was sent to him with the tests marked. This shortage in the testing should not be looked upon any more as a drawback than in any other business. But he was fully of the opinion that the skim milk left on the farm would amply repay for any shortcomings of the system. He did not think there was a bonanza in creamery gathering factories. Associated enterprise was all that could be expected from this or any other system of cooperation. He had quoted 33 and 38 cts. a pound for gathered cream butter in the principal markets of the U.S.; but he supposed it was where a good article was made. He did not believe that the butter value of a system varied any more than from the same results from a herd; and he thought the aggregate of a given number of animals under co-operative cream gathering would equal any herd for the cows connected with this system, from \$35 to \$40 per season.

In discussing Mr. Buell's paper, the importance of retaining skim milk on the farm was re ferred to. The Rev. W. F. Clarke thought there was no benefit in keeping skim milk on the farm ; but subsequent speakers showed chemically it was worth 25 per cent. of the whole. On this point Prof. Brown said for calf-raising, skim milk was estimated at half the value of unskimmed milk. Mr. Curtis, of Syracuse, N. Y., said Prof. Sanborn, of the Wisconsin Agricultural College, found that skim milk was worth 25 cents per 100 pounds when pork sold at \$4 per hundred. Several speakers bore out Prof. Brown's estimate on the value of skim milk, viz., 50 per cent. of unskimmed. Prof. Barnard said this was a most important element to consider in fostering the creamery industry.

Prof. Harris, on "Co-operative Cheese making," thought the time was coming when there would be a more general co-operation among the dairymen, but the individual prosperity depends on the success and prosperity of the whole. He scathingly condemned the careless, shiftless habit allowed by many factories where milk was drawn in old rusty cans, and the whey allowed to be drawn back, and the poor cheese resulting from such material, and suggested as the remedy a more thorough firmness, cleanliness and co-operation among the factorymen, and more firmness in refusing impure milk. He denounced the use of impure or swill milk being allowed to be made into cheese or used for human consumption, and he quoted instances to show where disease, such as typhoid fever and scarlet fever, and death, had been produced from the use of impure milk through carelessness in milking. He held that a law should be passed by the Legislature for the suppression of such "swill" milk, and gave as the remedy closer and more thorough cooperation, and more painstaking, energetic effort in the making of cheese. He also spoke of the carelessness of many farmers in regard to their dairies. His address appeared to create a marked impression upon the audience. Prof. Brown, of the Ontario Agricultural March, 1834

College, read an essay on "The Influence o Food on Milk and Dairy Products." A card was handed around showing the chemical composition and nutritive ratio of food experimented with on the Model Farm, and also their influence on dairy products. Nearly the whole address consisted of atabulation of Wolff's standard for feeding, with a few experiments made at the Model Farm, on the basis of Wolff. The cards were handed around amongst the audience, and, like a lot of school boys, they were commanded to look at such and such a column headed "Albuminoids," "Carbo-hydrates," &c. Prof. Brown, after explaining the table and showing the care and thoroughness exercised, said the food influenced the quantity of milk, but breed or individual characteristics the quality. The animals used in these tests were ordinary Canadian cows, and the groups were changed from one form of rations to another, as the first column of the table shows. Speaking of oat-fodder ensilage, he said, that used in the experiment was cured in a stone cellar, transformed into a silo. They put down 30 tons in three days and did not touch the cover till 87 days had passed. If the dairying industry was to be prosecuted all the year round, the preservation of green fodder in winter became a question of importance. But in the above experiments it was seen that the ensilage diet produced the lowest quality of butter, while the cost was second highest. Experts advocating ensilage had failed to give the public such information as would show their experiments to be thoroughly satisfactory. No one had ever yet been able to produce untainted fodder by this method, and at the Experimental Farm the milk from ensilage, while yet warm, emitted a peculiar smell, and the butter was pale in color and not the most inviting in taste. The completion of the above series of experiments will be awaited with interest.

The Prof. then showed a bottle of ensilage produced from green oats, to support his theory about ensilage, when a number of experts immediately pronounced the article spoiled, and as having the second or acetic fermentation, and not fit to feed to animals. So

much for the Prof.

Mr. T. D. Curtis, of Syracuse, N. Y., gave a well written paper on Thursday night, on "Dairying in the States." He contended that this industry was the same in Ontario as in his country. He said, it is a common fallacy to suppose that all our cheese and butter is made in the factory. By a number of figures Mr. Curtis showed that a large quantity of butter and cheese, especially the former, was made in the private dairy. One of the most essential things for the production of good cheese and butter is the selection of food, habitation and surroundings of the milch cow. It is necessary in summer to provide the animal with good, nourishing food, fresh air and well ventilated stables. In winter she must be housed in a good, comfortable stable, with plenty of fresh air, nutritious food and healthy surroundings. It is a great mistake to turn a cow out into the open air solely for the purpose of saving a little trouble. It will prove a losing plan in the long run, both in the condition of the milk and cows. The most essential food for cows is carbon and nitrogen, but these articles