

should be primarily considered, the case is quite otherwise, and it is therefore by no means strange that similar undertakings meet with results so very dissimilar. The consequence is that most associations here that are professedly "national," are either entire failures or are maintained by the public-spirited efforts of a very limited number who transact the business, and annually elect nominal representatives to extend the apparent scope of the association over a wider territory. Of such societies the American Shorthorn Association offers a case in point, if we may judge by the following extract of a letter from a Shorthorn breeder in a western State, east of the Mississippi, who has been actively engaged in its proceedings from the outset, and has done his best to promote its success and usefulness:

"The contributions at the last meeting at Lexington, I understand, were scarcely sufficient to pay just the expenses of the association, leaving nothing for publication of the proceedings. I also understand that on the secretary's notifying the delinquent members of the previous year to remit their annual dues, only two or three of them responded, and only a few dollars are now left in the treasury—not enough to attempt publishing the last report. Indeed there was little done worthy of publication. The continual wrangling over the pedigree question has disgusted many of the best breeders, and has, unquestionably, done a good deal of harm. I trust that we shall hear no more of it, and that breeders will content themselves with good fair pedigrees, and exert themselves to increase the quality of their animals. In fact, I regard the last convention a failure, being held in the midst of the Kentucky blue grass region, and less than fifty members, all told, attending, and not one-half of those in attendance were Kentucky breeders, of whom there are more than the whole number of fifty living less than that distance of miles from Lexington!

"I cannot help contrasting the British Shorthorn Society with our own, they having a membership of one thousand or more—ours less than fifty! I still have increased faith in the future of Shorthorns in this country. It seems to me that they will prove to be the cattle *par excellence*, and we need not fear any rivals for many years, at least. I have had more demand for young bulls this winter than ever before, and have disposed of all I had to spare. All of them went into the hands of farmers to be used on their grade cows. The prices were not large, but such that, with ordinary keep, we can make money by rearing."

Dairy.

Oleo-Margarine.

BY L. B. ARNOLD, SECRETARY OF THE AMERICAN DAIRYMEN'S ASSOCIATION.

The artificial butter, known as oleo-margarine, has become a terror to many butter-makers, and it has some significance in the butter trade of the country, but it is not at the present time the powerful antagonist it is often supposed to be.

This new product of human food, as is claimed, is confined to the caul fat of beeves, the suet or beef fat contains too small a per cent. of the soft butter fats, and too much stearine, to admit of profitable working at the present prices of butter. As caul fat can only be used while it is fresh and sweet, the production of this new butter must be confined to the abattoirs of large cities, as only from them can the fat be obtained in sufficient quantity to admit of profitable working. There are slaughtered in and around New York city, an average of 8,000 beeves a week, which yield an average of 45 lbs. of caul fat per head, or 360,000 lbs. per week. From this can be obtained 60 per cent of oleo-margarine oil, making 216,000 lbs. of butter possible per week. If all this oil was made into butter it would not very much disturb the transactions in that great city which handles a million and a half pounds of butter per week, though its influence would be distinctly felt. From an investigation of the facts it appears that not more than 3 per cent. of that amount of oil, or 6,000 lbs. a week, are made into butter, the balance of the oil manufactured being shipped or

used as oil. The caul fat produced outside of New York city furnishes a smaller per cent. of butter than in the city, which makes the prospect of a controlling influence for oleo-margarine butter look pretty feeble when it is contrasted with the 1,000,000,000 lbs. of genuine butter annually made in the United States and Canada. It is hardly a drop in the bucket. Nor is the outlook for the future very promising. I have not been able to get a complete list of all the manufactories of oil or butter in the United States, but of the 16 the names of which have become known to me, 13 have gone to the wall, though backed with an aggregate of \$1,890,000 capital stock to start with, and the remainder are evidently running on a small margin of profit, if indeed there is any at all.

Manufacturers seem to have been more successful in improving the quality than in reaping profit. The improvements which have been effected have probably given rise to more alarm than the quantity produced. It is not without considerable merit as now made. Its relation to dairy butter will better appear from the statement of a few facts in its manufacture, which may be comprised in a few words. The fat is taken while fresh and warm, and thoroughly cleansed, first in warm, and then in cold water, and then chopped by a machine in fine pieces and at once placed in rendering kettles where it remains heated to 118° till the fat is separated and drawn off. As stearine does not melt below 125°, rendering at this low temperature leaves back a considerable share of this white, hard, and tasteless element in tallow, with the scraps. This oil is at once cooled to 85° and then put in little cotton bags holding about a quart, and pressed, when the softer parts run off and leave another portion of the stearine in the bags, making the oil now a mixture of olein, palmitin, and stearine in almost the exact proportions in which they exist in genuine butter. This done, 100 lbs. of the oil are twice churned in 20 lbs. of fresh sour milk, and after the last churning turned into pounded ice and suddenly chilled, which gives it the exact texture of butter. It is then ready to season, work and pack. Upon emerging from the worker it is so nearly identical with good dairy butter in composition, texture, and flavor, as not to be readily distinguished. But as it lacks the flavoring oils, butyric, caproin, &c., which give taste to butter, having only so much of them as it has taken from the milk in which it was churned, it has not the lively taste of good fresh butter. As an offset for lack of flavor it remains a long time free from the rancid, strong and stale taste, so common to real butter, and hence may be said to be negatively good. But oleo-margarine butter has a fault of its own by which an expert can always distinguish it. Though the red blood does not circulate much in the deposits of animal fat, the vascular system extends through them the same as in the rest of the body, carrying colorless juices which, besides water and fat, contain albuminous matter and waste, that give to raw or untried fat its peculiar flavor. In the ordinary mode of rendering fat at a high heat, 212° or above, the water in these juices is evaporated and the albumen and waste solidified and precipitated or left adhering to the scraps. But in the low rendering at 118° the juices in the raw fat which have not been washed out in cleaning, go with the oil and are carried into the butter, and when it melts on the tongue there is always left a distinct flavor of raw fat. It is not very prominent, but always enough to distinguish between oleo-margarine and true butter.

A higher degree of skill may remove this defect and also the lack of flavor, but so long as they remain they will prevent it from competing with fancy butter, and the great cost of apparatus and

expense of manufacturing, and the limited amount of caul fat, are likely to continue to be too great to admit of a competition, that need not for the present be very alarming, if dairymen do their duty in the production of dairy butter.

Increasing Popularity of the Jersey Cow.

The increasing popularity of a family of cattle is not based on mere caprice. There must be some substantial grounds to induce farmers and graziers to pay high prices for a breed of cattle selected from many breeds, each in some points excelled. For dairy purposes the Jersey Cow is now, and bids fair to continue, the most popular of all the breeds, in the United States at least. A Correspondent of the *Live Stock Journal* says:—

It seems to me a safe prediction, that the Jersey cow—perhaps I should say the Channel Island cow—will become more popular, and especially more fashionable. She has made great progress in these directions in the last few years. It is not very long since that she was looked upon as almost purely a fancy animal, and had but little general recognition in that line even. Now, however, the breed is in high repute with many practical men—men who keep cows with the view of making money from their product, rather than by their sale for breeding purposes. In this country the number of pure bred Jerseys is much greater than that of any other breed of cattle, the almost everywhere leader—the Shorthorn—alone excepted. While the prices they command are not high—judged by the standard of fashionable Shorthorns—they are very satisfactory, and the demand is unquestionably increasing. This is also true in England, where their appreciation has been more recent and rapid. I am not able to agree with their enthusiastic admirers, if these insist that the Jersey is the best cow for the general farmer; but I do believe the breed is a very valuable one, in its purity for a goodly number, and in its crosses for a much larger number.

It is an important question for Jersey breeders, whether they will accept the present standards as the best possible, and seek to secure uniformity to existing fashionable models, or whether they shall attempt to retain the present excellences, and also further develop others. The generally recognized and accepted claim for the Jersey is, the production of rich milk—milk containing an unusually large percentage of butter. Large yields of milk are occasionally reported; but very generally they claim, not quantity, but quality. Among breeders, we find quite different standards for judging. One class makes milk production the great test; this to be shown by actual tests of the individual or her ancestry, or else indicated by the escutcheon, or mark supposed to indicate excellence in this direction. Another class attaches great and, unquestionably, undue importance to fancy points, noticeably a solid color and black points. Incidentally, there has been considerable change in size and appearance. The average Jersey cow of to-day is larger and a great deal more symmetrical than was the average Jersey of twenty years since; but this change has been somewhat incidental. Few breeders have made these changes a principal subject.

Of course it would be exceedingly unwise to adopt a Shorthorn model of perfection for the Jersey; but I believe the greatest utility of the breed—its adaptation to the wants of the largest number—can be best secured by giving more general attention to increasing the size, improving the form in its adaptation to meat production, and rejecting color as an important element in deciding value. There can be no essential connection between the production of rich milk and small size. A reasonable degree of symmetry cannot be a bar to excellence in milk production. And, whatever may be true of those in some special circumstances, it is clearly true that the great majority of American and English dairymen show, by practice, that they do regard the value of the carcass, when the cow ceases to produce milk, as a not unimportant element. With the increasing spread of Jersey bulls, it becomes a more and more important question—What is to be done with the bull calves?

Of the two problems—to secure uniformity of color and retain the special excellence of the breed; or to somewhat increase the average size and improve the form for beef making, without injury to the milk-giving tendencies—I would choose the