sweet whey butter, and then placed in the warmest part of the cheese room.

"While it remains there, it is, during the first seven days, rubbed every day all over, and generally smeared with sweet butter; after which it should for some time be turned daily, and rubbed three times a week in summer, and twice in winter. The labor is performed almost universally by women, and that in large dairies where the cheese are sometimes upon an average 140lbs. each. The details above are for cheese of 60lbs. weight. The quantity of salt used is uncertain; about three pounds each, is the largest quantity, though much of it is wasted, and whether the cheese acquires much saltness in the salting house, dairymen themselves are doubtful, though much salt is there expended. The sponginess and heaving of the cheese, which are sometimes complained of, Mr. Holland thinks, are faults to be attributed more to the inattention on the part of the work people than want of skill—"three certain preventives being, careful breaking, good thrushing, frequent skewering and powerful pressing," but may not improbably arise, partly from the use of cold and warm milk, which if mixed together will generate gases. Those of pungency and rankness, which are generally imputed to impurity in the rennet, and by some to want of salt, he thinks may be also more properly ascribed to the fermentation occasioned by the imperfect discharge of the whey."

The committee believe that the publication of the foregoing remarks on the manufacture of Cheshire cheese, which, taking all its properties into account, is probably one of the most valuable varieties for the English market, will prove useful to our dairymen. There are certainly many suggestions connected with the management of the dairy, which must prove highly advantageous to those who are engaged in the business. The demand for our cheese abroad is constantly increasing, and the nearer we can approach ours to the standard in England, the higher price will be obtained, and the larger profit to the dairyman. We desire to do all we can to aid in this matter, and to direct the attention of our dairymen to those methods which have stood the test of time, and which have ever proved successful when adopted,

There are many other varieties of cheese which have great celebrity in England,—the *Gloucester, Stilton, Dunlop, &c.;* but it is not thought advisable to give at length the process of their manufacture, as the committee are satisfied that cheese made in the manner of the Cheshire will prove as profitable as any that can be sent from this country.

The committee take pleasure in referring to the statements accompanying this report, made by Alonzo L. Fish of Herkimer county, in which many very interesting experiments are detailed, and many important directions are given as to the manner of preparing cheese for foreign markets, which cannot prove otherwise than valuable to the dairy interests of our State. Mr. Fish is entitled to great credit for the reseaches and investigations which he has made, and it is hoped he will continue them during the year and report the result to the society. The plan suggested for a dairy book, possesses many valuable requsites worthy of attention, and if generally adopted, will tend much to increase the quantity of superior cheese. Mr. Fish, in the opinion of the committee, is justly entitled to the special premium of $50.

Mr. Newbury Bronson of Warsaw, Wyoming county, who received the first premium for his dairy last year, presented a statement this year. There are no very material facts stated in the present report of Mr. Bronson, different from those which were contained in the report of last year. The committee recommend a premium of $20.

Mr. Bronson says that he has been reading "A treatise on milch cows, by M. Francis Guenon, and has made comparisons between his delineations and observations, and the cows of his dairy. The views of the author are, in his opinion, worthy of attention, and the information it contains is valuable to dairymen. Mr. B. has tried experiments to make hard milkers milk easy, and has been entirely successful. A slim penknife blade, sharpened at the back, making it two-edged, is the instrument used. The point of it for about half an inch, is run up at the end of the teat; and when this is carefully done, it has so far as experience goes, removed the evils of hard milking.

The manufacturing of cheese in our State is rapidly increasing, and the demand for foreign markets continues also to increase. If our dairymen give attention to the preparation of cheese for export, there can be little doubt, that the demand will equal the supply for a long time to come. Already the American cheese has almost entirely superseded in the English market all other foreign cheese, and it will soon affect materially the price of English cheese.

The amount shipped on the canal, in 1847, the product of our own State, was, 15,983 tons, exceeding that of 1746, 566 tons, as will be seen by the statement annexed to this report. The quantity of cheese from out of the State, in 1847, was 4,056 tons. The value of cheese received at tide water, the product of our own State, at seven cents per pound, which is the average price as estimated by the Canal Board, will be $2,237,620. To this is to be added the cheese consumed in the interior of the State, as well as that which reaches the market from the landings on the North River, and the value of the cheese manufactured in the State probably exceeds $8,000,000.

It cannot be disguised that much of the cheese which is sent to market is of inferior quality, and it is of the first importance that its quality should be improved. There are many causes which tend to the production of an inferior article, but there are no insurmountable difficulties in the way of manufacturing such an article, except it may be in some localities, where, from the nature of the soil and water, it may be difficult to make a superior article, particularly of that description suited to foreign markets. Mr. Bronson gives the following, as causes producing bad cheese. "Unclean and sour milk vessels, bad rennet; sour milk; too much salt, or insufficiently mixed; too slight pressing; neglect of cheese after it is made." The experiments of Mr Fish show the various causes which contribute to the deterioration of cheese, and we would especially call attention to his suggestions, and urge upon dairymen the importance of making experiments themselves. Unless this is done, it is in vain to expect that our cheese will be materially improved.

It is doubtless true, that even our best dairymen have much yet to learn, before they will attain perfection. It is encouraging, however, to be assured that continual efforts are making, to improve in this highly important branch of agriculture—and from the well-known energy of our people, we are satisfied there will be no relaxation, until complete success shall crown their efforts.

The committee would urge upon our dairymen, to compete for the premiums offered by the society for the best managed dairies. The investigations required, will prove useful to themselves, as well as beneficial to others. Every experiment made, whether successful or otherwise, will prove advantageous. If successful, many will be led to adopt it, and thus increase the value of the article manufactured, if otherwise, all who hear of it, will take the precaution to avoid a practice which has proved injurious. By communicating freely and fully, the results of their experience, farmers can best benefit their profession, and thus have the assurance of contributing to the anvancement of one of the most important interests in our country.

BUTTER MAKING.

That portion of milk, of which butter is made, it is conceded by chemists, consists of minute globules of semi-fluid fat, about one ten thousandth part of an inch in diameter, each covered with a thin pellicle, or shell, of a peculiar substance, resembling curd, but slightly differing from it in composition. When set aside and left undisturbed, where the temperature of the air is about 50° F., these globules of fat, with their coatings, generally rise to the surface of the milk, within 24 hours, forming a thick, soft, white or yellowish crust, commonly known by the name of *cream.* This crust consists of two layers, the uppermost of which contains a larger proportion of butter than the under one.

After this cream has been kept in the dairy, four or five days, at a constant temperature of from 46° to 50°, and then violently agitated for a time, in a churn, or otherwise, at a certain temperature, the thin coatings burst, or are torn asunder, and the particles of half-fluid fat unite and form *butter.* The latter substance includes some of the thin envelopes of the fatty globules, with a little curd, sugar of milk, and a considerable proportion of water.

There are several facts known to the dairy maid, in the preparation of her butter, which are not without interest, both in a chemical, and in an economical, point of view. One is butter obtained on the same farm, and by the same process, or method of churning, is frequently observed to be harder at one season of the year than at another; and even the same milk, under different management, yields butter of different degrees of hardness, at all seasons of the year. This has been satisfactorily and chemically explained, in stating, that the same milk, or cream, by the absorption of oxygen in greater or less abundance, produces a butter proportionably hard or soft Yet, it must be conceded, that the presence of the air and oxygen, or their renewal, are not necessary to the operation of churning. For this can be as completely effected by prolonged agitation in a close vessel—by corking up the cream For instance, in a glass bottle, and shaking it rapidly for nearly half an hour. When this is the case, the quality of the butter thus formed, and the changes which the milk, or cream, undergoes, are obviously entirely independent of any chemical influence from without.

In the process of churning, the oxygen of the atmosphere may exercise an influence upon the several ingredients which the milk contains. And it is highly probable, that churning with an excess of air, causes the envelopes to absorb oxygen, to become partially soluble, to thin off, and finally burst, and thus liberate the fatty matter within. It is equally probable, also that, in ordinary churning, the presence of air exercises a real influence upon the process, by modifying its rapidity and the quality of the butter obtained. The form of the churn,