"4. '*Cost of Machinery.*'—The principal cost under this head will be for steam boiler, milk vats, presses and hoops. Steam boiler, with fixtures, say $500; vats, $100 each; screw presses, $4 each. A factory for six hundred cows may be fitted up in good running order for from $1,200 to $1,500. Vats with heater attached, which will obviate having steam boiler, are sold (six hundred gallon size) for about $200 each.

"5. '*Capital Invested.*'—If ground or factory site be added, this question is answered in Nos. 3 and 4. Sites for factories are often leased at small rentals, and for a series of years.

"6. '*Work People Employed.*'—A factory with six hundred to eight hundred cows will need five hands, and perhaps, when the curing rooms are full, more help. The manufacturer or head manager, if skilful, will command from $800 to $1,200 and board, for the cheese making season, nine months. The second man, who, perhaps, has worked at the business for a year or more, gets, say from $35 to $45 per month and board, and women from $4 to $5 per week and board.

"Women not unfrequently take charge of factories as head manufacturers at salaries as high as $100 per month and board. Boys and girls, or young persons of immature age, are not usually employed. The head manufacturer at the factory is expected to 'take off his coat' and do a good day's work every day, seeing to the delivery of the milk, working at the curds, the presses, and with a sharp eye to see that all moves on in order and on time.

"'*Quantity of Milk Received.*'—This, of course, must depend on a variety of circumstances—goodness of cows, quality of pasturage, the season, time of commencing and closing operations.

"The Weeks factory, at Verona, Oneida county, in 1867 had an average of 640 cows; length of season, 209 days; pounds of milk received 2,481,615; green cheese made, 261,904 pounds; cured cheese, 250,510 pounds; shrinkage, four and one-third per cent; pounds of milk to green cheese, nine and forty-eight one-hundredths; pounds of milk for cured cheese, nine and ninety-one one-hundredths.

"The gross receipts per cow (average for the season exclusive of income from butter and cheese, made before the factory was opened and after close,) varied from $54 to $78, the former being the poorest dairies and the latter the best.

"The cheese sales in 1867 were very low in America, the average at the Weeks factory being only $14 40 per one hundred pounds. The receipts other years have been very much larger, but it is always well to estimates of this kind to keep on the medium side. Some of the factories in Herkimer county make an average of five hundred pounds to the cow, and at present prices for cheese (twenty cents,) this would give $100. This would not be a fair estimate, however, for a novice to base dairy prospects upon.

"8. '*Distance (maximum and average) which the Milk is Brought*'—The average distance from which the milk is brought will not exceed one and a half miles, and perhaps in the old dairy districts in New York a little less. Four or five miles may be set down as the maximum except in rare cases, as at the West, where we have reports of milk being carted eight miles and more, and yet, if cooled at the farm, arriving at the factory in good condition. Such a long distance is regarded as altogether too far to cart milk with profit, especially on our American roads which for the most part are bad during a considerable portion of the year.

"The practice of cooling milk at the farm does not usually obtain among dairymen. Canning milk too warm and hauling it in this condition to the factory, results in great losses to the American dairymen. It is now several years since we commenced urging upon our dairymen the importance of cooling the milk at the farm and as soon as drawn from the cow, and, most especially, have we urged this principle since returning from a visit to European dairies.

"In 1866 the American Dairymen's Association employed the writer to go abroad and make a careful examination of European dairies, and to report upon their management. After an extended observation over the dairy districts of Great Britain, and an examination of the English methods, it was clear that in a matter of cleanliness, care of milk and of stock, management of pasturage, &c., the English were in advance of us; but in machinery and appliances for manufacturing the Americans were a long way in advance of the English.

"Our reports upon English methods, &c., have effected a great change in American dairy practice, and it is pleasant to know that the bad practices of our dairymen are being corrected. We are now beginning to cool milk at the farm, and it need not be said the character of American cheese has greatly improved.

"As to our factory system:—Uniformity and excellence of product is almost always certain where good milk is delivered at the factory. The machinery and appliances for manufacturing render cheese making comparatively easy. Everything is so arranged as to avoid lifting and heavy work. The manufacturer must exhibit high skill in manufacturing. He makes cheese making a study and adopts it as a profession, and a good salary is paid for *skilled service*, which induces greater efforts for success, and hence constant improvement is going on.

"9. '*Pounds of Cheese Made per Annum*'—This has been answered under previous heads. We may remark however, that a little less than ten pounds of milk is considered a fair average (the season through) for one pound cured cheese. Some skilful manufacturers will get an average of one pound cured cheese from nine pounds milk, and some report even better than this.

"10. '*Charge of Making.*'—The usual charge in large factories is seventy five cents per one hundred pounds of cured cheese. This includes care of cheese until sold. If the factory is small one cent per pound is charged. A large number of factories charge two cents per pound, and furnish everything required—bandage, annatto, rennet, and the boxes in which the cheese is placed for shipping. Hauling cheese to railroad depot is done by patrons.

"11. '*Disposal of the Whey*'—The whey is usually fed to hogs at the factory. Ample pens and yards are provided by factories. Each farmer delivering milk is allowed one hog at the factory for every five cows. He can have a pen where he can keep his hogs separate from others or turn them in the yard with others. Then whey runs to large reservoirs near the pens, and when the hogs are to be fed a faucet is opened which lets the whey into the troughs.

"At some factories the whey is carted home by farmers when they return after delivering milk. Quite recently a process has been invented for taking the butter from the whey—or rather two processes, the hot and cold.

"In the hot process the whey is run off sweet from the curds into a large copper vat placed over an arch. Heat is here applied [illegible] one hundred and eighty degrees. Acid (sour whey) is added also. The oil and albuminous matter quickly rises, is skimmed off and set in a cool place. The next day it is churned at a temperature of from fifty-six to sixty-eight degrees. About twenty pounds of butter is thus obtained from five hundred gallons of whey. The butter is of good colour, and when the process is properly conducted, of fair quality for present use.

"We have seen and tasted of samples that could not readily be distinguished from butter made from cream, and it sold to butter dealers in the market at the same price with other butter.

"At some of the factories the whey is considered a perquisite of the manufacturer, who purchases hogs and feeds them upon it.

"It should be remarked that when the butter is taken from the whey as above, the whey is then used for feeding swine. It is fed sweet, and in practice it is claimed the pigs thrive upon it quite as well as when fed in the usual way."

Milk and Town Dairies.

The *Milk Journal*, a new periodical devoted to milk, butter, and cheese, recently commenting on the quality of milk, shows that the density or specific gravity is not, as was formerly understood, a safe criterion of the goodness of milk. When kept even in a close