were kept pricked off, three in a large sixty-sized pot, and still kept in the vinery until the plants were three inches high, when they were potted off singly in forty-eight-sized pots, and put into a greenhouse, where they remained until the 15th May; then they were planted in the open ground, at two feet distance from plant to plant in the row, and three feet from row to row. In planting, the plants were turned out of the pots with the balls entire, placed on the surface of the ground at the above distance, and the earth then drawn to the plants, leaving only two joints or leaves above the surface; after which they were well watered with a rose-pot, to settle the About the middle of earth round the plants. June, the roots were appearing very strong on the surface, when three inches more earth was added to them, the same system being continued as often as the roots appear on the surface. On the 5th of August, six of the weakest plants were observed ripening off, and were taken up; the others remained in the ground until the 15th of September."-Of the six lots which ripened off and were taken up August 5th, not one was unsound ;--out of fifteen, taken up Sept, 15th, there were fifty-eight which showed evidence of the disease.

"The actual weight of tubers thus raised from twenty-one seeds was 44 lbs, 81 oz., discarding all fractions, say, upon an average, 2lbs, of healthy tubers to each plant, The number of plants thus raised per acre would be 7,260, which, multiplied by two,-the average weight of the produce of each of these plants,--will give 14,520 Ibs,-6 tons 9 cwt, an acre,"

The produce may be considered very great, and the effect of careful nursery-cultivation. Although the tubers, as a first year's produce from seed, were comparatively of small size, yet, taking the result as bushels of 56lbs., there would be to the acre 258 bushels,-E, J, LANCE,

Bagshot, April, 1850,

ON THE CHEMICAL PRINCIPLES OF BUT-TER AND CHEESE-MAKING.

Professor Way, delivered a lecture on the Chemical Principles of Cheese and Buttermaking, before the members of the Royal Agricultural Society of England, on the 17th ult.

Mr. Way commenced by stating that to understand the circumstances affecting cheese and butter, they must first of all examine the composition of milk. The popular knowledge of milk was that it consisted of butter, cheese, and whey,-at least these were the three parts into which it was usually seen to be capable of separation ; but this division of the ingredients of milk left out of the question a substance of whose existence in milk many people were entirely ignorant, but to which, in a philosophical point of view, the greatest amount of attention | in question of such composition that one equip

was due—he meant the sugar of milk. In s chemical point of view, milk consisted of hy parts, butter, curd, milk sugar, water, and sahm matter. The diagram on the wall gave the rel ative quantities of these ingredients in different kinds of milk.

COMPOSITION OF MILK.

	Woman	Cow.	Ass.	Guat
Casein, pure curd Butter Milk Sugar Saline matter Water	1.52 3.55 6.50 0.45 87.98	4·48 3·13 4·77 0·60 87·02	$ \begin{array}{r} 1.82 \\ 0.11 \\ 6.08 \\ 0.34 \\ 91.65 \end{array} $	41% 332 525 055 86%
	100.00	100.00	100.00	1000

The sugar of milk, it would be seen, existed in considerable quantity in it, equalling in the cow the weight of the curd. In England, h believed it was never prepared for domestice other purposes; but in Switzerland it formed considerable article of commerce. Mr. Wa exhibited a specimen of milk sugar, and d served that it would be found to possess only slightly sweet taste, which was due to its le limited solubility. This circumstance prevent its extensive use as a substitute for ording sugar, because it could only be employed ind form of a syrup, and required so much water dissolve it as greatly to reduce the strength any liquid to which it was added Now, mil sugar, although by itself, or in solution in pa water, it would keep well, was very liable change when in contact with bodies having nature of ferments. Milk was, when diar from the cow, slightly alkaline to test-page but in a short time it became sour and curds This souring was due to the production da acid from the sugar, which had, from this d cumstance, been called the lactic acid, or the a of milk. The same compound was formed many other circumstances, and its product was not confined to milk sugar, but occurred the other forms of sugar. Thus lactic acid produced when Cabbage is cut up and allow to become sour, forming the sour-krout of Continent. The sourcess of brewer's grains due to the same acid. Mr. Way exhibited diagram which showed how easily the sug could pass into lactic acid.

RELATION OF SUGAR TO ACID.

	Carbon.	Hydrogen.	Oxyga
Cane Sugar	12 cquiv.	12 equiv.	12 eq:
Grape Sugar	12	14	14
Milk Sugar	24	24	24
Lactic Acid	6	6	6

Thus milk sugar was in relation to the