

SKIM-MILK.

	From Swartz.	From Richmond.
Water.....	90.49	90.67
Fatty matters.....	.64	.33
Casein, albumen, and milk sugar.....	8.08	8.21
Ash.....	.79	.79
Totals.....	100.00	100.00

Reckoning the skim-milk at $8\frac{1}{2}$ gallons, the difference here accounted for would be $4\frac{1}{2}$ oz., whereas the difference of actual fat found in the butter produced was 4 1-10 oz.

It is not wise to generalise from limited experiments; but, under the conditions of the trial here recorded, there can be no doubt that the fat globules were enabled to rise with greater rapidity through the comparatively thin layer of milk in the shallow pan than through the deeper column of the Swartz.

The co-efficient of expansion of butter fat is greater than that of water, so that, theoretically, the higher the temperature the quicker will the cream separate. There are, however, many other considerations besides the rate of separation of the cream which render the use of a low temperature advisable. Generally speaking, it may be said that the lower the temperature at which milk is set the more satisfactory will be the result, both as regards the skim-milk and the quality of the butter.

The temperature to which "H. L. C." raises his cream previous to churning appears to me to be at least five deg. Fahr. too high. For cream-churning the temperature should not exceed 58 deg. Fahr. in summer, and 60 deg. Fahr. in winter; nor should the operation be hurried. By using a lower temperature, and thus increasing the time of churning, "H. L. C." will find that butter of better consistency and flavour will be obtained. —ALFRED SMETHAM, F.C.S., F.I.C., Liverpool, November 11th.

Sussex Bull, Goldsmith 391.

Of the various English breeds of cattle, the Short-horn, Hereford, Devon and Polled Norfolk and Suffolk are undoubtedly the best and most profitable, the first for beef and milk, the second for beef, the third for beef, milk and work, and the last for milk and beef, but of the other breeds, the Holderness and Long-horns, once so promising, are steadily disappearing; the Somerset, Lincoln, Glamorgan and Anglesea have never spread much beyond the countries from which they took their names, and even there, they are yielding place to better breeds; (1) but the Sussex cattle seem to hold their own, or even to be gaining a little in public favor. This breed holds an intermediate place between the Devon and Hereford, having much of the activity of the first, of the strength of the second, and of the propensity to lay on beautiful, fine grained flesh of both. In color, Sussex cattle are very like the Devon, a deep, rich, solid red, and in form too, they are much the same, except that they are somewhat coarser and less symmetrically proportioned. The fore quarters, (2) too, are more strongly developed, the bones are larger, the dowlap is more developed, as in the Hereford, and therefore there is a larger proportion of less valuable-meat. The resemblance between the Devon and Sussex is, however, so great that there is little doubt that one is an offshoot of the other, or that both are descended from the same original British stock. Like

(1) But the North Welsh cattle, the "Castle Martins," have always been great favourites in the London market. We used to fat thousands of them in Kent, and better beef could not be. —A. R. J. F.

(2) In 1852, the fore quarters of the best bred Sussex were awful to behold. The improvement since then is wonderful. —A. R. J. F.

the Devons, the Sussex have in the past been bred mainly for draft purposes; but of late years the breeding has tended more and more to beef and milk. While the southern breeds of cattle in England, like the Hereford and Devon, were formerly bred principally for work and beef, those of the more northern countries, like the Short-horn and Holderness, were bred chiefly for beef and milk, and breeding in this direction is now practised as the most profitable in all parts of the country; for although oxen are still extensively used for draft purposes in the southern and western counties, they are yearly becoming less valuable for this purpose; while the demand for milk and beef is constantly growing in the towns and cities.

The Sussex cow is a poor milker, however, and truly a poor beast in every way in comparison with the Sussex steer. Indeed, so inferior is she in appearance that one might easily suppose that she is of a different race. As in Youatt's day, she is so little valued for butter, milk and cheese that "almost every mongrel finds its way into the dairy in preference to her." She is used almost entirely for breeding purposes and for beef, for when dried off, she fattens more readily even than the steer. Great pains are now being taken to breed smaller bones and more flesh in Sussex cattle, and with such good results that while improvement in the other breeds has been hardly noticeable of late years, that in Sussex cattle has been really remarkable. True, no member of this breed has ever borne off the Blue Ribbon of the Smithfield Show, but if improvement continues at the late rate, one is pretty sure to do so one of these days.

Had the subject of our illustration, been made a steer, fattened for exhibition and shown at that great yearly contest of fat stock, he might have done so; for he is acknowledged to be "one of the finest bulls of the Sussex breed ever seen, being remarkable for wealth of flesh, usefulness and activity." This is Goldsmith 391, and he is now eight years old. The London Live Stock Journal (from one of whose fine series of animal portraits our illustration has been engraved) says he was not exhibited at any show until he was nearly five years old, when he appeared at the Southern Counties' Show at Tunbridge Wells, and was placed third, but on meeting the same bulls at the Royal Show at Derby, he won the first prize, afterwards maintaining his position by being placed first in all competitions during 1882, 1883 and 1884, including two firsts at the Royal and the champion prize given for the best bull of any breed at the Royal Counties Show at Winchester. This year, at the Bath and West Show at Brighton, in the class for bull and progeny, of all breeds, he won the second prize, an honor of considerable value as the competition was very strong. He also made a good stand at Southampton against the champion Hereford bull. It is greatly to his credit that during his long show-yard career, and at present, he is as sure a stock-getter as any young bull. R. N. Y. (1)

Plowing under Clover for Manure.

EDS. COUNTRY GENTLEMAN —When I began farming on my own farm, about 25 years ago, my first hired man was a hired boy (if I may be excused the Irish "bull"). He was a jolly coal-black youth, who amused me much by his queer words and ways. He would not wear a cap (wanted a hat), for fear he should "get tanned," and drank lots of milk "to make him grow pale." One day he greatly amused me by saying: "I'clar Mass' Oham'n yo' kin done change yo'r min' de drefful quickers of any oder man I eber seen yit!" I had countermanded an order I had given him, before he had ever started on its execution. He did not see any cause for the change.

(1) The above should have appeared before: v. vol. VIII, p. 185.

A. R. J. F.