

	Solids.	Fat.	Casein.
Abnormal Milk.....	10 74	2 50	1 95
Remainder of the Milk.....	12 54	3 59	2 52

the curd from the remainder of the milk contained on the 8th June only 40.90 per cent., and on the 16th, 42.30 per cent. moisture.

These experiments, coupled with the abnormal composition of the milk, convinced me that, to some extent, the disadvantages which has been met with at Fenswood Farm were due to this source. These four cows gave milk in which all the peculiarities of the Long Ashton milk were concentrated—milk of low acidity and a small percentage of casein, yielding curd which contained an excess of moisture, and a whey which contained an excess of fat, unless special precautions were taken to prevent this fat passing into the whey. Hence, at my request, three of the cows were disposed of. The fourth was kept for rearing calves, and none of her milk was allowed to be sent into the dairy.

All four of these cows has been in the dairy during 1897, two having been bought that year for the purpose of obtaining the quantity of milk required for the School. The other two had been in the herd for some years past, having been bred by Mr. Harding. There was no sign of any disease or peculiarity in these cows. In fact, to all appearance they were as good cows as any in the herd, and their yield of milk, as shown in the table on p. 73, was up to the average. The one kept reared two calves well. The three cows which were disposed of had gone to a butter-maker.

*Unchurnable cream.*—This butter-maker was surprised to find, after the introduction of these cows into the herd, considerable difficulty in churning the cream, which became so troublesome that the three newly acquired cows were suspected, and upon attempting to churn the cream from the milk of these cows separately, it was found almost impossible. The result was that the butter-making from this milk had to be given up, and the cows fattened for the butcher. I am of opinion that this abnormal milk is a peculiarity of certain strains of cattle, and I base this opinion

not merely on the fact that no special cause could be found for the production of this milk, but because I have, from time to time, come across other cows in different parts of the country yielding similarly abnormal milk, and have not in a single instance been able to trace its origin to disease.

*Practical results.*—The practical results are important. It is evident that if cheese-makers find exceptional difficulties in making cheese, they will have to consider how far these difficulties may be due perchance to one or more cows yielding abnormal milk. The way in which dairy farmers are in habit of replenishing their herds with cows, the past history of which they know nothing whatever about is most indiscreet. In addition to the risk which farmers run of introducing disease into the herd by this system, it is now evident that they run a further risk of purchasing cows whose milk may materially deteriorate the produce of those which they previously possessed. (1)

#### *The effect of different pastures on the quality of milk.*

This subject of inquiry is one which presents considerable difficulties, and results obtained in any one year must not for one moment be expected to apply to all seasons, nor those obtained in one place to be applicable to others. Moreover, to satisfactorily investigate such a subject almost ideal conditions are requisite, and these have not existed at any site of the Cheese School. The conditions most suitable existed in 1891, at Vallis, where the fields were larger and the animals upon the same pasture longer than at any subsequent site of the Cheese School. But even at Vallis Farm keep was short, and the cows could not be left upon the same field or fields for any length of time. In order, however, to see whether any

(1) At no former Cheese School had the milk of each cow been analysed, so that it is not possible to say whether abnormal cows were present in other herds, nor how far other difficulties in cheese-making may be due to such source.