

Dr. Farish, of a so-called Sulphur Shower. We had prepared some remarks on this subject which must be deferred till next month.

The Reports of Agricultural Societies will be found to contain instructive information as to the efforts now being made to improve the breeds of Stock in the Province.

DANISH DAIRY MANAGEMENT.

Continued.

The following results of experiments carried out at Lillerup show practically the bearing that attention to temperature has upon the produce obtained.

INFLUENCE OF TEMPERATURE ON CHURNING (LILLERUP).

Sets of Double Experiments.	Temp. in Deg. Fahr. at		Quantity Churned in Pounds.		For 1 lb. of Butter there was required		Time occupied in Churning.	Therefore, 1 lb. of Cream gave the same results as	
	Commencement.	End.	Milk.	Cream.	Milk.	Cream.		5 1/2 lbs. of Sw't milk.*	Per Cent. profit of Butter obt'd.
1	55	60	284.90	35.10	12.95	1.60	105	21	75
	60	63	306.72	37.28	13.94	1.69	43	23	24
2	56	60	333.36	31.37	13.20	1.28	105	20.24	100
	60	63	321.59	31.18	13.68	1.33	39	21.00	96.4
3	56	60	343.17	22.36	16.15	1.05	104	21.92	100
	60	63	347.32	22.63	16.54	1.08	68	22.48	97.5
4	56	60	340.94	22.53	16.43	1.09	113	22	42
	60	63	340.56	22.47	17.03	1.12	45	23	19

The results of each of these four double trials showed that a less proportion of butter was produced from the milk or cream when the temperature at the end of the churning was 63° than when it was 60½°; thus the difference of a single degree (Réaumur)† was sufficient to affect the butter yield to the amount of 4 to 5 per cent.

The average produce of butter obtained may be taken at about 1 lb. of butter to about 30 lbs. milk. In dairies such as those of Lillerup, Gjeddesdals, and Ourupgaard, and others under like management, the proportion is more satisfactory.

The importance of duly registering the daily produce of the dairy, and thus establishing a system of comparison and checks in each department, was too obvious to need much persuasion to ensure its adoption as soon as a form of register was devised that should comprise all the points on which information was desired.

The dairy working arrangements are

\* This proportion is the mean of a series of trials that were undertaken at the same time as the churning experiments.

† The temperatures are all registered in Denmark according to the Réaumur scale, which bears the proportion of 4 to 9 to Fahrenheit, between the freezing and boiling points.

generally good. The churns are necessarily of large capacities, generally in wood, and worked either by horse or steam power. At Valbygaard, near Slagelse, a new dairy has recently been erected, in which the shallow rectangular pans or trays in enamelled iron that received so much notice at the exhibition of 1862, are used to contain the milk. There were 48 of these pans, each 9 × 3 feet, arranged in six rows of eight each. The cream was readily and rapidly removed from the surface by means of a light wooden rake carried upon two small wheels, which travelling on the parallel side edges of the pans or trays, enabled the rake to sweep over their entire surface. The dip of the rake into the pan was regulated by a simple mode of adjustment. When the cream was all removed the end of the trays was slightly tilted, so as to discharge the skimmed milk into an open trough at the other end, which conveyed it direct to the cheese tubs, whence it passed out in the shape of whey to the piggeries. The dairy herd on the farm consisted of 170 cows.

A comparison between the dairy management and produce of our own country with that of Denmark would be valuable to both countries, if the data of both were equally reliable. But unfortunately this could not be ensured, as, with a few exceptions, we are not in possession of any dairy statistics that we could offer for comparison, and those even are too limited in their details to justify a verdict on either side. The following returns from our own dairy records, however, may interest the Danish farmers, and perhaps induce a more general attention to selection and care in breeding, as adopted by Mr. Tesdorpf, and perhaps also the introduction of foreign blood, possessing milking properties, to cross with the best of their own. These returns are, no doubt, to be relied upon, as far as they go,—still they must be only taken for what they are worth,—the milk produce of certain dairies on a comparative limited scale.

Our principal dairy breeds are the Ayrshire, the Channel Islands, the Short-horn, the Suffolk, and the Kerry. Some published returns of two dairies of Ayrshire cows give the annual milk produce per cow at 650 and 632 gallons respectively. Three returns of dairies, consisting wholly of Short-horn, show a produce of 540 gallons, 650 gallons, and 765 gallons respectively, or an average of 625 gallons per annum for each cow. In two dairies where half-bred Short-horns were kept, the yield was 810 and 806 gallons respectively for each cow. In four dairies in Ireland, where pure Kerrys and crosses with Short-horns and Ayrshires were kept, the annual produce per cow was returned at 500 gallons, 600 gallons, 675 gallons, and 740 gallons res-

pectively; or an average on the four dairies of 630 gallons per annum for each cow. A dairy of "pure Kerrys" \* gave an average of 488 gallons per cow, and another of the larger Irish breed gave an average of 583 gallons per head per annum. In the great London dairies, now well-nigh extinguished by the ravages of the cattle disease, these returns are greatly exceeded. The cows kept are large framed Short-horns and Yorkshire crosses, which by good feeding, bring the returns to nearly 1000 gallons per annum for each cow kept. The custom in these establishments is to dispose of a cow directly her milk falls below two gallons a-day, and buy another in her place.

The following milk return of one of our best managed dairy farms (Frocester Court) shows the relative produce of cows in the successive years of their milking. The first lot were brought in at two-years old; all the others at three years.

No. of Cows.	Year of Milk.	Produce per head
8	1st	317 gals.
15	1st	472 "
14	2nd	535 "
15	3rd	616 "
20	4th	665 "
18	5th	635 "
9	6th	708 "
15	Old	651 "

The maximum reliable milk produce that we have recorded was that of a single cow belonging to the keeper of the gaol at Lewer, the details of which were authenticated by the Board of Agriculture. In eight consecutive years she gave 9720 gallons, or at the rate of more than 1210 gallons per annum. In one year she milked 328 days, and gave 1230 gallons, which yielded 540 lb. of butter, or at the rate of 1 lb. of butter to 22½ lb. of milk. In the early part of the present year (1866) a return was published of the produce of a cow in a Vermont (U. S.) dairy, which was stated to have given, in the previous year, a butter yield of 504 lb., at the rate of 1 lb. of butter to 20 lb. of milk.

Quite recently, too, our agricultural journals have recorded the butter produce of an Ayrshire cow at 399½ lb. in the 10 months between calving (March 10, 1866, and January 10, 1867), besides supplying the family with milk and cream; and of another cow of the same breed which has supplied the owner's family with milk and cream, and given for the past three years, 1864, 5, and 6, respectively, 269 lb., 282½ lb., and 274½ lb. of butter.

The proportion of butter varies with the season and with the breed of the dairy cows; the milk of the Ayrshire cow is generally richer in butter than that of the Short-horn or Suffolk; but this again is not so rich as that of the Kerry or Chan-

\* A remarkably small native Irish breed.