

## **Milk in health and disease / by A. Hutchison Smee.**

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# MILK

IN

## HEALTH AND DISEASE.

BY

A. HUTCHISON SMEE,

M.R.C.S., F.C.S., F.G.S.



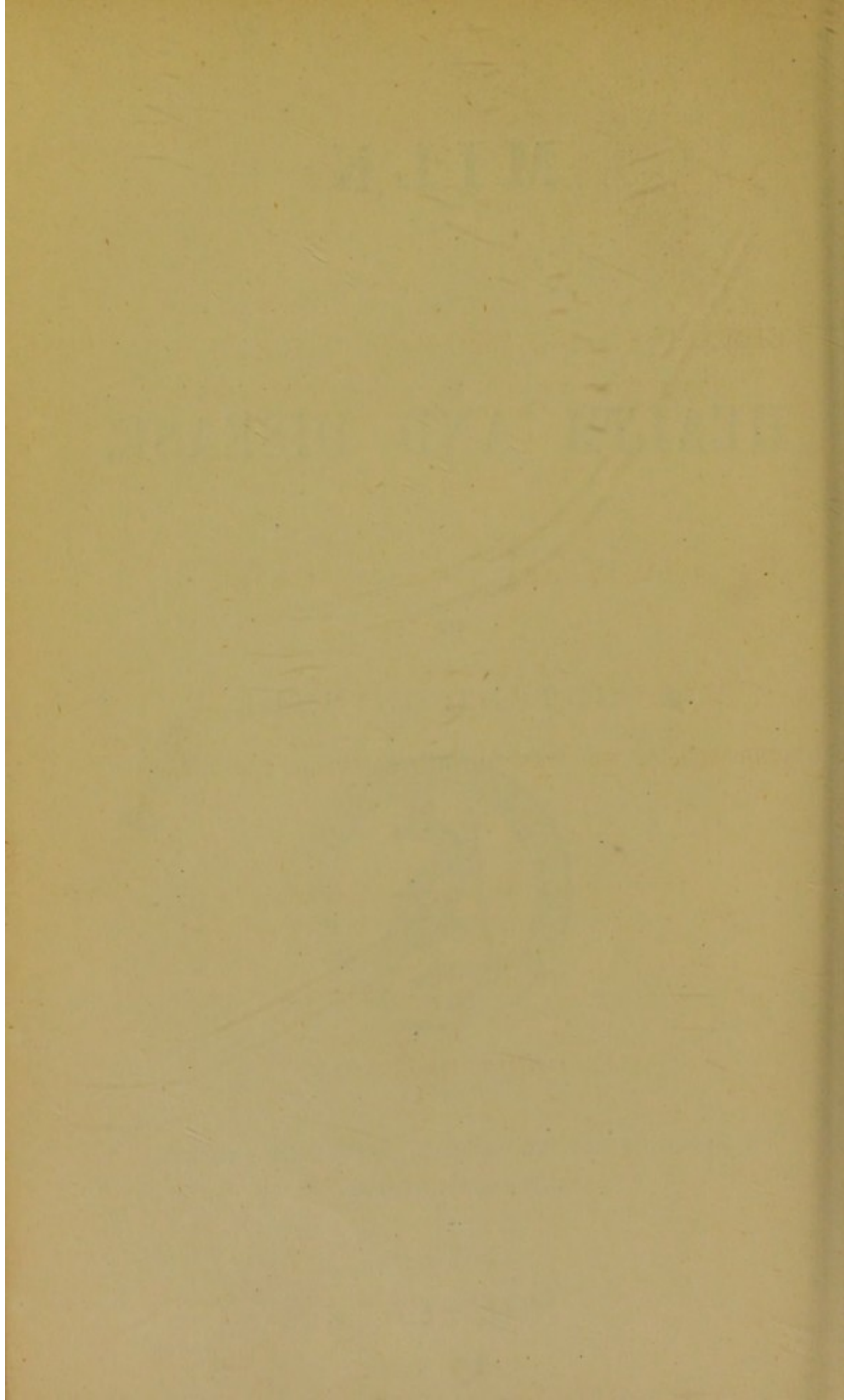
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BISHOPSGATE STREET.

1875.

PRESENTED

by the



TO

EDWARD FRANKLAND PH.D., F.R.S., F.C.S.,

*Professor of Chemistry at the College of Chemistry & School of Mines,  
and Member of the Rivers Pollution Commission,*

THIS INVESTIGATION

ON

MILK IN HEALTH AND DISEASE

IS

DEDICATED

IN

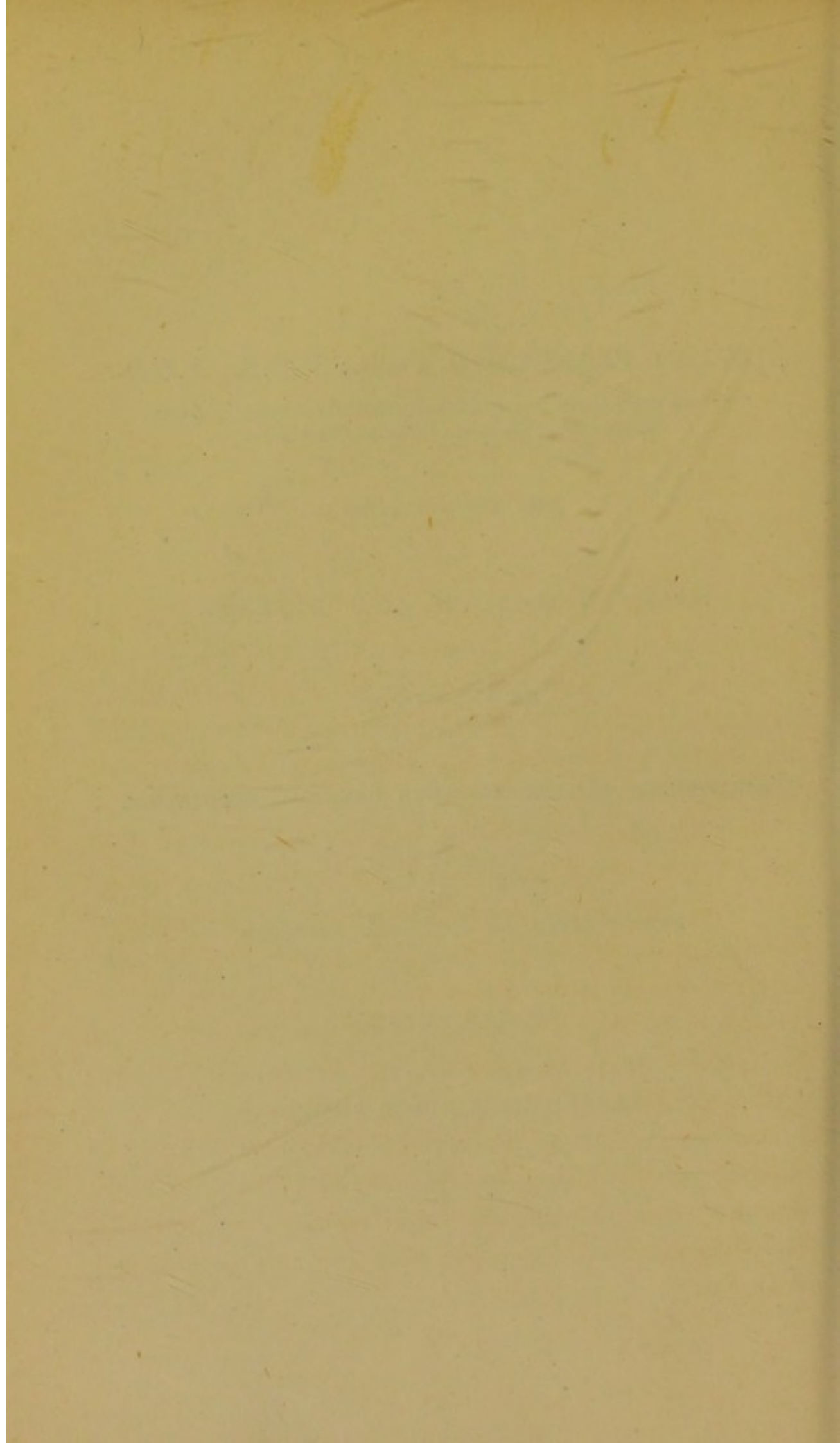
ADMIRATION OF HIS DISTINGUISHED CHEMICAL REPUTATION,

AND IN

REMEMBRANCE OF KINDNESS RECEIVED

BY HIS PUPIL

ALFRED HUTCHISON SMEE.



# MILK

## IN HEALTH AND DISEASE.

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At the time of the epidemic of typhoid fever at Marylebone, in 1873, my attention was directed to the examination of milk by a friend, Mr. Power, one of the Medical Inspectors for the Privy Council, who suggested that experiments should be made with the milk from my cows.

For this purpose a series of experiments was instituted, and analyses of milk derived from my own herd, and also from other herds in the neighbourhood. The results of these experiments were extended over a whole year. The analysis of the milk was made in the manner usually employed by the public analysts. In the following tables the figures represent parts by weight in one hundred parts by weight.

The first series of analyses to which attention was directed was the milk taken from an Alderney cow for the first and four successive days after calving, to determine the difference between this milk and ordinary dairy milks.

|                           | <i>Jan. 26th.</i> | <i>27th.</i> | <i>28th.</i> | <i>29th.</i>  | <i>30th.</i> |
|---------------------------|-------------------|--------------|--------------|---------------|--------------|
| Total solid—dried 212° F. | 19·7              | 14·2         | 13·9         | 13·08         | 14·4         |
| „ „                       | 80·3              | 85·8         | 86·1         | 86·92         | 85·6         |
|                           | <u>100·0</u>      | <u>100·0</u> | <u>100·0</u> | <u>100·00</u> | <u>100·0</u> |
| Fat .....                 | 2·7               | 4·1          | 2·8          | 3·00          | 3·8          |
| Non-fatty solids .....    | 17·0              | 10·1         | 11·1         | 10·08         | 10·6         |
|                           | <u>19·7</u>       | <u>14·2</u>  | <u>13·9</u>  | <u>13·08</u>  | <u>14·4</u>  |
| Casein .....              | 6·40              | 4·01         | 5·04         | 4·20          | 3·6          |
| Albumen .....             | 4·70              | 0·80         | 0·60         | 0·90          | 0·7          |
| Sugar, &c. ....           | 4·85              | 4·49         | 4·56         | 4·08          | 5·4          |
| Ash .....                 | 1·05              | 0·80         | 0·90         | 0·90          | 0·9          |
|                           | <u>17·00</u>      | <u>10·10</u> | <u>11·10</u> | <u>10·08</u>  | <u>10·6</u>  |
| Cream vol. ....           | 40·000?           | 16·000       | 8·000        | 6·000         | 8·000        |
| Specific gravity .....    | 1·050             | 1·035        | 1·032        | 1·033         | 1·036        |

The milk from another cow, after calving, gave results corresponding with the above analysis.

The milk first drawn after calving (six hours) had a specific gravity of 1·050, which very closely approximates to the specific gravity of blood.

This milk had a strong yellow colour, tasted like beaten eggs, was much less fluid than ordinary milk, and set, on boiling, into a solid mass. It contained an excess of casein, and especially of albumen; it also contained blood-corpuscles which sank to the bottom and formed as a thin stratum. The cream, if cream it can be called, yielded by volume, was abnormally high to the amount of fat yielded, which was small in proportion. As regards cream or cream-like fluid, this case is of course exceptional; still a large percentage of cream by volume frequently yields only a small proportion of fat: this is

due, no doubt, to cream imperfectly separating from milk.

The milk on the second, third, fourth and fifth days approached gradually to the character of good Alderney milk.

Cream was noticed, as indicated by the creamometer, to separate from the milk of an individual cow more imperfectly than from milk of the whole herd when mixed together.

The second series of experiments was undertaken to determine the difference of the composition between milk first and last drawn from the udder at a milking.

The following results were obtained :—

|                  | Water. | Solids. | Casein. | Fat. | Ash. | Cream<br>by vol.     |
|------------------|--------|---------|---------|------|------|----------------------|
| Milk first drawn | 85.5   | 14.5    | 3.5     | 3.0  | 0.5  | 12.0                 |
| „ last „         | 80.0   | 20.0    | 4.0     | 8.0  | 1.0  | Did not<br>separate. |

It will be observed that the last-drawn milk is nearly three times as rich in butter as the first, and also contains a slightly higher percentage of casein. The milk of a cow, when she is being dried off, has the same composition as normal milk.

Attention was next directed to the analysis of milk drawn from various sources: the milk was taken the same day direct from the cows. It has been observed that milk taken from herds of cows exhibits great uniformity in composition: I wished to determine to what extent the milk from individual cows, especially of different breeds, varied in composition. The following analysis gives the result of this enquiry :—

| Source.                | Water. | Solids. | Casein. | Fat. | Ash. | Cream<br>volume.   | Specific<br>gravity. |
|------------------------|--------|---------|---------|------|------|--------------------|----------------------|
| 1. Crawley . . . . .   | 90.5   | 9.5     | 3.1     | 3.0  | 0.7  | 10 to 12 per cent. | 10.31                |
| 2. Mackenzie . . . . . | 85.6   | 14.4    | 4.0     | 4.5  | 0.8  |                    | 10.31                |
| 3. Brittany . . . . .  | 86.5   | 13.5    | 3.5     | 3.7  | 0.6  |                    | 10.30                |
| 4. Pedigree . . . . .  | 85.0   | 15.0    | 4.1     | 5.8  | 0.9  |                    | 10.33                |
| 5. Sheppey . . . . .   | 86.0   | 14.0    | 4.0     | 4.6  | 0.7  |                    | 10.33                |
| 6. Shorts . . . . .    | 88.5   | 11.5    | 3.2     | 3.8  | 0.5  |                    | 10.29                |
| 7. Skinlims . . . . .  | 86.9   | 13.1    | 3.8     | 4.1  | 0.6  |                    | 10.32                |
| 8. Fuller . . . . .    | 85.7   | 14.3    | 4.1     | 4.7  | 1.0  |                    | 10.33                |

Nos. 1, 5, 6, 7 and 8 is the analysis of milk from cows kept by dairymen.

Nos. 2, 3 and 4, milk from cows kept for private consumption.

Nos. 1, 4, 6 and 7 were shorthorns.

No. 3 a Brittany.

Nos. 2 and 8 half-bred Alderneys.

Nos. 1, 6, 7 and 8. These cows were stall-fed, and had at times sewage-grass given. The comparative poor-ness of the milk is no doubt due to the cows being unduly forced with grain.

I am quite sure that the specific gravity of No. 1 milk was correctly observed, although the total solids are ab-normally less. Goppelsröder,\* in his paper, gives the following four instances of milk believed to be un-sophisticated, where the percentage of total solids was less than 12 with a high specific gravity, and the specific gravity had been taken prior to the milk being skimmed:—

| Solids. | Cream.      | Specific gravity<br>before skimming. |
|---------|-------------|--------------------------------------|
| 10.69   | 10.0        | 1.0316                               |
| 11.41   | 11.2        | 1.0320                               |
| 11.43   | 7.5         | 1.0340                               |
| 9.54    | Not stated. | 1.0279                               |

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\* *Vide* 'Verhandlungen der Natur forschenden Gessellschaft in Basil,' 1866.

Attention was next turned to the effect of food upon the quality of milk yielded by the cow. In one case such large quantities of oil-cake were given that the milk became perfectly useless for the table: large quantities of a rancid oil floated on the surface after boiling this milk. The analysis gave—

|                               | Water. | Solids. | Casein. | Fat. | Ash. |
|-------------------------------|--------|---------|---------|------|------|
| Half-bred Alderney & Brittany | 79·8   | 20·2    | 5·8     | 6·2  | 1·1  |
| Cream would not separate.     |        |         |         |      |      |

The effect of feeding two shorthorn cows, whose milking qualities were similar,—one on ordinary meadow-grass, the other on the grass from the Beddington Sewage Farm,—was tried, with the following results:—

|                             | Water. | Solids. | Casein. | Fat. | Ash. | Cream<br>by vol. |
|-----------------------------|--------|---------|---------|------|------|------------------|
| <i>October 22nd, 1873:—</i> |        |         |         |      |      |                  |
| Ordinary meadow grass       | 86·2   | 13·8    | 3·2     | 3·0  | 0·7  | 10·0             |
| Sewage grass .....          | 86·3   | 13·7    | 2·5     | 2·5  | 0·7  | 6·0              |
| <i>October 23rd:—</i>       |        |         |         |      |      |                  |
| Ordinary meadow grass       | 86·0   | 14·0    | 3·1     | 3·2  | 0·63 | 6·0              |
| Sewage grass .....          | 88·8   | 11·2    | 2·5     | 2·5  | 0·6  | 6·0              |

The milk derived from the cow fed on sewage-grass went putrid and stank after thirty-six hours. The butter from sewage-grass fed milk became rapidly rancid compared with milk from cows fed on ordinary meadow grass.

From these observations, the cream from ordinary grass required 35 m., 1½ hr., ¾ hr. to churn, and the butter was firm.

The cream from sewage-grass required 1½ hr., 1½ hr., 2½ hrs., and the butter was soft and yeasty.

These experiments were repeated with the milk from the same individual cows and with other cows, but the results obtained were practically the same. The grass on

the sewage land in spring appeared to injure the milk more than that grown in the later part of the summer. Cows fed on the sewage-grass invariably lost condition.

It was noticed that when the milk of cows fed upon sewage-grass was placed upon one of Graham's dializers the casein appeared to separate from the milk, and streamed through the membrane and fell to the bottom of the vessel containing the water as a white sediment. This separation was not due to any defect in the membrane, for with ordinary milk the same membrane was tried, when no separation took place; but again putting another portion of sewage milk in the same membrane, a separation again took place. I must add that I have only seen this phenomenon on three or four occasions. From this experiment it appears that casein, at times, exists in milk in some modified form, and it is probable that it may in this condition produce special physiological effects in the human system.

The result of feeding cows on sewage-grass led me to make an examination of the juices of both kinds of grasses. For this purpose I made an effusion from an equal weight of sewage and ordinary meadow grasses, placing equal weight of each grass in equal quantities of water for twenty-four hours after bruising the grass, and then estimating, as in water-analysis, the amount of nitrogen present.

|                                   | Meadow grass. | Sewage.    |
|-----------------------------------|---------------|------------|
| Nitrogen as ammoniacal salt ..... | 2·8           | 8·4        |
| „ organic matter .....            | 0·7           | 1·4        |
| „ albuminoid .....                | 5·6           | 12·6       |
|                                   | <hr/> 9·1     | <hr/> 22·4 |

Hay made from sewage grass when kept in a vessel of water, and in a warm place, set up in a few days putrid

fermentation, whilst ordinary meadow-grass treated in a similar manner did not.

It has long been well known that certain chemical substances, such as iodide of potassium, or salts of mercury, may pass through the system of the mother and appear in the milk, affecting the infant. I thought it would be well to try if organic substances which are easily oxidized could pass through animal economy unchanged. For this purpose rosaniline was added to the water which the cows drank, but no apparent effect was produced in the quality of the milk.

An examination was made of butter made from the cream from the ordinary milk of my cows, and also with butter made from Devonshire cream. One quart of Devonshire cream required to be churned forty-five minutes, and yielded twelve ounces of butter. One quart of our cow's cream required to be churned thirty-five minutes, and yielded fifteen ounces of butter.

#### BUTTER.

|                        | Fat. | Water. | Ash. | Residue<br>org. matter |
|------------------------|------|--------|------|------------------------|
| Devonshire cream ..... | 83·0 | 15·5   | 0·6  | 0·9                    |
| Carshalton cream ..... | 81·9 | 16·8   | 0·6  | 0·8                    |

A little extra pressure would probably have removed an additional two or three per cent of water.

#### BUTTERMILK.

|                        | Total solids. | Fat. | Non-fatty<br>solids. |
|------------------------|---------------|------|----------------------|
| Devonshire cream ..... | 13·1          | 3·6  | 9·5                  |
| Carshalton cream ..... | 13·6          | 4·6  | 9·0                  |

The fat in the analysis of buttermilk is not absolutely correct, the fluids being clotted and containing minute particles of actual butter.

The specific gravities of the buttermilks could not be taken with accuracy, owing to different samples containing a varying percentage of small portions of butter.

It is the custom in the Gloucestershire dairies to add a solution of nitrate of potash (a tea-spoonful to a pint of water) to the cream before churning. This solution is not added to the cream for the purpose of keeping it, but the farmers believe it separates the buttermilk more perfectly from the butter, and consequently improves the butter for keeping purposes.

| <i>Without Nitrate of Potash.</i> |        |            |                | <i>With Nitrate of Potash.</i> |                |
|-----------------------------------|--------|------------|----------------|--------------------------------|----------------|
| Date.                             | Pints. | lbs. made. | Time churning. | lbs. made.                     | Time churning. |
| April 10                          | 13     | 5 12 oz.   | 40 m.          | 6 4 oz.                        | 50 m.          |
| „ 14                              | 10     | 5 0 „      | 49 „           | 4 14 „                         | 80 „           |
| „ 19                              | 6      | 2 7 „      | 70 „           | 2 10 „                         | 45 „           |
| „ 22                              | 6      | 2 12 „     | 57 „           | 2 10 „                         | 100 „          |
|                                   |        | 15 15 oz.  |                | 16 6 oz.                       |                |

From the above experiments the addition of nitrate of potash to cream appears to slightly increase the quantity of butter yielded. The butter also I found to be firmer, and it kept sweeter longer, than that made in the ordinary manner.\*

The next series of experiments was made to see to what extent a rich milk might be adulterated with water,

\* The sleepy condition of cream deserves a passing comment. Cream when thus affected may be churned for hours continuously without producing butter. In this state the cream becomes ropy, and would—just when butter might be expected to form—revert back to the fluid state. I have seen cream churned for six hours continuously without butter forming; but on setting it aside for twelve hours it will, on again churning, come in a few minutes. This butter is always found in small fragments, is soft and yeasty, and the buttermilk never

especially if certain substances were added which would maintain the normal quantity of the inorganic salts.

The first five specimens of milk were taken from the same pail and adulterated to thirty-three per cent.—that is, two of milk to one of water containing extraneous matters,—and then sent to a friend, an analyst, who undertook to carry out the usual analytical operations on the samples.

|                  | Water. | Solids. | Casein. | Fat. | Ash. | Cream. |
|------------------|--------|---------|---------|------|------|--------|
| <i>A</i> . . . . | 88.5   | 11.5    | 2.9     | 2.5  | 0.5  | 12.5   |
| <i>B</i> . . . . | 88.4   | 11.6    | 3.1     | 3.5  | 1.   | 12.    |
| <i>C</i> . . . . | 91.    | 9.      | 2.7     | 2.1  | 0.7  | 7.     |
| <i>D</i> . . . . | 90.7   | 9.3     | 2.9     | 2.2  | 0.7  | 7.     |
| <i>E</i> . . . . | 89.25  | 10.75   | —       | 4.37 | 0.43 | 20.    |
| <i>F</i> . . . . | 86.92  | 13.08   | 2.7     | 3.53 | 0.44 | —      |
| <i>G</i> . . . . | 88.2   | 11.8    | —       | 3.   | 0.8  | —      |

*A* was reported to be somewhat poor and weak, probably to the extent of ten per cent. of water, beyond that present in the milk of the poorest cows. It was stated to taste strongly alkaline, and to give unusually clear skimmed milk.

*B* was reported of average quality, but suspiciously low in non-fatty solids, and high in ash.

*C* and *D* had some cream removed and then water added—three volumes of milk to one of water.

*E*. The lowness of the ash suggests a highly watered milk which was unusually rich in butter.

*F*. A peculiar herbaceous taste to this as to make milk unsaleable—two parts pure genuine milk, one water.

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perfectly separates, however thoroughly it is salted and washed, consequently it quickly becomes rancid. I have not been able to find any explanation which satisfactorily accounts for this curious physical condition.

*G.* These unusual characters, the abnormally high proportion of ash, and the abnormally low proportion of non-fatty solids, all indicate that water and a little mineral matter have been added to the originally "good" milk.

The real composition of the samples was as follows:—

- a.* Filtered sewage had been added 33 per cent.
- b.* A solution of silicate of soda and sugar (specific gravity 1.030) had been added to 33 per cent.
- c.* Sulphate of soda solution (specific gravity 1.030) to 33 per cent.
- d.* Boracic acid solution (specific gravity 1.010) to 33 per cent.
- e.* Infusion of linseed.
- f.* Boracic acid.
- g.* Solution of silicate of soda, sugar and linseed 1.030.

It is only fair to the analyst to state that he said that in the case of milks yielding such abnormal results he should, in ordinary cases, make a fuller and special investigation of the samples.

In an outbreak of typhoid fever which occurred at the Orphan School at Beddington, a few years since, the outbreak was traced to the dairy from which the School was supplied. It appeared that the dairy utensils were washed with water impregnated with sewage; and no doubt the milk was at times diluted with the same water, for on one occasion one of the children brought to the Matron of the Institution a tadpole which she had fished out of her mug; after which circumstance the dairy was changed, and the change was followed immediately by an absence of typhoid fever in the School. The importance

of a pure-water supply to every dairy is very great for the purpose of cleansing the dairy utensils, as I have been informed that at the present time many large dairymen reduce the quality of milk by the addition of a small percentage of water to the lowest standard permitted by law; and it is consequently of the greatest importance that the source from which this water, used for such adulteration, is derived, should be free from sewage contamination; unfortunately, the greater the sewage contamination, the greater amount of adulteration can be practised without detection.

I have reason to suspect that some dairymen employ persons with chemical knowledge to analyse their milk, with a view to reduce its gravity, by addition of water, to the lowest standard permitted by law.

In the Supplementary Report of the Medical Officer to the Local Government Board, for 1874, three distinct outbreaks of typhoid fever are traced to milk.

The first, reported by Dr. Ballard, occurred at Armley, 1872. Enteric fever first broke out at a dairyman's, and spread among the customers. His well was polluted by fever-evacuations.

The second case Dr. Ballard reported, 1873—'On Enteric Fever at Moseley and Balsall Heath.' The fever-evacuations were thrown into a privy; fever spread among customers of two dairymen whose wells were polluted by soakage from this privy.

The third outbreak is noticed by Mr. Radcliffe and Mr. Power, in a special and exhaustive Report on the fever at Marylebone in 1873; the outbreak was traced to

milk obtained from a particular farm, the dairy utensils being washed with water contaminated by fever-poison.

An outbreak of fever at the Lodge Farm at Barking occurred in 1873: the cause does not appear to be well-defined.

The addition of silicate of soda kept the milk fairly well, but the cream had a tendency to rapidly separate; consequently it would be of little use to the milkman.

Sulphite of soda delayed for a short time the coagulation of the milk, but it soon became offensively putrid.

Boracic acid kept the milk perfectly sweet for a week in summer; at the end of three weeks no coagulation had taken place, but an orange-red fungoid growth had developed over the surface. I am informed that two tons of boracic acid (known to certain persons in the trade as "aseptine") are sold annually for the purpose of adding to milk.

In an article on the influence of borax upon fermentation and putrefaction, G. T. B. Schnelzler\* makes the following remarks upon the action of borax upon fresh milk:—

"If," the author states, "thirty cubic centimetres of fresh milk were placed in a test-tube with 1 gramme of borax, the cream quickly formed a rather thick layer in the upper portion. Notwithstanding the test-tube was closed by a cork, a mould was formed upon the cream; but the remainder of the liquid underwent no acid fermentation, and retained during several months the appearance of very clear creamed milk. Afterwards, under the influence of summer heat, the liquid became perfectly limpid, and deposited the casein as a soft white matter; but neither the deposit nor the liquid had an acid taste, and after three months they still had the odour of fresh milk. Fresh milk put into a well-closed

\* 'Comptes Rendus,' vol. lxxx. p. 473.

test-tube, without borax, underwent acid fermentation in from two to three days, and became thick by coagulation of the casein."

Considering that milk is used by persons of all constitutions,—by the young and the aged, and by persons suffering from fever,—the use of a foreign material like borax, in one of the most important of all foods, ought to be restricted, unless it can be shown by authority to be innocuous. Although so large a quantity (~~twelve~~ tons) is sold annually to be added to milk, it is extraordinary that no analyst has recorded its presence, and no prosecution has been instituted against offenders. This fact has a tendency to throw discredit upon the analytical evidence upon which convictions for milk adulteration have been secured. 2

A solution of dextrin (specific gravity 1.020), to the extent of 15 per cent., was added to the milk, and made it undrinkable, owing to the strong herby taste it imparted to the milk; nevertheless I have reason to suspect that dextrin is sometimes used to a limited extent, not exceeding 5 per cent. of a solution of the same specific gravity as the milk. I do not, however, know of any test by which the presence of dextrin, as dextrin, can be detected in so complex an organic fluid as milk.

The addition of sugar to milk, for the purpose of preservation, and its subsequent dehydration to enable it to keep, is perhaps the most valuable invention which has been made with milk. When so treated and hermetically sealed, milk seems to keep an indefinite time without further change. It is a remarkable fact that the condensed milks appear to frequently agree with infants better than the fresh milk of healthy dairy-fed cows.

The following is the analysis of the principal condensed milks in use :—

|                      | Aylesbury. | Swiss-Anglo<br>(Aylesbury). | Swiss. |
|----------------------|------------|-----------------------------|--------|
| Total solids . . . . | 74·5       | 77·5                        | 79·5   |
| Water . . . . .      | 25·5       | 22·5                        | 20·5   |
| Fat . . . . .        | 10·        | 10·5                        | 10·8   |
| Non-fatty matter     | 64·5       | 67·                         | 68·7   |
| Casein . . . . .     | 12·1       | 12·3                        | 12·7   |
| Ash . . . . .        | 1·7        | 1·8                         | 1·9    |

The specimens contained much sugar, and the above milk appears to be condensed to about one-fourth of the bulk.

The Aylesbury condensed milk was found to be frequently insoluble: whether this was due to its having evaporated at too high a temperature, or to the substitution of substances other than sugar, cannot be determined with accuracy.

The blue mould of paste (*Penicillium glaucum*) was noticed to form over tins of Aylesbury milk when exposed to the atmosphere. This mould did not develop in the Swiss milk, but numerous crystals of candied sugar crystallized out. Both tins were opened and exposed for the same period, under similar circumstances. I believe that dextrin or other farinaceous matter has been sometimes substituted for sugar in condensed milks.

Both the essence of chocolate and coffee are sometimes condensed with milk, but the mixture of chocolate is very liable to ferment and burst the tins.

Although the addition of sugar to the preserved milks is advantageous for infant's food, yet it would be desirable to institute a series of experiments upon the preservation of milk free from sugar.

The effect of adding animal charcoal to milk was tried, and keeping the same at blood-heat ; also the effect of decomposing various milks by voltaic electricity ; but the results were too indefinite to be of any scientific value.

The specific gravity of milk was noticed to be changed by keeping ; in fact, as a rule, it diminished, the change taking place within a few hours.

The specific gravity of milk, after exposure on a dializer, always diminished ; but the specific gravity fell more with some milks than with others. This fact accords with the observations made in the 'Milk Journal,' the results of which experiments I cannot do better than quote.

" In the course of an examination of milk undertaken for the 'Milk Journal,'\* the observation was made that there is another source of inaccuracy hitherto quite unsuspected. Skimmed milk consists mainly of water, casein milk, sugar, and a small quantity of mineral salts. Now the exact molecular condition of the casein influences the specific gravity of milk. In other words, samples of milk of the same strength will vary in specific gravity according to the exact molecular condition of the casein. Especially are these changes in condition brought out if milk be kept for a while. This is illustrated by the following examples.

" We do not intend on this occasion to enter fully into the subject of milk analysis, but we may state that plans commonly adopted are of little worth. We have had to notice the untrustworthiness of specific gravity determinations of milk,—that is to say, the danger of judging of the strength of milk by its specific gravity. To be of any value at all the specific gravity determination must be made whilst the sample of milk is very fresh. After milk has been kept for two or three days, even in a

\* *Vide* 'Pharmaceutical Journal,' Jan. 28, 1871, p. 606.

closed vessel, its specific gravity falls in a very remarkable manner. The following examples exhibit this in an extreme form. The specimens of milk had been kept in corked bottles for four days:—

|        |          | Sp. Gr.<br>at 60 deg. F. |        | Percentage of<br>Solids dry, at 212 deg. F. |       | Percentage<br>of Ash. |     |
|--------|----------|--------------------------|--------|---------------------------------------------|-------|-----------------------|-----|
| Sample | <i>a</i> | -                        | 1.0004 | -                                           | 11.34 | -                     | .94 |
|        | <i>b</i> | -                        | .996   | -                                           | 10.48 | -                     | .75 |
|        | <i>c</i> | -                        | 1.0184 | -                                           | 8.92  | -                     | .66 |

Showing that the highest specific gravity sometimes accompanies the lowest percentage of solids. The reason of this want of correspondence between specific gravity and solid contents we have already explained. Meanwhile, in judging of the strength of milk, it is proposed to adhere to the method of evaporating to dryness in the water-bath, and weighing the residue."

I soon found that the specific gravity of milk had no relation either to the quantity of cream yielded by the creamometer or to the number of quarts yielded at a milking, thus:—

|      |    |                  |        |       |     |              |    |
|------|----|------------------|--------|-------|-----|--------------|----|
| Cows | 2. | Specific gravity | 1.025. | Cream | 34. | Qts. of milk | 3. |
| "    | 3. | "                | "      | "     | 17. | "            | 3. |
| "    | 6. | "                | "      | "     | 12. | "            | 3. |

The diurnal variation, for a month, in the quantity and quality of milk of an individual cow, is most clearly shown by reference to Table A, at the end of this paper. In Table B, I have recorded, for eight months, the quantity and quality of the milk yielded daily from each individual cow of a herd.

A curious phenomenon takes place if milk is poured into a vessel containing a large quantity of water. The milk slowly diffuses through the water, the cream rising to the surface, and the casein coagulating apparently spontaneously.

On addition of small quantities of Robbin's 10-per cent. solution of peroxide of hydrogen to milk, and keeping it at blood-heat, 96° F., for twenty-four hours, the milk not unfrequently would coagulate on boiling, as if the casein had been converted into some low form of albumen.

Bacteria have frequently been found in milk, but, owing to the great rapidity with which these bodies form in organic fluids, much significance cannot be placed upon their presence; but it is not improbable that future experiments will show that these bodies play an important part in the development of disease in the human economy.

The time required by milk to spontaneously coagulate depends not only on external circumstances, but also apparently on some condition of the milk itself. The time required for the coagulation, the condition of the curd, and the quantity and quality of the whey, appeared to depend on the food and the health of the individual cow from which the sample of milk was derived.

The milk of cows fed with sewage-grass was found to invariably coagulate sooner than milk of cows fed with ordinary meadow-grass.

The time required to coagulate the milk of the cows mentioned in Table III., when kept in closely-stoppered vessels, varied more than twenty-four hours. The curd in some of the milks reabsorbed into itself the cream, whilst others only partially absorbed the fatty matter. On this power of the casein to retain the fat depends the value of a milk for the quality of cheese produced.

Milk was exposed in vessels to the action of sewer-

gases, to ascertain whether the milk could absorb these gases, and be thus altered in composition. The methods of analysis adopted by public analysts did not indicate any change in this milk.

|                                 | Water. | Solids. | Casein. | Fat. | Ash. |
|---------------------------------|--------|---------|---------|------|------|
| Milk exposed to untrapped drain | 88     | 12.1    | 3.5     | 0.3  | 0.8  |

This milk, when distilled at a low temperature not exceeding 120° F., yielded a distillate which had an offensive smell and unpleasant taste. Tasting the distillate set up intense headache, vigorous rapid pulse, and was followed by severe diarrhoea.

Milk exposed to the vapour arising from animal matter undergoing putrid decomposition, and subjected to distillation, was so offensive, and produced results so dangerous to health, that I refrained from making any further investigation.

Milk exposed to decomposing animal matter, or to the action of sewage-gases, putrified more rapidly than another sample of milk, atmospheric conditions being equal in both cases.

A series of analyses upon milk from cows suffering from disease was made, to determine if, under certain circumstances, diseased milk would not have an important physiological influence upon the health of persons who might unknowingly partake of it.

Pigs fed with milk from cows suffering from foot-and-mouth disease were invariably seized with the disease in a severe form. Sucking pigs were affected in a fatal form. Calves fed with this milk invariably died. Horses, however, can partake of food, over which the saliva of affected cows has dribbled, without any injury to their health.

Dr. Thorne Thorne, in the Twelfth Report of the Medical Officer of the Privy Council, states that since the prevalence of foot-and-mouth disease a large increase of diarrhœa took place amongst children in affected districts; herpetic and aptheous patches in the mouth frequently occurred to them. He however admits that in some districts which were being supplied with affected milk no morbid symptom was produced among the population. This negative testimony is also confirmed by the epidemics at Paris. Boiling the milk is said to remove effectually the danger from contagion.

At the Hertford county-jail 130 prisoners were supplied with milk from cows suffering from foot-and-mouth; none of the prisoners were affected, but the milk was always boiled with gruel.

Through the kindness of Mr. Coleman, veterinary surgeon at Sutton, I was enabled to examine a quantity of milk from an Alderney cow suffering from foot-and-mouth disease.

|                                    | Water. | Total solids. | Fat. | Casein. | Ash. | Sp.G. |
|------------------------------------|--------|---------------|------|---------|------|-------|
| Alderney cow :<br>foot-and-mouth } | 88.1   | 11.9          | 2.9  | 3.4     | .68  | 1034  |
| Another severe case                | 87.54  | 12.46         | 3.5  | —       | .6   | 1030  |

From the above analysis it appears that the milk from foot-and-mouth disease does not differ in composition, according to our present method of analysis, from an ordinary milk, although as regards yield it is less than one-half the normal quantity.\*

\* Donne, however, has noticed that the milk of a cow suffering with *la malarie aptheuse*, which I take to be foot-and-mouth disease, closely corresponds with colostrum; but my researches on milk from this disease does not confirm this view. This difference, however, may be accounted for by the milk in Donne's case having been taken from a cow soon after calving.

I have been fortunate to obtain a specimen of milk from a cow suffering from milk-fever six hours after seizure. The analysis was as follows :—

Sp. g. 1040. Fat 1 per cent. Non-fatty 11.1 per cent. Total solids 12.1. Albuminised matter in abnormal quantity.

Ash { Sol. in water . 26 } 95 per cent.  
       { Insects „ . 69 }

Proportion of phosphates abnormally large.

The analysis of this milk differs little from a healthy cow, corresponding hours after calving being taken into consideration, with this exception, that the quantity of phosphates in the milk of puerperal fever is abnormally high.

This is interesting from a physiological point, for during the progress of the disease the earthy phosphates leave the animal's bones, producing a species of mollities ossium, and the long bones of the animal are liable to fracture. I have had two of my own cows thus affected after recovering from this disease; one fractured the thigh-bone, and the other had a compound fracture of the bones just above the fetlock joint. I have been unable to obtain samples of milk from cows suffering from pleuropneumonia or rinderpest (the typhoid and typhus fever of cattle).

Lehmann, in his 'Physiological Chemistry,' states that "In all cases of milk (woman's) I have examined who were suffering from acute disease, I found colostrum corpuscles and large granular cells rich in fat."

Herheyer has noticed that the alkaline salts increase when cows are affected with grease, whilst the casein and fat diminish.

Brewer states that in cows suffering from vaccinia the milk was strongly alkaline, and the sugar was almost completely absent. The milk of phthisis is said to be greatly altered; but I regret that I have not been able to obtain specimens of milk from this disease for examination.

My thanks are due to Professor Attfield for the kindness with which he checked the analyses, and also for the suggestions he made from time to time during the period these investigations were being conducted.

To sum up, my experiments suggest the following conclusions:—

1st.—That milk from individual cows is liable to considerable variation.

2nd.—That it is possible for good average milk to be watered to a limited extent without detection.

3rd.—That the casein, under certain circumstances, undergoes modification both physical and physiological.

4th.—That the food of milch cows affects the quality of the milk.

5th.—That milk can be the vehicle of contagion.

By direct communication of the contagion, either by the water used for purposes of adulteration, or by the vessels in which it is stored being cleansed with impure water.

By the absorption of the contagion by the exposure of milk to deleterious gases.

That in extreme instances power to communicate disease is produced in the milk itself, probably from an altered secretion of diseased animals.

6th.—That the methods now employed by public analysts are not sufficiently delicate to detect the minute physiological changes which may at times take place in so complex a fluid as milk.

Considering the universal employment of milk as an article of food by all classes of society, and the importance of having pure milk supplied to the community, especially after the outbreaks of disease which are known to have arisen from its employment, I would venture to urge the desirability, nay the imperative necessity, of a Government Commission to investigate, more thoroughly than can be done by any private individual, those minute but important physiological changes which take place, under certain circumstances, in this fluid; that more delicate tests for impurities in milk may be discovered, and that some indications may be obtained when milk is good for human food or liable to produce disease.

A thorough minute investigation of the chemical and physiological properties of milk in health and disease would involve a large number of experiments, undertaken in different localities, and under varied circumstances; and would require the expenditure of much time, scientific skill, and a considerable sum of money, certainly amounting to several hundred pounds.

## APPENDIX.

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The following letter, which appeared in the 'Standard,' February 28th, 1875, so closely corroborates my researches in milk from a practical point that I cannot refrain from printing it:—

SIR,—As a constant reader of the 'Standard,' I have noticed the frequent occurrence of the prosecution of milk-sellers for selling milk adulterated with 10 per cent of water. I have also noticed that some of the London magistrates seem in doubt as to whether they are right in convicting in such cases. Now, as a dairy farmer of some little experience, I may be able to give them some little assistance in the matter, by mentioning the following facts, relating to which, should any of your readers doubt the truth of my statement, I can give the full names and addresses of the farmers in question:—On a farm situated three miles from Derby, at a certain time of the year, 25 imperial gallons of milk will make a cheese 30 lbs. weight. On a farm seven miles from Derby, at a certain period of the season, it takes as much as 36 imperial gallons to make a 30 lbs. cheese, both made on precisely the same principle, and the cows fed only on grass, and the cheese from both places being of about the same quality. Now, this fact shows that it is possible for pure milk to vary as much as 30 per cent. in one of its component parts, viz., casein; and now for the other principal part, viz., butter, and I can find cows in my own dairy that will make three times as much butter from a given quantity of milk as others, and will also vary as largely in the proportion of cream. Their milk yields according to the manner of feeding and the season of the year. I think these facts prove that it is possible for perfectly pure milk to vary considerably above 20 per cent., and that our analysts, having fixed their standard from average milk, are perfectly ignorant of what injustice they cause when they condemn as adulterated all samples varying 10 per cent. from that standard.

I do not write this from any personal pique, as, although I do supply the London market, my land fortunately produces milk of the required quality, and I believe has been several times tested.

I remain, Sir, your obedient Servant,

Wilne, Derbyshire,  
July 28.

AGRICOLA.

TABLE A.

*Showing the Diurnal Variation in the Quantity and the Quality of the Milk of a half-bred Alderney Cow, for 15 consecutive days, when stall-fed upon Mangold, Oil-cake, and Hay; and, four months later, also for a second period of 15 days, Cow solely fed upon Grass.*

| MORNING.       |      |        |        | EVENING. |        |        |
|----------------|------|--------|--------|----------|--------|--------|
| Date.          | Qts. | Sp. G. | Cream. | Qts.     | Sp. G. | Cream. |
| January 3rd .. | 6    | 1.023  | 20     | 5        | 1.025  | 20     |
| „ 4th ..       | 7    | 1.027  | 19     | 5        | 1.028  | 19     |
| „ 5th ..       | 7    | 1.029  | 20     | 5        | 1.029  | 19     |
| „ 6th ..       | 7    | 1.029  | 20     | 4        | 1.029  | 20     |
| „ 7th ..       | 7    | 1.030  | 20     | 4        | 1.028  | 18     |
| „ 8th ..       | 7    | 1.028  | 18     | 4        | 1.028  | 17     |
| „ 9th ..       | 7    | 1.028  | 17     | 4        | 1.028  | 17     |
| „ 10th ..      | 7    | 1.027  | 16     | 4        | 1.026  | 16     |
| „ 11th ..      | 7    | 1.026  | 16     | 4        | 1.026  | 16     |
| „ 12th ..      | 7    | 1.026  | 16     | 4        | 1.026  | 16     |
| „ 13th ..      | 7    | 1.027  | 16     | 4        | 1.027  | 16     |
| „ 14th ..      | 7    | 1.026  | 16     | 4        | 1.027  | 16     |
| „ 15th ..      | 7    | 1.026  | 16     | 4        | 1.026  | 16     |
| „ 16th ..      | 7    | 1.026  | 16     | 4        | 1.025  | 16     |
| „ 17th ..      | 7    | 1.026  | 17     | 4        | 1.025  | 16     |
|                |      |        |        |          |        |        |
| May 1st ....   | 4    | 1.025  | 15     | 5        | 1.023  | 15     |
| „ 2nd ....     | 4    | 1.024  | 15     | 5        | 1.024  | 15     |
| „ 3rd ....     | 4    | 1.024  | 15     | 5        | 1.022  | 15     |
| „ 4th ....     | 4    | 1.024  | 15     | 5        | 1.024  | 15     |
| „ 5th ....     | 4    | 1.024  | 15     | 5        | 1.023  | 15     |
| „ 6th ....     | 4    | 1.024  | 15     | 5        | 1.023  | 15     |
| „ 7th ....     | 4    | 1.022  | 15     | 5        | 1.023  | 15     |
| „ 8th ....     | 4    | 1.024  | 15     | 5        | 1.023  | 15     |
| „ 9th ....     | 4    | 1.024  | 15     | 5        | 1.023  | 15     |
| „ 10th ....    | 4    | 1.023  | 15     | 5        | 1.023  | 15     |
| „ 11th ....    | 4    | 1.024  | 15     | 5        | 1.025  | 15     |
| „ 12th ....    | 4    | 1.023  | 15     | 5        | 1.023  | 15     |
| „ 13th ....    | 4    | 1.021  | 15     | 5        | 1.022  | 15     |
| „ 14th ....    | 4    | 1.023  | 15     | 5        | 1.023  | 15     |
| „ 15th ....    | 4    | 1.024  | 15     | 5        | 1.024  | 15     |

TABLE B.

*Showing the Percentage of Cream, and the Specific Gravity of Milk, taken Night and Morning, from a Herd of Cows of various Breeds.*

| MORNING.   |      |        |        | October 5th.       | EVENING. |        |        |  |
|------------|------|--------|--------|--------------------|----------|--------|--------|--|
| No.        | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |  |
| 1          |      | 1.025  | 20     | Alderney .....     | 1        | 1.022  | 4      |  |
| 2          |      | 1.030  | 30     | Alderney .....     | 3        | 1.026  | 9      |  |
| 3          |      | 1.025  | 22     | Brittany .....     | 3        | 1.025  | 7      |  |
| 4          |      | 1.030  | 25     | Half-bred Brittany | 2        | 1.028  | 20     |  |
| 6          |      | 1.024  | 12     | Shorthorn .....    | 2        | 1.026  | 13     |  |
| 7          |      | 1.023  | 7      | Shorthorn .....    | 3        | 1.023  | 5      |  |
| 5 & 8 dry. |      |        |        |                    |          |        |        |  |

Morning milk, the percentage of cream taken after 24 hours; the evening, after 12 hours. The percentage of cream, in all future experiments, was taken after the milk had stood 24 hours.

## October 6th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 2 | 1.027 | 20 | Alderney .....     | 1 | 1.026 | 25 |
| 2 | 3 | 1.025 | 34 | Alderney .....     | 2 | 1.025 | 27 |
| 3 | 4 | 1.024 | 20 | Brittany .....     | 3 | 1.025 | 17 |
| 4 | 3 | 1.025 | 22 | Half-bred Brittany | 2 | 1.027 | 20 |
| 6 | 3 | 1.025 | 12 | Shorthorn .....    | 2 | 1.025 | 12 |
| 7 | 4 | 1.025 | 9  | Shorthorn .....    | 3 | 1.024 | 9  |

Fed on oil-cake, bran, hay, and grass from Holloway's field (so gravel). No. 7 same food, except sewage-grass substituted for meadow grass.

## October 7th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 2 | 1.024 | 26 | Alderney .....     | 1 | 1.027 | 20 |
| 2 | 3 | 1.025 | 30 | Alderney .....     | 2 | 1.026 | 30 |
| 3 | 4 | 1.023 | 15 | Brittany .....     | 3 | 1.024 | 16 |
| 4 | 2 | 1.027 | 20 | Half-bred Brittany | 2 | 1.026 | 22 |
| 6 | 3 | 1.025 | 11 | Shorthorn .....    | 2 | 1.023 | 15 |
| 7 | 4 | 1.025 | 10 | Shorthorn .....    | 3 | 1.025 | 17 |

| MORNING. |      |        |        | October 8th.       | EVENING. |        |        |
|----------|------|--------|--------|--------------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |
| 1        | 4    | 1.025  | 22     | Alderney .....     | 1        | 1.015  | 20     |
| 2        | 3    | 1.025  | 35     | Alderney .....     | 2        | 1.024  | 25     |
| 3        | 3    | 1.020  | 24     | Brittany .....     | 2        | 1.027  | 18     |
| 4        | 3    | 1.025  | 20     | Half-bred Brittany | 2        | 1.025  | 28     |
| 6        | 3    | 1.028  | 8      | Shorthorn .....    | 2        | 1.030  | 5      |
| 7        | 2    | 1.025  | 6      | Shorthorn .....    | 2        | 1.024  | 10     |

Milk-fever prevalent amongst cows recently calved in the neighbourhood. Wilson's cow recovered from milk-fever.

| October 9th. |   |       |    |                    |   |       |    |
|--------------|---|-------|----|--------------------|---|-------|----|
| 1            | 4 | 1.021 | 21 | Alderney .....     | 1 | 1.024 | 20 |
| 2            | 3 | 1.025 | 27 | Alderney .....     | 1 | 1.024 | 28 |
| 3            | 3 | 1.023 | 22 | Brittany .....     | 2 | 1.020 | 20 |
| 4            | 3 | 1.022 | 26 | Half-bred Brittany | 3 | 1.025 | 28 |
| 6            | 3 | 1.025 | 20 | Shorthorn .....    | 2 | 1.022 | 20 |
| 7            | 3 | 1.025 | 15 | Shorthorn .....    | 2 | 1.024 | 10 |

| October 10th. |   |       |    |                    |   |       |    |
|---------------|---|-------|----|--------------------|---|-------|----|
| 1             | 3 | 1.024 | 20 | Alderney .....     | 1 | 1.020 | 22 |
| 2             | 4 | 1.026 | 35 | Alderney .....     | 2 | 1.027 | 25 |
| 3             | 4 | 1.025 | 15 | Brittany .....     | 2 | 1.025 | 15 |
| 4             | 3 | 1.020 | 23 | Half-bred Brittany | 2 | 1.024 | 20 |
| 6             | 2 | 1.024 | 20 | Shorthorn .....    | 1 | 1.023 | 22 |
| 7             | 4 | 1.020 | 8  | Shorthorn .....    | 2 | 1.024 | 10 |

No. (7). The quantity of sewage-grass was diminished.

| October 11th. |   |       |    |                    |   |       |  |
|---------------|---|-------|----|--------------------|---|-------|--|
| 1             | 2 | 1.024 | 20 | Alderney .....     | 1 | 1.024 |  |
| 2             | 3 | 1.026 | 30 | Alderney .....     | 2 | 1.025 |  |
| 3             | 3 | 1.025 | 18 | Brittany .....     | 2 | 1.025 |  |
| 4             | 2 | 1.027 | 22 | Half-bred Brittany | 1 | 1.026 |  |
| 6             | 2 | 1.025 | 15 | Shorthorn .....    | 1 | 1.024 |  |
| 7             | 3 | 1.025 | 8  | Shorthorn .....    | 2 | 1.025 |  |

| October 12th. |   |       |    |                    |   |       |    |
|---------------|---|-------|----|--------------------|---|-------|----|
| 1             | 2 | 1.023 | 18 | Alderney .....     | 1 | 1.029 | 18 |
| 2             | 3 | 1.018 | 24 | Alderney .....     | 2 | 1.025 | 25 |
| 3             | 3 | 1.024 | 15 | Brittany .....     | 2 | 1.030 | 18 |
| 4             | 2 | 1.027 | 20 | Half-bred Brittany | 2 | 1.027 | 25 |
| 6             | 2 | 1.022 | 18 | Shorthorn .....    | 1 | 1.024 | 15 |
| 7             | 3 | 1.025 | 10 | Shorthorn ....     | 2 | 1.025 | 10 |

| MORNING. |      |        |        | October 13th.      |      | EVENING. |        |  |
|----------|------|--------|--------|--------------------|------|----------|--------|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts. | Sp. G.   | Cream. |  |
| 1        | 2    | 1·025  | 20     | Alderney .....     | 1    | 1·022    | 38     |  |
| 2        | 2    | 1·027  | 5      | Alderney .....     | 2    | 1·020    | 40     |  |
| 3        | 3    | 1·023  | 12     | Brittany .....     | 2    | 1·021    | 23     |  |
| 4        | 2    | 1·023  | 24     | Half-bred Brittany | 2    | 1·023    | 30     |  |
| 6        | 2    | 1·023  | 15     | Shorthorn .....    | 2    | 1·020    | 21     |  |
| 7        | 3    | 1·025  | 10     | Shorthorn .....    | 2    | 1·023    | 18     |  |

| October 14th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 2 | 1·023 | 30 | Alderney .....     | 1 | 1·012 | 30 |  |
| 2             | 3 | 1·022 | 40 | Alderney .....     | 2 | 1·020 | 35 |  |
| 3             | 3 | 1·022 | 23 | Brittany .....     | 2 | 1·021 | 22 |  |
| 4             | 2 | 1·025 | 30 | Half-bred Brittany | 2 | 1·022 | 30 |  |
| 6             | 2 | 1·025 | 19 | Shorthorn .....    | 2 | 1·023 | 17 |  |
| 7             | 3 | 1·024 | 15 | Shorthorn .....    | 3 | 1·020 | 19 |  |

Cows 1 to 8. Oil-cake, beans, hay; grass from Bunkin's field (soil tertiary sand). Cow No. 7. Sewage-grass stopped; cow losing flesh rapidly, and in very bad condition.

| October 15th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 2 | 1·020 | 22 | Alderney .....     | 1 | 1·022 | 24 |  |
| 2             | 3 | 1·020 | 40 | Alderney .....     | 2 | 1·020 | 30 |  |
| 3             | 3 | 1·015 | 22 | Brittany .....     | 2 | 1·023 | 20 |  |
| 4             | 2 | 1·020 | 30 | Half-bred Brittany | 1 | 1·020 | 28 |  |
| 6             | 2 | 1·023 | 18 | Shorthorn .....    | 1 | 1·020 | 12 |  |
| 7             | 4 | 1·025 | 10 | Shorthorn .....    | 2 | 1·023 | 18 |  |

| October 16th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 1 | 1·022 | 22 | Alderney .....     | 1 | 1·021 | 25 |  |
| 2             | 2 | 1·025 | 28 | Alderney .....     | 2 | 1·023 | 30 |  |
| 3             | 3 | 1·026 | 20 | Brittany .....     | 2 | 1·024 | 20 |  |
| 4             | 2 | 1·027 | 30 | Half-bred Brittany | 1 | 1·026 | 25 |  |
| 6             | 2 | 1·027 | 10 | Shorthorn .....    | 1 | 1·025 | 20 |  |
| 7             | 3 | 1·025 | 17 | Shorthorn .....    | 2 | 1·023 | 20 |  |

| October 17th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 1 | 1·022 | 20 | Alderney .....     | 1 | 1·022 | 20 |  |
| 2             | 3 | 1·023 | 30 | Alderney .....     | 2 | 1·025 | 30 |  |
| 3             | 3 | 1·025 | 21 | Brittany .....     | 2 | 1·023 | 19 |  |
| 4             | 2 | 1·027 | 26 | Half-bred Brittany | 1 | 1·020 | 25 |  |
| 6             | 2 | 1·028 | 14 | Shorthorn .....    | 1 | 1·024 | 10 |  |
| 7             | 3 | 1·024 | 17 | Shorthorn .....    | 2 | 1·023 | 20 |  |

| MORNING. |      |        |        | October 18th.      |  | EVENING. |        |        |
|----------|------|--------|--------|--------------------|--|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             |  | Qts.     | Sp. G. | Cream. |
| 1        | 2    | 1·024  | 20     | Alderney .....     |  | 1        | 1·021  | 25     |
| 2        | 3    | 1·026  | 30     | Alderney .....     |  | 2        | 1·020  | 30     |
| 3        | 3    | 1·025  | 18     | Brittany .....     |  | 2        | 1·024  | 18     |
| 4        | 2    | 1·023  | 25     | Half-bred Brittany |  | 1        | 1·023  | 20     |
| 6        | 2    | 1·027  | 14     | Shorthorn .....    |  | 1        | 1·024  | 10     |
| 7        | 3    | 1·025  | 12     | Shorthorn .....    |  | 2        | 10·25  | 15     |

| October 19th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 2 | 1·022 | 20 | Alderney .....     | 1 | 1·021 | 20 |  |
| 2             | 3 | 1·022 | 30 | Alderney .....     | 2 | 1·023 | 30 |  |
| 3             | 3 | 1·023 | 18 | Brittany .....     | 2 | 1·022 | 17 |  |
| 4             | 2 | 1·023 | 22 | Half-bred Brittany | 1 | 1·020 | 21 |  |
| 6             | 2 | 1·025 | 18 | Shorthorn .....    | 1 | 1·024 | 12 |  |
| 7             | 3 | 1·025 | 10 | Shorthorn .....    | 2 | 1·023 | 19 |  |

| October 20th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 3 | 1·023 | 20 | Alderney .....     | 1 | 1·020 | 18 |  |
| 2             | 3 | 1·029 | 30 | Alderney .....     | 2 | 1·023 | 25 |  |
| 3             | 3 | 1·025 | 20 | Brittany .....     | 2 | 1·023 | 17 |  |
| 4             | 2 | 1·023 | 25 | Half-bred Brittany | 1 | 1·021 | 20 |  |
| 6             | 2 | 1·026 | 6  | Shorthorn .....    | 1 | 1·025 | 15 |  |
| 7             | 3 | 1·024 | 20 | Shorthorn .....    | 2 | 1·025 | 20 |  |

Cows 1 to 7. Fed on oil-cake, &c.; grass from Ashby-field (soil clay).

| October 21st. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 2 | 1·028 | 20 | Alderney .....     | 1 | 1·020 | 18 |  |
| 2             | 3 | 1·028 | 25 | Alderney .....     | 2 | 1·023 | 28 |  |
| 3             | 3 | 1·025 | 19 | Brittany .....     | 2 | 1·023 | 15 |  |
| 4             | 3 | 1·026 | 22 | Half-bred Brittany | 1 | 1·020 | 22 |  |
| 6             | 2 | 1·023 | 10 | Shorthorn .....    | 1 | 1·025 | 12 |  |
| 7             | 3 | 1·025 | 15 | Shorthorn .....    | 2 | 1·024 | 13 |  |

| October 22nd. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 2 | 1·023 | 15 | Alderney .....     | 1 | 1·029 | 15 |  |
| 2             | 3 | 1·029 | 28 | Alderney .....     | 2 | 1·026 | 20 |  |
| 3             | 3 | 1·025 | 15 | Brittany .....     | 2 | 1·020 | 16 |  |
| 4             | 2 | 1·023 | 21 | Half-bred Brittany | 3 | 1·028 | 20 |  |
| 6             | 2 | 1·026 | 12 | Shorthorn .....    | 1 | 1·025 | 13 |  |
| 7             | 3 | 1·025 | 13 | Shorthorn .....    | 3 | 1·022 | 15 |  |

All cows fed on oil-cake, &c.; grass from Holloway's field (soil gravel).

## MORNING.

## October 23rd.

## EVENING.

| No. | Qts. | Sp. G. | Cream. | Breed.             | Qts. | Sp. G. | Cream. |
|-----|------|--------|--------|--------------------|------|--------|--------|
| 1   | 2    | 1.025  | 17     | Alderney .....     | 1    | 1.025  | 20     |
| 2   | 3    | 1.029  | 30     | Alderney .....     | 2    | 1.025  | 30     |
| 3   | 3    | 1.025  | 15     | Brittany .....     | 2    | 1.025  | 14     |
| 4   | 2    | 1.023  | 20     | Half-bred Brittany | 2    | 1.025  | 25     |
| 6   | 2    | 1.024  | 14     | Shorthorn .....    | 1    | 1.025  | 12     |
| 7   | 2    | 1.020  | 15     | Shorthorn .....    | 3    | 1.025  | 15     |

## October 24th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 2 | 1.030 | 19 | Alderney .....     | 1 | 1.020 | 14 |
| 2 | 2 | 1.025 | 22 | Alderney .....     | 2 | 1.026 | 18 |
| 3 | 3 | 1.025 | 9  | Brittany .....     | 2 | 1.020 | 15 |
| 4 | 2 | 1.026 | 28 | Half-bred Brittany | 2 | 1.025 | 20 |
| 6 | 1 | 1.025 | 7  | Shorthorn .....    | 1 | 1.028 | 19 |
| 7 | 3 | 1.026 | 10 | Shorthorn .....    | 3 | 1.025 | 12 |

## October 25th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 2 | 1.025 | 15 | Alderney .....     | 1 | 1.020 | 17 |
| 2 | 2 | 1.028 | 28 | Alderney .....     | 2 | 1.025 | 28 |
| 3 | 3 | 1.025 | 20 | Brittany .....     | 2 | 1.020 | 15 |
| 4 | 4 | 1.026 | 25 | Half-bred Brittany | 2 | 1.026 | 22 |
| 6 | 1 | 1.028 | 7  | Shorthorn .....    | 1 | 1.028 | 15 |
| 7 | 3 | 1.025 | 15 | Shorthorn .....    | 3 | 1.025 | 20 |

## October 26th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 2 | 1.025 | 18 | Alderney .....     | 1 | 1.024 | 18 |
| 2 | 2 | 1.028 | 26 | Alderney .....     | 2 | 1.023 | 26 |
| 3 | 3 | 1.025 | 20 | Brittany .....     | 2 | 1.025 | 18 |
| 4 | 1 | 1.026 | 25 | Half-bred Brittany | 1 | 1.024 | 24 |
| 6 | 1 | 1.028 | 9  | Shorthorn .....    | 1 | 1.024 | 10 |
| 7 | 3 | 1.025 | 15 | Shorthorn .....    | 2 | 1.026 | 17 |

## October 27th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 2 | 1.026 | 24 | Alderney .....     | 1 | 1.022 | 26 |
| 2 | 2 | 1.024 | 26 | Alderney .....     | 2 | 1.020 | 32 |
| 3 | 3 | 1.022 | 20 | Brittany .....     | 2 | 1.020 | 22 |
| 4 | 1 | 1.023 | 24 | Half-bred Brittany | 1 | 1.020 | 30 |
| 6 | 1 | 1.025 | 9  | Shorthorn .....    | 1 | 1.021 | 12 |
| 7 | 3 | 1.026 | 18 | Shorthorn .....    | 2 | 1.023 | 18 |

| MORNING. |      |        |        | October 28th.      |  | EVENING. |        |        |
|----------|------|--------|--------|--------------------|--|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             |  | Qts.     | Sp. G. | Cream. |
| 1        | 1    | 1·023  | 26     | Alderney .....     |  | 1        | 1·024  | 24     |
| 2        | 2    | 1·025  | 30     | Alderney .....     |  | 2        | 1·020  | 28     |
| 3        | 3    | 1·025  | 20     | Brittany .....     |  | 2        | 1·021  | 22     |
| 4        | 1    | 1·020  | 27     | Half-bred Brittany |  | 1        | 1·020  | 30     |
| 7        | 3    | 1·027  | 18     | Shorthorn .....    |  | 2        | 1·025  | 15     |

Cow No. 6 dried off.

| October 29th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 1 | 1·023 | 24 | Alderney .....     | 1 | 1·022 | 25 |  |
| 2             | 2 | 1·020 | 30 | Alderney .....     | 2 | 1·020 | 29 |  |
| 3             | 3 | 1·024 | 20 | Brittany .....     | 2 | 1·024 | 20 |  |
| 4             | 1 | 1·022 | 28 | Half-bred Brittany | 1 | 1·020 | 28 |  |
| 7             | 3 | 1·025 | 18 | Shorthorn .....    | 2 | 1·025 | 15 |  |

| October 30th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 1 | 1·020 | 24 | Alderney .....     | 1 | 1·020 | 24 |  |
| 2             | 2 | 1·020 | 32 | Alderney .....     | 1 | 1·020 | 28 |  |
| 3             | 2 | 1·024 | 20 | Brittany .....     | 2 | 1·024 | 20 |  |
| 4             | 1 | 1·022 | 28 | Half-bred Brittany | 1 | 1·020 | 26 |  |
| 7             | 3 | 1·025 | 18 | Shorthorn .....    | 2 | 1·024 | 16 |  |

| October 31st. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 1 | 1·022 | 26 | Alderney .....     | 1 | 1·022 | 25 |  |
| 2             | 2 | 1·020 | 29 | Alderney .....     | 2 | 1·020 | 28 |  |
| 3             | 2 | 1·024 | 23 | Brittany .....     | 2 | 1·024 | 20 |  |
| 4             | 1 | 1·020 | 26 | Half-bred Brittany |   |       |    |  |
| 7             | 3 | 1·025 | 18 | Shorthorn .....    | 2 | 1·025 | 18 |  |

| November 1st. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 1 | 1·024 | 22 | Alderney .....     |   |       |    |  |
| 2             | 2 | 1·022 | 24 | Alderney .....     | 1 | 1·020 | 28 |  |
| 3             | 2 | 1·024 | 15 | Brittany .....     | 2 | 1·024 | 20 |  |
| 4             | 1 | 1·023 | 26 | Half-bred Brittany |   |       |    |  |
| 7             | 3 | 1·025 | 14 | Shorthorn .....    | 2 | 1·026 | 18 |  |

| November 2nd. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 1             | 1 | 1·020 | 26 | Alderney .....     |   |       |    |  |
| 2             | 2 | 1·022 | 28 | Alderney .....     | 1 | 1·020 | 28 |  |
| 3             | 2 | 1·024 | 20 | Brittany .....     | 1 | 1·024 | 22 |  |
| 4             | 1 | 1·020 | 25 | Half-bred Brittany |   |       |    |  |
| 7             | 2 | 1·025 | 16 | Shorthorn .....    | 2 | 1·026 | 18 |  |

Cows in Holloway's field. Oil-cake, bran, hay, mangold.

| MORNING. |      |        |        | November 3rd.      |   | EVENING. |        |        |
|----------|------|--------|--------|--------------------|---|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             |   | Qts.     | Sp. G. | Cream. |
| 1        | 1    | 1·020  |        | Alderney .....     |   |          |        |        |
| 2        | 2    | 1·023  |        | Alderney .....     | 1 | 1·024    |        | 28     |
| 3        | 2    | 1·027  |        | Brittany .....     | 1 | 1·026    |        | 20     |
| 4        | 1    | 1·024  |        | Half-bred Brittany |   |          |        |        |
| 7        | 3    | 1·028  |        | Shorthorn .....    | 2 | 1·027    |        | 17     |

| November 4th. |   |       |    |                    |   |       |  |  |
|---------------|---|-------|----|--------------------|---|-------|--|--|
| 1             | 1 | 1·020 | 28 | Alderney .....     |   |       |  |  |
| 2             | 2 | 1·022 | 30 | Alderney .....     | 1 | 1·020 |  |  |
| 3             | 2 | 1·024 | 22 | Brittany .....     | 2 | 1·025 |  |  |
| 4             | 1 | 1·020 | 29 | Half-bred Brittany |   |       |  |  |
| 7             | 3 | 1·026 | 16 | Shorthorn .....    | 2 | 1·027 |  |  |

| November 5th. |   |       |    |                    |   |       |  |    |
|---------------|---|-------|----|--------------------|---|-------|--|----|
| 1             | 1 | 1·024 | 27 | Alderney .....     |   |       |  |    |
| 2             | 2 | 1·020 | 29 | Alderney .....     | 1 | 1·020 |  | 28 |
| 3             | 2 | 1·026 | 18 | Brittany .....     | 2 | 1·026 |  | 20 |
| 4             | 1 | 1·020 | 27 | Half-bred Brittany |   |       |  |    |
| 7             | 3 | 1·027 | 18 | Shorthorn .....    | 2 | 1·027 |  | 15 |

| November 6th. |   |       |    |                    |   |       |  |    |
|---------------|---|-------|----|--------------------|---|-------|--|----|
| 1             | 1 | 1·025 | 28 | Alderney .....     |   |       |  |    |
| 2             | 2 | 1·024 | 30 | Alderney .....     | 1 | 1·022 |  | 27 |
| 3             | 2 | 1·026 | 20 | Brittany .....     | 2 | 1·026 |  | 20 |
| 4             | 1 | 1·025 | 27 | Half-bred Brittany |   |       |  |    |
| 7             | 3 | 1·027 | 15 | Shorthorn .....    | 2 | 1·027 |  | 16 |

Cow No. 4 dried off.

| November 7th. |   |       |    |                 |   |       |  |    |
|---------------|---|-------|----|-----------------|---|-------|--|----|
| 1             | 1 | 1·024 | 26 | Alderney .....  |   |       |  |    |
| 2             | 2 | 1·020 | 27 | Alderney .....  | 1 | 1·020 |  | 28 |
| 3             | 2 | 1·026 | 26 | Brittany .....  | 2 | 1·025 |  | 20 |
| 7             | 2 | 1·025 | 18 | Shorthorn ..... | 2 | 1·026 |  | 16 |

| November 8th. |   |       |    |                 |   |       |  |    |
|---------------|---|-------|----|-----------------|---|-------|--|----|
| 1             | 1 | 1·026 | 25 | Alderney .....  |   |       |  |    |
| 2             | 2 | 1·024 | 28 | Alderney .....  | 1 | 1·023 |  | 27 |
| 3             | 2 | 1·027 | 21 | Brittany .....  | 2 | 1·025 |  | 21 |
| 7             | 3 | 1·027 | 18 | Shorthorn ..... | 2 | 1·026 |  | 16 |

| MORNING. November 9th. |      |        |        |                 | EVENING. |        |        |
|------------------------|------|--------|--------|-----------------|----------|--------|--------|
| No.                    | Qts. | Sp. G. | Cream. | Breed.          | Qts.     | Sp. G. | Cream. |
| 1                      | 1    | 1.022  | 24     | Alderney .....  |          |        |        |
| 2                      | 2    | 1.020  | 28     | Alderney .....  | 1        | 1.022  | 28     |
| 3                      | 2    | 1.025  | 21     | Brittany .....  | 2        | 1.025  | 20     |
| 7                      | 3    | 1.026  | 18     | Shorthorn ..... | 2        | 1.026  | 17     |

| November 10th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1.021 | 26 | Alderney .....  |   |       |    |
| 2              | 2 | 1.020 | 29 | Alderney .....  | 1 | 1.020 | 28 |
| 3              | 2 | 1.024 | 21 | Brittany .....  | 2 | 1.025 | 20 |
| 7              | 3 | 1.026 | 18 | Shorthorn ..... | 2 | 1.026 | 16 |

| November 11th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1.022 | 26 | Alderney .....  |   |       |    |
| 2              | 2 | 1.023 | 30 | Alderney .....  | 1 | 1.020 | 28 |
| 3              | 2 | 1.025 | 20 | Brittany .....  | 2 | 1.024 | 19 |
| 7              | 3 | 1.026 | 18 | Shorthorn ..... | 2 | 1.027 | 17 |

Butter made was rancid. Oil-cake, bran, hay, carrots, mangold.

| November 12th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1.020 | 24 | Alderney .....  |   |       |    |
| 2              | 2 | 1.020 | 28 | Alderney .....  | 1 | 1.020 | 28 |
| 3              | 2 | 1.022 | 20 | Brittany .....  | 2 | 1.024 | 20 |
| 7              | 3 | 1.025 | 18 | Shorthorn ..... | 2 | 1.025 | 16 |

| November 13th. |   |       |    |                 |  |  |  |
|----------------|---|-------|----|-----------------|--|--|--|
| 1              | 1 | 1.020 | 24 | Alderney .....  |  |  |  |
| 2              | 2 | 1.020 | 29 | Alderney .....  |  |  |  |
| 3              | 2 | 1.024 | 20 | Brittany .....  |  |  |  |
| 4              | 3 | 1.025 | 18 | Shorehorn ..... |  |  |  |

| November 14th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1.022 | 26 | Alderney .....  |   |       |    |
| 2              | 2 | 1.020 | 28 | Alderney .....  | 1 | 1.020 | 28 |
| 3              | 2 | 1.024 | 20 | Brittany .....  | 2 | 1.022 | 18 |
| 7              | 3 | 1.025 | 16 | Shorthorn ..... | 2 | 1.024 | 16 |

| MORNING. |      |        |        | November 15th.  |   | EVENING. |        |        |
|----------|------|--------|--------|-----------------|---|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.          |   | Qts.     | Sp. G. | Cream. |
| 1        | 1    | 1.020  |        | Alderney .....  |   |          |        |        |
| 2        | 2    | 1.020  |        | Alderney .....  | 1 | 1.020    |        | 28     |
| 3        | 2    | 1.024  |        | Brittany .....  | 2 | 1.022    |        | 20     |
| 7        | 2    | 1.025  |        | Shorthorn ..... | 2 | 1.024    |        | 18     |

Butter made rancid. Cows in Bunkin's field by day. Oil-cake, bran, hay, mangold and carrots.

| November 16th. |   |       |    |                 |   |       |  |    |
|----------------|---|-------|----|-----------------|---|-------|--|----|
| 1              | 1 | 1.020 | 26 | Alderney .....  |   |       |  |    |
| 2              | 2 | 1.020 | 29 | Alderney .....  | 1 | 1.022 |  | 28 |
| 3              | 2 | 1.022 | 19 | Brittany .....  | 2 | 1.024 |  | 20 |
| 7              | 3 | 1.025 | 18 | Shorthorn ..... | 2 | 1.025 |  | 16 |

| November 17th. |   |       |    |                 |   |       |  |    |
|----------------|---|-------|----|-----------------|---|-------|--|----|
| 1              | 1 | 1.020 | 27 | Alderney .....  |   |       |  |    |
| 2              | 2 | 1.020 | 29 | Alderney .....  | 1 | 1.020 |  | 28 |
| 3              | 2 | 1.024 | 20 | Brittany .....  | 2 | 1.024 |  | 20 |
| 7              | 3 | 1.025 | 18 | Shorthorn ..... | 2 | 1.025 |  | 16 |

| November 18th. |   |       |    |                 |   |       |  |    |
|----------------|---|-------|----|-----------------|---|-------|--|----|
| 1              | 1 | 1.020 | 26 | Alderney .....  |   |       |  |    |
| 2              | 2 | 1.020 | 29 | Alderney .....  | 1 | 1.020 |  | 28 |
| 3              | 2 | 1.024 | 19 | Brittany .....  | 2 | 1.024 |  | 20 |
| 7              | 3 | 1.025 | 17 | Shorthorn ..... | 2 | 1.025 |  | 16 |

| November 19th. |   |       |    |                 |   |       |  |    |
|----------------|---|-------|----|-----------------|---|-------|--|----|
| 1              | 1 | 1.020 | 26 | Alderney .....  |   |       |  |    |
| 2              | 2 | 1.020 | 29 | Alderney .....  | 1 | 1.020 |  | 28 |
| 3              | 2 | 1.024 | 20 | Brittany .....  | 2 | 1.024 |  | 20 |
| 7              | 3 | 1.025 | 18 | Shorthorn ..... | 2 | 1.025 |  | 17 |

| November 20th. |   |       |    |                 |   |       |  |    |
|----------------|---|-------|----|-----------------|---|-------|--|----|
| 1              | 1 | 1.022 | 27 | Alderney .....  |   |       |  |    |
| 2              | 2 | 1.020 | 28 | Alderney .....  | 1 | 1.020 |  | 29 |
| 3              | 2 | 1.025 | 20 | Brittany .....  | 1 | 1.024 |  | 20 |
| 7              | 3 | 1.026 | 18 | Shorthorn ..... | 2 | 1.025 |  | 16 |

| MORNING. November 21st. |      |        |        |                 | EVENING. |        |        |
|-------------------------|------|--------|--------|-----------------|----------|--------|--------|
| No.                     | Qts. | Sp. G. | Cream. | Breed.          | Qts.     | Sp. G. | Cream. |
| 1                       | 1    | 1.020  | 25     | Alderney .....  |          |        |        |
| 2                       | 2    | 1.022  | 28     | Alderney .....  | 1        | 1.020  | 28     |
| 3                       | 2    | 1.024  | 19     | Brittany .....  | 1        | 1.025  | 20     |
| 7                       | 3    | 1.025  | 18     | Shorthorn ..... | 2        | 1.025  | 16     |

| November 22nd. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1.022 | 25 | Alderney .....  |   |       |    |
| 2              | 2 | 1.021 | 29 | Alderney .....  | 1 | 1.020 | 28 |
| 3              | 2 | 1.025 | 20 | Brittany .....  | 1 | 1.024 | 20 |
| 7              | 2 | 1.026 | 18 | Shorthorn ..... | 2 | 1.025 | 17 |

| November 23rd. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1.024 | 27 | Alderney .....  |   |       |    |
| 2              | 2 | 1.025 | 29 | Alderney .....  | 1 | 1.025 | 28 |
| 3              | 1 | 1.023 | 20 | Brittany .....  | 1 | 1.023 | 20 |
| 7              | 3 | 1.023 | 18 | Shorthorn ..... | 2 | 1.023 | 16 |

Cox's cow died with milk-fever (twelve hours). Butter rancid.

| November 24th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1.025 | 22 | Alderney .....  |   |       |    |
| 2              | 2 | 1.025 | 28 | Alderney .....  | 1 | 1.025 | 28 |
| 3              | 1 | 1.023 | 20 | Brittany .....  | 1 | 1.023 | 20 |
| 7              | 3 | 1.023 | 17 | Shorthorn ..... | 2 | 1.024 | 16 |

| November 25th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1.025 | 26 | Alderney .....  |   |       |    |
| 2              | 2 | 1.025 | 29 | Alderney .....  | 1 | 1.025 | 28 |
| 3              | 1 | 1.023 | 20 | Brittany .....  | 1 | 1.024 | 20 |
| 4              | 3 | 1.024 | 18 | Shorthorn ..... | 2 | 1.024 | 16 |

| November 26th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1.026 | 27 | Alderney .....  |   |       |    |
| 2              | 2 | 1.025 | 30 | Alderney .....  | 1 | 1.025 | 29 |
| 3              | 1 | 1.023 | 19 | Brittany .....  | 1 | 1.024 | 20 |
| 7              | 3 | 1.024 | 18 | Shorthorn ..... | 2 | 1.025 | 18 |

| MORNING. |      |        |        | November 27th.  |   | EVENING. |        |        |
|----------|------|--------|--------|-----------------|---|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.          |   | Qts.     | Sp. G. | Cream. |
| 1        | 1    | 1·024  | 27     | Alderney .....  |   |          |        |        |
| 2        | 2    | 1·025  | 29     | Alderney .....  | 1 | 1·024    |        | 28     |
| 3        | 1    | 1·022  | 20     | Brittany .....  | 1 | 1·023    |        | 20     |
| 7        | 3    | 1·024  | 17     | Shorthorn ..... | 2 | 1·024    |        | 17     |

| November 28th. |   |       |    |                 |   |       |  |    |
|----------------|---|-------|----|-----------------|---|-------|--|----|
| 1              | 1 | 1·025 | 28 | Alderney .....  |   |       |  |    |
| 2              | 2 | 1·025 | 30 | Alderney .....  | 1 | 1·024 |  | 29 |
| 3              | 1 | 1·023 | 20 | Brittany .....  | 1 | 1·025 |  | 19 |
| 7              | 3 | 1·024 | 18 | Shorthorn ..... | 2 | 1·024 |  | 16 |

| November 29th. |   |       |    |                 |   |       |  |    |
|----------------|---|-------|----|-----------------|---|-------|--|----|
| 1              | 1 | 1·025 | 28 | Alderney .....  |   |       |  |    |
| 2              | 2 | 1·025 | 30 | Alderney .....  | 1 | 1·020 |  | 28 |
| 3              | 1 | 1·024 | 20 | Brittany .....  | 1 | 1·024 |  | 20 |
| 7              | 3 | 1·024 | 18 | Shorthorn ..... | 2 | 1·025 |  | 16 |

| November 30th. |   |       |    |                 |   |       |  |    |
|----------------|---|-------|----|-----------------|---|-------|--|----|
| 1              | 1 | 1·024 | 27 | Alderney .....  |   |       |  |    |
| 2              | 2 | 1·023 | 30 | Alderney .....  | 1 | 1·022 |  | 29 |
| 3              | 1 | 1·025 | 20 | Brittany .....  | 1 | 1·024 |  | 20 |
| 7              | 3 | 1·024 | 18 | Shorthorn ..... | 2 | 1·025 |  | 16 |

| December 1st. |   |       |    |                 |   |       |  |    |
|---------------|---|-------|----|-----------------|---|-------|--|----|
| 1             | 1 | 1·024 | 27 | Alderney .....  |   |       |  |    |
| 2             | 2 | 1·023 | 30 | Alderney .....  | 1 | 1·021 |  | 29 |
| 3             | 1 | 1·025 | 20 | Brittany .....  | 1 | 1·023 |  | 19 |
| 7             | 3 | 1·024 | 17 | Shorthorn ..... | 2 | 1·022 |  | 18 |

Oil-cake, bran, mangold, bran, hay. Cows turned during the day into Ashby-field.

| December 2nd. |   |       |    |                 |   |       |  |    |
|---------------|---|-------|----|-----------------|---|-------|--|----|
| 1             | 2 | 1·024 | 25 | Alderney .....  |   |       |  |    |
| 2             | 2 | 1·020 | 28 | Alderney .....  | 1 | 1·025 |  | 20 |
| 3             | 1 | 1·022 | 19 | Brittany .....  | 1 | 1·020 |  | 18 |
| 7             | 3 | 1·024 | 16 | Shorthorn ..... | 2 | 1·025 |  | 18 |

| MORNING. |      |        |        |                 | December 3rd. |       |    | EVENING. |        |        |
|----------|------|--------|--------|-----------------|---------------|-------|----|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.          |               |       |    | Qts.     | Sp. G. | Cream. |
| 1        | 1    | 1.022  | 15     | Alderney .....  |               |       |    |          |        |        |
| 2        | 3    | 1.025  | 23     | Alderney .....  | 2             | 1.022 | 17 |          |        |        |
| 3        | 1    | 1.023  | 16     | Brittany .....  | 1             | 1.025 | 12 |          |        |        |
| 7        | 3    | 1.025  | 16     | Shorthorn ..... | 2             | 1.022 | 15 |          |        |        |

| December 4th. |   |       |    |                 |   |       |    |  |  |  |
|---------------|---|-------|----|-----------------|---|-------|----|--|--|--|
| 1             | 2 | 1.024 | 17 | Alderney .....  |   |       |    |  |  |  |
| 2             | 3 | 1.028 | 30 | Alderney .....  | 2 | 1.025 | 28 |  |  |  |
| 3             | 1 | 1.022 | 20 | Brittany .....  | 1 | 1.020 | 15 |  |  |  |
| 7             | 3 | 1.022 | 22 | Shorthorn ..... | 3 | 1.024 | 18 |  |  |  |

| December 5th. |   |       |    |                 |   |       |    |  |  |  |
|---------------|---|-------|----|-----------------|---|-------|----|--|--|--|
| 1             | 2 | 1.022 | 15 | Alderney .....  |   |       |    |  |  |  |
| 2             | 3 | 1.025 | 28 | Alderney .....  | 2 | 1.025 | 28 |  |  |  |
| 3             | 1 | 1.022 | 15 | Brittany .....  | 1 | 1.022 | 18 |  |  |  |
| 7             | 3 | 1.024 | 17 | Shorthorn ..... | 2 | 1.022 | 16 |  |  |  |

Cows in Bunkin's field.

| December 6th. |   |       |    |                 |   |       |    |  |  |  |
|---------------|---|-------|----|-----------------|---|-------|----|--|--|--|
| 1             | 1 | 1.027 | 24 | Alderney .....  |   |       |    |  |  |  |
| 2             | 2 | 1.027 | 28 | Alderney .....  | 2 | 1.026 | 26 |  |  |  |
| 3             | 1 | 1.024 | 20 | Brittany .....  | 1 | 1.024 | 20 |  |  |  |
| 7             | 3 | 1.023 | 17 | Shorthorn ..... | 2 | 1.025 | 17 |  |  |  |

| December 7th. |   |       |    |                 |   |       |    |  |  |  |
|---------------|---|-------|----|-----------------|---|-------|----|--|--|--|
| 1             | 1 | 1.027 | 22 | Alderney .....  |   |       |    |  |  |  |
| 2             | 2 | 1.027 | 24 | Alderney .....  | 1 | 1.025 | 23 |  |  |  |
| 3             | 1 | 1.025 | 18 | Brittany .....  | 1 | 1.022 | 18 |  |  |  |
| 7             | 3 | 1.022 | 16 | Shorthorn ..... | 2 | 1.024 | 17 |  |  |  |

| December 8th. |   |       |    |                 |   |       |    |  |  |  |
|---------------|---|-------|----|-----------------|---|-------|----|--|--|--|
| 1             | 1 | 1.026 | 25 | Alderney .....  |   |       |    |  |  |  |
| 2             | 2 | 1.027 | 26 | Alderney .....  | 1 | 1.027 | 25 |  |  |  |
| 3             | 1 | 1.023 | 18 | Brittany .....  | 1 | 1.024 | 18 |  |  |  |
| 7             | 3 | 1.024 | 16 | Shorthorn ..... | 2 | 1.025 | 16 |  |  |  |

Cow No. 3 dried off.

| MORNING. |      |        |        |                 | December 9th. |      |        |        | EVENING. |  |  |
|----------|------|--------|--------|-----------------|---------------|------|--------|--------|----------|--|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.          |               | Qts. | Sp. G. | Cream. |          |  |  |
| 1        | 1    | 1.024  | 26     | Alderney .....  |               |      |        |        |          |  |  |
| 2        | 2    | 1.024  | 28     | Alderney .....  |               | 1    | 1.024  | 26     |          |  |  |
| 7        | 3    | 1.025  | 16     | Shorthorn ..... |               | 2    | 1.023  | 16     |          |  |  |

| December 10th. |   |       |    |                 |  |   |       |    |  |  |  |
|----------------|---|-------|----|-----------------|--|---|-------|----|--|--|--|
| 1              | 1 | 1.026 | 24 | Alderney .....  |  |   |       |    |  |  |  |
| 2              | 2 | 1.027 | 25 | Alderney .....  |  | 1 | 1.026 | 25 |  |  |  |
| 7              | 3 | 1.024 | 16 | Shorthorn ..... |  | 2 | 1.024 | 16 |  |  |  |

| December 11th. |   |       |    |                 |  |   |       |    |  |  |  |
|----------------|---|-------|----|-----------------|--|---|-------|----|--|--|--|
| 1              | 1 | 1.024 | 25 | Alderney .....  |  |   |       |    |  |  |  |
| 2              | 2 | 1.023 | 27 | Alderney .....  |  | 1 | 1.024 | 26 |  |  |  |
| 7              | 3 | 1.024 | 16 | Shorthorn ..... |  | 2 | 1.022 | 16 |  |  |  |

| December 12th. |   |       |    |                 |  |   |       |    |  |  |  |
|----------------|---|-------|----|-----------------|--|---|-------|----|--|--|--|
| 1              | 1 | 1.026 | 25 | Alderney .....  |  |   |       |    |  |  |  |
| 2              | 2 | 1.027 | 26 | Alderney .....  |  | 1 | 1.024 | 26 |  |  |  |
| 7              | 3 | 1.022 | 16 | Shorthorn ..... |  | 2 | 1.023 | 16 |  |  |  |

| December 13th. |   |       |    |                 |  |   |       |    |  |  |  |
|----------------|---|-------|----|-----------------|--|---|-------|----|--|--|--|
| 1              | 1 | 1.024 | 24 | Alderney .....  |  |   |       |    |  |  |  |
| 2              | 2 | 1.025 | 27 | Alderney .....  |  | 1 | 1.023 | 28 |  |  |  |
| 7              | 3 | 1.022 | 16 | Shorthorn ..... |  | 2 | 1.024 | 15 |  |  |  |

| December 14th. |   |       |    |                 |  |   |       |    |  |  |  |
|----------------|---|-------|----|-----------------|--|---|-------|----|--|--|--|
| 1              | 1 | 1.020 | 26 | Alderney .....  |  |   |       |    |  |  |  |
| 2              | 2 | 1.020 | 29 | Alderney .....  |  | 1 | 1.021 | 27 |  |  |  |
| 7              | 3 | 1.025 | 17 | Shorthorn ..... |  | 2 | 1.025 | 16 |  |  |  |

| December 15th. |   |       |    |                 |  |   |       |    |  |  |  |
|----------------|---|-------|----|-----------------|--|---|-------|----|--|--|--|
| 1              | 1 | 1.021 | 26 | Alderney .....  |  |   |       |    |  |  |  |
| 2              | 2 | 1.020 | 28 | Alderney .....  |  | 1 | 1.020 | 27 |  |  |  |
| 7              | 3 | 1.026 | 17 | Shorthorn ..... |  | 2 | 1.024 | 16 |  |  |  |

| December 16th. |   |       |    |                 |  |   |       |    |  |  |  |
|----------------|---|-------|----|-----------------|--|---|-------|----|--|--|--|
| 1              | 1 | 1.020 | 26 | Alderney .....  |  |   |       |    |  |  |  |
| 2              | 2 | 1.020 | 29 | Alderney .....  |  | 1 | 1.022 | 27 |  |  |  |
| 7              | 3 | 1.026 | 16 | Shorthorn ..... |  | 2 | 1.026 | 15 |  |  |  |

| MORNING. |      |        |        |                 | EVENING. |        |        |
|----------|------|--------|--------|-----------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.          | Qts.     | Sp. G. | Cream. |
| 1        | 1    | 1.020  | 26     | Alderney .....  |          |        |        |
| 2        | 2    | 1.022  | 28     | Alderney .....  | 1        | 1.020  | 27     |
| 7        | 3    | 1.024  | 16     | Shorthorn ..... | 2        | 1.025  | 16     |

## December 18th.

|   |   |       |    |                 |   |       |    |
|---|---|-------|----|-----------------|---|-------|----|
| 1 | 1 | 1.024 | 27 | Alderney .....  |   |       |    |
| 2 | 2 | 1.020 | 29 | Alderney .....  | 1 | 1.020 | 28 |
| 7 | 3 | 1.022 | 17 | Shorthorn ..... | 2 | 1.025 | 16 |

## December 19th.

|   |   |       |    |                 |   |       |    |
|---|---|-------|----|-----------------|---|-------|----|
| 1 | 1 | 1.024 | 26 | Alderney .....  |   |       |    |
| 2 | 2 | 1.020 | 30 | Alderney .....  | 1 | 1.021 | 28 |
| 7 | 3 | 1.024 | 17 | Shorthorn ..... | 3 | 1.023 | 16 |

## December 20th.

|   |   |       |    |                 |   |       |    |
|---|---|-------|----|-----------------|---|-------|----|
| 1 | 1 | 1.024 | 26 | Alderney .....  |   |       |    |
| 2 | 2 | 1.020 | 29 | Alderney .....  | 1 | 1.022 | 28 |
| 7 | 3 | 1.025 | 16 | Shorthorn ..... | 2 | 1.024 | 16 |

## December 21st.

|   |   |       |    |                 |   |       |    |
|---|---|-------|----|-----------------|---|-------|----|
| 1 | 1 | 1.025 | 26 | Alderney .....  |   |       |    |
| 2 | 2 | 1.020 | 29 | Alderney .....  | 1 | 1.022 | 28 |
| 7 | 3 | 1.025 | 16 | Shorthorn ..... | 2 | 1.024 | 16 |

## December 22nd.

|   |   |       |    |                 |   |       |    |
|---|---|-------|----|-----------------|---|-------|----|
| 1 | 1 | 1.022 | 27 | Alderney .....  |   |       |    |
| 2 | 2 | 1.021 | 30 | Alderney .....  | 1 | 1.020 | 28 |
| 7 | 3 | 1.026 | 17 | Shorthorn ..... | 2 | 1.024 | 16 |

## December 23rd.

|   |   |       |    |                 |   |       |    |
|---|---|-------|----|-----------------|---|-------|----|
| 1 | 1 | 1.020 | 26 | Alderney .....  |   |       |    |
| 2 | 2 | 1.020 | 30 | Alderney .....  | 1 | 1.022 | 26 |
| 7 | 3 | 1.024 | 16 | Shorthorn ..... | 2 | 1.024 | 16 |

## December 24th.

|   |   |       |    |                 |   |       |    |
|---|---|-------|----|-----------------|---|-------|----|
| 1 | 1 | 1.024 | 27 | Alderney .....  |   |       |    |
| 2 | 2 | 1.021 | 28 | Alderney .....  | 1 | 1.022 | 27 |
| 7 | 3 | 1.024 | 16 | Shorthorn ..... | 2 | 1.026 | 16 |

| MORNING. |      |        |        |                 | December 25th. |  |  | EVENING. |        |        |
|----------|------|--------|--------|-----------------|----------------|--|--|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.          |                |  |  | Qts.     | Sp. G. | Cream. |
| 1        | 1    | 1·024  | 26     | Alderney .....  |                |  |  |          |        |        |
| 2        | 2    | 1·023  | 28     | Alderney .....  |                |  |  | 1        | 1·022  | 27     |
| 7        | 3    | 1·025  | 16     | Shorthorn ..... |                |  |  | 2        | 1·024  | 26     |

Cows in Holloway's field by day.

| December 26th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1·025 | 27 | Alderney .....  |   |       |    |
| 2              | 2 | 1·024 | 28 | Alderney .....  | 1 | 1·023 | 28 |
| 7              | 3 | 1·025 | 16 | Shorthorn ..... | 2 | 1·026 | 15 |

| December 27th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1·024 | 26 | Alderney .....  |   |       |    |
| 2              | 2 | 1·022 | 29 | Alderney .....  | 1 | 1·020 | 26 |
| 7              | 3 | 1·026 | 16 | Shorthorn ..... | 2 | 1·024 | 15 |

| December 28th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1·024 | 25 | Alderney .....  |   |       |    |
| 2              | 2 | 1·020 | 26 | Alderney .....  | 1 | 1·021 | 26 |
| 7              | 3 | 1·024 | 15 | Shorthorn ..... | 2 | 1·025 | 14 |

| December 29th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1·022 | 25 | Alderney .....  |   |       |    |
| 2              | 2 | 1·024 | 27 | Alderney .....  | 1 | 1·023 | 26 |
| 7              | 3 | 1·026 | 15 | Shorthorn ..... | 2 | 1·024 | 14 |

| December 30th. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1·020 | 26 | Alderney .....  |   |       |    |
| 2              | 2 | 1·022 | 28 | Alderney .....  | 1 | 1·023 | 27 |
| 7              | 3 | 1·024 | 15 | Shorthorn ..... | 2 | 1·026 | 14 |

| December 31st. |   |       |    |                 |   |       |    |
|----------------|---|-------|----|-----------------|---|-------|----|
| 1              | 1 | 1·024 | 26 | Alderney .....  |   |       |    |
| 2              | 2 | 1·022 | 27 | Alderney .....  | 1 | 1·023 | 27 |
| 7              | 3 | 1·024 | 16 | Shorthorn ..... | 2 | 1·026 | 15 |

| January 1st. |   |       |    |                 |   |       |    |
|--------------|---|-------|----|-----------------|---|-------|----|
| 1            | 1 | 1·024 | 28 | Alderney .....  |   |       |    |
| 2            | 2 | 1·020 | 29 | Alderney .....  | 1 | 1·022 | 28 |
| 7            | 3 | 1·025 | 16 | Shorthorn ..... | 2 | 1·024 | 15 |

Cows fed on oil-cake, bran, hay. In Holloway's field by day. Cows 3, 4, 5, 6, 8, dry.

| MORNING. |      |        |        | January 2nd.    | EVENING. |        |        |
|----------|------|--------|--------|-----------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.          | Qts.     | Sp. G. | Cream. |
| 1        | 1    | 1·024  | 27     | Alderney .....  |          |        |        |
| 2        | 2    | 1·023  | 28     | Alderney .....  | 1        | 1·024  | 27     |
| 7        | 3    | 1·024  | 15     | Shorthorn ..... | 2        | 1·026  | 15     |

## January 3rd.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 1 | 1·024 | 28 | Alderney .....     |   |       |    |
| 2 | 2 | 1·022 | 29 | Alderney .....     | 1 | 1·021 | 27 |
| 4 | 6 | 1·023 | 20 | Half-bred Brittany | 5 | 1·025 | 20 |
| 7 | 3 | 1·024 | 15 | Shorthorn .....    | 2 | 1·025 | 15 |

Cow No. 5 calved.

## January 4th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 1 | 1·024 | 26 | Alderney .....     |   |       |    |
| 2 | 2 | 1·025 | 27 | Alderney .....     | 1 | 1·024 | 26 |
| 4 | 7 | 1·027 | 19 | Half-bred Brittany | 5 | 1·028 | 19 |
| 7 | 3 | 1·025 | 15 | Shorthorn .....    | 2 | 1·026 | 15 |

## January 5th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 1 | 1·023 | 26 | Alderney .....     |   |       |    |
| 2 | 2 | 1·024 | 27 | Alderney .....     | 1 | 1·023 | 26 |
| 4 | 7 | 1·029 | 20 | Half-bred Brittany | 5 | 1·029 | 19 |
| 7 | 3 | 1·025 | 14 | Shorthorn .....    | 2 | 1·026 | 14 |

## January 6th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 1 | 1·023 | 26 | Alderney .....     |   |       |    |
| 2 | 2 | 1·024 | 28 | Alderney .....     | 1 | 1·023 | 27 |
| 4 | 7 | 1·029 | 20 | Half-bred Brittany | 4 | 1·029 | 20 |
| 7 | 3 | 1·025 | 15 | Shorthorn .....    | 2 | 1·026 | 14 |

## January 7th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 1 | 1·025 | 26 | Alderney .....     |   |       |    |
| 2 | 2 | 1·024 | 28 | Alderney .....     | 1 | 1·023 | 28 |
| 4 | 7 | 1·030 | 20 | Half-bred Brittany | 4 | 1·028 | 18 |
| 7 | 3 | 1·026 | 15 | Shorthorn .....    | 2 | 1·025 | 16 |

Cows fed on bran, oil-cake, hay, and mangold. No. 8 (brindle heiffer) calved: half-bred Ayrshire.

| MORNING. |      |        |        |                    | January 8th. |  |       | EVENING. |        |        |
|----------|------|--------|--------|--------------------|--------------|--|-------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             |              |  |       | Qts.     | Sp. G. | Cream. |
| 1        | 1    | 1.022  | 26     | Alderney .....     |              |  |       |          |        |        |
| 2        | 2    | 1.021  | 28     | Alderney .....     | 1            |  | 1.023 | 28       |        |        |
| 4        | 7    | 1.028  | 18     | Half-bred Brittany | 4            |  | 1.028 | 17       |        |        |
| 5        | 4    | 1.029  | 13     | Brittany heifer .. | 2            |  | 1.030 | 12       |        |        |
| 7        | 3    | 1.024  | 17     | Shorthorn .....    | 2            |  | 1.025 | 16       |        |        |

| January 9th. |   |       |    |                    |   |  |       |    |  |  |
|--------------|---|-------|----|--------------------|---|--|-------|----|--|--|
| 1            | 1 | 1.024 | 26 | Alderney .....     |   |  |       |    |  |  |
| 2            | 2 | 1.022 | 29 | Alderney .....     | 1 |  | 1.023 | 28 |  |  |
| 4            | 7 | 1.028 | 17 | Half-bred Brittany | 4 |  | 1.028 | 17 |  |  |
| 5            | 4 | 1.029 | 13 | Brittany heifer .. | 2 |  | 1.027 | 14 |  |  |
| 7            | 3 | 1.024 | 18 | Shorthorn .....    | 2 |  | 1.023 | 17 |  |  |

| January 10th. |   |       |    |                    |   |  |       |    |  |  |
|---------------|---|-------|----|--------------------|---|--|-------|----|--|--|
| 1             | 1 | 1.024 | 27 | Alderney .....     |   |  |       |    |  |  |
| 2             | 2 | 1.022 | 28 | Alderney .....     | 1 |  | 1.022 | 28 |  |  |
| 4             | 7 | 1.027 | 16 | Half-bred Brittany | 4 |  | 1.026 | 16 |  |  |
| 5             | 4 | 1.027 | 14 | Brittany heifer .. | 2 |  | 1.026 | 14 |  |  |
| 7             | 3 | 1.026 | 17 | Shorthorn .....    | 2 |  | 1.025 | 17 |  |  |

| January 11th. |   |       |    |                    |   |  |       |    |  |  |
|---------------|---|-------|----|--------------------|---|--|-------|----|--|--|
| 1             | 1 | 1.022 | 27 | Alderney .....     |   |  |       |    |  |  |
| 2             | 2 | 1.022 | 28 | Alderney .....     | 1 |  | 1.023 | 27 |  |  |
| 4             | 7 | 1.026 | 16 | Half-bred Brittany | 4 |  | 1.026 | 16 |  |  |
| 5             | 4 | 1.026 | 14 | Brittany heifer .. | 2 |  | 1.026 | 14 |  |  |
| 7             | 3 | 1.026 | 18 | Shorthorn .....    | 2 |  | 1.024 | 17 |  |  |

| January 12th. |   |       |    |                    |   |  |       |    |  |  |
|---------------|---|-------|----|--------------------|---|--|-------|----|--|--|
| 1             | 1 | 1.022 | 28 | Alderney .....     |   |  |       |    |  |  |
| 2             | 2 | 1.022 | 29 | Alderney .....     | 1 |  | 1.023 | 28 |  |  |
| 4             | 7 | 1.026 | 16 | Half-bred Brittany | 4 |  | 1.026 | 16 |  |  |
| 5             | 4 | 1.026 | 14 | Brittany heifer .. | 2 |  | 1.027 | 14 |  |  |
| 7             | 3 | 1.024 | 17 | Shorthorn .....    | 2 |  | 1.025 | 17 |  |  |

| January 13th. |   |       |    |                    |   |  |       |    |  |  |
|---------------|---|-------|----|--------------------|---|--|-------|----|--|--|
| 1             | 1 | 1.023 | 27 | Alderney .....     |   |  |       |    |  |  |
| 2             | 2 | 1.022 | 28 | Alderney .....     | 1 |  | 1.022 | 27 |  |  |
| 4             | 7 | 1.027 | 16 | Half-bred Brittany | 4 |  | 1.027 | 16 |  |  |
| 5             | 4 | 1.027 | 14 | Brittany heifer .. | 2 |  | 1.027 | 14 |  |  |
| 7             | 3 | 1.024 | 17 | Shorthorn .....    | 2 |  | 1.024 | 16 |  |  |

| MORNING. |      |        |        | January 14th.      |   | EVENING. |        |        |
|----------|------|--------|--------|--------------------|---|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             |   | Qts.     | Sp. G. | Cream. |
| 1        | 1    | 1·022  | 27     | Alderney .....     |   |          |        |        |
| 2        | 2    | 1·022  | 28     | Alderney .....     | 1 | 1·023    |        | 28     |
| 4        | 7    | 1·026  | 16     | Half-bred Brittany | 4 | 1·027    |        | 16     |
| 5        | 4    | 1·027  | 14     | Brittany heifer .. | 2 | 1·026    |        | 14     |
| 7        | 3    | 1·024  | 17     | Shorthorn .....    | 2 | 1·024    |        | 17     |

## January 15th.

|   |   |       |    |                    |   |       |  |    |
|---|---|-------|----|--------------------|---|-------|--|----|
| 1 | 1 | 1·024 | 26 | Alderney .....     |   |       |  |    |
| 2 | 2 | 1·022 | 28 | Alderney .....     | 1 | 1·022 |  | 28 |
| 4 | 7 | 1·026 | 16 | Half-bred Brittany | 4 | 1·026 |  | 16 |
| 5 | 4 | 1·026 | 14 | Brittany heifer .. | 2 | 1·026 |  | 14 |
| 7 | 3 | 1·025 | 17 | Shorthorn .....    | 2 | 1·024 |  | 17 |

Cow No. 1 dried off, after being in milk eighteen months.

## January 16th.

|   |   |       |    |                    |   |       |  |    |
|---|---|-------|----|--------------------|---|-------|--|----|
| 2 | 1 | 1·023 | 28 | Alderney .....     | 1 | 1·024 |  | 27 |
| 4 | 7 | 1·026 | 16 | Half-bred Brittany | 4 | 1·025 |  | 16 |
| 5 | 4 | 1·026 | 14 | Brittany heifer .. | 2 | 1·026 |  | 14 |
| 7 | 3 | 1·025 | 17 | Shorthorn .....    | 2 | 1·024 |  | 16 |

## January 17th.

|   |   |       |    |                    |   |       |  |    |
|---|---|-------|----|--------------------|---|-------|--|----|
| 2 | 1 | 1·023 | 28 | Alderney .....     | 1 | 1·023 |  | 27 |
| 4 | 7 | 1·026 | 17 | Half-bred Brittany | 4 | 1·026 |  | 16 |
| 5 | 4 | 1·025 | 15 | Brittany heifer .. | 2 | 1·026 |  | 14 |
| 7 | 3 | 1·025 | 18 | Shorthorn .....    | 3 | 1·024 |  | 17 |

## January 18th.

|   |   |       |    |                    |   |       |  |    |
|---|---|-------|----|--------------------|---|-------|--|----|
| 2 | 1 | 1·022 | 29 | Alderney .....     |   |       |  |    |
| 4 | 7 | 1·025 | 17 | Half-bred Brittany | 4 | 1·026 |  | 17 |
| 5 | 4 | 1·026 | 15 | Brittany heifer .. | 2 | 1·025 |  | 14 |
| 7 | 3 | 1·024 | 17 | Shorthorn .....    | 2 | 1·024 |  | 17 |

## January 19th.

|   |   |       |    |                    |   |       |  |    |
|---|---|-------|----|--------------------|---|-------|--|----|
| 2 | 1 | 1·023 | 28 | Alderney .....     |   |       |  |    |
| 4 | 7 | 1·027 | 17 | Half-bred Brittany | 4 | 1·026 |  | 16 |
| 5 | 4 | 1·026 | 15 | Brittany heifer .. | 2 | 1·025 |  | 14 |
| 7 | 3 | 1·023 | 17 | Shorthorn .....    | 2 | 1·024 |  | 17 |

| MORNING. |      |        |        | January 20th.      |   |       |        | EVENING. |  |  |
|----------|------|--------|--------|--------------------|---|-------|--------|----------|--|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.             |   | Qts.  | Sp. G. | Cream.   |  |  |
| 2        | 1    | 1·022  | 28     | Alderney .....     |   |       |        |          |  |  |
| 4        | 7    | 1·025  | 18     | Half-bred Brittany | 4 | 1·026 |        | 17       |  |  |
| 5        | 4    | 1·026  | 16     | Brittany heifer .. | 2 | 1·027 |        | 14       |  |  |
| 7        | 3    | 1·024  | 17     | Shorthorn .....    | 2 | 1·024 |        | 17       |  |  |

| January 21st. |   |       |    |                    |   |       |  |    |  |  |
|---------------|---|-------|----|--------------------|---|-------|--|----|--|--|
| 2             | 1 | 1·022 | 29 | Alderney .....     |   |       |  |    |  |  |
| 4             | 7 | 1·027 | 17 | Half-bred Brittany | 4 | 1·026 |  | 16 |  |  |
| 5             | 4 | 1·026 | 15 | Brittany heifer .. | 2 | 1·025 |  | 14 |  |  |
| 7             | 3 | 1·023 | 17 | Shorthorn .....    | 2 | 1·022 |  | 17 |  |  |
| 8             |   |       |    | Half-bred Ayrshire | 5 | 1·025 |  | 13 |  |  |

~~No. 1 cow dried off.~~

| January 22nd. |   |       |    |                    |   |       |  |    |  |  |
|---------------|---|-------|----|--------------------|---|-------|--|----|--|--|
| 2             | 1 | 1·020 | 26 | Alderney .....     |   |       |  |    |  |  |
| 4             | 7 | 1·025 | 15 | Half-bred Brittany | 4 | 1·026 |  | 14 |  |  |
| 5             | 4 | 1·025 | 14 | Brittany heifer .. | 2 | 1·025 |  | 13 |  |  |
| 7             | 2 | 1·023 | 16 | Shorthorn .....    | 1 | 1·022 |  | 16 |  |  |
| 8             | 8 | 1·025 | 13 | Half-bred Ayrshire | 5 | 1·025 |  | 13 |  |  |

| January 23rd. |   |       |    |                    |   |       |  |    |  |  |
|---------------|---|-------|----|--------------------|---|-------|--|----|--|--|
| 2             | 1 | 1·022 | 26 | Alderney .....     |   |       |  |    |  |  |
| 4             | 7 | 1·024 | 15 | Half-bred Brittany | 4 | 1·025 |  | 14 |  |  |
| 5             | 4 | 1·025 | 14 | Brittany heifer .. | 2 | 1·026 |  | 13 |  |  |
| 7             | 2 | 1·022 | 15 | Shorthorn .....    | 1 | 1·021 |  | 15 |  |  |
| 8             | 8 | 1·026 | 13 | Half-bred Ayrshire | 5 | 1·025 |  | 13 |  |  |

| January 24th. |   |       |    |                    |   |       |  |    |  |  |
|---------------|---|-------|----|--------------------|---|-------|--|----|--|--|
| 2             | 1 | 1·020 | 26 | Alderney .....     |   |       |  |    |  |  |
| 4             | 7 | 1·025 | 15 | Half-bred Brittany | 4 | 1·024 |  | 15 |  |  |
| 5             | 4 | 1·024 | 14 | Brittany heifer .. | 2 | 1·025 |  | 13 |  |  |
| 7             | 2 | 1·020 | 16 | Shorthorn .....    | 1 | 1·020 |  | 16 |  |  |
| 8             | 8 | 1·025 | 13 | Half-bred Ayrshire | 5 | 1·024 |  | 13 |  |  |

| January 25th. |   |       |    |                    |   |       |  |    |  |  |
|---------------|---|-------|----|--------------------|---|-------|--|----|--|--|
| 2             | 1 | 1·020 | 27 | Alderney .....     |   |       |  |    |  |  |
| 4             | 7 | 1·025 | 14 | Half-bred Brittany | 4 | 1·025 |  | 14 |  |  |
| 5             | 4 | 1·025 | 13 | Brittany heifer .. | 2 | 1·026 |  | 13 |  |  |
| 7             | 2 | 1·020 | 16 | Shorthorn .....    | 1 | 1·022 |  | 15 |  |  |
| 8             | 8 | 1·024 | 14 | Half-bred Ayrshire | 5 | 1·024 |  | 14 |  |  |

| MORNING. |      |        |        | January 26th.      |   | EVENING. |        |        |
|----------|------|--------|--------|--------------------|---|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             |   | Qts.     | Sp. G. | Cream. |
| 2        | 1    | 1.020  | 27     | Alderney .....     |   |          |        |        |
| 4        | 7    | 1.025  | 14     | Half-bred Brittany | 4 | 1.025    | 14     |        |
| 5        | 4    | 1.024  | 13     | Brittany heifer .. | 2 | 1.025    | 13     |        |
| 7        | 2    | 1.020  | 16     | Shorthorn .....    | 1 | 1.020    | 16     |        |
| 8        | 8    | 1.025  | 13     | Half-bred Ayrshire | 5 | 1.026    | 14     |        |

Cows in Bunkin's field. Fed on cake, bran, hay, mangold.

| January 27th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 2             | 1 | 1.020 | 27 | Alderney .....     |   |       |    |  |
| 4             | 7 | 1.024 | 14 | Half-bred Brittany | 4 | 1.025 | 14 |  |
| 5             | 4 | 1.024 | 13 | Brittany heifer .. | 2 | 1.024 | 13 |  |
| 7             | 2 | 1.020 | 16 | Shorthorn .....    | 1 | 1.020 | 15 |  |
| 8             | 8 | 1.025 | 14 | Half-bred Ayrshire | 5 | 1.026 | 14 |  |

| January 28th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 2             | 1 | 1.020 | 27 | Alderney .....     |   |       |    |  |
| 4             | 7 | 1.026 | 14 | Half-bred Brittany | 4 | 1.025 | 14 |  |
| 5             | 4 | 1.025 | 13 | Brittany heifer .. | 2 | 1.024 | 13 |  |
| 7             | 2 | 1.020 | 16 | Shorthorn .....    | 1 | 1.020 | 16 |  |
| 8             | 8 | 1.025 | 14 | Half-bred Ayrshire | 5 | 1.026 | 14 |  |

| January 29th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 2             | 1 | 1.020 | 27 | Alderney .....     |   |       |    |  |
| 4             | 7 | 1.026 | 14 | Half-bred Brittany | 4 | 1.025 | 14 |  |
| 5             | 4 | 1.024 | 13 | Brittany heifer .. | 2 | 1.024 | 13 |  |
| 7             | 2 | 1.020 | 15 | Shorthorn .....    |   |       |    |  |
| 8             | 8 | 1.025 | 14 | Half-bred Ayrshire | 5 | 1.024 | 14 |  |

| January 30th. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 2             | 1 | 1.020 | 26 | Alderney .....     |   |       |    |  |
| 4             | 7 | 1.025 | 14 | Half-bred Brittany | 4 | 1.026 | 14 |  |
| 5             | 4 | 1.024 | 13 | Brittany heifer .. | 2 | 1.025 | 14 |  |
| 7             | 2 | 1.020 | 16 | Shorthorn .....    |   |       |    |  |
| 8             | 8 | 1.025 | 14 | Half-bred Ayrshire | 5 | 1.025 | 14 |  |

| January 31st. |   |       |    |                    |   |       |    |  |
|---------------|---|-------|----|--------------------|---|-------|----|--|
| 2             | 1 | 1.020 | 26 | Alderney .....     |   |       |    |  |
| 4             | 7 | 1.025 | 14 | Half-bred Brittany | 4 | 1.025 | 14 |  |
| 5             | 4 | 1.024 | 13 | Brittany heifer .. | 2 | 1.024 | 13 |  |
| 7             | 2 | 1.020 | 16 | Shorthorn .....    |   |       |    |  |
| 8             | 8 | 1.025 | 14 | Half-bred Ayrshire | 5 | 10.25 | 14 |  |

| MORNING. |      |        |        | February 1st.      | EVENING. |        |        |
|----------|------|--------|--------|--------------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |
| 2        | 1    | 1.022  | 28     | Alderney .....     |          |        |        |
| 3        | 7    | 1.026  | 16     | Brittany .....     | 4        | 1.025  | 16     |
| 4        | 7    | 1.025  | 15     | Half-bred Brittany | 4        | 1.024  | 15     |
| 5        | 4    | 1.024  | 15     | Brittany heifer .. | 2        | 1.026  | 14     |
| 7        | 1    | 1.023  | 14     | Shorthorn .....    |          |        |        |
| 8        | 8    | 1.025  | 16     | Half-bred Ayrshire | 5        | 1.024  | 16     |

Cows fed on oil-cake, bran, mangold, hay. In Ashby's field by day.

### February 2nd.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 1 | 1.022 | 27 | Alderney .....     |   |       |    |
| 3 | 7 | 1.026 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4 | 7 | 1.025 | 15 | Half-bred Brittany | 4 | 1.025 | 16 |
| 5 | 4 | 1.024 | 15 | Brittany heifer .. | 2 | 1.024 | 15 |
| 7 | 1 | 1.022 | 16 | Shorthorn .....    |   |       |    |
| 8 | 8 | 1.025 | 16 | Half-bred Ayrshire | 5 | 1.026 | 16 |

### February 3rd.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 1 | 1.023 | 26 | Alderney .....     |   |       |    |
| 3 | 7 | 1.026 | 16 | Brittany .....     | 4 | 1.025 | 16 |
| 4 | 7 | 1.025 | 16 | Half-bred Brittany | 4 | 1.024 | 16 |
| 5 | 4 | 1.026 | 15 | Brittany heifer .. | 2 | 1.023 | 15 |
| 7 | 1 | 1.023 | 16 | Shorthorn .....    |   |       |    |
| 8 | 8 | 1.024 | 16 | Half-bred Ayrshire | 5 | 1.024 | 16 |

### February 4th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 1 | 1.020 | 26 | Alderney .....     |   |       |    |
| 3 | 7 | 1.024 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4 | 7 | 1.023 | 17 | Half-bred Brittany | 4 | 1.025 | 16 |
| 5 | 4 | 1.025 | 15 | Brittany heifer .. | 2 | 1.026 | 15 |
| 7 | 1 | 1.020 | 16 | Shorthorn .....    |   |       |    |
| 8 | 8 | 1.024 | 16 | Half-bred Ayrshire | 5 | 1.023 | 16 |

### February 5th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 1 | 1.020 | 26 | Alderney .....     |   |       |    |
| 3 | 7 | 1.024 | 16 | Brittany .....     | 4 | 1.025 | 16 |
| 4 | 7 | 1.025 | 16 | Half-bred Brittany | 4 | 1.024 | 16 |
| 5 | 4 | 1.023 | 15 | Brittany heifer .. | 2 | 1.023 | 15 |
| 7 | 1 | 1.020 | 16 | Shorthorn .....    |   |       |    |
| 8 | 8 | 1.024 | 16 | Half-bred Ayrshire | 5 | 1.024 | 16 |

| MORNING. |      |        |        | February 6th.      |  | EVENING. |        |        |
|----------|------|--------|--------|--------------------|--|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             |  | Qts.     | Sp. G. | Cream. |
| 2        | 1    | 1.020  | 26     | Alderney .....     |  |          |        |        |
| 3        | 7    | 1.024  | 16     | Brittany .....     |  | 4        | 1.025  | 16     |
| 4        | 7    | 1.025  | 16     | Half-bred Brittany |  | 4        | 1.024  | 16     |
| 5        | 4    | 1.024  | 15     | Brittany heifer .. |  | 2        | 1.024  | 15     |
| 7        | 1    | 1.020  | 16     | Shorthorn .....    |  |          |        |        |
| 8        | 8    | 1.024  | 16     | Half-bred Ayrshire |  | 5        | 1.024  | 16     |

Cow No. 7 dried off.

| February 7th. |   |       |    |                    |   |       |    |
|---------------|---|-------|----|--------------------|---|-------|----|
| 2             | 1 | 1.020 | 26 | Alderney .....     |   |       |    |
| 3             | 7 | 1.025 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4             | 7 | 1.024 | 16 | Half-bred Brittany | 4 | 1.025 | 16 |
| 5             | 4 | 1.023 | 15 | Brittany heifer .. | 2 | 1.023 | 14 |
| 8             | 8 | 1.025 | 16 | Half-bred Ayrshire | 5 | 1.024 | 16 |

| February 8th. |   |       |    |                    |   |       |    |
|---------------|---|-------|----|--------------------|---|-------|----|
| 2             | 1 | 1.020 | 26 | Alderney .....     |   |       |    |
| 3             | 7 | 1.024 | 16 | Brittany .....     | 4 | 1.025 | 16 |
| 4             | 7 | 1.024 | 16 | Half-bred Brittany | 4 | 1.024 | 16 |
| 5             | 4 | 1.023 | 14 | Brittany heifer .. | 2 | 1.022 | 14 |
| 8             | 8 | 1.025 | 16 | Half-bred Ayrshire | 5 | 1.026 | 16 |

| February 9th. |   |       |    |                    |   |       |    |
|---------------|---|-------|----|--------------------|---|-------|----|
| 2             | 1 | 1.020 | 26 | Alderney .....     |   |       |    |
| 3             | 7 | 1.024 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4             | 7 | 1.025 | 16 | Half-bred Brittany | 4 | 1.025 | 16 |
| 5             | 4 | 1.023 | 15 | Brittany heifer .. | 2 | 1.022 | 15 |
| 8             | 8 | 1.025 | 16 | Half-bred Ayrshire | 5 | 1.024 | 16 |

| February 10th. |   |       |    |                    |   |       |    |
|----------------|---|-------|----|--------------------|---|-------|----|
| 2              | 1 | 1.020 | 25 | Alderney .....     |   |       |    |
| 3              | 7 | 1.024 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4              | 7 | 1.023 | 16 | Half-bred Brittany | 4 | 1.025 | 15 |
| 5              | 4 | 1.023 | 14 | Brittany heifer .. | 2 | 1.023 | 14 |
| 8              | 8 | 1.024 | 16 | Half-bred Ayrshire | 5 | 1.023 | 17 |

| February 11th. |   |       |    |                    |   |       |    |
|----------------|---|-------|----|--------------------|---|-------|----|
| 2              | 1 | 1.020 | 26 | Alderney .....     |   |       |    |
| 3              | 7 | 1.024 | 16 | Brittany .....     | 4 | 1.023 | 17 |
| 4              | 7 | 1.023 | 17 | Half-bred Brittany | 4 | 1.024 | 16 |
| 5              | 4 | 1.023 | 15 | Brittany heifer .. | 2 | 1.023 | 15 |
| 8              | 8 | 1.025 | 16 | Half-bred Ayrshire | 5 | 1.023 | 17 |

| MORNING. |      |        |        |                    | February 12th. |        |        | EVENING. |  |  |
|----------|------|--------|--------|--------------------|----------------|--------|--------|----------|--|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.           | Sp. G. | Cream. |          |  |  |
| 2        | 1    | 1·022  | 25     | Alderney .....     |                |        |        |          |  |  |
| 3        | 7    | 1·024  | 16     | Brittany .....     | 4              | 1·023  | 17     |          |  |  |
| 4        | 7    | 1·025  | 16     | Half-bred Brittany | 4              | 1·022  | 17     |          |  |  |
| 5        | 4    | 1·024  | 15     | Brittany heifer .. | 2              | 1·023  | 15     |          |  |  |
| 8        | 8    | 1·025  | 17     | Half-bred Ayrshire | 5              | 1·023  | 17     |          |  |  |

Cows fed on oil-cake, bran, mangold, hay. In Holloway's field by day.

| February 13th. |   |       |    |                    |   |       |    |  |  |
|----------------|---|-------|----|--------------------|---|-------|----|--|--|
| 2              | 1 | 1·020 | 26 | Alderney .....     |   |       |    |  |  |
| 3              | 7 | 1·025 | 16 | Brittany .....     | 4 | 1·023 | 17 |  |  |
| 4              | 7 | 1·024 | 16 | Half-bred Brittany | 4 | 1·024 | 16 |  |  |
| 5              | 4 | 1·025 | 14 | Brittany heifer .. | 2 | 1·023 | 15 |  |  |
| 8              | 8 | 1·025 | 16 | Half-bred Ayrshire | 5 | 1·024 | 17 |  |  |

| February 14th. |   |       |    |                    |   |       |    |  |  |
|----------------|---|-------|----|--------------------|---|-------|----|--|--|
| 2              | 1 | 1·020 | 26 | Alderney .....     |   |       |    |  |  |
| 3              | 7 | 1·023 | 17 | Brittany .....     | 4 | 1·024 | 17 |  |  |
| 4              | 7 | 1·024 | 16 | Half-bred Brittany | 4 | 1·023 | 17 |  |  |
| 5              | 4 | 1·022 | 15 | Brittany heifer .. | 2 | 1·022 | 15 |  |  |
| 8              | 8 | 1·024 | 17 | Half-bred Ayrshire | 5 | 1·024 | 17 |  |  |

| February 15th. |   |       |    |                    |   |            |  |  |  |
|----------------|---|-------|----|--------------------|---|------------|--|--|--|
| 2              | 1 | 1·022 | 26 | Alderney .....     | } | Not taken. |  |  |  |
| 3              | 7 | 1·024 | 15 | Brittany .....     |   |            |  |  |  |
| 4              | 7 | 1·025 | 16 | Half-bred Brittany |   |            |  |  |  |
| 5              | 4 | 1·022 | 15 | Brittany heifer .. |   |            |  |  |  |
| 8              | 8 | 1·024 | 17 | Half-bred Ayrshire |   |            |  |  |  |

| February 16th. |   |       |    |                    |   |       |    |  |  |
|----------------|---|-------|----|--------------------|---|-------|----|--|--|
| 2              | 1 | 1·021 | 26 | Alderney .....     |   |       |    |  |  |
| 3              | 7 | 1·024 | 16 | Brittany .....     | 4 | 1·023 | 17 |  |  |
| 4              | 7 | 1·023 | 16 | Half-bred Brittany | 4 | 1·024 | 17 |  |  |
| 5              | 4 | 1·022 | 15 | Brittany heifer .. | 2 | 1·023 | 15 |  |  |
| 8              | 8 | 1·024 | 17 | Half-bred Ayrshire | 5 | 1·024 | 17 |  |  |

Cow No. 2 dried off.

| February 17th. |   |       |    |                    |   |       |    |  |  |
|----------------|---|-------|----|--------------------|---|-------|----|--|--|
| 3              | 6 | 1·024 | 16 | Brittany .....     | 3 | 1·023 | 16 |  |  |
| 4              | 6 | 1·024 | 16 | Half-bred Brittany | 3 | 1·024 | 16 |  |  |
| 5              | 3 | 1·023 | 15 | Brittany heifer .. | 2 | 1·023 | 14 |  |  |
| 8              | 7 | 1·025 | 16 | Half-bred Ayrshire | 4 | 1·024 | 16 |  |  |

| MORNING. |      |        |        | February 18th.     |  | EVENING. |        |        |
|----------|------|--------|--------|--------------------|--|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             |  | Qts.     | Sp. G. | Cream. |
| 3        | 6    | 1·024  | 15     | Brittany .....     |  | 3        | 1·024  | 16     |
| 4        | 6    | 1·023  | 16     | Half-bred Brittany |  | 3        | 1·022  | 16     |
| 5        | 3    | 1·024  | 16     | Brittany heifer .. |  | 2        | 1·023  | 14     |
| 8        | 7    | 1·023  | 16     | Half-bred Ayrshire |  | 4        | 1·025  | 16     |

| February 19th. |   |       |    |                    |  |   |       |    |
|----------------|---|-------|----|--------------------|--|---|-------|----|
| 3              | 6 | 1·022 | 16 | Brittany .....     |  | 3 | 1·023 | 16 |
| 4              | 6 | 1·023 | 16 | Half-bred Brittany |  | 3 | 1·025 | 16 |
| 5              | 3 | 1·024 | 15 | Brittany heifer .. |  | 2 | 1·023 | 15 |
| 8              | 7 | 1·024 | 16 | Half-bred Ayrshire |  | 4 | 1·023 | 16 |

| February 20th. |   |       |    |                    |  |   |       |    |
|----------------|---|-------|----|--------------------|--|---|-------|----|
| 3              | 6 | 1·023 | 16 | Brittany .....     |  | 3 | 1·024 | 16 |
| 4              | 6 | 1·024 | 16 | Half-bred Brittany |  | 3 | 1·023 | 16 |
| 5              | 3 | 1·022 | 15 | Brittany heifer .. |  | 2 | 1·022 | 15 |
| 8              | 7 | 1·025 | 16 | Half-bred Ayrshire |  | 4 | 1·024 | 16 |

| February 21st. |   |       |    |                    |  |   |       |    |
|----------------|---|-------|----|--------------------|--|---|-------|----|
| 3              | 6 | 1·024 | 16 | Brittany .....     |  | 3 | 1·024 | 16 |
| 4              | 6 | 1·024 | 16 | Half-bred Brittany |  | 3 | 1·023 | 16 |
| 5              | 3 | 1·022 | 15 | Brittany heifer .. |  | 2 | 1·020 | 15 |
| 8              | 7 | 1·025 | 16 | Half-bred Ayrshire |  | 4 | 1·022 | 16 |

| February 22nd. |   |       |    |                    |  |   |       |    |
|----------------|---|-------|----|--------------------|--|---|-------|----|
| 3              | 6 | 1·024 | 16 | Brittany .....     |  | 3 | 1·024 | 16 |
| 4              | 6 | 1·023 | 16 | Half-bred Brittany |  | 3 | 1·022 | 16 |
| 5              | 3 | 1·024 | 15 | Brittany heifer .. |  | 2 | 1·022 | 15 |
| 8              | 7 | 1·023 | 16 | Half-bred Ayrshire |  | 4 | 1·023 | 16 |

| February 23rd. |   |       |    |                    |  |   |       |    |
|----------------|---|-------|----|--------------------|--|---|-------|----|
| 3              | 6 | 1·022 | 16 | Brittany .....     |  | 3 | 1·023 | 16 |
| 4              | 6 | 1·024 | 16 | Half-bred Brittany |  | 3 | 1·024 | 16 |
| 5              | 3 | 1·023 | 15 | Brittany heifer .. |  | 2 | 1·024 | 15 |
| 8              | 7 | 1·024 | 16 | Half-bred Ayrshire |  | 4 | 1·024 | 16 |

| February 24th. |   |       |    |                    |  |   |       |    |
|----------------|---|-------|----|--------------------|--|---|-------|----|
| 3              | 6 | 1·023 | 16 | Brittany .....     |  | 3 | 1·023 | 16 |
| 4              | 6 | 1·024 | 16 | Half-bred Brittany |  | 3 | 1·024 | 17 |
| 5              | 3 | 1·023 | 14 | Brittany heifer .. |  | 2 | 1·022 | 14 |
| 8              | 7 | 1·024 | 16 | Half-bred Ayrshire |  | 4 | 1·022 | 16 |

| MORNING. |      |        |        | February 25th.     | EVENING. |        |        |
|----------|------|--------|--------|--------------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |
| 3        | 6    | 1·022  | 16     | Brittany . . . . . | 3        | 1·023  | 16     |
| 4        | 6    | 1·024  | 16     | Half-bred Brittany | 3        | 1·024  | 16     |
| 5        | 3    | 1·023  | 14     | Brittany heifer .. | 2        | 1·022  | 15     |
| 8        | 7    | 1·024  | 16     | Half-bred Ayrshire | 4        | 1·025  | 16     |

| February 26th. |   |       |    |                    |   |       |    |
|----------------|---|-------|----|--------------------|---|-------|----|
| 3              | 6 | 1·024 | 16 | Brittany . . . . . | 3 | 1·025 | 16 |
| 4              | 6 | 1·025 | 16 | Half-bred Brittany | 3 | 1·024 | 16 |
| 5              | 3 | 1·024 | 15 | Brittany heifer .. | 2 | 1·022 | 15 |
| 8              | 7 | 1·025 | 16 | Half-bred Ayrshire | 4 | 1·024 | 16 |

| February 27th. |   |       |    |                    |   |       |    |
|----------------|---|-------|----|--------------------|---|-------|----|
| 3              | 6 | 1·022 | 16 | Brittany . . . . . | 3 | 1·024 | 15 |
| 4              | 6 | 1·023 | 15 | Half-bred Brittany | 3 | 1·023 | 16 |
| 5              | 3 | 1·024 | 14 | Brittany heifer .. | 2 | 1·024 | 14 |
| 8              | 7 | 1·024 | 16 | Half-bred Ayrshire | 4 | 1·024 | 15 |

| February 28th. |   |       |    |                    |   |       |    |
|----------------|---|-------|----|--------------------|---|-------|----|
| 3              | 6 | 1·023 | 14 | Brittany . . . . . | 3 | 1·023 | 14 |
| 4              | 6 | 1·024 | 15 | Half-bred Brittany | 3 | 1·024 | 15 |
| 5              | 4 | 1·023 | 14 | Brittany heifer .. | 2 | 1·022 | 14 |
| 8              | 7 | 1·024 | 15 | Half-bred Ayrshire | 4 | 1·024 | 15 |

(Daily Record for March lost.)

| March 31st. |   |       |    |                     |   |       |    |
|-------------|---|-------|----|---------------------|---|-------|----|
| 3           | 5 | 1·022 | 15 | Brittany . . . . .  | 3 | 1·022 | 15 |
| 4           | 4 | 1·023 | 15 | Half-bred Brittany  | 3 | 1·022 | 15 |
| 5           | 3 | 1·022 | 15 | Brittany heifer ..  | 2 | 1·023 | 15 |
| 6           |   | 1·028 | 10 | Shorthorn . . . . . |   | 1·028 | 10 |
| 7           |   | 1·024 | 12 | Shorthorn . . . . . |   | 1·023 | 12 |
| 8           | 4 | 1·025 | 12 | Half-bred Ayrshire  | 3 | 1·025 | 12 |

| April 1st. |   |       |    |                     |   |       |    |
|------------|---|-------|----|---------------------|---|-------|----|
| 3          | 5 | 1·022 | 15 | Brittany . . . . .  | 3 | 1·022 | 15 |
| 4          | 4 | 1·023 | 15 | Half-bred Brittany  | 3 | 1·023 | 15 |
| 5          | 3 | 1·022 | 15 | Brittany heifer ..  | 2 | 1·022 | 15 |
| 6          |   | 1·028 | 16 | Shorthorn . . . . . |   | 1·028 | 10 |
| 7          |   | 1·023 | 12 | Shorthorn . . . . . |   | 1·023 | 12 |
| 8          | 4 | 1·025 | 10 | Half-bred Ayrshire  | 3 | 1·025 | 10 |

Cows in Bunkin's field.

## MORNING.

## April 2nd.

## EVENING.

| No. | Qts. | Sp. G. | Cream. | Breed.             | Qts. | Sp. G. | Cream. |
|-----|------|--------|--------|--------------------|------|--------|--------|
| 3   | 5    | 1.023  | 15     | Brittany .....     | 3    | 1.024  | 15     |
| 4   | 4    | 1.022  | 15     | Half-bred Brittany | 2    | 1.023  | 15     |
| 5   | 3    | 1.023  | 15     | Brittany heifer .. | 2    | 1.022  | 15     |
| 6   |      | 1.028  | 10     | Shorthorn .....    |      | 1.028  | 10     |
| 7   | 4    | 1.024  | 12     | Shorthorn .....    | 3    | 1.025  | 12     |
| 8   | 5    | 1.024  | 10     | Half-bred Ayrshire | 4    | 1.024  | 12     |

## April 3rd.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 3 | 5 | 1.023 | 15 | Brittany .....     | 3 | 1.023 | 15 |
| 4 | 4 | 1.023 | 15 | Half-bred Brittany | 2 | 1.024 | 15 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 2 | 1.022 | 15 |
| 6 |   | 1.028 | 10 | Shorthorn .....    |   | 1.027 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |
| 8 | 5 | 1.024 | 10 | Half-bred Ayrshire | 4 | 1.024 | 10 |

## April 4th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 3 | 5 | 1.025 | 15 | Brittany .....     | 3 | 1.025 | 15 |
| 4 | 4 | 1.023 | 15 | Half-bred Brittany | 2 | 1.024 | 15 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 2 | 1.022 | 15 |
| 6 |   | 1.027 | 10 | Shorthorn .....    |   | 1.027 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 2 | 1.024 | 12 |
| 8 | 5 | 1.024 | 10 | Half-bred Ayrshire | 4 | 1.024 | 10 |

## April 5th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 3 | 5 | 1.023 | 15 | Brittany .....     | 4 | 1.023 | 15 |
| 4 | 4 | 1.022 | 15 | Half-bred Brittany | 3 | 1.022 | 15 |
| 5 | 3 | 1.023 | 15 | Brittany heifer .. | 2 | 1.020 | 15 |
| 6 |   | 1.027 | 10 | Shorthorn .....    |   | 1.027 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 4 | 1.024 | 12 |
| 8 | 5 | 1.024 | 10 | Half-bred Ayrshire | 4 | 1.024 | 10 |

## April 6th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 3 | 5 | 1.024 | 15 | Brittany .....     | 4 | 1.025 | 15 |
| 4 | 4 | 1.022 | 15 | Half-bred Brittany | 3 | 1.024 | 15 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 2 | 1.023 | 15 |
| 6 |   | 1.027 | 10 | Shorthorn .....    |   | 1.027 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.025 | 12 |
| 8 | 5 | 1.025 | 10 | Half-bred Ayrshire | 4 | 1.025 | 10 |

## MORNING.

## April 7th.

## EVENING.

| No. | Qts. | Sp. G. | Cream. | Breed.             | Qts. | Sp. G. | Cream. |
|-----|------|--------|--------|--------------------|------|--------|--------|
| 3   | 5    | 1.022  | 15     | Brittany .....     | 4    | 1.022  | 15     |
| 4   | 4    | 1.023  | 15     | Half-bred Brittany | 3    | 1.020  | 15     |
| 5   | 3    | 1.022  | 15     | Brittany heifer .. | 2    | 1.020  | 15     |
| 6   |      | 1.027  | 10     | Shorthorn .....    |      | 1.026  | 10     |
| 7   | 4    | 1.025  | 12     | Shorthorn .....    | 3    | 1.024  | 12     |
| 8   | 5    | 1.024  | 10     | Half-bred Ayrshire | 4    | 1.026  | 10     |

## April 8th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 3 | 5 | 1.022 | 15 | Brittany .....     | 3 | 1.024 | 15 |
| 4 | 4 | 1.023 | 15 | Half-bred Brittany | 2 | 1.024 | 15 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 2 | 1.025 | 15 |
| 6 |   | 1.026 | 10 | Shorthorn .....    |   | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |
| 8 | 5 | 1.025 | 10 | Half-bred Ayrshire | 4 | 1.024 | 10 |

## April 9th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 3 | 5 | 1.024 | 15 | Brittany .....     | 3 | 1.023 | 15 |
| 4 | 4 | 1.024 | 15 | Half-bred Brittany | 3 | 1.022 | 15 |
| 5 | 3 | 1.023 | 15 | Brittany heifer .. | 2 | 1.020 | 15 |
| 6 |   | 1.027 | 10 | Shorthorn .....    |   | 1.027 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |
| 8 | 5 | 1.024 | 10 | Half-bred Ayrshire | 4 | 1.025 | 10 |

## April 10th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 3 | 4 | 1.022 | 15 | Brittany .....     | 3 | 1.024 | 15 |
| 4 | 3 | 1.023 | 15 | Half-bred Brittany | 3 | 1.024 | 15 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 2 | 1.022 | 15 |
| 6 |   | 1.027 | 10 | Shorthorn .....    |   | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |
| 8 | 5 | 1.024 | 10 | Half-bred Ayrshire | 4 | 1.025 | 10 |

## April 11th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 3 | 4 | 1.024 | 15 | Brittany .....     | 3 | 1.024 | 15 |
| 4 | 3 | 1.024 | 15 | Half-bred Brittany | 3 | 1.024 | 15 |
| 5 | 3 | 1.024 | 15 | Brittany heifer .. | 2 | 1.022 | 15 |
| 6 |   | 1.027 | 10 | Shorthorn .....    |   | 1.027 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |
| 8 | 5 | 1.024 | 10 | Half-bred Ayrshire | 4 | 1.023 | 10 |

## MORNING.

## April 12th.

## EVENING.

| No. | Qts. | Sp. G. | Cream. | Breed.             | Qts. | Sp. G. | Cream |
|-----|------|--------|--------|--------------------|------|--------|-------|
| 3   | 5    | 1.024  | 15     | Brittany .....     | 4    | 1.022  | 15    |
| 4   | 4    | 1.024  | 15     | Half-bred Brittany | 3    | 1.022  | 15    |
| 5   | 3    | 1.022  | 15     | Brittany heifer .. | 2    | 1.023  | 15    |
| 6   |      | 1.026  | 10     | Shorthorn .....    |      | 1.026  | 10    |
| 7   | 4    | 1.024  | 12     | Shorthorn .....    | 3    | 1.024  | 12    |
| 8   | 5    | 1.023  | 10     | Half-bred Ayrshire | 4    | 1.022  | 10    |

## April 13th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 3 | 5 | 1.024 | 15 | Brittany .....     | 4 | 1.024 | 15 |
| 4 | 4 | 1.022 | 15 | Half-bred Brittany | 3 | 1.023 | 15 |
| 5 | 3 | 1.023 | 15 | Brittany heifer .. | 2 | 1.022 | 15 |
| 6 |   | 1.026 | 10 | Shorthorn .....    | 1 | 1.027 | 10 |
| 7 | 4 | 1.023 | 12 | Shorthorn .....    | 4 | 1.024 | 12 |
| 8 | 5 | 1.023 | 10 | Half-bred Ayrshire | 4 | 1.025 | 10 |

## April 14th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 3 | 5 | 1.023 | 15 | Brittany .....     | 4 | 1.024 | 15 |
| 4 | 4 | 1.022 | 15 | Half-bred Brittany | 3 | 1.023 | 15 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 2 | 1.022 | 15 |
| 6 |   | 1.027 | 10 | Shorthorn .....    |   | 1.027 | 10 |
| 7 | 4 | 1.023 | 12 | Shorthorn .....    | 3 | 1.022 | 12 |
| 8 | 5 | 1.024 | 10 | Half-bred Ayrshire | 4 | 1.023 | 10 |

## April 15th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 2 | 1.020 | 20 | Alderney .....     | 2 | 1.020 | 20 |
| 3 | 5 | 1.023 | 15 | Brittany .....     | 4 | 1.024 | 15 |
| 4 | 4 | 1.023 | 15 | Half-bred Brittany | 3 | 1.022 | 16 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 2 | 1.022 | 15 |
| 6 |   | 1.026 | 10 | Shorthorn .....    |   | 1.027 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.023 | 12 |
| 8 | 5 | 1.024 | 10 | Half-bred Ayrshire | 4 | 1.023 | 10 |

## April 16th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1.020 | 20 | Alderney .....     | 2 | 1.020 | 20 |
| 3 | 5 | 1.024 | 15 | Brittany .....     | 4 | 1.024 | 15 |
| 4 | 4 | 1.022 | 16 | Half-bred Brittany | 3 | 1.022 | 16 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 2 | 1.023 | 15 |
| 6 | 6 | 1.027 | 10 | Shorthorn .....    | 5 | 1.027 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.023 | 12 |
| 8 | 5 | 1.024 | 10 | Half-bred Ayrshire | 4 | 1.023 | 10 |

| MORNING. |      |        |        | April 17th.        | EVENING. |        |        |  |
|----------|------|--------|--------|--------------------|----------|--------|--------|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |  |
| 2        | 3    | 1·020  | 20     | Alderney .....     | 2        | 1·020  | 20     |  |
| 3        | 5    | 1·024  | 15     | Brittany .....     | 4        | 1·023  | 15     |  |
| 4        | 4    | 1·024  | 16     | Half-bred Brittany | 3        | 1·022  | 16     |  |
| 5        | 3    | 1·022  | 15     | Brittany heifer .. | 2        | 1·022  | 15     |  |
| 6        | 7    | 1·028  | 10     | Shorthorn .....    | 5        | 1·028  | 10     |  |
| 7        | 4    | 1·024  | 12     | Shorthorn .....    | 3        | 1·024  | 12     |  |
| 8        | 5    | 1·024  | 10     | Half-bred Ayrshire | 4        | 1·023  | 10     |  |

## April 18th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1·020 | 20 | Alderney .....     | 2 | 1·020 | 20 |
| 3 | 5 | 1·024 | 15 | Brittany .....     | 4 | 1·025 | 15 |
| 4 | 4 | 1·023 | 16 | Half-bred Brittany | 3 | 1·022 | 16 |
| 5 | 3 | 1·022 | 15 | Brittany heifer .. | 2 | 1·022 | 15 |
| 6 | 7 | 1·028 | 10 | Shorthorn .....    | 5 | 1·028 | 10 |
| 7 | 4 | 1·024 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |
| 8 | 5 | 1·024 | 10 | Half-bred Ayrshire | 4 | 1·023 | 10 |

Cows in Holloway's field.

## April 19th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1·020 | 20 | Alderney .....     | 2 | 1·020 | 20 |
| 3 | 5 | 1·023 | 16 | Brittany .....     | 4 | 1·025 | 15 |
| 4 | 4 | 1·022 | 17 | Half-bred Brittany | 3 | 1·022 | 16 |
| 5 | 3 | 1·022 | 16 | Brittany heifer .. | 2 | 1·020 | 16 |
| 6 | 7 | 1·028 | 10 | Shorthorn .....    | 5 | 1·028 | 10 |
| 7 | 4 | 1·024 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |
| 8 | 5 | 1·024 | 10 | Half-bred Ayrshire | 4 | 1·023 | 10 |

## April 20th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1·020 | 20 | Alderney .....     | 2 | 1·020 | 20 |
| 3 | 5 | 1·024 | 15 | Brittany .....     | 4 | 1·025 | 15 |
| 4 | 4 | 1·023 | 16 | Half-bred Brittany | 3 | 1·022 | 16 |
| 5 | 3 | 1·022 | 15 | Brittany heifer .. | 2 | 1·020 | 15 |
| 6 | 7 | 1·028 | 10 | Shorthorn .....    | 5 | 1·027 | 10 |
| 7 | 4 | 1·024 | 12 | Shorthorn .....    | 3 | 1·023 | 12 |
| 8 | 5 | 1·024 | 10 | Half-bred Ayrshire | 4 | 1·023 | 10 |

## April 21st.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1·020 | 20 | Alderney .....     | 2 | 1·020 | 20 |
| 3 | 5 | 1·024 | 15 | Brittany .....     | 4 | 1·025 | 15 |
| 4 | 4 | 1·023 | 16 | Half-bred Brittany | 3 | 1·022 | 16 |
| 5 | 3 | 1·020 | 15 | Brittany heifer .. | 2 | 1·020 | 15 |
| 6 | 7 | 1·028 | 10 | Shorthorn .....    | 5 | 1·027 | 10 |
| 7 | 4 | 1·025 | 12 | Shorthorn .....    | 3 | 1·023 | 12 |
| 8 | 5 | 1·024 | 10 | Half-bred Ayrshire | 4 | 1·023 | 10 |

| MORNING. |      |        |        | April 22nd.        |      | EVENING. |        |  |
|----------|------|--------|--------|--------------------|------|----------|--------|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts. | Sp. G.   | Cream. |  |
| 2        | 3    | 1.022  | 20     | Alderney .....     | 2    | 1.020    | 20     |  |
| 3        | 5    | 1.024  | 15     | Brittany .....     | 4    | 1.025    | 15     |  |
| 4        | 4    | 1.025  | 16     | Half-bred Brittany | 3    | 1.022    | 16     |  |
| 5        | 3    | 1.022  | 15     | Brittany heifer .. | 4    | 1.020    | 15     |  |
| 6        | 7    | 1.027  | 10     | Shorthorn .....    | 5    | 1.027    | 10     |  |
| 7        | 4    | 1.023  | 12     | Shorthorn .....    | 3    | 1.023    | 12     |  |
| 8        | 5    | 1.025  | 10     | Half-bred Ayrshire | 4    | 1.020    | 10     |  |

## April 23rd.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1.022 | 20 | Alderney .....     | 2 | 1.020 | 20 |
| 3 | 5 | 1.024 | 15 | Brittany .....     | 4 | 1.025 | 15 |
| 4 | 4 | 1.025 | 16 | Half-bred Brittany | 5 | 1.022 | 16 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 4 | 1.020 | 15 |
| 6 | 7 | 1.027 | 10 | Shorthorn .....    | 5 | 1.027 | 10 |
| 7 | 4 | 1.025 | 12 | Shorthorn .....    | 3 | 1.025 | 12 |
| 8 | 5 | 1.025 | 10 | Half-bred Ayrshire | 4 | 1.022 | 10 |

## April 24th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1.022 | 26 | Alderney .....     | 2 | 1.020 | 20 |
| 3 | 5 | 1.024 | 15 | Brittany .....     | 4 | 1.025 | 15 |
| 4 | 4 | 1.025 | 16 | Half-bred Brittany | 5 | 1.022 | 16 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 4 | 1.020 | 18 |
| 6 | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |
| 8 | 3 | 1.025 | 10 | Half-bred Ayrshire | 4 | 1.023 | 11 |

## April 25th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1.022 | 20 | Alderney .....     | 2 | 1.022 | 21 |
| 3 | 5 | 1.024 | 15 | Brittany .....     | 4 | 1.024 | 14 |
| 4 | 4 | 1.025 | 16 | Half-bred Brittany | 5 | 1.023 | 15 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 4 | 1.020 | 17 |
| 6 | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.027 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.023 | 12 |
| 8 | 5 | 1.025 | 11 | Half-bred Ayrshire | 4 | 1.023 | 10 |

## April 26th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1.020 | 20 | Alderney .....     | 2 | 1.020 | 20 |
| 3 | 5 | 1.024 | 16 | Brittany .....     | 4 | 1.024 | 15 |
| 4 | 4 | 1.025 | 16 | Half-bred Brittany | 5 | 1.022 | 16 |
| 5 | 3 | 1.022 | 15 | Brittany heifer .. | 4 | 1.020 | 18 |
| 6 | 7 | 1.027 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |
| 8 | 5 | 1.024 | 10 | Half-bred Ayrshire | 4 | 1.024 | 10 |

| MORNING. |      |        |        | April 27th.        | EVENING. |        |        |
|----------|------|--------|--------|--------------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |
| 2        | 3    | 1·020  | 20     | Alderney .....     | 2        | 1·020  | 20     |
| 3        | 5    | 1·023  | 15     | Brittany .....     | 4        | 1·023  | 15     |
| 4        | 4    | 1·024  | 16     | Half-bred Brittany | 5        | 1·022  | 16     |
| 5        | 3    | 1·023  | 18     | Brittany heifer .. | 4        | 1·023  | 18     |
| 6        | 7    | 1·027  | 10     | Shorthorn .....    | 5        | 1·027  | 10     |
| 7        | 4    | 1·023  | 13     | Shorthorn .....    | 3        | 1·022  | 12     |
| 8        | 5    | 1·024  | 10     | Half-bred Ayrshire | 4        | 1·024  | 10     |

## April 28th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1·020 | 20 | Alderney .....     | 2 | 1·020 | 20 |
| 3 | 5 | 1·024 | 16 | Brittany .....     | 4 | 1·024 | 15 |
| 4 | 4 | 1·025 | 16 | Half-bred Brittany | 5 | 1·024 | 16 |
| 5 | 3 | 1·022 | 15 | Brittany heifer .. | 4 | 1·023 | 15 |
| 6 | 7 | 1·027 | 10 | Shorthorn .....    | 5 | 1·026 | 10 |
| 7 | 4 | 1·025 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |
| 8 | 5 | 1·024 | 10 | Half-bred Ayrshire | 4 | 1·024 | 10 |

## April 29th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1·020 | 20 | Alderney .....     | 2 | 1·020 | 20 |
| 3 | 5 | 1·024 | 15 | Brittany .....     | 4 | 1·024 | 15 |
| 4 | 4 | 1·023 | 16 | Half-bred Brittany | 5 | 1·023 | 16 |
| 5 | 3 | 1·022 | 15 | Brittany heifer .. | 4 | 1·022 | 15 |
| 6 | 7 | 1·026 | 10 | Shorthorn .....    | 5 | 1·026 | 10 |
| 7 | 4 | 1·024 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |
| 8 | 5 | 1·025 | 10 | Half-bred Ayrshire | 4 | 1·024 | 10 |

## April 30th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 2 | 3 | 1·020 | 20 | Alderney .....     | 2 | 1·020 | 20 |
| 3 | 5 | 1·025 | 16 | Brittany .....     | 4 | 1·025 | 16 |
| 4 | 4 | 1·024 | 16 | Half-bred Brittany | 5 | 1·024 | 16 |
| 5 | 3 | 1·022 | 15 | Brittany heifer .. | 4 | 1·022 | 15 |
| 6 | 7 | 1·026 | 10 | Shorthorn .....    | 5 | 1·026 | 10 |
| 7 | 4 | 1·023 | 12 | Shorthorn .....    | 3 | 1·023 | 12 |
| 8 | 5 | 1·024 | 10 | Half-bred Ayrshire | 4 | 1·024 | 10 |

## May 1st.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 6 | 1·025 | 15 | Alderney .....     | 4 | 1·024 | 15 |
| 2 | 3 | 1·022 | 20 | Alderney .....     | 2 | 1·022 | 20 |
| 3 | 5 | 1·024 | 15 | Brittany .....     | 4 | 1·024 | 15 |
| 4 | 4 | 1·025 | 15 | Half-bred Brittany | 5 | 1·023 | 15 |
| 5 | 3 | 1·022 | 15 | Brittany heifer .. | 4 | 1·020 | 16 |
| 6 | 7 | 1·026 | 10 | Shorthorn .....    | 5 | 1·027 | 10 |
| 7 | 4 | 1·024 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |

Cow No. 8 sold.

| MORNING. |      |        |        | May 2nd.           | EVENING. |        |        |
|----------|------|--------|--------|--------------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |
| 1        | 6    | 1.025  | 16     | Alderney .....     | 4        | 1.025  | 16     |
| 2        | 3    | 1.022  | 20     | Alderney .....     | 2        | 1.020  | 20     |
| 3        | 5    | 1.026  | 15     | Brittany .....     | 4        | 1.022  | 15     |
| 4        | 4    | 1.024  | 15     | Half-bred Brittany | 5        | 1.024  | 15     |
| 5        | 3    | 1.023  | 14     | Brittany heifer .. | 4        | 1.023  | 14     |
| 6        | 7    | 1.026  | 10     | Shorthorn .....    | 5        | 1.026  | 10     |
| 7        | 4    | 1.024  | 12     | Shorthorn .....    | 3        | 1.024  | 12     |

Cows in Bunkin's field.

| May 3rd. |   |       |    |                    |   |       |    |
|----------|---|-------|----|--------------------|---|-------|----|
| 1        | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 18 |
| 2        | 3 | 1.023 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3        | 5 | 1.023 | 15 | Brittany .....     | 4 | 1.023 | 15 |
| 4        | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.022 | 15 |
| 5        | 3 | 1.022 | 14 | Brittany heifer .. | 4 | 1.023 | 14 |
| 6        | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7        | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| May 4th. |   |       |    |                    |   |       |    |
|----------|---|-------|----|--------------------|---|-------|----|
| 1        | 6 | 1.025 | 16 | Alderney .....     | 4 | 1.025 | 16 |
| 2        | 3 | 1.024 | 19 | Alderney .....     | 2 | 1.024 | 19 |
| 3        | 5 | 1.023 | 16 | Brittany .....     | 4 | 1.023 | 16 |
| 4        | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.024 | 15 |
| 5        | 3 | 1.022 | 14 | Brittany heifer .. | 4 | 1.022 | 14 |
| 6        | 7 | 1.027 | 10 | Shorthorn .....    | 5 | 1.027 | 10 |
| 7        | 4 | 1.023 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| May 5th. |   |       |    |                    |   |       |    |
|----------|---|-------|----|--------------------|---|-------|----|
| 1        | 6 | 1.024 | 18 | Alderney .....     | 4 | 1.025 | 17 |
| 2        | 3 | 1.023 | 18 | Alderney .....     | 2 | 1.023 | 18 |
| 3        | 5 | 1.022 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4        | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.023 | 15 |
| 5        | 3 | 1.026 | 15 | Brittany heifer .. | 4 | 1.024 | 14 |
| 6        | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7        | 4 | 1.023 | 12 | Shorthorn .....    | 3 | 1.023 | 12 |

| May 6th. |   |       |    |                    |   |       |    |
|----------|---|-------|----|--------------------|---|-------|----|
| 1        | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2        | 4 | 1.024 | 18 | Alderney .....     | 2 | 1.023 | 18 |
| 3        | 5 | 1.023 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4        | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.023 | 17 |
| 5        | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.024 | 14 |
| 6        | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7        | 4 | 1.023 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| MORNING. |      |        |        | May 7th.           | EVENING. |        |        |  |
|----------|------|--------|--------|--------------------|----------|--------|--------|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |  |
| 1        | 6    | 1·025  | 17     | Alderney .....     | 4        | 1·024  | 17     |  |
| 2        | 3    | 1·023  | 18     | Alderney .....     | 2        | 1·023  | 18     |  |
| 3        | 5    | 1·023  | 16     | Brittany .....     | 4        | 1·024  | 16     |  |
| 4        | 4    | 1·022  | 15     | Half-bred Brittany | 5        | 1·023  | 15     |  |
| 5        | 3    | 1·024  | 14     | Brittany heifer .. | 4        | 1·024  | 14     |  |
| 6        | 7    | 1·026  | 10     | Shorthorn .....    | 5        | 1·026  | 10     |  |
| 7        | 4    | 1·024  | 12     | Shorthorn .....    | 3        | 1·024  | 12     |  |

|   |   |       |    | May 8th.           |   |       |    |  |
|---|---|-------|----|--------------------|---|-------|----|--|
| 1 | 6 | 1·025 | 17 | Alderney .....     | 4 | 1·025 | 17 |  |
| 2 | 3 | 1·024 | 18 | Alderney .....     | 2 | 1·024 | 18 |  |
| 3 | 5 | 1·023 | 16 | Brittany .....     | 4 | 1·023 | 15 |  |
| 4 | 4 | 1·024 | 15 | Half-bred Brittany | 5 | 1·023 | 15 |  |
| 5 | 3 | 1·022 | 14 | Brittany heifer .. | 4 | 1·024 | 14 |  |
| 6 | 7 | 1·026 | 10 | Shorthorn .....    | 5 | 1·027 | 10 |  |
| 7 | 4 | 1·024 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |  |

|   |   |       |    | May 9th.           |   |       |    |  |
|---|---|-------|----|--------------------|---|-------|----|--|
| 1 | 6 | 1·025 | 17 | Alderney .....     | 4 | 1·025 | 17 |  |
| 2 | 3 | 1·024 | 18 | Alderney .....     | 2 | 1·024 | 18 |  |
| 3 | 5 | 1·023 | 16 | Brittany .....     | 4 | 1·023 | 16 |  |
| 4 | 4 | 1·024 | 15 | Half-bred Brittany | 5 | 1·023 | 15 |  |
| 5 | 3 | 1·022 | 14 | Brittany heifer .. | 4 | 1·024 | 14 |  |
| 6 | 7 | 1·026 | 10 | Shorthorn .....    | 5 | 1·026 | 10 |  |
| 7 | 4 | 1·024 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |  |

|   |   |       |    | May 10th.          |   |       |    |  |
|---|---|-------|----|--------------------|---|-------|----|--|
| 1 | 6 | 1·025 | 18 | Alderney .....     | 4 | 1·025 | 18 |  |
| 2 | 3 | 1·023 | 18 | Alderney .....     | 2 | 1·023 | 18 |  |
| 3 | 5 | 1·024 | 16 | Brittany .....     | 4 | 1·024 | 15 |  |
| 4 | 4 | 1·023 | 15 | Half-bred Brittany | 5 | 1·023 | 15 |  |
| 5 | 3 | 1·024 | 14 | Brittany heifer .. | 4 | 1·023 | 14 |  |
| 6 | 7 | 1·026 | 10 | Shorthorn .....    | 5 | 1·026 | 10 |  |
| 7 | 4 | 1·023 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |  |

|   |   |       |    | May 11th.          |   |       |    |  |
|---|---|-------|----|--------------------|---|-------|----|--|
| 1 | 6 | 1·024 | 17 | Alderney .....     | 4 | 1·024 | 17 |  |
| 2 | 3 | 1·023 | 18 | Alderney .....     | 2 | 1·023 | 18 |  |
| 3 | 5 | 1·024 | 16 | Brittany .....     | 4 | 1·024 | 16 |  |
| 4 | 4 | 1·024 | 15 | Half-bred Brittany | 5 | 1·025 | 14 |  |
| 5 | 3 | 1·023 | 14 | Brittany heifer .. | 4 | 1·023 | 14 |  |
| 6 | 7 | 1·026 | 10 | Shorthorn .....    | 5 | 1·026 | 10 |  |
| 7 | 4 | 1·024 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |  |

| MORNING. |      |        |        | May 12th.          | EVENING. |        |        |
|----------|------|--------|--------|--------------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |
| 1        | 6    | 1.024  | 17     | Alderney .....     | 4        | 1.025  | 17     |
| 2        | 3    | 1.023  | 18     | Alderney .....     | 2        | 1.024  | 18     |
| 3        | 5    | 1.024  | 15     | Brittany .....     | 4        | 1.023  | 16     |
| 4        | 4    | 1.023  | 15     | Half-bred Brittany | 5        | 1.023  | 15     |
| 5        | 3    | 1.024  | 14     | Brittany heifer .. | 4        | 1.024  | 14     |
| 6        | 7    | 1.026  | 10     | Shorthorn .....    | 5        | 1.026  | 10     |
| 7        | 4    | 1.024  | 12     | Shorthorn .....    | 3        | 1.024  | 12     |

## May 13th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2 | 3 | 1.024 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3 | 5 | 1.023 | 16 | Brittany .....     | 4 | 1.023 | 15 |
| 4 | 4 | 1.021 | 15 | Half-bred Brittany | 5 | 1.022 | 15 |
| 5 | 3 | 1.024 | 14 | Brittany heifer .. | 4 | 1.023 | 14 |
| 6 | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

## May 14th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2 | 3 | 1.024 | 18 | Alderney .....     | 2 | 1.023 | 18 |
| 3 | 5 | 1.024 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4 | 4 | 1.023 | 15 | Half-bred Brittany | 5 | 1.023 | 15 |
| 5 | 3 | 1.024 | 14 | Brittany heifer .. | 4 | 1.024 | 14 |
| 6 | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

## May 15th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2 | 3 | 1.024 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3 | 5 | 1.023 | 16 | Brittany .....     | 4 | 1.023 | 16 |
| 4 | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.024 | 15 |
| 5 | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.024 | 14 |
| 6 | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

## May 16th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2 | 3 | 1.023 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3 | 5 | 1.024 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4 | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.023 | 15 |
| 5 | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.024 | 14 |
| 6 | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

Cows in Holloway's field.

| MORNING. |      |        |        | May 17th.          | EVENING. |        |        |
|----------|------|--------|--------|--------------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |
| 1        | 6    | 1.025  | 17     | Alderney .....     | 4        | 1.025  | 17     |
| 2        | 3    | 1.024  | 18     | Alderney .....     | 2        | 1.024  | 18     |
| 3        | 5    | 1.023  | 16     | Brittany .....     | 4        | 1.023  | 16     |
| 4        | 4    | 1.024  | 15     | Half-bred Brittany | 5        | 1.024  | 15     |
| 5        | 3    | 1.023  | 14     | Brittany heifer .. | 4        | 1.023  | 14     |
| 6        | 7    | 1.026  | 10     | Shorthorn .....    | 5        | 1.026  | 10     |
| 7        | 4    | 1.024  | 12     | Shorthorn .....    | 3        | 1.024  | 12     |

| May 18th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2         | 3 | 1.023 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3         | 5 | 1.022 | 15 | Brittany .....     | 4 | 1.022 | 16 |
| 4         | 4 | 1.024 | 14 | Half-bred Brittany | 5 | 1.024 | 15 |
| 5         | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.023 | 14 |
| 6         | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7         | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| May 19th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2         | 3 | 1.023 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3         | 5 | 1.023 | 15 | Brittany .....     | 4 | 1.023 | 15 |
| 4         | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.024 | 15 |
| 5         | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.023 | 14 |
| 6         | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7         | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| May 20th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2         | 3 | 1.024 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3         | 5 | 1.023 | 15 | Brittany .....     | 4 | 1.023 | 15 |
| 4         | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.024 | 15 |
| 5         | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.023 | 14 |
| 6         | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7         | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| May 21st. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2         | 3 | 1.023 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3         | 5 | 1.024 | 16 | Brittany .....     | 4 | 1.023 | 15 |
| 4         | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.024 | 15 |
| 5         | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.023 | 14 |
| 6         | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7         | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| MORNING. |      |        |        | May 22nd.          | EVENING. |        |        |  |
|----------|------|--------|--------|--------------------|----------|--------|--------|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |  |
| 1        | 6    | 1.025  | 17     | Alderney .....     | 4        | 1.025  | 17     |  |
| 2        | 3    | 1.023  | 18     | Alderney .....     | 2        | 1.024  | 18     |  |
| 3        | 5    | 1.023  | 16     | Brittany .....     | 4        | 1.023  | 16     |  |
| 4        | 4    | 1.024  | 15     | Half-bred Brittany | 5        | 1.024  | 15     |  |
| 5        | 3    | 1.023  | 14     | Brittany heifer .. | 4        | 1.023  | 14     |  |
| 6        | 7    | 1.026  | 10     | Shorthorn .....    | 5        | 1.026  | 10     |  |
| 7        | 4    | 1.024  | 12     | Shorthorn .....    | 3        | 1.024  | 12     |  |

## May 23rd.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2 | 3 | 1.024 | 18 | Alderney .....     | 2 | 1.023 | 18 |
| 3 | 5 | 1.024 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4 | 4 | 1.023 | 15 | Half-bred Brittany | 5 | 1.023 | 15 |
| 5 | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.024 | 14 |
| 6 | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

## May 24th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2 | 3 | 1.023 | 18 | Alderney .....     | 2 | 1.023 | 18 |
| 3 | 5 | 1.024 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4 | 4 | 1.023 | 15 | Half-bred Brittany | 5 | 1.023 | 15 |
| 5 | 3 | 1.024 | 14 | Brittany heifer .. | 4 | 1.024 | 14 |
| 6 | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

## May 25th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2 | 3 | 1.024 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3 | 5 | 1.023 | 16 | Brittany .....     | 4 | 1.023 | 16 |
| 4 | 4 | 1.023 | 15 | Half-bred Brittany | 5 | 1.024 | 15 |
| 5 | 3 | 1.024 | 14 | Brittany heifer .. | 4 | 1.023 | 14 |
| 6 | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

## May 26th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2 | 3 | 1.024 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3 | 5 | 1.023 | 16 | Brittany .....     | 4 | 1.023 | 16 |
| 4 | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.024 | 15 |
| 5 | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.023 | 14 |
| 6 | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7 | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| MORNING. |      |        |        | May 27th.          |  | EVENING. |        |        |
|----------|------|--------|--------|--------------------|--|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             |  | Qts.     | Sp. G. | Cream. |
| 1        | 6    | 1.025  | 17     | Alderney .....     |  | 4        | 1.025  | 17     |
| 2        | 3    | 1.024  | 18     | Alderney .....     |  | 2        | 1.024  | 18     |
| 3        | 5    | 1.023  | 16     | Brittany .....     |  | 4        | 1.023  | 16     |
| 4        | 4    | 1.023  | 15     | Half-bred Brittany |  | 5        | 1.024  | 15     |
| 5        | 3    | 1.024  | 14     | Brittany heifer .. |  | 4        | 1.023  | 14     |
| 6        | 7    | 1.026  | 10     | Shorthorn .....    |  | 5        | 1.026  | 10     |
| 7        | 4    | 1.024  | 12     | Shorthorn .....    |  | 3        | 1.024  | 12     |

| May 28th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2         | 3 | 1.024 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3         | 5 | 1.023 | 16 | Brittany .....     | 4 | 1.023 | 16 |
| 4         | 4 | 1.023 | 15 | Half-bred Brittany | 5 | 1.022 | 15 |
| 5         | 3 | 1.024 | 14 | Brittany heifer .. | 4 | 1.024 | 14 |
| 6         | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7         | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| May 29th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2         | 3 | 1.023 | 18 | Alderney .....     | 2 | 1.023 | 18 |
| 3         | 5 | 1.024 | 15 | Brittany .....     | 4 | 1.024 | 16 |
| 4         | 4 | 1.023 | 15 | Half-bred Brittany | 5 | 1.023 | 15 |
| 5         | 3 | 1.024 | 14 | Brittany heifer .. | 4 | 1.024 | 14 |
| 6         | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7         | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| May 30th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2         | 3 | 1.024 | 18 | Alderney .....     | 2 | 1.024 | 18 |
| 3         | 5 | 1.023 | 16 | Brittany .....     | 4 | 1.023 | 15 |
| 4         | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.022 | 15 |
| 5         | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.023 | 14 |
| 6         | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7         | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| May 31st. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 6 | 1.025 | 17 | Alderney .....     | 4 | 1.025 | 17 |
| 2         | 3 | 1.024 | 18 | Alderney .....     | 3 | 1.023 | 18 |
| 3         | 5 | 1.025 | 16 | Brittany .....     | 4 | 1.024 | 16 |
| 4         | 4 | 1.024 | 15 | Half-bred Brittany | 5 | 1.024 | 15 |
| 5         | 3 | 1.023 | 14 | Brittany heifer .. | 4 | 1.023 | 14 |
| 6         | 7 | 1.026 | 10 | Shorthorn .....    | 5 | 1.026 | 10 |
| 7         | 4 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 12 |

| MORNING. |      |        |        | June 1st.          | EVENING. |        |        |
|----------|------|--------|--------|--------------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |
| 1        | 4    | 1.024  | 16     | Alderney .....     | 3        | 1.023  | 15     |
| 3        | 5    | 1.023  | 15     | Brittany .....     | 3        | 1.024  | 15     |
| 4        | 4    | 1.022  | 16     | Half-bred Brittany | 3        | 1.025  | 14     |
| 5        | 3    | 1.020  | 15     | Brittany heifer .. | 2        | 1.022  | 12     |
| 6        | 7    | 1.025  | 14     | Shorthorn .....    | 5        | 1.026  | 15     |
| 7        | 5    | 1.024  | 16     | Shorthorn .....    | 3        | 1.025  | 16     |

Cows in Hackbridge field.

| June 2nd. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 4 | 1.022 | 16 | Alderney .....     | 3 | 1.023 | 16 |
| 3         | 5 | 1.020 | 15 | Brittany .....     | 3 | 1.023 | 15 |
| 4         | 4 | 1.023 | 16 | Half-bred Brittany | 3 | 1.022 | 15 |
| 5         | 3 | 1.020 | 14 | Brittany heifer .. | 2 | 1.021 | 14 |
| 6         | 7 | 1.026 | 14 | Shorthorn .....    | 5 | 1.024 | 15 |
| 7         | 5 | 1.025 | 16 | Shorthorn .....    | 3 | 1.026 | 14 |

| June 3rd. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 4 | 1.024 | 16 | Alderney .....     | 3 | 1.024 | 15 |
| 3         | 5 | 1.021 | 15 | Brittany .....     | 3 | 1.022 | 16 |
| 4         | 4 | 1.024 | 16 | Half-bred Brittany | 3 | 1.023 | 15 |
| 5         | 3 | 1.022 | 13 | Brittany heifer .. | 2 | 1.020 | 14 |
| 6         | 7 | 1.026 | 14 | Shorthorn .....    | 5 | 1.026 | 14 |
| 7         | 5 | 1.025 | 15 | Shorthorn .....    | 5 | 1.025 | 16 |

Vince's cow attacked with foot-and-mouth.

| June 4th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 4 | 1.023 | 17 | Alderney .....     | 3 | 1.022 | 16 |
| 3         | 5 | 1.020 | 15 | Brittany .....     | 3 | 1.021 | 16 |
| 4         | 4 | 1.023 | 16 | Half-bred Brittany | 3 | 1.023 | 15 |
| 5         | 3 | 1.022 | 13 | Brittany heifer .. | 2 | 1.020 | 13 |
| 6         | 7 | 1.026 | 14 | Shorthorn .....    | 5 | 1.026 | 14 |
| 7         | 5 | 1.025 | 15 | Shorthorn .....    | 3 | 1.024 | 15 |

| June 5th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 4 | 1.024 | 16 | Alderney .....     | 3 | 1.022 | 16 |
| 3         | 5 | 1.022 | 15 | Brittany .....     | 3 | 1.021 | 15 |
| 4         | 4 | 1.024 | 16 | Half-bred Brittany | 2 | 1.022 | 16 |
| 5         | 3 | 1.020 | 14 | Brittany heifer .. | 2 | 1.020 | 14 |
| 6         | 7 | 1.026 | 13 | Shorthorn .....    | 5 | 1.026 | 14 |
| 7         | 5 | 1.024 | 15 | Shorthorn .....    | 3 | 1.024 | 15 |

| MORNING. |      |        |        | June 6th.          | EVENING. |        |        |
|----------|------|--------|--------|--------------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |
| 1        | 4    | 1.024  | 16     | Alderney .....     | 3        | 1.024  | 16     |
| 3        | 5    | 1.020  | 15     | Brittany .....     | 3        | 1.022  | 15     |
| 4        | 4    | 1.020  | 16     | Half-bred Brittany | 3        | 1.024  | 15     |
| 5        | 3    | 1.022  | 14     | Brittany heifer .. | 2        | 1.020  | 13     |
| 6        | 7    | 1.026  | 13     | Shorthorn .....    | 5        | 1.025  | 14     |
| 7        | 5    | 1.024  | 15     | Shorthorn .....    | 3        | 1.023  | 15     |

| June 7th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 4 | 1.023 | 16 | Alderney .....     | 3 | 1.022 | 17 |
| 3         | 5 | 1.020 | 16 | Brittany .....     | 3 | 1.021 | 15 |
| 4         | 4 | 1.023 | 15 | Half-bred Brittany | 3 | 1.024 | 16 |
| 5         | 3 | 1.020 | 14 | Brittany heifer .. | 2 | 1.020 | 15 |
| 6         | 7 | 1.026 | 14 | Shorthorn .....    | 5 | 1.026 | 14 |
| 7         | 5 | 1.024 | 15 | Shorthorn .....    | 3 | 1.024 | 15 |

| June 8th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 4 | 1.024 | 16 | Alderney .....     | 3 | 1.024 | 16 |
| 3         | 5 | 1.023 | 15 | Brittany .....     | 3 | 1.022 | 15 |
| 4         | 4 | 1.022 | 16 | Half-bred Brittany | 3 | 1.023 | 15 |
| 5         | 3 | 1.020 | 14 | Brittany heifer .. | 2 | 1.020 | 14 |
| 6         | 7 | 1.025 | 14 | Shorthorn .....    | 5 | 1.026 | 13 |
| 7         | 5 | 1.024 | 14 | Shorthorn .....    | 3 | 1.023 | 15 |

Frost's cow attacked with foot-and-mouth.

| June 9th. |   |       |    |                    |   |       |    |
|-----------|---|-------|----|--------------------|---|-------|----|
| 1         | 3 | 1.023 | 16 | Alderney .....     | 2 | 1.024 | 15 |
| 3         | 2 | 1.022 | 20 | Brittany .....     | 1 | 1.022 | 28 |
| 4         | 3 | 1.025 | 12 | Half-bred Brittany | 2 | 1.024 | 14 |
| 5         | 2 | 1.020 | 20 | Brittany heifer .. | 1 | 1.020 | 12 |
| 6         | 5 | 1.026 | 10 | Shorthorn .....    | 3 | 1.028 | 8  |
| 7         | 3 | 1.025 | 18 | Shorthorn .....    | 2 | 1.027 | 26 |

Cows at home. Fed on grass, bran and hay. All suffering from foot-and-mouth.

| June 10th. |   |       |    |                    |   |       |    |
|------------|---|-------|----|--------------------|---|-------|----|
| 1          | 2 | 1.023 | 16 | Alderney .....     | 1 | 1.023 | 17 |
| 3          | 1 | 1.020 | 24 | Brittany .....     | 1 | 1.022 | 22 |
| 4          | 2 | 1.023 | 14 | Half-bred Brittany | 1 | 1.024 | 15 |
| 5          | 2 | 1.020 | 15 | Brittany heifer .. | 1 | 1.024 | 14 |
| 6          | 5 | 1.027 | 12 | Shorthorn .....    | 3 | 1.026 | 11 |
| 7          | 2 | 1.026 | 20 | Shorthorn .....    | 1 | 1.025 | 18 |

| MORNING. |      |        |        | June 11th.         | EVENING. |        |        |
|----------|------|--------|--------|--------------------|----------|--------|--------|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |
| 1        | 3    | 1.024  | 18     | Alderney .....     | 2        | 1.024  | 13     |
| 3        | 2    | 1.021  | 23     | Brittany .....     | 1        | 1.023  | 18     |
| 4        | 3    | 1.024  | 17     | Half-bred Brittany | 2        | 1.025  | 15     |
| 5        | 3    | 1.020  | 18     | Brittany heifer .. | 1        | 1.025  | 14     |
| 6        | 6    | 1.026  | 12     | Shorthorn .....    | 4        | 1.026  | 10     |
| 7        | 3    | 1.025  | 18     | Shorthorn .....    | 2        | 1.025  | 13     |

## June 12th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 3 | 1.025 | 15 | Alderney .....     | 2 | 1.024 | 15 |
| 3 | 2 | 1.023 | 18 | Brittany .....     | 1 | 1.022 | 18 |
| 4 | 2 | 1.025 | 14 | Half-bred Brittany | 1 | 1.024 | 14 |
| 5 | 2 | 1.025 | 13 | Brittany heifer .. | 1 | 1.023 | 13 |
| 6 | 6 | 1.027 | 12 | Shorthorn .....    | 4 | 1.027 | 12 |
| 7 | 3 | 1.025 | 10 | Shorthorn .....    | 2 | 1.025 | 10 |

Skellerton's and Fuller's cows attacked with foot-and-mouth.

## June 13th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 4 | 1.025 | 15 | Alderney .....     | 2 | 1.025 | 15 |
| 3 | 3 | 1.023 | 17 | Brittany .....     | 2 | 1.023 | 17 |
| 4 | 3 | 1.024 | 15 | Half-bred Brittany | 2 | 1.024 | 15 |
| 5 | 2 | 1.024 | 13 | Brittany heifer .. | 1 | 1.023 | 13 |
| 6 | 7 | 1.025 | 12 | Shorthorn .....    | 5 | 1.027 | 12 |
| 7 | 4 | 1.024 | 11 | Shorthorn .....    | 3 | 1.025 | 11 |

## June 14th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 4 | 1.023 | 15 | Alderney .....     | 3 | 1.024 | 15 |
| 3 | 5 | 1.024 | 16 | Brittany .....     | 3 | 1.022 | 16 |
| 4 | 4 | 1.023 | 15 | Half-bred Brittany | 2 | 1.024 | 14 |
| 5 | 4 | 1.022 | 14 | Brittany heifer .. | 2 | 1.023 | 13 |
| 6 | 8 | 1.027 | 12 | Shorthorn .....    | 5 | 1.027 | 12 |
| 7 | 5 | 1.024 | 12 | Shorthorn .....    | 3 | 1.024 | 13 |

## June 15th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 4 | 1.023 | 16 | Alderney .....     | 3 | 1.024 | 15 |
| 3 | 4 | 1.022 | 17 | Brittany .....     | 3 | 1.022 | 17 |
| 4 | 4 | 1.024 | 15 | Half-bred Brittany | 2 | 1.024 | 15 |
| 5 | 4 | 1.024 | 14 | Brittany heifer .. | 2 | 1.023 | 14 |
| 6 | 7 | 1.028 | 12 | Shorthorn .....    | 5 | 1.027 | 12 |
| 7 | 5 | 1.025 | 12 | Shorthorn .....    | 3 | 1.026 | 12 |

| MORNING. |      |        |        | June 16th.         | EVENING. |        |        |  |
|----------|------|--------|--------|--------------------|----------|--------|--------|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |  |
| 1        | 4    | 1·025  | 15     | Alderney .....     | 3        | 1·024  | 15     |  |
| 3        | 5    | 1·023  | 17     | Brittany .....     | 3        | 1·024  | 17     |  |
| 4        | 4    | 1·024  | 16     | Half-bred Brittany | 2        | 1·022  | 16     |  |
| 5        | 4    | 1·022  | 14     | Brittany heifer .. | 2        | 1·023  | 14     |  |
| 6        | 7    | 1·027  | 12     | Shorthorn .....    | 5        | 1·026  | 12     |  |
| 7        | 5    | 1·025  | 12     | Shorthorn .....    | 3        | 1·025  | 12     |  |

Cows in Holloway's field. Getting well.

| June 17th. |   |       |    |                    |   |       |    |  |
|------------|---|-------|----|--------------------|---|-------|----|--|
| 1          | 4 | 1·025 | 15 | Alderney .....     | 3 | 1·024 | 15 |  |
| 3          | 5 | 1·023 | 17 | Brittany .....     | 3 | 1·024 | 17 |  |
| 4          | 4 | 1·025 | 16 | Half-bred Brittany | 2 | 1·025 | 16 |  |
| 5          | 4 | 1·023 | 14 | Brittany heifer .. | 2 | 1·023 | 14 |  |
| 6          | 7 | 1·027 | 12 | Shorthorn .....    | 5 | 1·027 | 12 |  |
| 7          | 5 | 1·025 | 12 | Shorthorn .....    | 3 | 1·025 | 12 |  |

| June 18th. |   |       |    |                    |   |       |    |  |
|------------|---|-------|----|--------------------|---|-------|----|--|
| 1          | 4 | 1·024 | 16 | Alderney .....     | 3 | 1·024 | 16 |  |
| 3          | 5 | 1·023 | 17 | Brittany .....     | 3 | 1·023 | 16 |  |
| 4          | 4 | 1·024 | 16 | Half-bred Brittany | 2 | 1·024 | 16 |  |
| 5          | 4 | 1·022 | 14 | Brittany heifer .. | 2 | 1·021 | 14 |  |
| 6          | 7 | 1·027 | 12 | Shorthorn .....    | 5 | 1·026 | 12 |  |
| 7          | 5 | 1·025 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |  |

| June 19th. |   |       |    |                    |   |       |    |  |
|------------|---|-------|----|--------------------|---|-------|----|--|
| 1          | 4 | 1·024 | 16 | Alderney .....     | 3 | 1·025 | 15 |  |
| 3          | 5 | 1·023 | 17 | Brittany .....     | 3 | 1·023 | 15 |  |
| 4          | 4 | 1·024 | 15 | Half-bred Brittany | 2 | 1·024 | 16 |  |
| 5          | 4 | 1·022 | 14 | Brittany heifer .. | 2 | 1·021 | 14 |  |
| 6          | 7 | 1·027 | 12 | Shorthorn .....    | 5 | 1·026 | 13 |  |
| 7          | 5 | 1·025 | 12 | Shorthorn .....    | 3 | 1·024 | 12 |  |

Cows well.

| June 20th. |   |       |    |                    |   |       |    |  |
|------------|---|-------|----|--------------------|---|-------|----|--|
| 1          | 4 | 1·025 | 15 | Alderney .....     | 3 | 1·024 | 15 |  |
| 3          | 5 | 1·024 | 15 | Brittany .....     | 3 | 1·023 | 15 |  |
| 4          | 4 | 1·023 | 16 | Half-bred Brittany | 2 | 1·024 | 16 |  |
| 5          | 4 | 1·023 | 15 | Brittany heifer .. | 2 | 1·023 | 15 |  |
| 6          | 7 | 1·026 | 13 | Shorthorn .....    | 5 | 1·026 | 13 |  |
| 7          | 5 | 1·024 | 12 | Shorthorn .....    | 3 | 1·023 | 13 |  |

| MORNING. |      |        |        | June 21st.         | EVENING. |        |        |  |
|----------|------|--------|--------|--------------------|----------|--------|--------|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |  |
| 1        | 4    | 1.024  | 15     | Alderney .....     | 3        | 1.023  | 15     |  |
| 3        | 5    | 1.024  | 15     | Brittany .....     | 3        | 1.023  | 15     |  |
| 4        | 4    | 1.023  | 16     | Half-bred Brittany | 2        | 1.024  | 16     |  |
| 5        | 4    | 1.024  | 15     | Brittany heifer .. | 2        | 1.023  | 15     |  |
| 6        | 6    | 1.026  | 12     | Shorthorn .....    | 5        | 1.026  | 13     |  |
| 7        | 5    | 1.022  | 13     | Shorthorn .....    | 3        | 1.023  | 13     |  |

| June 22nd. |   |       |    |                    |   |       |    |  |
|------------|---|-------|----|--------------------|---|-------|----|--|
| 1          | 4 | 1.023 | 15 | Alderney .....     | 2 | 1.024 | 15 |  |
| 3          | 5 | 1.024 | 16 | Brittany .....     | 3 | 1.024 | 15 |  |
| 4          | 4 | 1.023 | 15 | Half-bred Brittany | 2 | 1.022 | 15 |  |
| 5          | 4 | 1.024 | 15 | Brittany heifer .. | 2 | 1.023 | 15 |  |
| 6          | 7 | 1.026 | 12 | Shorthorn .....    | 5 | 1.026 | 12 |  |
| 7          | 5 | 1.025 | 13 | Shorthorn .....    | 3 | 1.024 | 13 |  |

| June 23rd. |   |       |    |                    |   |       |    |  |
|------------|---|-------|----|--------------------|---|-------|----|--|
| 1          | 4 | 1.023 | 15 | Alderney .....     | 2 | 1.024 | 15 |  |
| 3          | 5 | 1.024 | 15 | Brittany .....     | 3 | 1.023 | 16 |  |
| 4          | 4 | 1.023 | 16 | Half-bred Brittany | 2 | 1.022 | 15 |  |
| 5          | 4 | 1.023 | 15 | Brittany heifer .. | 2 | 1.024 | 15 |  |
| 6          | 7 | 1.026 | 12 | Shorthorn .....    | 5 | 1.026 | 12 |  |
| 7          | 5 | 1.024 | 13 | Shorthorn .....    | 3 | 1.024 | 13 |  |

| June 24th. |   |       |    |                    |   |       |    |  |
|------------|---|-------|----|--------------------|---|-------|----|--|
| 1          | 4 | 1.024 | 15 | Alderney .....     | 2 | 1.024 | 15 |  |
| 3          | 5 | 1.024 | 16 | Brittany .....     | 3 | 1.023 | 15 |  |
| 4          | 4 | 1.023 | 15 | Half-bred Brittany | 2 | 1.024 | 15 |  |
| 5          | 4 | 1.024 | 16 | Brittany heifer .. | 2 | 1.022 | 14 |  |
| 6          | 7 | 1.026 | 14 | Shorthorn .....    | 5 | 1.025 | 12 |  |
| 7          | 5 | 1.024 | 13 | Shorthorn .....    | 3 | 1.023 | 14 |  |

| June 25th. |   |       |    |                    |   |       |    |  |
|------------|---|-------|----|--------------------|---|-------|----|--|
| 1          | 4 | 1.024 | 16 | Alderney .....     | 2 | 1.024 | 16 |  |
| 3          | 5 | 1.023 | 16 | Brittany .....     | 3 | 1.023 | 16 |  |
| 4          | 4 | 1.024 | 15 | Half-bred Brittany | 2 | 1.024 | 15 |  |
| 5          | 4 | 1.023 | 16 | Brittany heifer .. | 2 | 1.022 | 16 |  |
| 6          | 7 | 1.026 | 13 | Shorthorn .....    | 5 | 1.026 | 13 |  |
| 7          | 5 | 1.025 | 14 | Shorthorn .....    | 3 | 1.025 | 14 |  |

| MORNING. |      |        |        | June 26th.         | EVENING. |        |        |  |
|----------|------|--------|--------|--------------------|----------|--------|--------|--|
| No.      | Qts. | Sp. G. | Cream. | Breed.             | Qts.     | Sp. G. | Cream. |  |
| 1        | 4    | 1·025  | 15     | Alderney .....     | 2        | 1·023  | 15     |  |
| 3        | 5    | 1·024  | 15     | Brittany .....     | 3        | 1·024  | 16     |  |
| 4        | 4    | 1·023  | 16     | Half-bred Brittany | 2        | 1·024  | 15     |  |
| 5        | 4    | 1·024  | 15     | Brittany heifer .. | 2        | 1·022  | 16     |  |
| 6        | 7    | 1·027  | 12     | Shorthorn .....    | 5        | 1·026  | 13     |  |
| 7        | 5    | 1·025  | 13     | Shorthorn .....    | 3        | 1·025  | 13     |  |

## June 27th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 4 | 1·024 | 15 | Alderney .....     | 2 | 1·023 | 15 |
| 3 | 5 | 1·023 | 16 | Brittany .....     | 3 | 1·024 | 15 |
| 4 | 4 | 1·024 | 15 | Half-bred Brittan  | 2 | 1·023 | 16 |
| 5 | 4 | 1·023 | 15 | Brittany heifer .. | 2 | 1·023 | 15 |
| 6 | 7 | 1·025 | 13 | Shorthorn .....    | 5 | 1·026 | 13 |
| 7 | 5 | 1·026 | 12 | Shorthorn .....    | 3 | 1·025 | 13 |

## June 28th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 4 | 1·024 | 15 | Alderney .....     | 2 | 1·023 | 16 |
| 3 | 5 | 1·023 | 16 | Brittany .....     | 3 | 1·422 | 16 |
| 4 | 4 | 1·023 | 16 | Half-bred Brittany | 2 | 1·024 | 15 |
| 5 | 4 | 1·023 | 15 | Brittany heifer .. | 2 | 1·022 | 15 |
| 6 | 7 | 1·025 | 13 | Shorthorn .....    | 5 | 1·026 | 12 |
| 7 | 5 | 1·023 | 14 | Shorthorn .....    | 3 | 1·025 | 13 |

## June 29th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 4 | 1·024 | 15 | Alderney .....     | 2 | 1·022 | 16 |
| 3 | 5 | 1·024 | 16 | Brittany .....     | 3 | 1·024 | 16 |
| 4 | 4 | 1·023 | 15 | Half-bred Brittany | 2 | 1·023 | 15 |
| 5 | 4 | 1·022 | 15 | Brittany heifer .. | 2 | 1·023 | 16 |
| 6 | 7 | 1·026 | 13 | Shorthorn .....    | 5 | 1·027 | 12 |
| 7 | 5 | 1·024 | 14 | Shorthorn .....    | 3 | 1·025 | 13 |

## June 30th.

|   |   |       |    |                    |   |       |    |
|---|---|-------|----|--------------------|---|-------|----|
| 1 | 4 | 1·024 | 15 | Alderney .....     | 2 | 1·023 | 15 |
| 3 | 5 | 1·023 | 16 | Brittany .....     | 3 | 1·024 | 16 |
| 4 | 4 | 1·024 | 16 | Half-bred Brittany | 2 | 1·023 | 15 |
| 5 | 4 | 1·022 | 15 | Brittany heifer .. | 2 | 1·024 | 15 |
| 6 | 7 | 1·025 | 13 | Shorthorn .....    | 5 | 1·026 | 13 |
| 7 | 5 | 1·025 | 13 | Shorthorn .....    | 3 | 1·024 | 14 |

Experiments stopped.

The specific gravity of the milk in the foregoing Tables was taken immediately after each individual milking, consequently at blood-heat: a specific gravity of 1.030, at the normal temperature ( $60^{\circ}$ ), is equivalent to 1.022 blood-heat.

A study of the above Tables leads to the following conclusions:—

The quantity and specific gravity and the percentage of cream, on milk from an individual cow, is tolerably constant when the cow is in full profit.

The quantity, however, slowly decreases, whilst the specific gravity and percentage of cream increase, from time of calving. The diurnal variation of milk from an individual cow is small; as a rule, the milk produced in the morning is greater in quantity and richer in quality than that yielded in the evening.

Occasionally, remarkable fluctuations take place both in the specific gravity and percentage of cream; whether this fluctuation is caused by some temporary disturbance in the health of the animal, or to the cows having drunk large quantities of water previous to milking, future investigation must decide.