

questions; not that he himself required information on the subjects brought forward, but for the benefit of his companions:

1. "Would in-lambd ewes do well with a supplementary ration of roots, in addition to their usual ration of dry food?"

The answer, of course, was—"Yes, provided too many were not given them." In lambd ewes require a fair proportion of nitrogenous food, such as clover-hay, pease, or oil-cake.

2. "Why is not more fall-wheat sown in the province of Quebec?"

To this, the answer was easy enough, and suggested by the Rev. Abbé himself, viz.; "Because the land is in want of thorough-drainage before it can support fall-wheat in the spring."

3. "Can ensilage be used for cattle as their sole food?"

Ans. "Decidedly not; if by ensilage is meant, as I presume it to be, *green* Indian corn ensiled. This is probably the very poorest of all cattle foods, even by analysis, to say nothing of practice. Compare it, for instance, with red clover:

| | Water. | Ash. | Albumi- noids. | Fibre | Other carb- hydrates. | Fat. |
|-------------|--------|------|-------------------|-------|--------------------------|------|
| Red-clover. | 80.4 | 1.3 | 3.0 | 5.8 | 8.9 | 0.6 |
| Green corn | 84.0 | 1.0 | 1.4 | 4.7 | 8.4 | 0.5 |

And remember that the analysis of the clover was made on a sample that was in full bloom and had therefore lost a considerable portion of its albuminoids. Where corn has been allowed to partially ripen its grain, as I understand to be the case in Mr. Barnard's practice, the case is different. On ensiled clover alone, therefore, cattle may do well enough, but I should not like to try the experiment. The truth is, that a mixture of foods is so certain to do cattle more good than one sort alone, that no analysis, however correct it may be, can afford more than a very slight guidance to the feeder. I am prepared to hear it said that I am deaf to the teachings of science, but the fact is I have had too much practical experience to be led away by the theoretical propositions of unpractical men. Now, here is an example of the utter "bosh" we find in books: At page 156, of Stewart's book on "Feeding Animals," I find the following analysis and valuation of swedes and white-turnips.

| | Water | Ash | Albu- mi- noids | Fibre. | Other carbhy- drates. | Fat | Value per 100 lbs |
|-------------|-------|-----|-----------------------|--------|-----------------------------|-----|-------------------------|
| Swedes.... | 87.0 | 1.0 | 1.3 | 1.1 | 9.5 | 0.1 | \$0.15 |
| Turnips ... | 92.0 | 0.7 | 1.1 | 0.8 | 5.3 | 0.1 | 0.16 |

And, at the same page, mangel wurzel is valued at 14 cents per 100 lbs.: less by two cents than white-turnips, the poorest of all roots grown on the farm. Mr Stewart, or Dr. Wolff from whose book I believe these analyses were taken, must have been most unfortunate in his selection of specimens. The fact is, that unless the analyst is aware of one or two practical peculiarities in the habits of the roots, he is working in the dark. Up to the setting in of cold weather, the white-turnip is preferable to the swede or the mangel; from that time to the growth of the leaves, the swede is preferable to either the white-turnip or the mangel; and thenceforward, the

mangel, having parted with much of its water, is preferable to both its rivals. In support of this I would instance an experiment I remember being carried out in England some 40 years ago: Eight lambs were penned on white-turnips, and eight on swedes, in the month of November. Both lots received as much as they liked to eat, and the same quantity of clover-chaff and cake was given to both pens. The lambs on white-turnips at the end of the month beat those on swedes by, I think it was, 2½ lbs. a head.

Talking of mangels, reminds me that I saw, in the Country Gentleman of last week, a statement by a lecturer on cattle feeding to the effect that mangels were injurious to stock if given before spring. This is not the case. I myself have used them, in England, before Xmas without arresting the progress of my fattening beasts, and Parry, farm-bailiff to Mr. Webb, Calcott, Reading, England, while preparing two Devon steers for the Smithfield Club Exhibition of 1855, gave them a fair allowance of mangels as early as October. He told me that he invariably found that they did fattening beasts much good, and in this case they did the Devon steers no harm, as they got the h. c., or "highly commended," in a very large and notoriously good class. Parry, who understood his business, was one of the best farmers I ever met, and afterwards went to Windsor to take the management of one of the Prince Consort's farms.

Lippens vs. Marsan.—In the February number of the *Journal d'agriculture*, Mr. Barnard writes as follows: "M. Marsan, at the meeting of the Dairymen's association at Three-Rivers in January last, stated publicly that he never meant to deny the law of the restitution to the soil of those elements which the crops carry off, and he acknowledged that the manure made by the cattle eating those crops is not sufficient to bring about such restitution. This, we presume, will end the controversy."

The following is, as nearly as possible, a literal translation of what M. Marsan did say in his lecture at the Quebec meeting of the Dairymen's association last April: "In the course of cropping, reserve a large part for forage plants, above all for the legumens which enjoy the singular property of assimilating nitrogen from the air and of returning to the soil, in their roots and waste matters, more than they extract from it. Give these forage plants to your cattle, which will furnish plenty of dung to be applied to your land. This abundance of manure will cause a constant improvement of the soil, AND AN EVER INCREASING AUGMENTATION OF ITS PRODUCTS. Forage plants, conjointly with the stock of the farm, supply the land with fertilising materials in sufficient abundance to preserve for an indefinite period the productive powers of arable land, AND EVEN TO INCREASE THEM BY DEGREES." (The small caps are mine. A. R. J. F.) Well, this ought to close the controversy, and I hope it will; but as we have the palinode of the pupil, M. Marsan, I should like to have the palinode of the teacher, M. Schmouth.

ARTHUR R. JENNER FUST.

OUR ENGRAVINGS.

Southdown Sheep.
Cross-bred Polled Heifer.
Bradford's butter-worker.

Cross-bred Polled Heifer.

A PRIZE ANIMAL.

There is probably no country in the world that, considering its area, excels England in the number of its agricultural shows, the value of the premiums offered, or in the efforts