"That some foods exercise a material effect in raising the melting point of butter.

"That the aim of all producers of milk, butter, or cheese should be to feed what will give quantity in moderate amount and of a mixed nature, and the produce will be the best the cow can give.

"The extra quality must be looked for by improving the breeds and judicious selection rather than by any special foods or method of feeding.

"That the variations in the percentage of fat in a cow's milk are caused by something, but what that something is we at present do not know, though if we did we might be able to influence the quality."

We would now draw attention to the following editorial paragraph in the *Melbourne Leader*:—

"Cow keepers, almost from time immemorial, had a fixed belief that the quality as well as quantity of the milk depended in a great measure upon the food of the animal. So general was this belief that feeding for quality was a common practice until experiments conducted in America, and subsequently in England and elsewhere, went to show that while the quantity of milk depended in a great measure upon the class of food, the quality—that is, the percentage of butter fat which it contained—remained unchanged. The question has since occasioned a considerable diversity of opinion, upsetting as it did all pre-conceived ideas, but the balance of evidence has been in favor of the reliability of the experiments. The latest account is of a trial carried out on the Ontario College Experimental Farm, where, by the way, previous trials were conducted, which showed that the quality of the milk remained unchanged no matter what the food was. Eight cows were fed for a month on pasture, 1 lb. of bran per day being given to each animal to induce her to come into the stalls. For the second month the food consisted of the same pasture with 1 lb. each of bran, peas and wheat during the first week, double quantities in the second, and treble in the third and fourth weeks. For the next fortnight the cows were fed on pasture and all the green peas and oats they liked to eat. Just here it may be mentioned that before being in the first instance turned out of the byre on to the pasture the cows were fed on 1 bushel of roots, 20 lb. of hay, 4 lb. of wheat and 4 lb. of bran each day. The average percentage of fat in their milk under this treatment was 3·51, but during the first week on pasture alone, with the addition of 1 lb. of bran per day, the percentage was increased to 4·22, with a much enlarged volume of milk. Here then was a remarkably clear demonstration of food making a striking difference in the richness of milk, and indicating that good pasture will produce richer milk than corn and root crops. Dry weather and consequent deterioration of the pasture caused the quantity of milk to shrink during the second monthly period, and the percentage of butter fat was reduced during the first fortnight to an average of 3·62. It is more than probable at this time the more nutritious of the grasses were eaten bare, yet with an increase of corn during the last week of the second period the percentage was raised to 3·82. Again, in the last fortnight of the trial, when the cows, still running on the pasture, had all the green peas and oats they liked to eat, the percentage was raised from 3·82 to 4·01. Comparing the results of the last period with those of the first week of the second period (when the cows had poor pasturage and little corn), the increase is from 3·62 to 4·01. But the most striking difference is that first mentioned, viz., 3·51 of butter fat when the cows were kept exclusively in the byre and fed as already described, and 4·22 when their food was pasture with only 1 lb. of bran each additional. Seeing that the trials made in a previous year at the Ontario College were relied on to a great extent as having indicated that food made no difference to the richness of the milk, it is important to notice the latest evidence from that source. The last experiment goes a long way towards upsetting recent theories, and it is to be hoped that further experiments will be undertaken with a view of setting all doubts at rest on the subject."

The statement of the result of the latest experiments at Ontario College must come as a surprise—though, at the same time, a pleasant one—to all who have any interest in this subject of the feeding of milk cows. It is certainly curious that the American investigations should on seperate occasions have produced different results. This inconsistency warns us that we should not rest satisfied with the latest conclusions arrived at, but await further corroborative testimony. We, as interested in dairy matters, should certainly wish to see it established, that by judicious feeding we can not only increase the quantity but also the quality of the milk produced by dairy cows. Our experience so far has certainly tended to support this belief.

FODDER CROPS AND CATTLE KEEPING IN CEYLON.—III.

Another grass which is largely cultivated in Ceylon is the Mauritius grass (*Panicum Molle* or *Baubinode*) commonly known as "water grass." This may be said to be the only fodder crop grown to any extent in the Island. Its growth is confined chiefly to Colombo and its vicinity, and it is only seen to a very small extent in other towns. The cultivation is in the hands of Tamil men from the South Indian Coast, who after a long experience have come to know the best methods to be adopted in growing it. Why this grass is known as Mauritius grass it is hard to say, though it might have come to the Island from Mauritius. It is very little known in India. The term "water grass" is applied to it obviously for two reasons,—one, that it thrives best in moist localities; and the other, that it is a grass containing a large percentage of moisture somewhere about 60 per cent of its total weight.

Mauritius grass is a succulent plant with creeping underground stems, which give off numerous stalks. These stalks are round and tubular and have dark green lanceolate leaves. The plants grow to the height of two to four feet, and in many instances when not cropped properly the stalks may be seen trailing along the ground to the extent of five to six feet or even longer.

A friable soil with a large amount of moisture, or where water is close to the surface, and especially in the vicinity of canals, rivers or marshes is the best fitted for the growth of this grass. The grass-fields of Colombo are mostly situated in such localities. The Cinnamon Garden soil is noted for its loose texture and the amount of moisture contained in it; water is found in this locality quite close to the surface. The lowlands in the vicinity of the Kelani river are more or less marshes. In all these places when under proper cultivation, the grass thrives well. Though water grass is eminently one so partial to moisture, it is known to grow fairly well in average soils, but then the development of the leaves and stems show a marked falling off. The produce of such localities is not so succulent as that grown in moist soils, but contains a comparatively large percentage of nutritive matter.

The cultivation of Mauritius grass is one that requires careful attention, which it well repays, since it is one of the most profitable crops grown at present.

Land selected for a grass plot is first well tilled and manured before it is planted. The planting is done by scattering, broadcast, pieces of mature stalks of the grass, say about six inches in length, along with some manure, usually cattle and horse dung, and covering them lightly. The first shower makes the planted stem to put forth numerous buds, and these within the space of from five to eight weeks grow up and form a thick bed of tall grass stalks. During the rains and when the season is favourable, a grass-field yields a crop once in five weeks; when the season is unfavourable this period is slightly extended. On an average a Mauritius grass-field gives eight crops a year. After each mowing the land has to be weeded and dressed with manure, consisting of cattle and horse dung and any refuse from road sweepings to weeds from stagnant pools &c.

The laying out of an acre of grass including the cost of tillage, manure, and the stalks for planting, costs on an average about	R50	00
Upkeep of one man and one woman working daily, @ 120/ per annum for the man and 60/ for the woman ..	180	00
First year's expenses	230	00
Second and subsquent year ..	180	00
Yield 1,250 bundles a cutting value 40/; eight cuttings give a net income of .. per annum.	320	00

Mauritius grass is undoubtedly a bulky food, considering the large percentage of moisture it contains, but at the same time it is one of the best foods to keep up animals in health, and as a change from coarse grass it is invaluable. The cultivation of this grass should be encouraged in the villages. There are lands suitable for its growth in almost every village, and such land is for the most part unsuitable for any other paying crop. A supply of Mauritius grass if available in the villages would be a great factor in the improvement of various kinds of stock in this Island.

W. A. D.

(To be continued.)

BANANAS AND PLANTAINS.

The August number of the Kew Bulletin is entirely taken up with "miscellaneous information," relating to bananas and plantains, with a description of the botanical characters and uses of the principal varieties of *Musa*, grown for use or ornament. The tribe *Museæ* belongs to the Natural Order SCITAMINEÆ, which includes many economic plants, such as Arrowroot, Turmeric, Cardamoms, Ginger, &c. The *Museæ* embrace four genera: *Heliconia*, *Musa*, *Strelitzia*, and *Revenala*. The Heliconias are ornamental plants. The Musas include the wild and cultivated bananas and plantains. The Strelitzias belong to South Africa, and the Ravenalas are known as the "Travellers' palms," the leaves of which are arranged like the ribs of a fan. They derive their name from the fact, that in the foot stalks of the leaves a supply of water may be obtained by trapping.

The Musas comprise the species of economic value, with their inestimable, edible fruits, and form the principal subject of the Kew Bulletin under notice. Notwithstanding the prominent place the bananas and plantains occupy among the cultivated fruits and foods of this Island, they have never yet attained the position they have gained elsewhere, or the attention they deserve in Ceylon.

With regard to the botanical characteristics of the tribe the plants are so familiar that little need here be said. The plantain tree has no real stem. That which serves as a stem for most of the species consists of the leaf stalks, which are succulent, and form sheaths, or coatings, like those of an onion, one over another. The flower bud is formed in the ground, and pushes its way up thence to the position it occupies at the top, where it attains its full growth and maturity.

Under the head of *cultivated varieties*, those that are found in different countries are specified in the Bulletin for each country separately. *India* heads the list, not that the greatest variety is found there, for the Phillipines and Indian Archipelago are richest, and according to Moon, Ceylon comes next. Roxburgh reports that he found in India only three vatieties of "plantain," and about thirty of the "banana." Eleven varieties are briefly described in the Bulletin before us, as being the chief of those that are cultivated in India; and they are used almost exclusively as table fruit when ripe, or as vegetables when unripe. When we come to consider the much more extended uses of the plantains and bananas in other countries, we shall have more to say about India.

Regarding Ceylon, Moon enumerates 47 kinds by their Sinhalese and English names. Yet, rich as the Island is in varieties, and though the list comprises some of the most delicious in flavour, and most productive and nourishing, Ceylon is far behind in the economic uses to which the fruit is applied, as compared with several other countries. Our main object in reviewing the Bulletin before us is to point out, as we have done several times before in these columns, the various uses of which the fruit is capable, economically, and commercially.