

Calf rearing. To those who are accustomed to feed calves with their dams' milk till they are weaned, it will probably come as a surprise, to learn that it has been found in an experiment made at WOBURN in calf feeding (Report of the Royal Agricultural Society of England for 1917) that whole milk is not necessary for calves more than a fortnight old. After this period, other foods could be given. In separated milk a good substitute is found, and if this is supplemented by crushed oats, it forms an excellent substitute, and is as good as, and certainly cheaper than, whole milk fed throughout. If separated milk is not available, water could be substituted along with meals. This would certainly reduce the cost a good deal but the gains in live weight are naturally not so high. In such a case a mixture of foods like Beans, Maize, Palm oil is better than a single food like crushed oats. They are best given dry and gruels are generally considered undesirable. It is also found that Fish meal with maize makes a good and economical food for calves. Purchased calf meals are generally condemned because they are not generally economical and in many cases are not so good as they are said to be. In these days of milk scarcity, dairymen are well advised to think of suitable substitutes for calf feeding, so that they might strip the cows entirely,—a practice which is practically unknown in this country.

D. A. R.

Extracts.

Manurial value of cotton-seed meal.—Oil-pressing mills for the extraction of cotton seed exist in a number of the British West India Islands, notably in Barbados, St. Vincent and St. Kitts. The oil is mostly exported, but the residual meal or cake is almost entirely used locally either as a feeding stuff for cattle or as a manure. In the Agricultural News (1916, 15, 273) an account is given of the manurial value of the meal when applied directly to the land, and reference is made to experiments which have

been conducted in the West Indies. In Barbados, when the price is reasonably low and there is an adequate supply, the planters use the meal as manure for sugarcane at the rate of about half a ton per acre, apparently with satisfactory results. Experiments conducted for eight years in Dominica have shown that it is also of considerable value for Cocoa; a plot manured with half a ton of cotton seed meal per acre gave an average yield of 1776 lbs. of cured cocoa per acre as compared with 1264 lbs. in the case of an unmanured plot, and it is believed that even better results would have been obtained with a heavier dressing. In Nevis it has been used as a manure for coconut, and although the results have been satisfactory so far, it is considered that the experiments have not been conducted long enough to definitely determine its value for this crop. It has also been tried for cotton in St. Kitts, but no remunerative return has been obtained after many years' trials. In this case however the soil is of an open and fertile nature, and the use of other manures has resulted in no appreciable gain.

(Bulletin of the Imperial Institute).

W. R.

Sugar.—Planters in Jamaica are now considering a revision of their major industry,—banana cultivation—in favour of sugar. In the Annual Report of the Department of Agriculture, Jamaica 1915—16, it is stated that banana planters in St. Catherine and St. Thomas have expressed a desire to give up the whole or a portion of their cultivation and plant sugarcane instead. The irrigable area of St. Catherine is the finest agricultural region of the island, and planters in the district consider that sugarcane is the best rotation crop for bananas on these lands. The danger of exhaustion of the soil with production of second class fruits, owing to loss of humus from prolonged banana cultivation, would be well met, it is thought, by equal proportions. A project for a sugar factory for St. Catherine has been considered for many years past, and the present time appears favourable for its fruition.

The value of the produce of the maple syrup and sugar industry in the province of Quebec is estimated at two million dollars a year. In the Agri. Journal of Canada (1916, 3—742) the Deputy Minister of Agriculture for Quebec expresses the opinion that a great future lies before this branch of Agriculture. Improvements have been made during the last two or three years, largely with funds provided under the Agricultural Instruction Act. Mention is made of the means taken by the Quebec Cheese makers' Co-operative Society to encourage the production of sugar and syrup of high quality and of the practical demonstration given in the sugar making schools, of which there are now four, and in the sugar cabins, to producers in the various sugar-making localities.

(Bulletin of the Imperial Institute).

W. R.

Fly papers. In view of the present high price of imported fly papers the following method of making them locally, devised by Mr. L. D. Cleare, jr. is given.

Manilla wrapping paper 9 inches wide and weighing about 15 lbs. per roll of 150 yards is used. The paper is marked off into lengths of 12 inches, the end of one sheet being the commencement of the next, and a rectangular space of 10 × 8 inches is marked out on each sheet. A cardboard mask will be found convenient for this purpose. The paper is then cut up into lengths of ten (or other convenient number) sheets.

These strips are now made oil-proof by the application of a solution consisting of one oz. ordinary glue in 3 ozs. water. The glue is dissolved in the water by heating and finally, if necessary, water is added to make up the full 3 ozs. The solution is applied with a *fine* brush and *must completely and evenly cover the entire surface*. The strips are then allowed to dry.

After the paper has dried it is cut up into single sheets and the adhesive mixture consisting of 3½ ozs. resin and 1½ ozs.

engine oil is brought to the boiling point and immediately applied to the paper. The mixture must be kept within the 10 x 8 rectangle. Two sheets are now placed face to face and stored thus until required for use. *The papers must be stored flat* and for preference in a cool dry place. They should not be stored for longer than two weeks.

(The journal of the Board of Agriculture of British Guiana Vol. XI No. 2, April 1918). P. V. I.

Guava jelly in war-time. The guava jelly takes first rank among tropical fruits. The most suitable preserving pan is an enamelled one. For stewing the fruit should be carefully peeled, cut into halves or quarters with a sharp knife, the seeds extracted with an enamelled or silver spoon. The seeds and peels may be soaked or boiled in water, and the strained water used for cooking the fruit. To every 2 lbs. of peeled and cleaned fruit allow one pint of water, boil slowly till tender, taking care in stirring not to crush the fruit. When soft, add 1½ lbs. of best granulated sugar and boil quickly for 15 to 20 minutes. If this be put into wide-mouthed screw-topped bottles and covered immediately it will keep good for a long time.

In war-time yellow sugar may be substituted for the best granulated. If this is used it requires a little longer stewing and would need to be skimmed.

(Eleanor Waby. The Journal of the Board of Agriculture of British Guiana Volume XI No. 2 April 1918.)

P. V. I.

Students' Corner.

CLASS II. STUDENTS' TOUR TO SOUTH MALABAR.

During the first week of October we were taken on tour to South Malabar by the Principal and we were fortunate in having

the company of Dr. Norris. Malabar presents a varied scenery. In no country are the charms of Nature more prodigally lavished. Her many lakes like pools of liquid silver, her mountains with their bright aerial tints, her valleys teeming with wild fertility, her tremendous cataracts thundering in solitudes, her boundless plains waving with spontaneous verdure, her deep rivers rolling in solemn silence to the ocean, and her tractless forests where vegetation puts forth all its luxury, are all magnificent.

First we had our camp at Ottapalam a place of importance in the Walluvanad Taluq of the Malabar District. Here the party was met by the Assistant Director of Agriculture and the Agricultural Demonstrator who showed the students large areas of paddy lands which very much varied in fertility. Distinct terrace cultivation of paddy with better and more economic types of the same was observed. Besides this, extensive coconut gardens and various new crops such as pepper, banana, ginger and tapioca, colocasia and certain other root crops occupied our attention. One peculiarity that may be mentioned is that a marked difference can be seen between the dwellings on the west and east coasts. On the West coast the houses nestle singly among shady trees and do not huddle together as in the eastern villages. Each house has its own compound surrounded by a strong thorny fence. Here tall arecanut palms, mango, and jack trees, all sorts of root crops, and pepper and betel vines may be seen. After four days halt here we went to Tirur, a place noted for its coir industry. The typical coconut gardens of this tract clearly show that Malabar is the land of palms. Here we had a very instructive and interesting practical demonstration on coconut cultivation. From here we went to Tanur which is well known for its fish industry. The extraction of fish oil and the curing of fish are carried on here very successfully both by Government and private factories. The Manager of the Government factory explained to the students the various processes connected with the extraction of oil and curing of fish.

Another matter that may be alluded to in this small note is that Malabar affords a good example of the fact that a moist climate is unsuited to cattle. The indigenous cattle are weak and stunted in growth and the climate is directly responsible for this, although negligence in feeding has an indirect influence. A word more may be said with reference to the cheerful hospitality of the Malayali who invariably served us with tender coconuts wherever we went. Moreover we all appreciated the tour with unique pleasure due mainly to the company of M. R. Ry., Govinda Kidavu Avl., and M. R. Ry., Vellodi who rendered us all possible help, although the latter due to unavoidable circumstances had to leave us on one or two occasions.

K. L. Ramakrishna Rao.

Student, Class II.

Games.

Football :—

22nd. A football match was played with the London Mission High School in the Mission Compound. Though the homsters had put in a strong team the match resulted in an easy victory for us by four goals to nil.

29th. Another match was played with the Town Eleven in our grounds. As the opposing team consisted of the pick of the Coimbatore players we were beaten by three goals to two.

Cricket :—

20th. *A. C. & R. I. versus Coimbatore College.* The match was played on our grounds. Our players entering first were able to score only 65 runs, for all the 10 wickets. The opposing team entering later was easily disposed of by the effective bowlings of students Soans and Seshagiri Rao of class I for a total score of only 33 which left us winners by 32 runs.

27th. *A. C. & R. I. versus Coimbatore United Eleven.* This was played on the Coronation park grounds. The homsters

entering first put up a total score of 105 runs. Among our bowlers Soans was in good form and was responsible for most of the wickets. Our players entering later made rather a poor show in the beginning, the first three wickets falling for a total of 9 runs. Then Mr. K. T. Bhandary entering later played his usual brilliant game and the score steadily went up to 120 when his wicket fell. He was responsible for 59 runs including 8 boundaries and one sixer. When the last wicket fell the score was at 123 which left us winners of the day by 18 runs. Besides Mr. Bhandary, others whose scores got into double figures are Mr. Raman and students Bhandary and Samuel.

Estate News.

The farm School. The Government recently sanctioned the starting of several schools for boys working in the various agricultural stations of the Presidency, and one such has been in existence at the Central Farm for some time. The idea is to teach the boys the three R's and the boys are half timers, i. e., they work for half the day only. Although there are no classes, the boys have been divided into two sets, one containing those who have had already some little schooling in village schools previously, and the other set, of boys who are comparatively beginners. The teacher is drawn from the ryot's class and is competent to teach up to the standard. The Principal is aided by a committee of 4 voluntary workers who suggest improvements or criticisms on the working of the school. The selection of boys is made twice a year and boys are not expected to stay longer than two years. There are twenty boys in the rolls of whom, we are glad to note, one is a chukli by caste. The teacher is accommodated in a wing attached to the school, and in addition to the 6 hours day teaching, he runs a night school for the illiterate adults and boys. We wish the school all the success that it deserves.