

## IMPROVEMENT OF CATTLE—II

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**I**N a previous article\* it was stated that improvement of cattle could not be obtained if attention was paid only to the breeding of better stock; attention must also be paid to improvement of the environmental conditions under which the cattle will be required to live.

The improved cattle obtained by breeding from superior strains will require more or better food if they are to thrive. Certain means whereby the food supply for cattle in villages could be improved were indicated.

Up to the present the method of improving the food supply for village cattle which has received the greatest attention is the popularization of the practice of growing fodder grasses. A number of excellent varieties of such grasses have been introduced into Ceylon and have proved suitable for our conditions of soil and climate. Their extended cultivation is highly desirable but it must not be thought that fodder grasses alone will solve the problem. For example, a ration consisting entirely of succulent fodder grass will not, on account of its very bulky nature, be ideal for a draught bull required to do heavy work, neither will it be suitable for a heavy milking cow. At certain stages of their growth, particularly during periods of ample rainfall, a ration composed solely of fodder grasses is apt to be too succulent and may cause diarrhoea. At such times some foodstuff which will counteract this tendency must be fed along with the fodder grasses. Outstanding examples of foodstuffs suitable for this purpose are cotton seed and paddy straw both of which are available in Ceylon but which are not used to

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anything like the extent they might be. Cotton seed is a very suitable addition to the ration for working bulls and milking cows but should be very sparingly used in the feeding of calves and young stock. In many parts of Ceylon little care is taken to preserve the supplies of paddy straw available at harvest time. There seems to be an unwarranted prejudice against it in many parts of the country, particularly among owners of dairy cows. One often hears the opinion expressed that it causes a decrease in the milk yield. There is no evidence to support this belief but there is good evidence against it.

In Shanghai, in a very large and successful commercial dairy stocked with cows imported from Australia, America and Great Britain, great difficulty was experienced in obtaining supplies of good fodder. It is understood that this difficulty was solved by extensive use of paddy straw with very good results.

In the dairy attached to the Farm School, Peradeniya, paddy straw has been incorporated in the ration on an increasing scale during the past two years with satisfactory results. It seems to be very palatable and is readily eaten by the cows. This fact was strikingly demonstrated when two pedigree Ayrshire heifers were imported from Scotland a year ago. Among other foodstuffs sent with the heifers on the ship was a supply of the best quality oaten straw. A few bales of this remained unused on arrival at Colombo and we were very careful to obtain them and take them with the heifers to Peradeniya. Our anxiety to take this oaten straw from the ship was on account of the difficulty, well known to all cattle owners, so often encountered in inducing cattle to take readily to any foodstuff to which they have not been accustomed. To our great surprise we found that these heifers when fed with a mixture of their native oaten straw and our Ceylon paddy straw picked out the paddy straw and rejected the oaten straw. The preference shown was very marked and we have continued to feed paddy straw in quantities up to 5 lb. per day to these heifers ever since. That it did not have any ill-effects on the milk yield was shown by the fact that one of the heifers has since calved and has given 4 gallons of milk in one day which is considered satisfactory for a first calf heifer of the Ayrshire breed.

In view of these facts it is very disappointing to observe how little attempt is made in many parts of the Island to make full use of the supplies available. Badly-made stacks of straw which are quickly damaged and spoiled by rain are too commonly seen. Much larger weights of straw could be obtained if it be cut closer to the ground. It is no uncommon sight to see a stubble of over one foot in length left after harvesting.

During prolonged periods of dry weather the rate of growth of fodder grasses slows down and an area which is ample during wet weather to supply the needs of the owner's herd becomes inadequate. Some cheap foodstuff to supplement the diminished supply of fodder grass during such periods is necessary. The drop in the yield of the fodder grasses could, of course, be obviated by irrigation but this is seldom practicable. Possible supplements which are worthy of trial include cassava and the juicy stems of plantains.

The great value of the roots of cassava as a standby during long periods of drought has been emphasised by Stewart, Principal Veterinary Officer in the Gold Coast, during the past few years. That cattle would eat the roots of cassava if they had access to them was fairly well known but they had never been used to any extent as a cattle food chiefly because of the fear that poisoning would result.

Stewart's experiments showed that the danger was greatly exaggerated if reasonable precautions were taken. He found that cattle readily eat the chopped roots and improved in condition when fed on them. He considered cassava roots the cheapest and best foodstuff for use during the dry season. On one of the Government Farms in the Gold Coast he used up to one ton of cassava roots per day for feeding cattle without any ill-effects. In view of Stewart's results, this foodstuff was tried at the Ambepussa Farm. In the beginning it was fed to two young heifers and two goats. A little difficulty was experienced on the first day or two of feeding in inducing the cattle to eat it readily, but this was soon overcome. Fearing possible ill-effects from hydrocyanic acid poisoning we fed only a small amount at first. Beginning with 1 lb. per head per day it was increased daily till the heifers were getting 20 lb. a day. This was continued for a prolonged period without any ill-effects.

The two heifers improved in condition as compared with their companions which were not getting cassava. Since then for over a year chopped cassava roots have been fed to the whole herd whenever supplies were available. No cases of poisoning by cassava have occurred during that period. The crop is easily grown, the chief difficulty which has been experienced has been damage by porcupine. As an easily grown and useful supplementary feed for use in the dry season it is well worthy of extended use in Ceylon. In using cassava as a cattle food, the chief point to remember is that it must be fed fresh. Only sufficient for one day's supply should be dug at a time. It must not be dug up and stored for future use. The roots should be chopped and fed to the cattle as soon after digging as possible. A suitable method of using them is to feed the chopped roots in the evening when the cattle return from grazing. A turnip pulper as used in Europe for chopping turnips for feeding to cattle has proved very suitable for chopping cassava roots and saves a great deal of labour.

Plantain stems cut into slices are readily eaten by cattle and where available are a very useful supplementary feed especially during dry weather when succulent foods are very scarce. In some parts of Tanganyika where grazing lands are very scarce certain tribes are stated to maintain their cows almost entirely by stall feeding. The cows spend practically their whole lives inside the sheds. They are fed on weeds collected from the cultivated areas, and on grasses cut and collected by the women. Every third day a plantain tree is cut down. The stems and leaves are cut into thin slices for the cattle. All banana skins are also fed to the cows.\* The cows maintained in this fashion are said to be small in size but are healthy, in good condition, and supply their owners with milk for their household.

There are few places in Ceylon where conditions for cattle are more adverse than in such parts of Tanganyika and such an example shows what can be done even under the worst conditions when the cattle owner is prepared to exert himself.

*(To be continued)*

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\* Annual Report, Department of Veterinary Science and Animal Husbandry, Tanganyika Territory, 1935