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A NOTE ON THE ONGOLE BREED OF CATTLE

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This breed is regarded as a dual purpose one. The bulls are used for work purposes in most of the districts, north of Madras, as far as Vizagapatam and Kurnool and Bellary Districts and the cow is one of the chief sources of the Madras City milk supply. From enquiries made, it is estimated that about 2500 cows of this breed are imported into Madras City each year from the breeding tract, some are returned to the tract again when dry and others are sold to the butchers. The Ongole cow yields on the average about 2500 lb. milk in a lactation in Madras. The Ongole Cattle Farm was opened in 1918 for the purpose of building up a pure herd of these animals which would calve regularly, produce good bulls for breeding purposes in the District and cows with a good average milk yield. In the beginning, 48 cows were purchased from the breeding tract. Some were disposed of at different periods for various reasons and the number was reduced to 25. During the last ten years, particulars have been worked out regarding the milk yield of the foundation stock and their progeny with the following results:—

I. The average yield of milk of the various classes:—

(a) Foundation stock	...	...	2674.1 lb.
Daily average	...	...	9.8 lb.
(b) Cows purchased with dams	...	...	2731.7 lb.
Daily average	...	...	9.1 lb.
(c) Farmbred cows with over 2 lactations	...	...	3526.4 lb.
Daily average	...	...	11.5 lb.

Farmbred show an increase of 852 lb. milk in a lactation with a daily average increase of 1.7 lb. per cow.

The average yield of farmbred stock, even including cows with one or two lactations is 3335.8 lb. and a daily average of 11 lb.

II. The average maximum yields is as follows:

(a) Foundation Stock	...	...	3714 lb.
Daily average	...	...	11.6 lb.
(b) Cows purchased with dams	...	...	3526 lb.
Daily average	...	...	10.5 lb.
(c) Farmbred cows (over 2 lactations,	...	...	4047 lb.
Daily average	...	...	12.6 lb.

Farmbred show an increase of 332 lb. milk with a daily average increase of 1 lb. per cow,

III. The highest individual yield in a lactation is:—

(a) Foundation cows	...	...	5422 lb.
Daily average	...	...	14.1 lb.
(b) Cows purchased with dams	...	...	4504 lb.
Daily average	...	...	12.5 lb.
(c) Farmbred cows	...	...	*6224.5 lb.
Daily average	...	...	25.6 lb.

On this station 8 cows have yielded over 5000 lb. milk in a single lactation and 11 cows have yielded between 4000 and 5000 lb. milk in a single lactation,

IV. The best average milk yield in each class:—

Purchased cow	...	...	3761 lb.
Daily average	...	...	11.5 lb.
Cow purchased with dam...	...	...	3313 lb.
Daily average	...	...	10.3 lb.
Farmbred cows	...	...	4995 lb.
	...	...	4885 lb.
	...	...	4838 lb.
Daily averages	...	...	15.5 lb.
	...	...	16.5 lb.
	...	...	16.3 lb.

V. The average dry period omitting abnormal cases:

Foundation cows:	...	...	177 days.
Cows purchased with dams.	...	...	181 days.
Farmbred cows.	...	...	147 days.

* This animal is still in milk and averaged 21.3 lb. last month

VI The average age at which a heifer calves is 3 years 3 months ; the average weight of the calves are :—

Bull calves.	...	...	65½ lb.
Heifer calves.	...	...	60 lb.

In April 1932, 382 Ongole cows at the Chintaladevi Livestock Research Station averaged 14 lb. milk per day per cow.

VII. The average number of calvings for 15 old cows, 14 to 17 years of age is 8.5. Milk yields in general show an increase from the third lactation onwards; five cows gave their highest yields in their seventh lactation and three in their fifth. On the average a calf is produced every 16 months.

The female stock in the District is much neglected and usually takes the last place as regards feeding and attention. For instance, a ryot devotes his special attention to his work cattle, next to these come his bull calves which he is rearing, next the cows suckling bull calves and lastly his dry cows and heifers.

The rearing of dairy heifers is generally in the hands of the poor class chiefly *Malas*; these people are usually the field labourers and weavers as well. They select one or two promising heifer calves from the ryots' herds, two to three months after they are weaned, generally at the age of about 12 months. The system of purchasing is usually, the Mala selects a calf and either purchases it outright, or on stipulation such as face value plus a certain amount of the profit when the animal is sold, or the family agrees to do a certain amount of work at the time of the cultivation season for the ryot. The calf is reared carefully and generally attended to by all the members of the family, the number of calves reared vary with the size of the family. The females collect grass in their spare time or obtain fodder from the ryot as part wages whilst returning from work. A sufficient quantity is collected and stored in the harvest season when they assist the ryots in harvesting. This is supplemented with grass which is collected. It is fed in small quantities regularly along with some *Variga Pottu* (Grain husk) and the washings from the kitchen. The heifers come to heat through good and regular attention from the age of 30 months and onwards. Promising animals pass several hands with a little profit to each. As soon as the Mala sells, he goes and purchases another animal with the money. In some cases these people walk many miles in search of a good heifer. When the animals are nearing parturition, they are purchased outright by dealers and when a sufficient number are procured, they are sent to Madras as milch animals. Some of these after they go dry in Madras are sent back to this District again to be maintained until they calve again. The maintenance charges one or two years ago were from Rs. 6 to 8 per month and a turban or cloth was given to the Mala when the animal calved and was taken back.

The Ongole cattle on the whole have poor horns and they have not a characteristic shape like breeds such as the Kangayam and Alambadi. Amongst the work cattle in the tract itself all sorts and sizes of horns are seen. The horn in the bull is short and stumpy and in several instances it is inclined to be slightly loose but is not noticeable until shaken by the hand. Several experts have been consulted regarding this but they were not able to throw any light on the subject; the late Imperial Dairy Expert (Mr. Smith) stated that loose horns are common in the Haryana and Kistna Valley breeds of cattle and these are very similar in type to the Ongole and he concludes that this is due to years of domestication. Loose horn is very common in the Saniwal breed of cattle also. In any case both in his and the writer's opinion, this is a minor fault if the cow is otherwise of the proper type, is a regular breeder and a good average milker. In the West in judging animals, little or no notice is taken of the horn. In the judging scale of points, one mark is allotted for horns out of 100. Records have been kept of matings of animals, bulls with tight horns have been mated to cows with tight horns; in some cases, the progeny have tight horns and in others, loose horns. Bulls with loose horns have been mated to cows with tight horns; some of the progeny have tight horns and others loose horns. Loose horns have been noticed in some of the Ongole heifers at Hosur at the age of 2 years and they have become tight at the age of 3 to 3½ years.

The foundation cows and bulls were purchased before the writer took up his duties in India in 1921. They were purchased by his predecessor from the breeding tract, nothing was known of their ancestry and one had to wait and see the kind of the stock bred to these animals. Weeding out of irregular breeders, poor milkers and poor types continued each year. This is very slow work, it takes four years or more for each generation and faults cannot be rectified all at once. Lime and bonemeal were fed to all the cattle and yet some bulls reared on the farm had slightly loose horns and in some cases split horns. Loose horn is seen amongst cattle in the tract. If this is hereditary, it will take a very long time to breed it out of the stock. A cow which is of a good type, a regular breeder and a good milker cannot in my opinion be discarded simply because one or both of its horns are slightly loose, if shaken by hand.

Even in another part of this Presidency (Tanjore District) which is two or three hundred miles from the Ongole tract, there is a breed of cattle known as the "Southern Breed"; they are similar to a small type of Kangayam. All the ryots in this tract dehorn their bull calves when they are a few weeks old by branding the horn bases with a red hot iron and this stops the growth of horn. The reason for doing this is that they can control their animals much better if they are hornless and the writer agrees with them. It is thus seen that

opinions regarding horns differ within a distance of two to three hundred miles in this Presidency alone.

The Government Agricultural Chemist suggested the feeding of Sulphur to some young bulls with loose horns but this has had no effect. It is not a question of the growth of the horn itself but of the boney core inside the horn, this does not grow and the horn becomes slightly loose.

A STUDY OF THE WATER OF THE WELLS OF THE CENTRAL FARM, COIMBATORE

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As an introduction to a detailed study of the variations in the water table and composition of the well waters in the Central Farm, Coimbatore, as influenced by season, the nature and number of underground springs, the composition of the lower strata etc., a preliminary analysis of samples of water taken from 14 wells in the Farm area was made with a view to determine the chemical composition of the total solids dissolved in them. As this has provided interesting information showing the great variation between wells situated in the different parts of the Farm, it has been proposed to present here the analytical data obtained.

Samples of water from the different wells were taken on the 7th October 1931 and numbered from 1 to 14-A. Sample 11 was taken from the well proper (in the cotton station) and 11-A from the bore hole. Similarly Sample No. 14 represents the top spring and 14-A the bottom of the Farm Yard Well. The different samples were taken from the wells as shown below:—

Sample No.	Place taken from.
1.	Well in F. No. 76.
2.	" 77.
3.	" 68. (Students' Block)
4.	" Brickfield.
5.	in Field No. 59.
6.	" 57.
7.	" 50. (Sweepers' Quarters)