

INDIGENOUS GOATS OF THE PRESIDENCY AND THEIR ECONOMIC IMPORTANCE

BY M. KANTI RAJ, M. A., B. Sc.,

Assistant Director of Agriculture, Vellore.

Introduction. There are 7,406,018 goats in the Madras Presidency, according to the information available in the latest copy of the Season and Crop Report (1933-34). Their distribution in various districts arranged in order of rank is, Trichinopoly—which tops the list,—with 6,59,557 goats, Salem, Coimbatore, Tanjore, Chittoor, Madura, Nellore, South Arcot, Vizagapatam, Anantapur, Malabar, Ramnad, North Arcot, Tinnevely, Cuddapah, Kurnool, Ganjam, Bellary, Chingleput, East Godavari, Guntur, Kistna, West Godavari and South Kanara with 27,711 goats which takes the last place.

In 1932, when the writer visited the American Arcot Mission Agricultural Institute, Katpadi, for the first time, the Principal Mr. J. J. De Valois, showed him two breeds of goats viz, the Janma-Pari and the Surati, he had imported with a view to improving the local stock. It was then suggested by the writer that it was worth while submitting a breeding scheme to the Imperial Council of Agricultural Research, requesting financial help. A draft scheme was prepared and submitted through the Government of Madras. In the preliminary remarks of the scheme Mr. J. J. De Valois stated "In connection with my activities in Rural Reconstruction in the villages of South India during the past twelve years, I have been impressed with the fact that the depressed classes and the smaller ryots find it almost impossible to raise and maintain a decent breed of milch cattle. They cannot afford the initial outlay nor take the chance or mortality resulting from numerous diseases and difficulties arising from present village conditions and communal grazing. As milk is such an essential item in the diet I am persuaded to remark that goat the "poor man's cow" should receive more attention. No systematic improvement has yet been undertaken by any agency either official or non-official. Much prejudice exists against the use of goat's milk which can only be broken down by a vigorous educational programme with actual demonstrations".

Proposed Research Work. The American Arcot Mission Agricultural Institute, Katpadi, is well equipped to carry out the proposed research work. In 1922 the Government of Madras, alienated to the Mission one hundred and seventy-five acres of land to be utilised for an Agricultural school and demonstration farm. Of this area, fifty acres have been brought under cultivation, thirty five acres have been devoted to buildings, play grounds, poultry runs, etc., leaving a considerable area for grazing purposes which can well be utilised for goats.

The institute is located four miles from the Katpadi railway station, on the Madras—Bangalore line, and is quite accessible to the public who may be interested in following the results of the proposed breeding scheme. Mr. J. J. De Valois, who is a graduate in Agriculture and Animal Husbandry of Iowa State College with special training in genetics, live-stock breeding, judging and feeding will supervise the research work.

The main lines of the proposed research work are:—

(a) Selective breeding of a few types of indigenous goats, (b) cross breeding and grading of a few types of indigenous goats with the Jamna-Pari males (dual purpose breed from the United Provinces) and (c) cross breeding and grading of a few types of indigenous goats with the Surati males (breed noted in Bombay Presidency for the quantity of milk given.)

In the case of (b) and (c) the does of first and subsequent crosses will be graded by mating with the bucks of the imported breeds. The three flocks mentioned above will be kept separate to determine after a definite period which type of goat is most suitable for South Indian conditions.

In addition, the following points also will receive attention about each flock:—

- (i) Yield of milk in the various crosses and selected animals.
- (ii) Hardiness and prolificacy of each type of cross.
- (iii) Age of maturity in each type.
- (iv) Milking longevity.
- (v) Interval between two successive kiddings.
- (vi) Yield and value of wool, hide and carcass.
- (vii) Suitability of various concentrated foods and fodders for goats in S. India
- and (viii) Observation on diseases and their treatment with the help of the Madras Veterinary Department.

The scheme is spread over ten years and details of expenditure will be:—

A. Non-recurring. Capital expenditure (purchase of stock office and dairy equipments).	...	Rs. 5,480.
B. Recurring. Staff. (One assistant, one clerk, one maistry and coolies).	...	26,928
Feeding charges.	...	45,564.
Contingencies (farm and Office).	...	6,200.
	Total for ten years.	Rs. 84,172.
Estimated expenditure.	...	Rs. 84,172.
Expected revenue.	...	16,890
	Net Expenditure.	Rs. 67,282.

The scheme has been approved by the Advisory Board of the Imperial Council of Agricultural Research at its March meeting.

Indigenous breeds of goats. Recognising the difficulty of ascertaining the different indigenous breeds and their economic importance a circular was at the instance of the Director of Agriculture, Madras, sent to all the Demonstrators in the Presidency and the information obtained is summarised below :—

(a) Age at which the doe starts kidding for the first time.

This depends greatly on the feeding the doe receives. If the feeding is good the doe takes the buck when it is about four months old, and the period of gestation being five months, the first kidding will be in the ninth or tenth month. This seems to be the earliest age at which it is possible for a doe to kid first time. If the feeding is poor, the kidding will be delayed and as the reports show it may vary between two and three years.

(b) Interval between two successive kiddings.

Generally a doe comes to heat between one to three months after kidding, so that the interval between two kiddings will vary from six to nine months, this being the minimum period. In this case also if the feeding is poor, the interval may be over one year.

(c) Yield of milk.

Feeding plays a considerable part on the yield of milk. If the doe is well fed the quantity of milk given is more and vice versa. In the case of breeds that produce more kids, the yield of milk is also more.

(d) Number of kids produced per year.

As mentioned in item (b) there is a possibility of having two kiddings in a year. In the first kidding generally there is one kid and in subsequent kiddings twins are very common, triplets less common, and quadruplets rather rare. A correlation seems to exist between milk yield and number of kids. Here also feeding appears to govern the number of kids produced. If the feeding is good more kids are produced.

(e) Distribution of breeds.

As regards distribution, the Presidency can be divided into three zones viz. (i) In the first zone—consisting of the Ganjam district there is no breed with any special importance; (ii) In the second zone—consisting of the districts of Vizagapatam, Godavari, Kistna, Nellore, Guntur, Bellary, Anantapur, Kurnool, Cuddapah and parts of Chittoor district there are two breeds of some importance, viz., *Kanchi meka* and *Pedda meka* the latter also known as *Puri meka* (iii) In the third zone consisting of parts of Chittoor, North Arcot, South Arcot, Chingleput, Tanjore, Trichinopoly, Madura, Ramnad, Tinnevely, Salem and Coimbatore districts there are two breeds of some importance viz., *Vella adu* and *Palla adu*.

In the west coast, Surati breed of goats noted for its high yield of milk is found. These have been imported from the Bombay Presidency. Bucks of this breed have also been imported into parts of Coimbatore and other districts and crossed with the local breeds with great success in improving the quantity of milk given by the local breeds.

(f) Economic importance of the indigenous breeds.

Name of breed.	Noted for	Where found.
1. <i>Pedda meka.</i>	Meat.	Vizagapatam, E. Godavari, W. Godavari, Kistna, Nellore, Guntur, Bellary, Anantapur, Cuddapah, Kurnool, and parts of Chittoor district.
2. <i>Kaunchi meka.</i>	Milk. ($\frac{1}{8}$ to $\frac{3}{4}$ Madras measure ($\frac{1}{2}$ to 3 lb) per day.)	Do.
3. <i>Vella adu.</i>	Dual purpose—meat and milk.)	Parts of Chittoor district, N. Arcot, S. Arcot Chingleput, Tanjore, and Trichinopoly districts.
	Meat.	Madura, Ramnad, Tinnevely, Salem and Coimbatore districts.
4. <i>Vella adu</i>	Dual purpose.	Tanjore and Trichinopoly districts
	Meat.	Parts of Chittoor, district, S. Arcot, N. Arcot and Chingleput districts.
	Milk. ($\frac{1}{8}$ to $\frac{3}{4}$ Madras measure per day)	Madura, Ramnad, Tinnevely, Salem and Coimbatore districts.
5. <i>Kodi adu.</i>	Meat.	Tanjore district.

Surati goats found in Malabar and S. Kanara districts yield to 1 to $1\frac{1}{2}$ Madras measures (4 to 6 lb) per day.

The writer acknowledges with thanks the information furnished by all the Demonstrators in the Presidency.

THE EFFECT OF NAPHTHALENE ON GERMINATION OF PADDY SEED

By C. RAJASEKHARA MUDALIAR, M. A.,

Assistant to the Paddy Specialist.

It is a common practice in breeding stations to store the large number of single plant selections and various type collections in tin-screw-top bottles and preserve them against the attack of paddy moths with a ball of naphthalene. This practice, however, did not seriously affect the vitality of paddy seeds as was observed in our sowing operations. Seeds preserved in naphthalene appeared for all practical purposes to germinate and grow normally. To get more accurate and definite results, a series of experiments were carried out at the Agricultural Research Station, Aduturai, to determine the effect of