

## INTAKE TRIALS WITH GOATS AND SHEEP

### INTRODUCTION AND OBJECTS

With the advance of medical science and vastly improved social services populations are increasing at an alarming rate in the tropics. The infant mortality rate has everywhere been decimated and such scourges as malaria and tuberculosis are being brought under control. Food has ever been scarce in the tropics; how then to feed these rapidly expanding populations? It would not appear unduly difficult to grow enough carbohydrate foods to satisfy their energy requirements. There is, however, already a world shortage of protein, both animal and vegetable. Animal protein contains some essential nutritional factors not present in vegetable protein and it is the production of animal protein which is the more difficult problem. At present few temperate countries produce more than enough meat to satisfy their own requirements. So it appears that if the demand for meat products in the tropics is to be met, the meat must be produced in those regions.

There are many facets of Animal Production in the tropics demanding critical study and research. In India and South Africa the value of such work has been recognized and much progress has been made. These present nutritional investigations are among the first of their kind to be carried out in the Humid Tropics.

A knowledge of the quantity of feed consumed by animals is necessary to the progress of many investigations into animal production problems. It is of fundamental importance when assessing the value of any feeding-stuff to first determine its palatability. The palatability of a feed is the amount of that feed which an animal will ingest; the palatability greatly affects the dry matter intake. It is the dry matter intake

which is important in animal production. Once this figure is known the assessment of the nutritive value may be completed by digestibility and metabolism trials.

Little critical data is available concerning fodder intakes by animals in the Humid Tropics. It was therefore decided to start intake trials in the Animal Nutrition Barn at the College Home Farm. This year's trials were of an exploratory nature. It is intended, with improved techniques from experience gained, that the trials should run for a number of years. After this time the data accumulated should be of some critical value. A similar trial, using cattle, was started at the College New Farm.

The objects of the trials were as follows:

- (1) To study the intake of several species of grasses by sheep and goats in the Humid Tropics.
- (2) To study the relation, if any, between the dry matter content and the dry matter intake of the grasses.
- (3) To study the relation, if any, between the dry matter intakes and the live-weights of the animals.
- (4) To study the relation between total dry matter intake and live-weight gain by the animals.
- (5) To study the total water intakes by sheep and goats (both drinking water and water obtained from grass ingested).
- (6) To study the relation, if any, between water intake and dry matter intake.
- (7) To study the relation, if any, between water intake and dry matter content of the grasses.
- (8) To design an improved technique for intake trials in the tropics.

It was originally intended in these trials to investigate the relationship between palatability and the intervals at which a grass was cut, the intervals to be 3, 6, and 9 weeks. Grasses

from a variety yield trial on the Home Farm were to be utilised. However as the trial progressed it was found that sufficient materials to feed all the animals for one day were seldom available, especially from the plots cut at three-weekly intervals. The fact that sufficient quantity of any one grass cut at the three different intervals was not available made this part of the trial impossible to carry out.