DISCUSSION ON FLOCK AND HERD STRUCTURE AND IMPROVEMENT

Reported by N. M. TULLOH* and J. K. EGAN†

In this section of the symposium, two papers reported population parameters in flocks of sheep and two reported models, respectively, one for a breeding plan and one for the development of optimal flock structure.

It was generally agreed that, in the formulation of breeding plans, breeders have been using models (i.e. system synthesis) for many years. However, it is only recently that developments in computer technology have enabled them to develop more comprehensive and useful models.

Four main points emerged from the discussion, viz.:

(a) **The value of modelling in animal breeding and management**

Modelling in animal breeding and management continues to be of great value. There are possibilities for extending its use into new areas; for example, attempts to simulate field situations may highlight critical areas for further biological investigation.

(b) **Limitations modelling**

The elegant models already available may be a long way from reality. Validation with field experiments is essential but difficult.

(c) **Proliferation of research units for modelling**

There is a need to develop a greater number of skilled modelling groups at various centres throughout Australia. Although high-powered modellers are not necessary in the field, there is a requirement for regional research workers capable of applying models to local situations. There is an urgent and continuing need for the collection of pertinent biological data for use by the model builders.

(d) **Difficulties of communication**

There will be a continuing problem of communication between modellers and other scientists and between these two groups and the farming community.

* School of Agriculture, University of Melbourne, Parkville, Victoria, 3052.
† Department of Agriculture, Pastoral Research Station, Hamilton, Victoria, 3300.