GENERAL INTRODUCTION

Without a knowledge of the science and art of poultry feeding, no breeder or feeder of poultry can hope to make a success of poultry farming in these modern times.

Poultry nutrition has only become a real science during the past twenty or so years; the need for such knowledge arising from the fact that within recent times natural methods of poultry management have given way to artificial systems, under which the birds are reared and kept under conditions widely divorced from Nature. **Under many of these systems** the birds are entirely dependent on the food supplied to them; they cannot supplement their ration with Nature's tit-bits. For example, sometimes they do not receive sufficient direct sunlight, and cod-liver oil or other source of Vitamin D must be provided to prevent the development of rickets.

Concurrent with changes in management, there have also been changes in the manufacturing methods of poultry feedstuffs, and in the types and sources of the feeds available, which have also added certain nutritional problems. Hundreds of experiments have now answered most of these problems to a greater or lesser extent. As a result, the science of poultry nutrition has advanced to a point where its fund of knowledge is now almost the equal of any other branch of nutrition.

Most of this work, however, has been undertaken in the more advanced temperate countries, and tropical animal nutrition is yet to be fully developed. As a consequence, the literature concerning poultry nutrition in the tropics is as yet not very abundant.

Poultry in many tropical areas are still regarded as
scavengers, and modern methods of poultry farming have not yet been introduced. In these areas in particular, and in all tropical areas in general, there is a great need for critical information about poultry nutrition. Due to this lack of information, temperate feeding standards have been, and still are being, adopted in the tropics, but it is logical to expect considerable differences between the nutritional requirements of tropical and temperate stock. The little recorded information that is available seems to indicate that this assumption is correct.

The application of the principles of scientific poultry nutrition will have to be made in each tropical area separately, since certain materials and by-products are available in some areas and not in others.

There is, amongst the peoples of the tropics, an ever increasing desire to improve the quality of their stock and its products, and they are realising that it is important to manage their animals in an organised fashion in order to produce economically. The adoption of better standards of livestock nutrition will further this aim.

The use of low-grade sugar as a poultry feed has been studied most notably by Rosenberg and Galafox in Hawaii. Rosenberg (1958) carried out two experiments feeding low-grade sugar to laying chickens. In the first experiment, the sugar was fed at 32.28%, 48.01% and 50.3% of the total ration, substituting for cereal grains. It was shown that a ration containing 32.28% of low-grade sugar produced more eggs of approximately the same size as the control ration. Mortality and increase in body weight over a twenty week period were much the same for both rations. Mortality was also not adversely affected, and the efficiency of feed utilisation...