THE PRODUCTION AND FEEDING OF AMMONIATED SUGAR CANE MOLASSES

INTRODUCTION

One of the most disturbing features of the human dietary standards found in the tropics is the generally low level of protein, particularly that of animal protein. A healthy live-stock industry, in addition to its function as a source of animal protein, is an essential part of most systems of balanced land usage. The shortage of protein is amongst the more serious limitations to efficient animal production in tropical regions. Tropical grasses tend to be low in protein content and most other sources of vegetable protein are either exported or inefficiently used.

Ruminants have the power, through the agency of their rumen microflora, of converting non-protein nitrogen into protein in a form that can be assimilated by their digestive systems. This fact has been made use of since 1880 when urea was successfully fed to cattle in Germany. Today, urea is frequently used in ruminant rations, supplying up to one third of the crude protein equivalent of feed mixtures. In recent years sugar-containing industrial by-products have been combined with ammonia and the products used as sources of non-protein nitrogen in ruminant rations. The range of industrial by-products which have been ammoniated include cane molasses, high test cane molasses, beet molasses, condensed distillers molasses solubles, citrus pulp, hemicellulose from wood pulp, and waste grain products.

Cane molasses is readily available in many tropical areas. In recent years many tropical countries have been finding it increasingly difficult to dispose of their molasses. This has been caused by the rapid expansion of the petroleum alcohol industry during the war years. This expansion has resulted in the cheaper production of alcohol from petroleum than from molasses. It follows that any system of utilising molasses to

build up livestock industries would be highly desirable. The work described herein has therefore aimed at producing from sugar cane molasses a material containing the highest possible quantity of fixed nitrogen. The ammoniated molasses thus produced could be used to replace the maximum amount of the more costly forms of protein included in present day stock feeds. With the same object in view the ammoniated molasses has been fed at the highest level commensurate with palatability.