

INTRODUCTION.

The foundation of foliar diagnosis by Lagatun and Maume in 1926, as a guide to the nutrient requirements of plants, has led to a greater understanding of plant nutrient relationships. Since then much work has been carried out, using foliar diagnosis and plant analysis techniques, as a means to determine the correct use of fertilisers for many agricultural and horticultural crops. Samples are taken throughout the growing season, and a nutrient deficiency can be detected as soon as, or even before it occurs, and corrective measures applied, before serious crop losses have taken place. With many crops such as Sugar Cane, Grapes, Apples, this technique has proved highly successful, whilst with other crops such as Cocoa, because of the difficulty of obtaining standard sampling material, a successful system has not yet been accomplished. The results obtained from different experiments in different areas on the same crop, are however very diverse, and often very confusing; the pineapple, in this respect is no exception.

The diversity of experimental results obtained with pineapples, can in most cases be explained by the widely different climatic and soil conditions under which pineapples are grown. Nutrient levels in the plant not only depend upon the levels of nutrients present in the soil, but also factors affecting the uptake of nutrients by the plant such as pH, soil type, temperature and rainfall.

Steyn (14) (1959) emphasizes the need for an experiment to be conducted on uniform soil type, and under the same environmental conditions. Also when foliar analysis experiments are carried out, the time of day when samples are taken is important, as the nutrient status in the plant changes throughout the day. However, even when these factors, mentioned above, are standardized, minor variations still occur.

The limitations of foliar analysis are many, and may in some cases account for misinterpretation of experimental data. Nevertheless, provided these limitations are realised, a guide to the fertiliser requirements of many crops can still be obtained.

Present trends in costs of production show steady increases. In this respect, the role of a well balanced, adequate supply of fertiliser, accompanied by the effective control of pests and diseases and good land cultivations, should be realised if maximum economic yields are to be achieved.

It is the purpose of this fertiliser trial, to investigate the fertiliser need of pineapples throughout their growing and fruiting period, under Trinidad's climatic conditions, and on a specific, uniform soil type.