

INTRODUCTION

In Trinidad and elsewhere in the West Indies there is a real need for the improvement of pastures. Much of the hill and waste land could be utilized to produce beef, mutton, milk and butter, all of which are imported into Trinidad in large quantities. There is a considerable amount of literature on increasing the output of these islands by means of fodder crops and grasses, but virtually nothing on the use of pastures. Fodder crops require intensive management and their cutting and carting is rapidly becoming an expensive operation due to rising labour costs, so the necessity for establishing and improving pastures is becoming more important - not only to increase the livestock capacity but also to control erosion and to build up soil fertility.

At the present time, most of the grasses are propagated by root setts, a hand operation and hence costly, so it is apparent that establishment from seed would be advantageous.

Many of the grasses introduced into Trinidad for establishment as pasture or fodder, have been studied considerably in their country of origin, and, incidentally, owe much of their success to the fact that they can be easily established from seed, e.g. Chloris gavana, Melinis minutiflora.

Most of the work in Trinidad has^{been} mainly with regard to fodder grasses, and the aim in this paper is to investigate which grasses are most suitable for encouragement for pasture establishment under Trinidad conditions.

Little work has been done on this subject, it was therefore very difficult to know where to start or how to set about the investigation, so it was decided to start with basic principles and find out as much as possible about the grasses

concerned. The work therefore, deals with preliminary investigations and observations into the growth, flowering habits, seeding and seed peculiarities, storage of seed and methods of overcoming the various difficulties, so as to make the grass more suitable for easy establishment from seed.

Due to the very nature of the investigation, the work is very varied and often repetitive, the accuracy is often low due to insufficient replication, but it is hoped that the findings and recommendations will be a guide on which further more precise work can be based.

Observations on plots indicate that seed quality is influenced by flowering, fertilization and subsequent drying and harvesting together with shedding and possible seasonal effects.

Flowering and seed production, though mainly governed by genetical factors, may be induced by synthetic hormones (Naphthalene acetic acid) and by shortening day length artificially.

Various storage treatments were examined for maintaining longevity of viability in seeds, but as the period under trial was short, little information was gathered, though there were indications that sealed storage improved the germination of Chloris gayana.

Recommendations are set out, intended as a guide for further work, on inducing flowering, improving seed quality, and means of breaking dormancy. Suggestions for long term experiments on storage are also given.

Finally, observations in the field showed the suitability of certain grasses for use in pastures, with regard to establishment from seed, growth habit, reaction to cutting, palatability and yield.