

SUMMARY

The object was to investigate the suitability of establishing certain potentially useful grasses, from seed, under Trinidad conditions.

Alcohol separation, hand extraction of seed, laboratory germinations, monthly field sowings and weekly observations in the field showed that the seed quality was poor, being mainly due to empty or blind seeds. Certain grass species exhibited a dormancy factor that decreased with age but initially delayed germination and establishment.

Field observations indicated that flowering, fertilisation, shedding, harvesting, drying and climatic factors greatly influenced the quality of the seed. As it is possible to induce flowering by artificial means in plants closely allied to grasses, through photoperiodic and hormone treatments - these techniques were tried out on certain grasses but without success. 2,4-D was used to prevent shedding but did not react in the expected manner. Chemical defoliant was used to induce rapid harvesting conditions, even ripening and lowering of the moisture content before cutting, but only with limited success.

The study of Ischaemum timorense showed that although the grass flowered profusely during the dry season there was no evidence of any seed setting.

Storage treatments were of too short duration to be of any definite value, but storage did not seem to be a serious problem for the first 5-6 months provided the initial moisture content was low. Good results were obtained from "box storage" of seed over lime, the box being easy to build and maintain.

Dormancy in seeds of Paspalum notatum and Paspalum dilatatum was broken by excising the seeds; complete removal of lamina and pales. P. notatum a shy seeder was induced to

flower by drastic cutting.

Field observations on yield, palatability and treatment responses to cutting combined with laboratory data showed that Pennisetum pedicellatum, Andropogon gayanus, Chloris gayana and Melinis minutiflora were high^{ly} desirable grasses and could be established from seed. Other grasses showed promise but were lacking in some single factor. Appendices give a detailed report on all species investigated. Recommendations are set out as a guide to future workers.

of the past investigations into this matter is limited have concentrated on the development of forage grasses, as opposed to the neglected and much needed pasture types (23, 24, 17). A new awakening not only in the West Indies but throughout the world has realised the urgency of this problem.

Fodder grasses require intensive management, while cutting and carting and feeding is becoming an ever increasingly expensive operation with the sharp rise in labour costs. Beddow as far back as 1944 found that cutting and carting was half the cost of milk production - rather an alarming figure even in those days. Most of the fodder grasses are propagated from root sets, itself an expensive commitment, therefore establishment of fodder grasses from seed would greatly cut initial cost whereas pasture grasses established in a similar manner would achieve more. The discussion on the benefits derived from pastures and lays in the maintenance of soil fertility, structure and water conservation can be found in an ever increasing supply of references, and as all, or nearly all, the workers agree that definite benefits are derived, the matter will not be debated further. (20, 22, 23, 31, 33, 24).