

## GENERAL INTRODUCTION.

Good herbage grasses are essential in the tropics to maintain the best economic returns from the land, in terms of milk, beef, and food crops. Many workers have stressed the importance of grasses in providing the cheapest food for cattle, in improving and maintaining the fertility of soils, and in preventing soil erosion.

The development of most tropical countries depends primarily on a stable system of agriculture. A few workers have shown that in order to evolve a stable system of agriculture, involving crops and livestock, a good herbage grass, or a mixture of good herbage grasses, should be incorporated in the rotations and treated as a crop (Jolly, 1954).

In temperate countries, much work has been done on herbage grasses. There are research centres working on different aspects of their cultivation, management, and breeding. In many tropical countries, grass research is still at the preliminary stage. Some workers have recently undertaken ecological studies on some grasses.

The Imperial College of Tropical Agriculture (hereafter abbreviated I.C.T.A.) has been and is still conducting investigations on local and introduced grasses with a view to selecting good pasture grasses under Trinidad conditions. The earlier investigations were conducted mainly on soilage <sup>grasses</sup> by D.D. Paterson (Badcock, 1955) and the problems studied were on yields and nutritive values of the following grasses:-

- Pennisetum purpureum Schumach (Elephant grass)
- Panicum maximum Jacq. (Guinea grass)
- Brachiaria mutica (Forsk) Stapf (Para grass)
- Saccharum sinense L. (Sugar cane - Uba)

Tripsacum laxum Nash (Guatemala grass)

The indigenous pasture grass studied during the period was Axonopus compressus (Swartz) Beauv. (Savanna grass).

Owing to increasing cost of labour and the amount of labour involved in handling soilage grasses, good grazing grass is much more to be desired than soilage grass. Hence, the recent investigations have been on:

- (a) Grasses suitable for use in ley farming,
- (b) Grasses suitable for permanent pastures.

Most of the studies were concerned with the aerial parts of the grasses; very little work has been done on the underground parts. Nwosu (1954) studied the root productions of certain tropical grasses.

The root weights of the grasses as determined by Nwosu are reproduced below:

GRASS	Age (Months)	WEIGHTS OF AIR DRY ROOTS IN TONS/ACRE (0-9")
<u>Panicum maximum</u> )	7	1.02 (6) ± 0.53
<u>Ixophorus unisetus</u> ) Tufted grasses	7	1.79 (6) ± 0.53
<u>Brachiaria decumbens</u> )	7	1.46 (6) ± 0.53
<u>Dichanthium caricosum</u> )	28	1.61 (6) ± 0.53
<u>Ischaemum aristatum</u> ) Sod grasses	28	6.98 (6) ± 0.53
<u>Axonopus compressus</u> )	60	4.37 (6) ± 0.53

Nwosu found that Ischaemum aristatum was the most suited to the wet conditions existing on the New College Farm but Howes (1953) has reported that the grass taints milk. A related species, Ischaemum timorense is now being tested.