

1. INTRODUCTION

Pigeon peas (Cajanus cajan (L) Druce) are an important vegetable food crop in Trinidad. In the past they have been eaten in the dried form as "dhal" and considerable quantities of dried peas were imported from India. Prior to World War II, one and a half million pounds were imported annually. This importation was discontinued during the war and was not resumed afterwards, as demand had changed almost entirely to the green product. However there is still importation of green pigeon peas from other West Indian islands, e.g. St. Vincent and Tobago, confirming that local production does not satisfy demand.

It is very difficult to estimate the acreage of pigeon peas grown in Trinidad at the present time, as they are cultivated almost entirely in small plots by peasants.

There is a great deal of local variation in the crop, which is grown as a mixed stand. Some types are dwarf (5 to 6 feet), early maturing, and annual, others are tall (10 feet or more), later maturing and persist for several years. Some have a determinate bearing habit i.e. a distinct peak in pod production, others have a greater duration of podding. When pigeon peas are to be picked for use as a green vegetable, time of picking is more critical than when they are picked dry. Hand picking is a slow and laborious task. In order for it to be economic, it is desirable that the varieties should be of determinate bearing habit and have an evenness of maturity of pods. This would enable a good yield of mature green peas to be obtained at three or four harvestings. Dwarf varieties facilitate picking and are easier to clear from the land at the end of the crop.

In Trinidad, the bulk of the crop is produced in a short period, from the beginning of January to mid-February. At this time the market price falls as low as ten cents per pound, whereas early maturing varieties, podding in October or November may command a price as high as thirty-five cents per pound.

If varieties could be introduced or bred, which are of early maturity, determinate bearing and dwarf, combined with a good yield of peas, which are acceptable to the consumer, it might be possible to extend the production of this crop, in Trinidad, on a profitable commercial basis. The crop has the advantages that it can grow and produce good yields on poor soils, and under low rain-

fall conditions. By sowing the same variety at different times, or by sewing varieties with different lengths of maturity, there is the possibility of extending economic production over a longer period. Surplus production in the harvest season could be absorbed by a canning or "quick-freeze" industry, such as occurs in Puerto Rico.

With these objectives, a collection of variable types was obtained from Trinidad, other West Indian islands, India and Africa and brought to I.C.T.A. Eight of these cultivars are included in this trial.

There has been very little published work on the optimum levels of spacing at which to grow pigeon peas, in order to obtain maximum yields. The principal aim of this experiment is to make a preliminary investigation into this aspect of the cultivation of the crop, and, at the same time, make observations on growth, heights, bearing habits, time to maturity and disease resistance of the eight cultivars.