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APPROACHES TO DEVELOPING VEGETABLE AND FOOD CROP FARMING IN GRENADA

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INTRODUCTION

Agricultural development in Grenada has in the past been concerned almost with export crops, mainly cocoa, nutmegs and bananas. The farming of vegetables and food crops has traditionally been done for subsistence purposes by small farmers, who generally depend on export crops for an income, and only sell small quantities of food produced in excess of their family requirements.

However, it was recorded by the Finance Minister in his 1968 Budget Speech that "Domestic agriculture cannot be said to be satisfactory. As an agricultural country our import bill for food is too high: over 28% of our total imports. In 1965 imports of all classes amounted to $19.1M; in 1966 $21.7M; and in 1967 $23.9M. Imports of food items for those years were $5.5M, $6.3M and $6.9M respectively. While the food importation curve moves gradually upward, the production of such items as yams, tannias and sweet potatoes was lower in 1966 and 1967 than in the previous year. The same could be said for corn and pigeon peas which have fallen considerably since 1960. It was encouraging to note, however, that production of garden crops like lettuce, cabbage, cucumbers and sweet peppers, increased during 1967. The demand for these commodities also showed considerable improvement".

In 1966–67 the Department of Agriculture stepped up their activities in the areas of vegetable and food crop production. This was done, in the main, in two ways:—by (1) An agronomic research programme, and (2) the setting up of demonstration food farms at three sites in the island. This paper attempts to describe what is being done by research and demonstration in Grenada.

RESEARCH

The agronomic research programme on vegetable and food crops is centred at the Mirabeau Agronomy Station which is located in a leading agricultural section of the island, 15 miles from the capital St. Georges. Field trials have been conducted on a range of crops which are detailed below; the size and complexity of the trials vary according to the availability of planting material, supervisory time and labour.

With the corn crop a fertilizer trial has indicated good response to an NPK 2.1.1 mixture on the Belmont Clay Loam soil. The trials will be repeated on this and other important soil types in the island. It is also expected that the R.R.C. Field Experimental Programme will be of assistance here. The weed-killer, Atrazeine, used in corn pre-emergence, to both crop and weeds, has given excellent weed control for a 30-day period without damage to the crop.

Work on pigeon peas to date has been mainly investigations on spacing distances and survey of the insect attacking the pod. The latter was done in collaboration with the R.R.C. entomologist. Spacing trials indicate that a planting distance of 4 ft. × 6 ft. is superior to closer spacings tried: the pest survey showed a definite need for control methods based on the life cycle of the pod-borers and the use of protective insecticidal treatments.

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Root crops have naturally received their share of attention, the emphasis being placed on yams and sweet potatoes. The high market prices of these foods in Grenada is often defended on the ground of cost of production. Accordingly a costing trial in yams which combined traditional methods of production (hand labour, no weedkillers) with mechanisation and use of weedkillers were conducted in order to produce real figures. Results showed that production techniques need streamlining in order to bring cost of production to realistic levels. With sweet potatoes, variety trials have been run on material supplied by the U.W.I. Promising yields have been obtained from varieties 049, M23, K4 and T25 among others, and planting material of these varieties is being multiplied for distribution to farmers.

Green and yellow vegetables which have been given priority to date are tomato, cabbage and lettuce. Variety, fertilizer and cultural trials have been conducted and are continuing. With tomato a system of production involving the use of pen manure incorporated in raised beds, together with artificial fertilizers has been found most efficient. Promising varieties at Mirabeau have been Floralou, Marglobe, Manalucie, Indian River and Hot Set. In cabbage, close spacing down to 1 ft. × 1 ft. is being tried in order to reduce size of heads to a more easily saleable weight. In lettuce very good results have been obtained with two Hawaiian varieties Manoa and Avenue supplied for trial by Prof. Tai of the University of the West Indies. Work with these varieties is being extended.

Other crops which are receiving attention at present are Watermelon, Cucumber, Sweet Pepper, Beetroot, Carrots and Onions. Imported varieties of these crops are being screened, and observations made of their characteristics and agronomic requirements. More intensive experimentation is planned after the work has progressed beyond the initial 'survey' stage.

EXTENSION

Results obtained at the Agronomy Station are transmitted to the Extension Division of the Department by means of written reports, training sessions on the spot, and informal visits and discussions. These results still form only a small part of the extension officers' training, but it is expected that the emphasis given to work on vegetable and food crops will become proportionately more important within the next few years.

The Demonstration Food Farms were set up to fill a missing link needed by the extension division—namely, a set of outstanding vegetable farms which could be used for demonstration purposes at field days, &c. Such vegetable farms did not exist in Grenada, a tree crop country, until these units were set up in 1966–67.

Financial assistance for the establishment of such farms was obtained by Government from the Freedom from Hunger Campaign Committee of the United Nations in the form of a grant to capitalise the establishment of six two-acre farms in Grenada in order to demonstrate the growing of vegetables and food crops under irrigation throughout the year. Suitable farmers have been selected to operate these farms and they have been provided with all capital needs, namely, house, irrigation unit, fencing, cow, fodder grass, seeds, implements, &c.

CONCLUSION

Much has been learnt during the past year's operation of the farms, and the many problems involved in commercial operations are being brought to light daily. Some of the problems which have come up are the irregularity of existing seed supplies, the unavailability of many pesticides resulting in crop losses, the inadequacy of some of the irrigation units installed, the lack of knowledge of seedling nursery techniques and the need for improved planting schedules to achieve continuous production geared to market demands.

The Demonstration Food Farms have been fortunate in being located on relatively good sites—alluvial soil and flat land. In addition the marketing of produce has been easy due to high demand and the location of the farms close to towns. The majority of the farm operators have displayed intelligence and application to their work, and technical assistance has been available from the Agronomy Division and from specialist staff from the University of the West Indies Faculty of Agriculture. Finally, it is intended that the farm operators would become independent commercial market-garden farmers after a 3-year period.

It is hoped that the approaches described above will succeed, by means of continuing effort and expansion, in developing a viable vegetable and food crop farming sector in Grenada.

FIGURE 1. Fresh weight of components of fruit of five stages of development