CARIBBEAN FOOD CROPS SOCIETY

PROCEEDINGS

ELEVENTH ANNUAL MEETING

A PRELIMINARY REPORT ON THE DEVELOPMENT OF AVOCADO AS A TREE CROP AND ON FACTORS AFFECTING YIELD IN BARBADOS

by

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SUMMARY

The development of organized plantings of Avocado is new to Barbados. Prior to 1972, there was only one area where a pure stand of more than twenty trees could be found. Since then, this number has risen by eight. The newly planted areas consist either of grafted plants or seedling trees. The yield per tree is low and this is mainly due to poor management; the Avocado being related to the position of a backyard tree.

It is hoped that with the production of an increasing amount of grafted plants, and an improvement in management practices, that ultimately Avocado production in the island will increase.

INTRODUCTION:

The Avocado is grown extensively in Barbados as a backyard plant. As such, little care is given to it and this results in low yields. Recently, an effort has been made to encourage the production of Avocado as a cultivated crop; consequently there has been an increase in the area devoted to its production.

HISTORICAL BACKGROUND:

In 1961, there were approximately 8,500 Avocado trees in the island. "Scotland District of Barbados" O.A.S. Report (1971). Of these 1,300 or 15.3% were to be found scattered throughout the Scotland District. 242 trees of the 1,300 were scattered over an area of 36.45 hectares (ninty-one acres) in the St. Joseph Forest. This represented the largest concentration of trees in any one area in the Scotland District.

Outside the Scotland District, only two areas of twenty or more Avocado trees could have been found. One area consisted of a pure stand of 38 mature seedling type trees situated at Kendal Plantation in St. John on approximately 0.13 hectare (one third of an acre).

The other was located at Claybury Plantation St. John, and consisted of 28 trees scattered over 2 hectares (five acres). Elsewhere, trees were found scattered in twos and threes.

PRESENT SITUATION:

In 1971, a propagation programme was started by the Ministry of Agriculture at Haggatts, St. Andrew. The aims of the programme were to promote the selection of superior local varieties, to import where necessary proven varieties and to set up pilot planting schemes.

In 1972, the first trial planting was carried out at Haggatts, where some 77 grafted trees were planted. These plants in addition to locally made selections, consisted of varieties such as Pollock, Lula and Simmonds. The Agricultural Development Corporation in conjunction with the Soil Conservation Department also planted an orchard later in 1972, at Bruce Vale, St. Andrew. At present only 37 trees were planted there, but two hundred have been allocated to the Agricultural Development Corporation by the Nursery at Haggatts, for planting in 1973.

The trend towards increasing the area under Avocado production, has not been restricted to Government Agencies only. Quite a few private

individuals have already planted, or have purchased plants with the view to establishing their own orchard during this rainy season.

Six new areas of twenty or more trees were established in 1972. These plantings consisted either of grafted trees, or of seedlings which are to be grafted at a later date. So far this year, plans have been made to establish two new orchards of twenty or more plants, whilst additional plants are to be added to areas already planted. (See Table 1).

Most of the areas have been planted with provep varieties but some have been planted with local selections, which have been grafted onto seedling rootstock. (See Table 11).

YIELD OF AVOCADO:

It has been estimated that the average Avocado tree in the Scotland District yields 62 fruits, whereas outside this area the average tree yields 44 fruits. "Scotland District of Barbados" O.A.S. Report (1971).

Many factors are responsible for low yields. All are associated with the fact that the Avocado is not considered as a commercial tree crop. It is normally grown as a backyard tree or occurs naturally along roadsides. Management needs to be improved. Very little if any fertilizer is applied. Little irrigation is practised and no regard is given to the correct spacing of the plants. There is also a lack of any proper insect or weed control programme.

Physiological factors also affect yield. Poor fertilization – which may be caused either by poor pollination or pollen incompatibility – results in premature dropping of the flowers. This has a direct effect on the number of flowers available for fruit formation. It is a common sight to see a large number of flowers strewn beneath trees.

There is also a high incident rate of fruit shedding. This seems to result largely from competition between fruits for limited food supplies

and moisture. The formation of abscission layers to some extent also result in fruit sheeding. Improved management would undoubtedly reduce fruit shedding.

There is a further reduction in yields due to pests such as the monkey. In areas such as the St. Joseph Forest and Skeete's cul de sac, St. Andrew, loss of fruit due to simian damage is quite high.

For further development of the Avocado as a tree crop in Barbados certain guidelines have to be followed.

These are:

(1) The use of improved varieties grafted or budded onto seedling rootstock.

(2) An increase in the area under Avocado cultivation.

(3) Improved cultural practices.

(4) Use of imported varieties to extend harvesting period.

LITERATURE CITED:

(1971) "Scotland District of Barbados". Evaluation of the problems and treatment of erosion and unstable ground. Organization of American States. P. 37.

Table I

A List of the areas where 20 or more Avocadoes have been established or are being established

Individual or Agency	No. of Trees	No. Planted	No. to be Planted	No. Grafted	No. of Seedlings	Area
Agricultural Development Corporation	237	37	200	237	–	Bruce Vale , St. Andrew
Dr. L. Campbell	70	–	70	70	–	Rowans, St. George.
Da Costa Edwards	20	20	–	20	–	Norwoods, St. James
Farmer Bim	55	55	–	35	20	St. Phillip
Soil Conservation M.A.S. & T.	108	77	31	108	–	Haggatts, St. Andrew.
Kendal Plantation	38	38	–	–	38	St. John.
Moncrieffe Plantation	20	20	–	–	20	St. John
Graeme Hall, M.A.S. & T.	23	23	–	21	2	Christ Church.
D. A. Kinch	100	100	–	–	100	St. Phillip.

Data compiled from Records of the sale of plants at Soil Conservation.

Table II

Some of the Avocado varieties used in a local orchard

Rowans

VARIETY	NO. OF PLANTS
LULA	20
POLLOCK	12
SIMMONDS	15
COLLINSON	12
KENDAL*	5
ST. SIMONS*	6

*Selections made locally.