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PROCEEDINGS
OF THE
CARIBBEAN FOOD CROPS SOCIETY



FIFTH ANNUAL MEETING
PARAMARIBO, SURINAM
JULY 24 – 31, 1967

VOLUME V

INTRODUCTION

Many clones of tannias, *Xanthosoma* species, are grown throughout the Caribbean area. The collection and preliminary observation of ninety clones of tannias by H. J. Gooding from 1965 onward indicated that considerable variation, existed in a number of characters exhibited by the plant. This paper presents the results of trials carried out over the last two years, to evaluate in the five most promising clones, two characters of economic importance, yield and tuber size.

Although many clones flower in Trinidad we have not as yet been able to collect any seed. Thus the primary aim of these trials was to determine with some reliability which of the existing clones may be the most profitable to grow from the point of yield of marketable tubers.

MATERIALS AND METHODS

Materials

The materials used in these trials are five of the clones of *Xanthosoma* collected by H. J. Gooding throughout the West Indian region, between 1956 and 1958. These five clones were chosen on the basis of preliminary observations carried out by H. J. Gooding in Trinidad up till 1963. The names obtained at the time of collection, the accession number given when they were added to our collection, and their place of origin are given below.

<i>Name</i>	<i>Accession Number</i>	<i>Place of Origin</i>
Charanelle	12/56	Trinidad
Chackelle	19/57	Trinidad
Tannia	22/57	Barbados
White Bruce	31/57	Dominica
Viequera	17/58	Puerto Rico

Methods

Both trials were planted on very slightly cambered beds with box drains on either side. The planting material used was always four ounce tubers or terminal sections of tubers planted every three feet in rows four feet apart. All trials were laid down in randomised blocks and reaped when the foliage has died back in all clones.

In 1965, the trial was planted on the 10th June. Weeds were sprayed with a 20 cc per gallon solution of Gramoxone (Paraquat) on the 2nd of July. The trial was moulded on the 8th July and weeded and moulded on the 7th August. The trial was harvested on the 22nd of March 1966.

In 1966, the trial was planted on the 19th of May. The weeds were sprayed with 20 cc per gallon solution of Gramoxone on the 24th of June and the trial moulded on the 29th of June, and harvested on the 25th of April, 1967.

The trials were laid down at two different positions on the University

of the West Indies Fields Station, at Champ Fleurs in Trinidad and the variation in planting date, is due to variation in the initiation of the rainy season. The cessation of the rains also affected the date of harvest.

In 1965, four replications of twelve four-plant blocks were planted and all the tubers on a plant were weighed together and recorded. In one replication each tuber of each plant was weighed separately, to determine the variation in tuber size. In 1966, four replications of four fourteen-plant blocks, were planted. In replication two, all the tubers on each plant were weighed together and recorded, and in the other three replications all the tubers from all fourteen plants in a block were recorded together.

Weights were recorded to the nearest quarter ounce. Guard rows were planted on all four sides of each replication in both trials.

Results

Table one gives the yields and coefficients of variation between plots and between plants for the 1966 and 1967 trial, and the coefficients of variation between tubers for the 1966 trial.

TABLE I

Accession No.	Yield Lbs/Acre	<i>Coefficients of variation</i>		
		Between Plots	Between Plants	Between Tubers
1966 TRIAL				
12/56	3566	66	67	45
19/57	4089	56	48	49
22/57	3320	60	63	61
31/57	3423	54	26	57
17/58	4406	57	34	51
1967 TRIAL				
12/56	6662	21	51	
19/57	7588	23	72	
22/57	6961	23	46	
31/57	6233	22	63	
17/58	7564	28	45	

A number of points are worthy of attention. All the yields in 1966 are about 60% of those in 1967. No specific reason can be given to explain this. The year 1966 just appears to be a bad year for Tannias in a number of ways. It should be noted that the lower yields and implied unfavourable conditions in 1966 are accompanied by an increase in the variation between plots as is often the case. There is no general increase in the variation between plants within a plot, however, suggesting that the lower yields may have been caused by relatively gross variation in soil conditions. Scrutiny of the field records and the plot of land showed that replication four gave poor yields and this may have been due to water-logging.

In spite of this variation in yield between years, the effective rank of the clones is not affected. This suggests that tentative recommendations can be made from these results.

Accessions 17/58 and 19/57 are significantly higher than the other accessions at the 5% level. There is no real difference between these two accessions in the variation in tuber size and thus the marketability is the same for both clones.

However the between plant variation is lower in accession 17/58 indicating more consistency in yield. This clone also yields better under the unfavourable conditions in 1966.

DISCUSSION

The result of these two trials suggest that it would be rewarding to compare accession 17/58, Viequera, from Puerto Rico and accession 19/57, Chackelle, from Trinidad with the best local clones in a number of territories in the Caribbean. It may be suggested that Viequera has greater consistency in yielding and may thus be chosen for use on the poorly drained soils in Trinidad.

The main growers of Tannias are small farmers and they seldom if ever use fertilizer on their tannia plots. Thus if clones are to be compared to determine which is best for his use, the comparison should be carried out under the conditions which it is expected that the recommended clone will be grown by those growing the crop.

For this reason no fertilizers were used in the trials. When specific agronomic recommendations are available for tannias and these practices have been adopted by the growers, then it may prove necessary to repeat these trials under the recommended agronomic conditions.