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INTERCROPPING SWEET POTATO WITH  
BUSH SITAO AND OKRA

CELSO S. CRUCIDO

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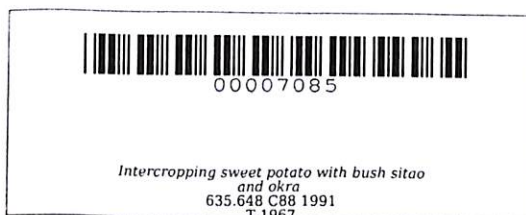
October 1991



<sup>A</sup>  
INTERCROPPING SWEET POTATO WITH  
BUSH SITAO AND OKRA

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SUBMITTED TO THE FACULTY OF THE GRADUATE STUDIES  
DON SEVERINO AGRICULTURAL COLLEGE  
IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE  
DEGREE OF



MASTER OF SCIENCE  
(Horticulture)

October 1991

## ABSTRACT

CRUCIDO, CELSO S., Don Severino Agricultural College, September 1991. Intercropping Sweet Potato with Bush Sitao and Okra. Major Adviser: Dr. Reynaldo C. Ersando.

The study was conducted to (1) evaluate the effect of different intercrop treatments on the growth and yield of sweet potato; (2) identify the most suitable intercrop for sweet potato under upland Cavite condition (3) assess the cost and return of intercropping sweet potato with bush sitao and okra.

Sweet potato grown in monoculture had significantly produced longest vines at all stages of growth, highest number of marketable tuber, fresh weight of marketable tubers per plot and highest fresh weight of tuber per plant. However, lowest non-marketable tuber of sweet potato was obtained in monoculture.

Highly significant interaction was noted between sweet potato and intercropping treatment especially on the number of marketable tuber of sweet potato per plot and fresh weight of tuber per plant. Results further indicated that when bush sitao + okra were used as intercrop to Georgia Red and VisCA 1 cultivars, the plants tended to produce shorter vines, lower number of marketable and fresh weight of tuber; and a higher number of non-marketable tubers.

Likewise, when bush sitao and okra were planted together in between the rows of sweet potato, all crops involved in the combination gave a significantly lower yield suggesting a severe interplant competition for all factors affecting growth and development.

With regards to intercropping, the Land Equivalent Ratio (LER) and yield efficiency of various intercropping treatment was significantly higher in sweet potato + bush sitao combination. However, none of the intercropping treatment had LER above one, suggesting a net negative effect.

Generally, considering the net profit obtained from different intercropping treatment, sweet potato + bush sitao combination gave the highest net return among all the intercropping combination used. The lowest net profit was obtained from sweet potato + okra intercropping combination.

## TABLE OF CONTENTS

	Page
TITLE PAGE	i
APPROVAL SHEET	ii
BIOGRAPHICAL SKETCH	iii
ACKNOWLEDGEMENT	v
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF APPENDIX TABLES	xi
ABSTRACT	xii
INTRODUCTION	1
Importance of the Study	2
Objectives of the Study	3
Time and Place of the Study	3
REVIEW OF RELATED LITERATURE	4
MATERIALS AND METHODS	9
Land Preparation	9
Experimental Design	9
Preparation of Planting Materials	9
Planting	9
Thinning and Replanting	10
Weeding and Cultivation	12
Fertilization	10
Control of Pest and Diseases	14

Harvesting and Gathering of Data	14
Other Data gathered	15
RESULTS AND DISCUSSIONS	17
General Observation	17
Pests and Diseases Incidence	18
Growth Pattern of Two Varieties of Sweet Potato	18
Number of Marketable Tubers per 18 Square Meter Plot	20
Number of Non-marketable Tubers per 18 Square Meter Plot	23
Fresh Weight (Kg) of Marketable Tubers in per 18 Square Meter Plot	27
Fresh Weight (Kg) of Non-marketable Tubers per 18 Square Meter Plot	29
Fresh Weight of Sweet Potato Tuber in Gram per Plant	32
Land Equivalent Ratio (LER)	34
Computed Yield (Kg) of Sweet Potato Tuber per Hectare at Various Intercropping Pattern	37
Pests and Diseases	39
Cost and Return Analysis	39
Establishment of the Plantation	42
Cost of Production	42
SUMMARY, CONCLUSION AND RECOMMENDATION	47
LITERATURE CITED	50
APPENDIX	53

## LIST OF TABLES

Table No.		Page
1	Distance of Planting and Number of Plants per Hectare of Sweet Potato, Bush Sitao and Okra Under Different Cropping Pattern	13
2	Number of Marketable Sweet Potato Tuber per 18 Square Meter Plot	24
3	Number of Non-marketable Sweet Potato Tuber Per 18 square meter Plot	26
4	Fresh Weight (kg) of Marketable Sweet Potato Tuber Per 18 square meter Plot (Kg)	28
5	Fresh Weight (Kg) of Non-marketable Sweet Potato Tuber Per 18 square meter Plot	31
6	Fresh Weight (gm) of Sweet Potato Tuber Per Plant	33
7	Land Equivalent Ratio (LER) and Yield (Kg) Efficiency of Sweet Potato at Various intercropping Treatments	35
8	Computed Yield (Kg) per Hectare of Sweet Potato, Bush Sitao and Okra at Various Interropping Treatments	38
9	Degree of Weevil Infestation on Tubers of Sweet Potato (%)	40
10	Cost and Return Analysis per Hectare on the Production of Sweet Potato at Various Intercropping Combinations.	41
11	Cost of Production per Hectare of Sweet Potato at various Intercropping Treatments.	43

## LIST OF FIGURES

Figure No.		Page
1	Experimental Field Lay out	11
2	Monthly Growth Increment of Two Varieties of Sweet Potato Intercropped with Bush Sitao and Okra	19
3	Vine Length of Two Varieties of Sweet Potato at Various Intercropping Treatments	21



## LIST OF APPENDIX TABLES

Appendix Table No.		Page
1	Analysis of Variance for Number of Marketable Tuber Per 18 square meter Plot	54
2	Analysis of Variance for Number of Marketable Tuber Per 18 square meter Plot	55
3	Analysis of Variance for Fresh Weight of Marketable Tubers Per 18 square meter Plot	56
4	Analysis of Variance for Fresh Weight of Non-Marketable Tuber Per 18 square meter Plot	57
5	Analysis of Variance for Fresh Weight of Tuber Per Plant (gm)	58

## INTRODUCTION

Intercropping is the growing two or more crops at the same time (Cadiz and Aycardo, 1975) or simultaneously in the same piece of land (Willey, 1979).

In many parts of the world intercropping is a common agricultural system especially in the tropics and subtropics (Willey, 1979; Willey and Osiro, 1972; Wahua and Miller, 1978). It has been reported that following this system, crops may be grown in separate rows (Hardwood and Banta, 1973).

However, in the developed world, the use of this system for commercial production is limited perhaps due to its high labor requirement (Crookston, 1976) and the high mechanized technology designed for large scale cropping.

In intercropping, crop combination is very important and is regarded as the basic consideration for total productivity (IRRI, 1972). A good crop combination must be complimentary to each other in terms of overall use of growth resources (Willey, 1979). Also, it is necessary that the environmental demands of the component crops are not the same (Crookston, 1976). Reddy and Willey (1981) reported that the most common crop combination, is that of cereal-legume which frequently gives a significant total yield advantage. Under upland condition, sweet potato and other crops do not only provide nutritional advantage but also helps prevent both soil erosion and excessive loss of soil