

PERFORMANCE OF PEANUT VARIETIES AS AFFECTED BY
PLANTING DISTANCE, INOCULATION AND FERTILIZER
APPLICATION UNDER ORCHARD-BASED
CROPPING SYSTEM

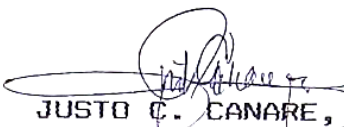
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Submitted to the Faculty of the Institute of Graduate Studies,
Central Luzon State University, Muñoz, Nueva Ecija,
Philippines, in partial fulfillment of the
requirements for the degree of


MASTER OF SCIENCE IN CROP SCIENCE

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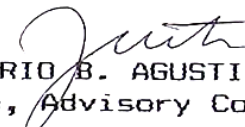
This thesis entitled PERFORMANCE OF PEANUT VARIETIES AS AFFECTED BY PLANTING DISTANCE, INOCULATION AND FERTILIZER APPLICATION UNDER ORCHARD-BASED CROPPING SYSTEM, prepared and submitted by Ruby Duque Aquino in partial fulfillment of the requirements for the degree of Master of Science in Crop Science, is hereby accepted.


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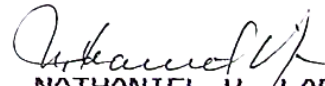

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Above all thanks to our almighty GOD for giving the full strength and courage to undertake the difficulties in conducting and processing of this study.

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BIOGRAPHICAL SKETCH

The author was born on February 25, 1968 at Pantoc Bulac, Talavera, Nueva Ecija. She is the eldest child of Mr. Renato Aquino and Mrs. Victoria Duque Aquino.

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TABLE OF CONTENTS

	PAGE
LIST OF TABLES	viii
LIST OF APPENDIX TABLES	x
ABSTRACT	xiii
INTRODUCTION	1
Importance of the Study	1
Statement of the Problem	3
Objectives of the Study	4
Time and Place of the Study	4
REVIEW OF LITERATURE	5
Effect of Shading	5
Leaf Area and Light Interception	7
Effect of Plant Density and Spacing	8
Effect of Inoculation and Fertilizer Application	12
Effects of Intercropping and Fertilizer Level on Yield	17
MATERIALS AND METHODS	21
Site Description	21
Seed Source	21
Experimental Design and Treatments	21
Land Preparation	22
Crop Culture and Management	22

	PAGE
Data Gathered	24
Statistical Analysis	26
RESULTS AND DISCUSSION	27
Site Description	27
Light Intensity	27
Days to Maturity	28
Herbage Yield	28
Average Number of Pods per Plant	31
Number of Filled Pods per Plant	33
Average Number of Seeds per Pod	36
Shelling Percentage	38
Percent Seed Setting	38
Weight of 1000 Seeds (g)	41
Seed Yield	42
SUMMARY AND CONCLUSIONS	46
LITERATURE CITED	48
APPENDICES	53

LIST OF TABLES

TABLE		PAGE
1	Days to maturity of two peanut varieties as affected by planting distance, inoculation and fertilizer application in an orchard-based condition	29
2	Herbage yield of two peanut varieties as affected by planting distance, inoculation and fertilizer application in an orchard based condition	30
3	Average number of pods per plant of two peanut varieties as affected by planting distance, inoculation and fertilizer application in an orchard-based condition	32
4	Average number of filled pods per plant as affected by variety and fertilizer application/inoculation under orchard-based condition	34
4.1	Average number of filled pods per plant as affected by fertilizer application/inoculation and planting distance under orchard-based condition	34
4.2	Average number of filled pods per plant as affected by variety and planting distance under orchard-based condition	35
5	Average number of seeds per pod of two peanut varieties as affected by planting distance, inoculation, and fertilizer application in an orchard based condition	37
6	Shelling percentage of two peanut varieties as affected by planting distance, inoculation, and fertilizer application in an orchard-based condition	39

TABLE		PAGE
7	Percent seed setting of two peanut varieties as affected by planting distance, inoculation and fertilizer application in an orchard based condition	40
8	Weight of 1000 seeds (g) of two peanut varieties as affected by planting distance, inoculation, and fertilizer application in an orchard-based condition	42
9	Seed yield (kg/ha) of two peanut varieties as affected by planting distance inoculation and fertilizer application in an orchard-based condition	43

LIST OF APPENDIX TABLES

APPENDIX TABLE	PAGE	
A	Some physico-chemical characteristics of the soil surface of the area before planting	54
B	Light intensity during the conduct of the study from June to September 1990	54
1	Days to maturity of the two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	55
1a	Analysis of variance of days to maturity of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	56
2	Herbage yield (t/ha) of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	57
2a	Analysis of variance on herbage yield (t/ha) of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	58
3	Average number of pods per plant of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	59
3a	Analysis of variance on average number of pods per plant of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	60

APPENDIX TABLE	PAGE
4 Average number of filled pods per plant of two peanut varieties as affected by planting distance and fertilizer application/ inoculation under orchard-based condition	61
4a Analysis of variance on the average number of filled pods per plants of two peanut varieties as affected by planting distance and fertilizer application/ inoculation under orchard-based condition	62
5 Average number of seeds per pod of two peanut varieties as affected by planting distance and fertilizer application / inoculation under orchard-based condition	63
5a Analysis of variance on average number of seeds per pods of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	64
6 Shelling percentage of two peanut varieties as affected by planting distance and fertilizer application/ inoculation under orchard-based condition	65
6a Analysis of variance on shelling percentage of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	66
7 Percent seed setting of two peanut varieties as affected by planting distance and fertilizer application/ inoculation under orchard-based condition	67

APPENDIX
TABLE

PAGE

7a	Analysis of variance on percent of seed setting of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	68
8	Weight of 1000 seeds (g) of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	69
8a	Analysis of variance on weight of 1000 seeds (g) of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	70
9	Seed yield of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	71
9a	Analysis of variance on seed yield of two peanut varieties as affected by planting distance and fertilizer application/inoculation under orchard-based condition	72

ABSTRACT

AQUINO, RUBY D. Institute of Graduate Studies, Central Luzon State University, Muñoz, Nueva Ecija, Philippines, March 1991. PERFORMANCE OF PEANUT VARIETIES AS AFFECTED BY PLANTING DISTANCE, INOCULATION AND FERTILIZER APPLICATION UNDER ORCHARD-BASED CROPPING SYSTEM.

Adviser: Prof. Mario B. Agustin

The study was conducted under 7-year-old bearing cashew plants aimed at: 1) comparing the performance of two peanut varieties under orchard-based cropping system; 2) establish recommended planting distance of peanut under orchard-based condition; 3) verify the critical level of fertilizer requirement for peanut production under orchard-based condition; and 4) determine the interaction effect among variety, planting distance and fertilizer levels.

BPI-Pn 9 matured earlier than IPB-Pn 24-3 with a maturity days of 98 and 101, respectively. BPI-Pn 9 and IPB-Pn 24-3 performed comparably the same under orchard-based condition. Significant variations existed on the interactions between varieties and fertilizer application. IPB-Pn 24-3 is superior over

BPI-Pn 9 both were inoculated alone yielded comparably when applied with 30-30-30 kg NPK/ha with and without rhizobium inoculation.

The application of 30-30-30 kg NPK/ha alone out yielded significantly all the other fertilizer treatments evaluated. Inoculating the seeds did not significantly improve the seed yield of peanut. The same trends of results were obtained from all the other parameters evaluated.

Inoculating the seeds alone resulted to plants that yielded comparable with the unfertilized plants. This is also true for all the other parameters evaluated. Results showed that the amount of nitrogen fixed by the introduced rhizobia was not enough for the nutrition of peanut plants. Furthermore, addition of inoculant to plants fertilized with 30-30-30 kg NPK/ha did not improve the performance of peanut under orchard-based condition. Results implied that the application of 30-30-30 kg NPK/ha is enough for better performance of peanut under orchard-based condition.

In terms of planting distance, 25 cm between rows significantly increased seed yield of 1160.84 as well as DMY of 3.73 t/ha yield. This was probably due to higher plant population at 25 cm between row distance compared to 50 cm between row distance.

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