

633-18

R 64

1994

PRODUCTION TEST OF THREE SELECTED UPLAND
RICE VARIETIES USING COMPOST

RESEARCH STUDY
UPPER SECONDARY IV

AZENITH MOJICA ROLLAN

DON SEVERINO AGRICULTURAL COLLEGE

Indang, Cavite

April 1994

~~a~~
PRODUCTION TEST OF THREE SELECTED UPLAND
RICE VARIETIES USING COMPOST

A Research Study

Submitted to the Faculty of the
Laboratory School, school of Education of the
Don Severino Agricultural College
Indang, Cavite

In Partial Fulfillment of the Requirements
in Applied Research IV



*Production test of three selected upland
rice varieties using compost
633.18 R64 1994
R-195*

RESEARCH STUDY
AZENITH MOJICA ROLLAN

March , 1994

A B S T R A C T

Rollan, Azenith M., Laboratory School, School of Education of the Don Severino Agricultural College, Indang, Cavite, March, 1994. " Production Test of Three Selected Upland Rice Varieties Using Compost."

Adviser: Mr. Epifanio Feraer

This study entitled " Production Test of Three Selected Upland Rice Varieties Using Compost." was conducted in Buna Lejos, Indang, Cavite from June 5, 1993 to October 22, 1993 to find out the effect of compost fertilizer on the production of three selected varieties of upland rice and to determine which among these varieties will best respond to compost fertilizer. This also aimed to identify which among these three varieties will produce the highest yield in terms of grain production.

Sixty clay pot with five rice plants each were distributed in a Randomized Complete Block Design (RCBD) with four replications and three treatments. The following treatments were used in the study; T1 - Binastian, T2 - Sanglay and T3 - Binirhen.

Results showed that compost really affect the production of three selected varieties of upland rice in terms of grain production and growth-duration. Results also showed that T2 (SANGLAY) best respond to compost fertilizer. It Produced the most number of tillers and panicles and likewise obtained the highest yield in terms of grain production per

plant and the heaviest weight of the grain produced. It was followed by T1 (BINASTIAN) and T3 (BINIRHEN) obtained the least results in all the parameters gathered.

TABLE OF CONTENTS

| | PAGE |
|---|--------|
| APPROVAL SHEET | i |
| BIOGRAPHICAL SKETCH | ii |
| ACKNOWLEDGEMENT | iii-iv |
| ABSTRACT | v-vi |
| TABLE OF CONTENTS | vii-ix |
| LIST OF TABLES | x |
| LIST OF FIGURES | xi |
| LIST OF APPENDIX TABLES | xii |
| LIST OF PLATES | xiii |
| CHAPTER | |
| I. INTRODUCTION | 1 |
| Importance of Study | 1-3 |
| Statements of Problems | 3 |
| Objectives of the Study | 3-4 |
| Time and Place of Study | 4 |
| II. REVIEW OF RELATED LITERATURE | 5-14 |
| III. MATERIALS AND METHODS | 15 |
| A. MATERIALS | 15 |
| B. METHODS | 15 |
| Experimental Design and Treatment | 15 |
| Procurement of Rice Grains | 16 |
| Procurement of Compost Fertilizer | 16 |
| Soil Sampling and Analysis | 16 |

| | |
|--|-------|
| Compost Analysis | 16 |
| Preparation of Soil Media | 16 |
| Application of Compost Fertilizer | 17 |
| Planting | 17 |
| Weeding | 17 |
| Control Pest and Diseases | 17 |
| Thinning | 17 |
| Harvesting | 18 |
| Data Gathered | 18 |
| Statistical Analysis | 18 |
| IV. GENERAL OBSERVATIONS | 19 |
| V. DISCUSSION OF RESULTS | 20 |
| Number of Days from Planting to Tillering Stage | 20 |
| Number of Days from Planting to Panicle Initiation . | 23-24 |
| Number of Days from Planting to Booting Stage | 27 |
| Number of Days from Planting to Heading Stage | 30 |
| Number of Days from Planting to Flowering Stage | 33 |
| Number of Days from Planting to Maturity | 36-37 |
| Number of Grains Produced per Plant | 40 |
| Weight of Grains Produced (in grams) per Pot | 43 |
| VI. SUMMARY, CONCLUSION AND RECOMMENDATION | 46 |
| Summary | 46-47 |
| Conclusion | 47 |
| Recommendation | 47 |

| | |
|-----------------------------------|-------|
| EXPERIMENTAL LAY-OUT | 48 |
| PLATES | 49-72 |
| RESULTS OF SOIL ANALYSIS | 73 |
| RESULTS OF COMPOST ANALYSIS | 74 |
| LITERATURE CITED | 75-76 |

LIST OF TABLES

| TABLE | | PAGE |
|-------|--|------|
| 1 | Number of Days from Planting to Tillering | |
| | Stage | 21 |
| 2 | Number of Days from Planting to Panicle | |
| | Initiation | 25 |
| 3 | Number of Days from Planting to Booting | |
| | Stage | 28 |
| 4 | Number of Days from Planting to Heading | |
| | Stage | 31 |
| 5 | Number of Days from Planting to Flowering | |
| | Stage | 34 |
| 6 | Number of Days from Planting to Maturity | 38 |
| 7 | Number of Grains Produced per Plant | 41 |
| 8 | Weight of Grains Produced (in grams) | |
| | per Pot | 44 |

LIST OF FIGURES

| FIGURE | | PAGE |
|--------|--|------|
| 1 | Number of Days from Planting to Tillering | |
| | Stage | 22 |
| 2 | Number of Days from Planting to Panicle | |
| | Initiation | 26 |
| 3 | Number of Days from Planting to Booting | |
| | Stage | 29 |
| 4 | Number of Days from Planting to Heading | |
| | Stage | 32 |
| 5 | Number of Days from Planting to Flowering | |
| | Stage | 35 |
| 6 | Number of Days from Planting to Maturity | 39 |
| 7 | Number of Grains Produced per Plant | 42 |
| 8 | Weight of Grains Produced (in grams) | |
| | per Pot | 45 |
| 9 | Experimental lay-out | 48 |

LIST OF APPENDIX TABLES

| APPENDIX TABLE | PAGE |
|---|------|
| 1 Analysis of Variance on the Number of Days from Planting to Tillering Stage | 21 |
| 2 Analysis of Variance on the Number of Days from Planting to Panicle Initiation | 25 |
| 3 Analysis of Variance on the Number of Days from Planting to Booting Stage | 28 |
| 4 Analysis of Variance on the Number of Days from Planting to Heading Stage | 31 |
| 5 Analysis of Variance on the Number of Days from Planting to Flowering Stage | 34 |
| 6 Analysis of Variance on the Number of Days from Planting to Maturity | 38 |
| 7 Analysis of Variance on the Number of Grains Produced per Plant | 41 |
| 8 Analysis of Variance on the Weight of Grains Produced (in grams) per pot | 44 |
| 9 Results of Soil Analysis | 73 |
| 10 Results of Compost Analysis | 74 |

LIST OF PLATES

| PLATE NO. | NAME OF PLATE | PAGE |
|-----------|--|------|
| 1 | Thesis Title | 49 |
| 2 | Clay Pots Size Number 10 | 50 |
| 3 | Three Upland Rice Varieties | 51 |
| 4 | Compost Fertilizer | 52 |
| 5 | Weighing of Compost Fertilizer | 53 |
| 6 | Planting | 54 |
| 7 | Rice Plants at Germination | 55 |
| 8 | Rice Plants at Tillering Stage | 56 |
| 9 | Rice Plants at Panicle Initiation | 57 |
| 10 | Rice Plants from Replication 1 | 58 |
| 11 | Rice Plants from Replication 2 | 59 |
| 12 | Rice Plants from Replication 3 | 60 |
| 13 | Rice Plants from Replication 4 | 61 |
| 14 | Rice Plants at Booting Stage | 62 |
| 15 | Spraying of Insecticide | 63 |
| 16 | Weeding | 64 |
| 17 | Rice Plants at Heading Stage | 65 |
| 18 | Rice Plants at Flowering Stage | 66 |
| 19 | Rice Plants at Maturity | 67 |
| 20 | Harvesting | 68 |
| 21 | Sample harvested Rice Grains From T1 - BINASTIAN | 69 |
| 22 | Sample harvested Rice Grains From T2 - SANGLAY | 70 |
| 23 | Sample harvested Rice Grains From T3 - BINIRHEN | 71 |
| 24 | General View of the Experiment | 72 |

PRODUCTION TEST OF THREE SELECTED UPLAND
RICE VARIETIES USING COMPOST

by

AZENITH MOJICA ROLLAN

1/ A researchwork presented to the faculty of the laboratory school of the Don Severino Agricultural College, Indang, Cavite, in partial fulfillment of the requirements in Applied Research IV. Contribution No. A.R./A.S. _____ prepared under the advisorship of Mr. Epifanio Feraer.

CHAPTER 1

INTRODUCTION

Importance of the Study

The rice industry is the most important food sector in the Philippines. Rice is the staple food of about 80% of the Philippine population and the most important agricultural crop. It contributes 70% of cereal consumption (Dosayla and Darrah, 1973). More than 30% of all agricultural and more than 50% of the food crop land is devoted to rice.

The cultivated rice plant (Oryza sativa L.) belongs to the tribe Oryzeae under the sub-family poodeae in the grass family Gramineae (Poaceae) Biosystematist recently divided the genus Oryza into several sections and placed O. sativa under series Sativa in section Sativae.