

633.15
Si 1

DIFFERENT RATES OF APPLYING COMPLETE
FERTILIZER ON CORN

SPECIAL PROBLEM

Emerlita S. Sierra

Don Severino Agricultural College
Indang, Cavite
April 1979

DIFFERENT RATES OF APPLYING COMPLETE
FERTILIZER ON CORN

A Special Problem

Presented to the Faculty of the
Don Severino Agricultural College
Indang, Cavite

H 298

In Partial Fulfillment
of the Requirements for the Degree of
Bachelor of Science in Agriculture
(Major in Agronomy)



Different rates of applying complete
fertilizer on corn
633.15 Si1 1979
SP.298

EMERLITA S. SIERRA

April, 1979

A B S T R A C T

This study was conducted from May 23, 1978 to August 23, 1978 at Tambo, Indang, Cavite to determine the effect of the different rates of complete fertilizer (14-14-14) on the growth and yield of corn.

The 1,000 square-meter field was prepared thoroughly by the use of animal drawn implements. Two seeds were planted in each hill 35 centimeters apart in the rows and 45 centimeters between the rows and covered with fine soil.

Complete fertilizer (14-14-14) was applied basal at different rates. Treatment 1, 210 kilograms per hectare, Treatment 2, 280 kilograms per hectare, Treatment 3, 350 kilograms per hectare, Treatment 4, 420 kilograms per hectare and the control without fertilizer.

Plants in Treatment 4 fertilized with 450 kilograms of complete fertilizer (14-14-14) per hectare gave the highest mean weight of dry grain, the longest ears and largest diameter of stalk followed by Treatment 3 (350 kilograms per hectare) and Treatment 2 (280 kilograms per hectare).

TABLE OF CONTENTS

	Page
BIOGRAPHICAL DATA	iii
ACKNOWLEDGMENT	iv
ABSTRACT	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
 INTRODUCTION	 1
Importance of the Study	2
Objectives of the Study	2
Time and Place of the Study	3
REVIEW OF RELATED LITERATURE	4
MATERIALS AND METHODS	6
Materials	6
Methods	6
Soil sampling	6
Land preparation	6
Experimental field layout	6
Planting	7
Application of fertilizer	7
Weeding and cultivation	7
Harvesting	7
Gathering of data	7

	Page
Experimental design and analysis	8
DISCUSSION OF RESULTS	9
Number of Days from Planting to Germination	9
Response of Plant to Different Rates of Fertilizer	9
Rainfall and Weather Condition	9
Average Height of Plants in Centimeters at Maturity	10
Average Diameter of Stalk in Milli- meters	12
Average Length of Ears in Centimeters	14
Average Dry Weight of Shelled Corn in Kilograms	14
Computed Yield per Hectare	17
SUMMARY, CONCLUSION AND RECOMMENDATION	18
Summary	18
Conclusion	18
Recommendation	19
BIBLIOGRAPHY	20
APPENDICES	21
A. Row Data	22
B. Figures	27
C. Soil Analysis	32

LIST OF TABLES

Table	Page
1. Average Height of Plants in Centimeters at Maturity	11
2. Average Dimater of Stalk in Millimeters	13
3. Average Length of Ears in Centimeters	15
4. Average Dry Weight of Shelled Corn in Kilograms	16
5. Computed Yield per Hectare	17

LIST OF FIGURES

Figure	Page
1. Field Layout	28
2. The General View of the Study	29
3. The Samples from the Stalk	30
4. The Samples Separated from the Stalk	31

DIFFERENT RATES OF APPLYING COMPLETE
FERTILIZER ON CORN^{1/}

by

Emerlita S. Sierra

^{1/}A Special Problem presented to the faculty of the Don Severino Agricultural College, Indang, Cavite, in partial fulfillment of the requirements for graduation with the degree of Bachelor of Science in Agriculture (BSA), Major in Agronomy. Contribution No. P.S.-79077-060. Prepared in the Department of Plant Science under the supervision of Mr. Pedro F. Matel.

INTRODUCTION

Corn (Zea maize, Linn.) is a staple crop of about 20 percent of the total population in the Philippines. It is one of the important agricultural crops produced for human consumption in the country. It is grown in all provinces and has been cultivated for thousands of years.

While corn has been cultivated for a thousand of years, the initial impetus was given towards raising corn on a commercial scale to meet the needs of home consumption. In the ensuing years, when dietetics vouched for its remarkable nutritive merits as human food and animals, the govern-