

**PERFORMANCE EVALUATION OF ROBOSEEDER  
FOR WET DIRECT SEEDING OF RICE**

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An Undergraduate Thesis Submitted to the faculty of the Department of Agricultural and  
Biosystem Engineering, College of Engineering, Central Luzon State University,  
Science City of Muñoz, Nueva Ecija Philippines in Partial  
Fulfillment of the Requirements  
for the Degree of

**BACHELOR OF SCIENCE IN AGRICULTURAL AND BIOSYSTEM  
ENGINEERING  
(AB MACHINERY AND POWER ENGINEERING)**

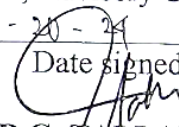
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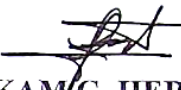
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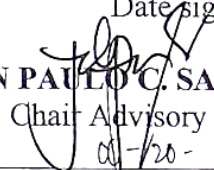
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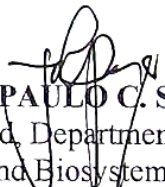
  
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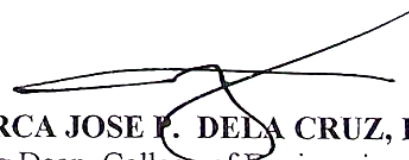
  
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## **BIOGRAPHICAL SKETCH**

The author, Edel Rod T. Perez was born on May 28, 2002 at Sto. Tomas General Hospital, Pampanga. He hails from Brgy. Sto. Rosario, San Luis, of the same province. He is the second of the three children of Mr. Rodelito M. Perez and Mrs. Myleen Perez. His older brother is Ephraime Rod T. Perez, and younger sister is Micah Joy T. Perez. Mr. Perez finished his elementary education at Brgy. Sto. Rosario, San Luis, Pampanga and secondary education at Holy Cross College, Brgy. Sta Lucia, Sta. Ana, Pampanga. He is currently pursuing his undergraduate degree, Bachelor of Science in Agricultural and Biosystem Engineering, in Central Luzon State University.

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## TABLE OF CONTENTS

LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF APPENDIX TABLES	xi
LIST OF APPENDIX FIGURES	xii
ABSTRACT	xiii
INTRODUCTION	1
Background of the Study	1
Statement of the Problem	3
Objective of the Study	4
Significance of the Study	4
Scope and Limitation of the Study	5
Time and Place of the Study	6
REVIEW OF LITERATURE	7
Rice Production	7
Philippine's farming situation	7
Crop establishment	8
Transplanting vs Direct seeding	9
Seeding Rate	10
Uniformity Distribution test	10
The one-way headland pattern	10
Drum Seeder	11
Problems in Transplanting and Mechanical Transplanting	11
Advantage of Drum Seeder	11
Level of Mechanization	12
New Agricultural Technology	12
Performance Evaluation of Manually Operated Drum Seeder in	15

Puddled field	
Performance Evaluation of Self-propelled Mechanical Transplanter	16
Development of a Lightweight Four Drum Seeder	16
Performance Evaluation Field Efficiency: Seeding Rate, Effective field capacity and Theoretical field capacity.	17
Laboratory Calibration	18
Pulse Width Modulation	18
Cost Analysis of Farm Machinery Operation	19
Major parts and components of Robo Seeder	20
Working principle of Robo seeder	22
<b>METHODOLOGY</b>	<b>23</b>
Conceptual Framework	23
Materials and Equipment	25
Drum Seeding Operation	26
Test Condition	26
Field Condition	26
Laboratory Calibration Test	26
Uniformity Distribution Test	28
Field Performance Test	29
The Operational Patern	29
Field Capacity Determination	30
Computation for Field Performance	30
Statistical Analysis	31
Computation for Cost Analysis	31
<b>RESULTS AND DISCUSSIONS</b>	<b>32</b>
Description of the Roboseeder	32
Laboratory calibration of the Roboseeder	33
Relationship between Seed Drum Rotational speed in RPM and PWM	33
Relationship between Seed Drum Rotational speed in RPM and seed discharge	35
Calibration of the Microcontroller	35

Performance Evaluation Test	36
Uniformity Distribution	37
Field Performance	38
Field Performance Data	39
Theoretical Field Capacity	40
Actual Field Capacity	41
Field Efficiency	43
Cost Analysis	44
<b>SUMMARY, CONCLUSIONS AND RECOMMENDATIONS</b>	<b>48</b>
Summary	49
Conclusions	50
Recommendations	52
<b>LITERATURE CITED</b>	<b>53</b>
<b>APPENDICES</b>	<b>59</b>

## LIST OF TABLES

TABLE		PAGE
1	Materials and equipment	24
2	Specification of the roboseeder	33
3	means of the discharge seeds	37
4	Mean of TFC, AFC, Field efficiency	39
5	Theoretical field capacity	40
6	Actual field capacity	41
7	Field efficiency	43
8	Cost comparison	45

## LIST OF FIGURES

FIGURE		PAGE
1	Rakebot: Robotic rake for mixing rice paddy	13
2	Remote-Controlled Drum Seeder	13
3	Remote-Controlled Solar powered sprayer	13
4	GPS guided robot	14
5	Automated stirring robot	15
6	Manually Operated Drum Seeder in Puddled Filed	15
7	Components of Roboseeder	21
8	Remote Controller of the Roboseeder	22
9	Conceptual framework	24
10	Calibration of Roboseeder	27
11	Uniformity Distribution test	28
12	Field performance test: operating speed	30
13	Roboseeder	31
14	Linear relationship between RPM and PWM	34
15	Linear relationship between RPM and Seed Discharge	35
16	Comparison of cost of operation	45

## LIST OF APPENDIX TABLES

APPENDIX TABLE		PAGE
1	Relation between RPM, PWM and Seeding Rate Trial 1	60
2	Relation between RPM, PWM and Seeding Rate Trial 2	60
3	Relation between RPM, PWM and Seeding Rate Trial 3	61
4	Relation between RPM, PWM and Seeding Rate Average	61
5	Uniformity distribution test data	62
6	Field Performance Evaluation	63
7	Operating speed	63
8	Theoretical field capacity	64
9	Actual operating time	64
10	Actual field capacity	64
11	Field efficiency	64
12	Simple cost analysis	65
13	Simple cost analysis of mechanical transplanter	66

## LIST OF APPENDIX FIGURES

APPENDIX FIGURE		PAGE
1	Length of seed	68
2	Laboratory test	68
3	Weighing of seed	69
4	Measuring of rpm	69
5	Uniformity distribution	70
6	Field test	70
7	Weight of seed	71
8	Field test	71
9	Focused discussion group	72
10	Final Conceptual Design	73

## ABSTRACT

**PEREZ, EDEL ROD T.**, Department of Agricultural and Biosystems Engineering, College of Engineering, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, **JULY 2024, PERFORMANCE EVALUATION OF ROBOSEEDER FOR WET DIRECT SEEDING OF RICE.**

Adviser: JOHN PAULO C. SACDALAN, Ph.D.

Co-adviser: JASPER G. TALLADA, Ph.D.

Farmers are affected by low yield and production, and improving the rice planting methods can significantly improve the yield, production, and especially the returns. Direct seeding is the cheapest method in rice crop establishment but it produces low yield if it is not done properly. The main goal of the roboseeder is to lower the cost of input while increasing production and yield. The main objective of the study is to evaluate the roboseeder field performance whereas the specific objects to be obtained are in relation to the Seed drum rotational speed, pulse width modulation, and seed discharge. A field evaluation was performed while comparing manual drum seeder and performed simple cost analysis. The laboratory calibration showed a linear relationship for both seed drum rotational speed and PWM and seed drum rotational speed and discharge of seed. The highest rpm recorded was 91 RPM at 255 of PWM level, which has the highest discharge of seed; while the lowest was 4.3 RPM at 35 intervals of PWM, which has the lowest discharge of seed. The uniformity distribution data showed that the average drop is 1.09 grams. The field performance test showed 0.39 ha/hr, 0.32 ha/hr, and 82.1% for TFC, AFC and field efficiency respectively. The cost analysis showed using roboseeder the cost of operation is different between the Manually operated drum seeder and mechanical transplanter the cost of operation per hectare of the roboseeder is 5,371.47 Php/ha while

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