COMPREHENSIVE SEMESTRAL REPORT ON FIELD PRACTICE AT PHILIPPINE RICE RESEARCH INSTITTUTE (PhilRice)

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BACHELOR OF SCIENCE IN AGRICULTURAL ENGINEERING
(Agricultural Power, Energy and, Machinery)

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TABLE OF CONTENTS

	PAGE
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF APPENDIX TABLES	xi
LIST OF APPENDIX FIGURES	xii
ABSTRACT	xiii
RATIONALE	1
Activities on Field Practice	2
Activity 1: Testing and Evaluation of Motor Driven Brown rice Hulling Machine	3
Activity 2: Comparative Cost Analysis of Motor Driven and Manually Operated Brown Rrice Hulling Machine	3
Significance of the Field Practice	4
Objectives of the Field Practice	4
Scope and Limitations of the Field Practice	5
Time and Place of the Field Practice	5
REVIEW OF LITERATURE	6
Brown Rice	6
Nutrition Facts	8
Health Benefits	8
Commercialization of Brown Rice	9
Brown Rice Machine	9
Pestle and Mortar	10
Rubber Roll Paddy Huller	10
Milling	11
Motor-Driven Machine	12

METHODOLOGY 13

Conceptualization of the field practice 13

Activity 1: Performance evaluation and cost analysis of motor driven hulling machine 14

Instrumentation 14
Preparation of samples 15
Dehulling process 16

Data Gathered 16

Moisture content 16
Weight of Brown Rice 16
Weight of head rice and broken rice 17
Operating time 17

Determination of performance parameters 17

Brown rice recovery 18
Head rice recovery 18
Hulling efficiency 18

Coefficient of hulling 19
Coefficient of wholeness 19

Hulling capacity 20

Experimental design 20
Cost analysis on the use of the machine 20

Investment cost 21
Fixed cost 21

Depreciation 21
Interest on investment 22
Insurance 22

Variable Cost 22

Repair and maintenance 22

Operating Period 22
Net Income 22
Payback Period 23

Activity 1: Performance evaluation and cost analysis of motor driven hulling machine 23

RESULTS AND DISCUSSION 24

Activity 1: Performance evaluation and cost analysis of motor driven hulling machine 24

Performance of the Machine 25

Brown Rice Recovery 25
Head Rice Recovery 26
Hulling Efficiency 27
Hulling Capacity 28

Cost Analysis 29

Activity 2: Comparative Analysis of Performance Parameters of Motor Driven and Manually operated Brown Rice Machine 30

Brown Rice Recovery 31
Head Rice Recovery 31
Hulling Efficiency 32
Hulling Capacity 32

SUMMARY, CONCLUSION AND RECOMMENDATION 34

Summary 34
Conclusions 36
Recommendations 36

LITERATURE CITED 37

APPENDICES 39
Philippine Rice Research Institute as Collaboratig Agency 40
Appendix Tables 48
Appendix Figures 52

LIST OF TABLES

TABLE		PAGE
1	Nutrient chemical composition of brown rice	7
2	Comparison of nutritive value of rice	8
3	Conceptual framework of the study	14
4	Minimum list of test equipment and materials	15
5	Brown rice recovery of motor driven machine	26
6	Head rice recovery of motor driven machine	27
7	Hulling efficiency of motor driven machine	28
8	Hulling capacity of motor driven machine	28
9	Cost analysis of the brown rice hulling machine	30
11	Statistical analysis using T-test on brown rice recovery	31
12	Statistical analysis using T-test on head rice recovery	31
13	Statistical analysis using T-test on hulling efficiency	35
14	Statistical analysis using T-test on hulling capacity	35

LIST OF FIGURES

FIGURE		PAGE
1	Brown rice	6
2	Motor driven brown rice machine	24

LIST OF APPENDIX TABLES

APPENDIX TABLE		PAGE
1	Program of works on field practice	46
2	Analysis of variance on brown rice recovery	47
3	Analysis of variance on head rice recovery	47
4	Analysis of variance on hulling efficiency	47
5	Analysis of variance on hulling capacity	48
6	Bill of materials of motor driven machine	48

LIST OF APPENDIX FIGURES

APPENDIX FIGURES		PAGE
1	Paddy sun drying	58
2	Measuring moisture content of paddy	58
3	Weighing of paddy samples	59
4	Operating and collecting of huller output	59
5	Labelling of huller output	60
6	Manual separation of paddy samples	60
7	Use of rice grader for head rice determination	61
8	Recording data	61

ABSTRACT

REYES, MARIEL BERNABE, Department of Agricultural and Biosystems Engineering, College of Engineering, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, June 2018. **COMPREHENSIVE SEMESTRAL REPORT ON FIELD PRACTICE AT PHILIPPINE RICE RESEARCH INSTITUTE (PhilRice)**

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This field practice was conducted to broaden the knowledge and skills of the students and to provide experiences on the activities provided by the Philippine Rice Research Institute (PhilRice) Rice Engineering and Mechanization Division (REMD) on the performance evaluation of a motor-driven brown rice machine. The general objectives of this study were to; evaluate the machine performance in terms of brown rice recovery, head rice recovery, hulling efficiency and hulling capacity; to perform cost analysis on the use of machine; and to compare the performance parameters of motor driven and manually operated brown rice machine in terms of brown rice recovery, head rice recovery, hulling efficiency, and hulling capacity.

Evaluating the performance of the machine in terms of brown rice recovery, head rice recovery, hulling efficiency and hulling capacity in different moisture content (NSIC Rc 222 variety) to determine which parameters can produce best results and computing the cost analysis on the use of machine. And comparing the best result on performance parameters of motor driven and manually operated brown rice machine in terms of brown rice recovery, head rice recovery, hulling efficiency, and hulling capacity.The study was laid out in Complete Randomized Design (CRD). Analysis of Variance (ANOVA) was

used to analyze significant difference between treatment means and Comparison Among Means (CAM) was done using LSD at 5% level of significance.

Based on the result, the paddy having 11-12% moisture content level provided the best results while 15-16% moisture content gave the lowest result on all of the parameters of the brown rice machine. The highest mean brown rice recovery, head rice recovery, hulling efficiency and hulling capacity is 66.1%, 83.41%, 75.23% and 1.94kg/hr, respectively, while the lowest were 64.7%, 82.06%, 72.88% and 1.59kg/hr, respectively. Comparing the best result on performance parameters of motor driven and manually operated brown rice machine in terms of brown rice recovery, head rice recovery, hulling efficiency, and hulling capacity proves that using manually-operated has the better performance than motor driven in all performance parameters of the machine.

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