



De La Salle University - Dasmariñas

**DE LA SALLE UNIVERSITY DASMARINAS
COLLEGE OF ENGINEERING, ARCHITECTURE AND
TECHNOLOGY**

**DEVELOPMENT OF THREE PROCESS CORN MILL
(DE-HUSKING, DE-KERNELLING, MILLING)**

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ABSTRACT

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This study is conducted in order to design, create and test machines that will be capable of de-husking and de-kernelling and milling yellow dent corns. The corns were sourced from Leyte and sun dried until the moisture content of the corn is reduced. Due to time constraint, the researchers were not able to design an integrated machine to de-husk, de-kernel and mill the corn instead opt to design individual machines. For the de-kerneller unit, the group opted to use the de-kerneller unit designed and built by a group of previous mechanical engineering students.

Through various consultations and research about corn processing, the proponents of the study was able to design a roller that should peel off the husks for the dried corns. However, as the test was conducted, it was found out that the design of the roller was not effective for removing the husks completely. Different rotation patterns for the de-husker rollers were tested.

The effectiveness was increased slightly however the husks still did not completely peel off; the highest being at 21%. The effectiveness of the existing corn de-kerneller was also tested. It turned out that only an average of 90% of the corn kernels were removed from the cob. Corn milling machine was also tested. Test



showed that the corn grits produced was of size 14 based on the corn grit standards set by Bureau of Product Standards.





TABLE OF CONTENTS

	Page
APPROVAL SHEET.....	i
ACKNOWLEDGEMENT.....	ii
ABSTRACT.....	iv
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
LIST OF APPENDICES.....	x
BACKGROUND OF THE STUDY.....	1
Introduction.....	1
Statement of the Problem.....	2
General Objective.....	2
Specific Objectives.....	2
Significance of the Study.....	3
Theoretical Framework.....	3
Scope and Limitations.....	3
Definition of Terms.....	4
REVIEW OF RELATED LITERATURE AND STUDIES.....	6
Corn as Feedstuff for Livestock.....	6
Corn De-husking.....	6
Corn De-kernelling.....	8

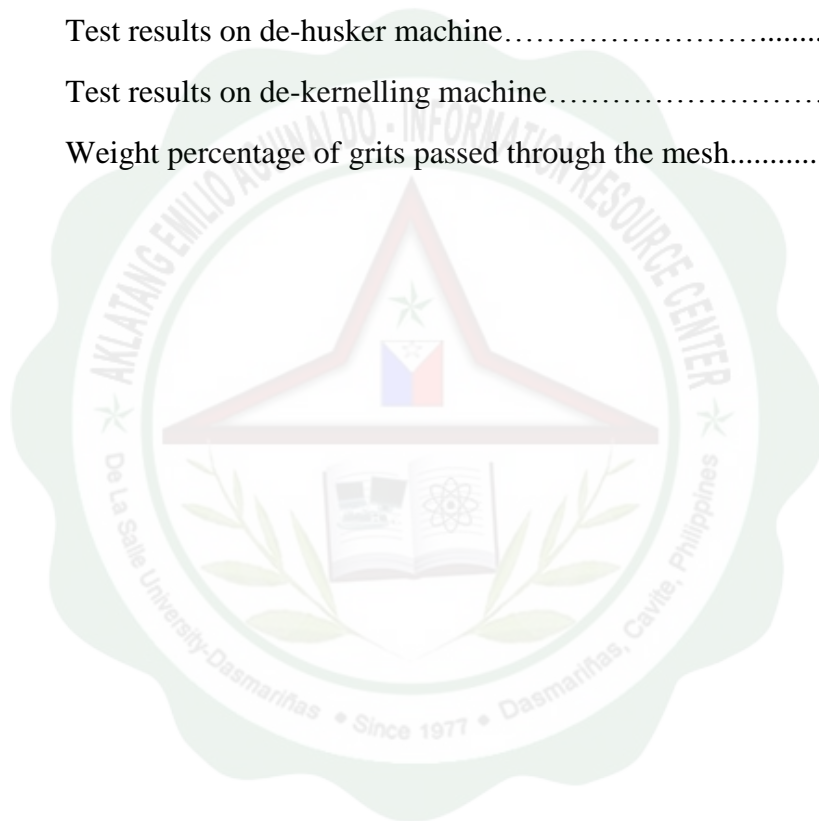


Corn Milling.....	9
Effect of moisture Content in Processing.....	10
Measuring Moisture Content.....	12
METHODOLOGY.....	15
Method of Research.....	15
Development of Prototype.....	15
Data gathering.....	16
Consultation.....	17
Design of the Prototype.....	17
Method of Testing.....	18
RESULTS AND DISCUSSIONS.....	22
Moisture Content Tabulation.....	22
Design of the Machines.....	23
Corn De – husker Machine.....	25
Corn De-kernelling Machine.....	26
Corn Milling Machine.....	27
CONCLUSIONS AND RECOMMENDATIONS.....	32
REFERENCES.....	34
APPENDICES.....	37



LIST OF TABLES

Table		Page
1	Percentage size composition of corn grits.....	21
2	Moisture content of corns.....	22
3	Diameter and length of sample corns.....	23
4	Test results on de-husker machine.....	25
5	Test results on de-kernelling machine.....	27
6	Weight percentage of grits passed through the mesh.....	28





LIST OF FIGURES

Figure		Page
1	Paradigm of Corn Milling.....	3
2	Corn De-husking Machine.....	7
3	Hand-crank operated corn de-kerneller by Denison.....	9
4	Hand-crank stone Grain Mill	10
5	Research Flow Chart.....	16
6	Corns after testing for inward rotation.....	26
7	Corns after testing for similar direction of rotation.....	26
8	Corns after testing for free-wheeling + inward rotation.....	26
9	Corns before de-kernelling process.....	28
10	Corns after first pass in the de-kerneller machine.....	29
11	Corns after second pass in the de-kerneller machine.....	30
12	Corns after third pass in the de-kerneller machine.....	30
13	Corn kernels from de-kernelling.....	31
14	Corn grits produced.....	31
15	De-husker machine.....	53
16	Worm gear power train driving the two rollers.....	53
17	De-kernel unit.....	54
18	Milling unit.....	54
19	The researchers with the adviser in testing the de-husker.....	55



LIST OF APPENDICES

Appendix		Page
1	Working drawings.....	37
2	Computations.....	44
3	Design Tables	
	3.1 Typical Properties of Wrought Ferrous Metals.....	47
	3.2 English Standard Keyway and Key Sizes.....	48
	3.3 Roller Chain Dimensions.....	49
4	Pictures of the Machine.....	53
5	Bill of Quantities.....	56

