

**ESSENTIAL NUTRIENT DETERMINATION USING MICROWAVE PLASMA
ATOMIC EMISSION SPECTROSCOPY AND DETECTION OF OSYSL1 GENE
AMONG SELECTED CLSU PIGMENTED RICE ACCESSIONS**

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TABLE OF CONTENTS

	PAGE
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF APPENDICES	x
LIST OF APPENDIX TABLES	xi
LIST OF APPENDIX FIGURES	xii
ABSTRACT	xiii
INTRODUCTION	1
Background of the Study	1
Objective of the Study	3
Significance of the Study	3
Scope and Limitation of the Study	4
Time and Place of the Study	4
REVIEW OF RELATED LITERATURE	5
Rice	5
Essential nutrients	5
Microwave Plasma Atomic Emission Spectroscopy	9
MATERIALS AND METHODS	11
Plant Material	11
Crop Management	11
Seed Morphological Characterization	13
Essential Nutrient Analysis	13
Molecular Profiling	14
Data Gathered	15
RESULTS AND DISCUSSION	17
Seed morphological characteristics	17
Nutrient Analysis of CLSU Pigmented Rice	19
Molecular Profiling	22

SUMMARY, CONCLUSION AND RECOMMENDATION	23
Summary	23
Conclusion	23
Recommendation	24
LITERATURE CITED	25
APPENDICES	31

LIST OF TABLES

TABLE		PAGE
1	Seed morphological characteristics, grain length, grain width, grain shape and grain size of pigmented rice	17
2	Classification of selected pigmented rice	19
3	Total number of zinc, copper, manganese, iron and cadmium	21

LIST OF FIGURES

FIGURE		PAGE
1	Gel electrophoresis of PCR product of selected CLSU pigmented rice with OsYSL1 as a primer	22

LIST OF APPENDICES

APPENDIX		PAGE
A	Photo documentation	32
B	Seed Morphological Characterization	36

LIST OF APPENDIX TABLES

APPENDIX TABLE	PAGE
1 Seed Morphology of 15 pigmented rice accession	36

LIST OF APPENDIX FIGURES

APPENDIX FIGURE		PAGE
1	Sowing of Seeds	32
2	Preparing the seedlings for transplanting	32
3	Transplanting of seedlings to the field	33
4	Harvesting all the 80-90% matured rice	33
5	DNA Extraction procedure	34
6	Preparing PCR samples	34
7	Loading the PCR product to a gel	35
8	Dehulling the fifteen selected CLSU pigmented rice accession	35
9	Variation of rice grain, (A) – CL 35 OT, (B) – CLS 3, (C) – Dinorado, (D) – Dujali Black, (E) – Escalante, (F) – Luna Red, (G) – Mailum Black, (H) – Nemie Red, (I) – Peneliza G., (J) – Pirurutong, (K) – Porac, (L) – RR, (M) – Blonde Red, (N) – Gal-ong, (O) – Peneliza (Aquino,2018)	38
10	Variation of dehulled rice grain, (A) – CL 35 OT, (B) – CLS 3, (C) – Dinorado, (D) – Dujali Black, (E) – Escalante, (F) – Luna Red, (G) – Mailum Black, (H) – Nemie Red, (I) – Peneliza G., (J) – Pirurutong, (K) – Porac, (L) – RR, (M) – Blonde Red, (N) – Gal-ong, (O) – Peneliza (Aquino,2018)	49

ABSTRACT

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Health is so important to all people, and having a good health is also having a nutritious food in the table. Rice is the most staple food in the Philippines. In this study, all the seed morphology varies according to their variety. Seed morphological characterization of rice was performed specifically the grain length, grain width, grain size and grain shape. The zinc, manganese, copper, iron and cadmium composition of fifteen selected CLSU pigmented rice accession have been analyzed using the Microwave Plasma Atomic Emission Spectroscopy (MP-AES). Gene profiling was performed using the *OsYSL1* gene for iron. The nutrient analysis found that Zinc has the range of 13-23 mg/kg, for Copper range in 6-13 mg/kg, for Manganese range in 1-13 mg/kg, for Iron range in 52-1071 mg/kg, lastly for the cadmium have equal they are all equal with 0.01 mg/kg which means that there is no cadmium content within the rice accessions. Molecular detection reveals that *OsYSL1* gene was present in all selected pigmented rice. However, the functionality of the gene needs a further study.

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