MAJOR PRACTICE IN MICROPROPAGATION OF *Medinilla* spp. AT BENGUET STATE UNIVERSITY, LA TRINIDAD, BENGUET

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Submitted to the faculty of the Department of Crop Science
College of Agriculture,Central Luzon State University
in partial fulfillment of the requirements for
the degree

BACHELOR OF SCIENCE IN AGRICULTURE
(Crop Science - Horticulture)

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This major practice report entitled "**MAJOR PRACTICE IN MICROPROPAGATION OF MEDINILLA (*Medinilla* spp.) AT BENGUET STATE UNIVERSITY",** prepared and submitted by **KATRINA JOYCE M. LACSON** in partial fulfillment of the requirements for the degree Bachelor of Science in Agriculture (Crop Science) is hereby accepted.

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BIOGRAPHICAL SKETCH

The author was born on the 10th day of September, in the year 1996 in Guimba Hospital at Guimba, Nueva Ecija. She is the youngest child of Mrs. Eva M. Lacson and Mr. Romy Lacson. She has a brother named King Jade M. Lacson.

She finished her elementary and secondary education at Our Lady of the Sacred Heart Academy (OLSHA) in Guimba, Nueva Ecija.

In 2013 she enrolled at Central Luzon State University, Science City of Muñoz, Nueva Ecija. She took the Degree of Bachelor of science in Agriculture, major in Crop Science specializing Horticulture and a member of Society of Crop Science Majors.

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KATRINA JOYCE MARIANO LACSON

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDIX TABLE

LIST OF APPENDIX FIGURES

APPENDIX TABLE
GUIDELINES

ABSTRACT

LACSON, KATRINA JOYCE MARIANO, Department of Crop Science College of Agriculture, Central Luzon State University, Science City of Muñoz, Nueva Ecija, June 2017

Major practice in Micropropagation of *Medinilla* spp. at Benguet State University

Venue: **Regional Tissue Culture Laboratory**
Benguet State University
Cabanao, Balili, La Trinidad Benguet

Adviser: **Prof.Pacifico T. Vizmonte, Jr**.

The major practice in micropropagation of *Medinilla* spp. was conducted at the Regional Tissue Culture Laboratory Benguet State University (BSU), Barangay Cabanao, Balili, La Trinidad Benguet from December 21,2016 to January 21, 2017. The objective of the major practice (MP) was to enable the MP students to acquire firsthand experience in tissue culture technologies on ornamental particularly in Medinilla. The specific objectives were, to know the specific procedures in tissue culture and gain knowledge on both experiential and technical areas, to Conduct mini experiments that will enable the major practice students to: a) develop expertise in inoculation procedures b) acquire more precise ability and technical knowledge in preparing stock solutions c) gain hands on

experience in mericloning or subcloning of Medinilla d) become familiar with in *ex-vitro* acclimatization of plantlets grown in *in-vitro.*

During the major practice, the student was exposed to inoculation, mericloning and acclimatization of *Medinilla.* Activities undertaken were preparation of stock solution, preparation of cultured media, cooking of cultured media, sterilization of cultured media, sterilization of contamination, collection of explants, sterilization of explants, inoculation , mericloning, and acclimatization.

LITERATURE CITED

Anonymous (2012) plant care http://www.medinilla.ca/plant-care.html retrieved MARC H 03,2017

Anonymous (2013), Method of ovary culture and tissue culture rapid propagation of medinilla magnifica. Nov. 13, 2016.

CHATURVEDI, (2007).Cloning of medicinal plants P.946

Crane, J.C And Van Overbeek. 1965 Kinin Induced Parthenocarpy in Figs. Science,47: 1468-1469

Debergh PC and Maene LJ (1981), A scheme for commercial propagation of ornamental plants by tissue culture. April 1981, Vol.14(4):335–345; Retrieved on Dec. 16, 2016

Devlin, R. 1977. Plant Physiology Third Edition New York: Litton Education Publishing Incorporation Pp.495-497

Elinorovololona RN and Martial EL (2014), Effects of growth regulators 6-Benzylaminopurine and 2-Naphtalene Acetic Acid on the in vitro shoot multiplication from nodal segment of Medinilla mandrakensis (Melastomataceae).

Fernández H and Revilla M (2013), Plant Cell, Tissue and Organ Culture. 73: 1; Retrieved on Nov. 14, 2016

H.P. Singh, S. Uma, R. Selvarajan and J.L. Karihaloo (2011). Micropropagation for production of quality banana planting material in Asia-Pacific.Asia-Pacific Consortium on Agricultural Biotechnology(APCoAB). P.92.

LIU, (2007) In vitro propagation of an endangered medicinal plant. Plant cell reports volume 26 Issue 3.

Medina, E. T. 1981. Effect of the interaction of gibberellic acid and Cytokinin on the Flower Formation of Chrysanthemum. Sci. Horticulture. 5: 161-360

Miller, C. O. 1956. Similarly of some kinetin and some red light effects. Plant Physiology Journal. 31: 318-319

Mujib A, Banerjee S and Ghosh PD (2013), Tissue Culture Induced Variability in some Horticultural Important Ornamentals: Chromosomal and Molecular Basis-A Review. Biotechnology, 12: 213-224; Retrieved on Dec. 17, 2016

MURASHIGE And SKOOG. 1962. A revised medium for rapid growth and bio-assays with tobacco tissue cultures. Physiology Plant. 15: 473

Nakayama, Y. A. 1962. Antagonism of Kinetin and red light on iaa in the flowering of Pharbitis Seedlings. Phyton. 19: 43-48

PATENA, (2008). Tissue culture of mango. Retrieved on May 10,2017 From http://www.pcaarrd.dost.gov.ph/home/momentum/mango/index.php?option=com_content&view=article&id=1326:tissue-culture-of-mango&catid=37

PCARRD, 1975. Coconut Production. The Philippine Council for Agricultural Research. University of the Philippines, Los Banos, Laguna. Pp.1925

Ron Determann (2016), Tissue Culture. (http://atlantabg.org/learn/conservation-efforts/tissue-culture-lab)

Snow, R. 1935. Activation of Cambial Growth by Pure Hormone. New Phylol. 34:347-360

TEMJENSANGBA, 2006. In vitro propagation of threatened terrestrial orchid,through immature seed culture. Indian journal of experimental biology Volume 44 Issue 9

THORPE, (2006) History of plant tissue culture. Methods of Molecular Biology Volume 318.

WAHOME,(2005).Propagation of sugarcane using plant tissue culture biotechnology http:www.uniswa.sz/sites/default/files/research/urs/docs/propagationofsugarcane.pdf

Wikipedia. Medinilla. https://en.wikipedia.org/wiki/Medinilla

Yan Wang, Dai-Di Feng, Xiao-Bai Li,and Jian-Ping Chen (2015). An effective route for the micropropagation of Medinilla formosana through ovary culture in vitro.