

**MAJOR PRACTICE IN LEAFY VEGETABLE PRODUCTION USING  
HYDROPONICS TECHNOLOGY**

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An undergraduate thesis manuscript presented to the faculty of the  
Department of Crop Science College of Agriculture,  
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fulfilment of the requirements  
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**BACHELOR OF CROP SCIENCE IN AGRICULTURE  
(Crop Science-Horticulture)**

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This major practice report entitled "MAJOR PRACTICE IN LEAFY VEGETABLE PRODUCTION USING HYDOPONICS TECHNOLOGY IN CLSU HYDROPONICS AND AQUAPONICS TECHNOLOGIES (CHAT)", prepared and submitted by EFREN SAGUN MADAYAG in partial fulfillment of the requirement for the degree Bachelor of Science in Agriculture (Crop Science), is hereby accepted.

  
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## **BIOGRAPHICAL SKETCH**

The author, Efren Sagun Madayag was born on April 2, 1994 at Barangay Linglingay, Science City of Muñoz, Nueva Ecija. He is the only son of Mr. Melanio Foronda Madayag and Mrs. Angelina Sagun Madayag. Efren is usually called “Bert” by his girlfriend and “Nano” by his family.

He completed his primary education at Linglingay Elementary School in 2007 and his secondary education at Muñoz National High School in 2011. After completed his secondary education, he decided to take the admission test in Central Luzon State University and successfully passed the test and he pursue his tertiary education. He took up Bachelor of Science in Agriculture major in Crop Science with specialization in Horticulture.

During his college days, he joined a non college-based organization which helped him to improve his social interactions and gained more friends.

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## ABSTRACT

**EFREN SAGUN MADAYAG**, Department of Crop Science, College of Agriculture, Central Luzon State University, Science City of Muñoz, Nueva Ecija, January 2019.

**Title:** **Major Practice in Leafy Vegetable Production Using Hydroponics Technology**

**Venue:** Central Luzon State University Hydroponics and Aquaponics Technologies (CHAT).  
Demonstration Farm and Experiment Station of the Department of Agricultural and Biosystem Engineering  
Science City of Muñoz, Nueva Ecija

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The Major Practice (MP) was conducted at the Central Luzon State University Hydroponics And Aquaponics Technologies (CHAT), Demonstration Farm and Experimental Station of the Department of Agricultural and Biosystem Engineering, under the college of Engineering, Central Luzon State University from October 2017 to January 2017.

The general objective of the major practice was to develop skills of the student in the production management of leafy vegetables using hydroponics technology and to gain more knowledge about cultural management and post-harvest practice in leafy vegetables, to acquire first hand experience in leafy vegetables specifically lettuce and

mustard production using hydroponics technology, to become more familiar with hydroponics technology and how it works and to present a cost and return analysis and producing leafy vegetable using hydroponics technology.

All labor requirements were provided by the major practice student while inputs and other facilities were provided by the project. During the conduct of the major practice, the student was able to develop skills involved in the actual cultural management production practices of leafy vegetables using the technology at CHAT. The skills indicate the understanding the operation and maintenance of the greenhouse system, preparation management of nutrient solution, harvesting, handling and marketing. The lettuce and mustard were grown in the layer type system with the recirculating production model and automated nutrient delivery of nutrient solution. The lettuce and mustard were grown in 6 pvc pipes with 8 m long consisting of 350 holes with 5 cm distance between holes.

The profitability analysis of lettuce produced Php 398.00 with 45.90% return on expenses (ROE). On the other hand mustard, after deducting the total expenses from the gross income, net loss Php 532.00 recorded. Thus, between lettuce and mustard, growing lettuce was found more profitable than mustard because of higher valued resulting to higher net income.

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