

**ENHANCING BULB YIELD AND VITAMIN C OF GARLIC (*Allium sativum* L.)
THROUGH AMINO ACID BIOSTIMULANT APPLICATION**


ERWIN NITORADA BAGUISE

A master's thesis submitted to the faculty of the Department of Crop Science, College of
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**MASTER OF SCIENCE
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This master's thesis entitled, **ENHANCING BULB YIELD AND VITAMIN C OF GARLIC (*Allium sativum* L.) THROUGH AMINO ACID BIOSTIMULANT APPLICATION**, prepared and submitted by **ERWIN N. BAGUISE**, in partial fulfillment of the requirements for the degree, **MASTER OF SCIENCE (Crop Science - Horticulture)**, is hereby accepted.


NENITA E. DELACRUZ
Member, Advisory Committee

01/15/18
Date Signed

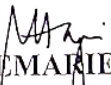

ROSEMARIE T. TAPIC
Member, Advisory Committee

01/10/18
Date Signed


NEMESIO V. TAMAYO
Chair, Advisory Committee

01/10/18
Date Signed

Accepted as partial fulfillment of the requirements for the degree, **MASTER OF SCIENCE (Crop Science – Horticulture)**.


ROSEMARIE T. TAPIC
Chair, Department of Crop Science

01/23/18
Date Signed


ERNESTO A. MARTIN
Dean

01/23/18
Date Signed

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ABSTRACT

BAGUISE, ERWIN, N., Department of Crop Science, College of Agriculture, Central Luzon State University, Science City of Muñoz, Nueva Ecija. **FEBRUARY 2018. ENHANCING BULB YIELD AND VITAMIN C OF GARLIC (*Allium sativum* L.) THROUGH AMINO ACID BIOSTIMULANT APPLICATION.**

Adviser: **NEMESIO V. TAMAYO, PhD**

An experiment was conducted using different levels of amino acid biostimulant combined with inorganic fertilizers to evaluate the growth and yield response of Ilocos white garlic to amino acid bio-stimulant application, analyze the vitamin C of Ilocos white garlic applied with amino acid bio-stimulant, identify the rate of amino acid bio-stimulant that will lead to higher vitamin C and higher yield, and identify the rate of amino acid bio-stimulant in combination with inorganic fertilizer that will lead to higher vitamin C and higher yield. The study was set up following the experimental layout of single factor experiment arranged in Randomized Complete Block Design with three replications. The garlic plants were subjected to application of 1,500 ppm, 2,100 ppm, and 2,800 ppm AAB alone and with 1/2 RR of IF.

Results of the experiment showed that plants applied with 2,800 ppm AAB + 1/2 RR of IF produced 50.18 cm plant height, 3.02 g above ground dry matter yield, and 3.24 tons yield per hectare. This treatment also produced least number of bulbs to a kilogram (139 bulbs). On the other hand, the plants applied with 2,100 ppm AAB + 1/2 RR of IF obtained highest average number of cloves per bulb (22 cloves), highest equatorial

diameter (27.40 mm), and heaviest weight of bulb (12.29 g) and the treatment that attained the highest vitamin C content of Ilocos white garlic was with application of 2,800 ppm AAB alone that produced 58 mg/100ml of vitamin C.

Moreover, the diameter and average weight of bulb was increased significantly with the application of varying levels of amino acid biostimulant.

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