RAINFED PERFORMANCE OF DIFFERENT RICE ECOTYPES APPLIED WITH PACLOBUTRAZOL

MELIZA PAGUIBITAN MAGTALAS

An undergraduate thesis manuscript presented to the faculty of the
Department of Crop Science College of Agriculture,
Central Luzon State University in partial
fulfilment of the requirements
for the degree

BACHELOR OF CROP SCIENCE IN AGRICULTURE
(Crop Science-Agronomy)

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RAINFED PERFORMANCE OF DIFFERENT RICE ECOTYPES APPLIED WITH PACLOBUTRAZOL [1/]

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ABSTRACT

This study aimed to evaluate the effect of paclobutrazol (PBZ) in agronomic parameters of different rice ecotypes under rainfed condition, identify appropriate PBZ concentration for each ecotype, and identify combination of PBZ and rice ecotype with highest grain yield. The experiment was laid out in split-plot design with PBZ concentrations (0, 250, 500 ppm) as main plot applied at 14 days after transplanting while rice ecotypes (rainfed lowland – PSB Rc14; irrigated lowland – NSIC Rc222; upland-special quality – Dinorado and lowland-special quality – NSIC Rc216) as sub-plot arranged in RCBD with three replications.

Water was drained 14 DAT and there was no standing water until harvest time. Peizometer reading at 14 DAT until harvest showed soil moisture at 44 – 66 cm below soil surface and soil moisture content at 18%.

Results showed that PBZ application at tillering stage has short term (21 days) effect of shorter plant height compared to untreated plant (0 PBZ), no effect in leaf chlorophyll content, and long term (14-49 DAT) effect in increasing tiller number which contributed to higher panicle number. PBZ also improved other yield components such as panicle length, number and percentage of filled grains, biomass, and grain yield. PBZ concentrations and rice ecotypes for grain yield showed significant interaction indicating appropriate PBZ concentration varies with rice ecotype. Lower PBZ concentration (250 ppm) gave highest grain yield for PSB Rc14 (4.50 t ha^{-1}) and NSIC Rc222 (7.75 t ha^{-1}) while higher concentration (500 ppm) for Dinorado (5.76 t ha^{-1}) and NSIC Rc216 (6.78 t ha^{-1}). Over all, highest productivity under rainfed condition was obtained from NSIC Rc222 (7.75 t ha^{-1}) with 250 ppm PBZ.

[1/]Undergraduate thesis outline to be presented as a partial fulfilment of the requirements for graduation with the degree of Bachelor of Science in Agriculture major in Crop Science from Central Luzon state University, Science City of Muñoz, Nueva Ecija. Under supervision of Mr. Ace Mugssy L. Agustin with Research Contribution No. CA-04-18-0003.

BIOGRAPHICAL SKETCH

The author Meliza Paguibitan Magtalas lives at San Francisco Sto. Domingo, Nueva Ecija. She was born on the 16th day of January 1997. She is the youngest among four children of Mr. Venancio V. Magtalas and Mrs. Magdalena P. Magtalas.

She finished her elementary education at San Francisco Elementary School and completed her secondary education at Sto. Domingo National Trade School.

She took up Bachelor of Science in Agriculture major in crop Science with specialization in Agronomy at Central Luzon State University located at Science City of Muñoz, Nueva Ecija.

During her college days, she joined the Society of Crop Science Majors (SCSM) when he was in third year college.

Like the other student, the author has experienced trials, problems and difficult times. It took a lot of hard work, patience and help of Almighty God for these trials to be conquered.

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MELIZA PAGUIBITAN MAGTALAS

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