

**VALIDATION OF WATER USE EFFICIENCY OF IRRIGATED LOWLAND
RICE DURING EARLY AND NORMAL CROPPING CALENDAR
WITH VARYING NITROGEN LEVELS (2019 DS)**

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(Crop Science- Agronomy)**


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BIOGRAPHICAL SKETCH

The author, Vincent Ralf Agbayani Alivia was born on November 12, 1999 in Sto. Domingo, Nueva Ecija. He is the youngest son between the two children of Mr. Rafael B. Alivia and Mrs. Solita A. Alivia.

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He is a hardworking student during his college days. He learned many things and was trained emotional, physical, spiritual and mental with other people. He treasures his friends, family and God.

Upon his admission at the Department of Crop Science, he became a member of the Society of Crop Science Major (SCSM) and elected as auditor.

He believes finishing his bachelor's degree will open many opportunities that will eventually leads to triumph and success.

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ABSTRACT

ALIVIA, VINCENT RALF A. Department of Crop Science , College of Agriculture, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, **June 2019, VALIDATION OF WATER USE EFFICIENCY OF IRRIGATED LOWLAND RICE DURING EARLY AND NORMAL CROPPING CALENDAR WITH VARYING NITROGEN LEVELS (2019 DS)**

Adviser: ACE MUGSSY L. AGUSTIN, M.Sc.

Water is one of the most important resources in the crop production mostly in irrigated lowland rice. Water scarcity is due to the climate change and increasing competition among the household, industry and intimidates the efficiency of irrigated lowland rice because of its high water requirement. The study was conducted from November 2018 to March 2019 at the Crop Science Experimental Area, College of Agriculture, Central Luzon State University, Science City of Muñoz, Nueva Ecija. This study was showed to evaluate the water use (ET) and water use efficiency (WUE) of early and normal planting of dry season of rice with varying Nitrogen levels.

This study of two factor field experiment was carried out in Nueva Ecija during 2019 of dry season of rice cropping using Split-plot design with planting date (November and December 2018) as main-plot and Nitrogen level (0,81,90,120 kg N ha⁻¹) as sub-plot with three replications. Plot size was 20m² with three pails each to measure water use (ET).

Results of this study showed that Nitrogen with the highest amount of level of application which is 120 kg ha⁻¹ had the highest plant height; it can yield more grains and increase the number of tillers. In the field conditions the application of nitrogen fertilizer is the most common and effective way to enhance the tiller population. Here, it can be

concluded that in EP there was a lower water use that would allow less consumption of water irrigation while NP had higher water use but then it can yield higher grain yield.

The findings of this study suggest the possibility of adjusting planting date to early planting of dry season for a lower water requirement without consequences in the yield but it may lower in terms of WUE than NP. Another set of experiment will be conducted to verify the results.

Keywords: irrigated lowland rice; water use (WU); water use efficiency (WUE); water scarcity

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