UTILIZATION OF BIOCHAR AS SOIL AMENDMENT FOR IRRIGATED LOWLAND RICE

RALPH LOUIE CAYABYAB BINENE

An undergraduate thesis manuscript presented to the Faculty of the Department of Soil Science, College of Agriculture, Central Luzon State University in partial fulfillment of the requirements for the degree

BACHELOR OF SCIENCE IN AGRICULTURE (SOIL SCIENCE)

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BIOGRAPHICAL SKETCH

The author was born on June 28, 1996 at Bonifacio St. San Leonardo Nueva Ecija. He is the eldest son of Mr. Victor S. Binene and Lea C. Binene. He has two siblings namely: Lester Vic and Nica Jane.

He finished his primary education at San Leonardo Central School and his secondary education at Mallorca National High School. He was a member of their school organization as the sports writer in his 3rd and 4th year high school.

He finished his tertiary education at Central Luzon State University and took up Bachelor of Science in Agriculture, major in Soil Science. He was the president of Central Luzon State University Band in the year 2016-2017 and the clarinetist of the band. He was a proud member of Soil Science Society.

He likes to play basketball and imitating the Chicago Bulls point guard Derrick Rose He believes that "God is good all the time and all the time God is good". He is standing firm that God is his Shepherd.

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RALPH LOUIE CAYABYAB BINENE

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UTILIZATION OF BIOCHAR AS SOIL AMENDMENT FOR IRRIGATED LOWLAND RICE[1]

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ABSTRACT

The study was conducted to determine the effect of biochar in selected chemical properties of soil and improve the agronomic and yield performance of lowland rice. The treatments evaluated were: T1 (control), T2 150-40-60 (Agritech recommendation), T3 (150-40-60 + 5 t/ha of Biochar), T4 (150-40-60 + 10 t/ha of Biochar), T5 (150-40-60 + 15 t/ha of Biochar), and T6 (150-40-60 + 20 t/ha of Biochar).

Chemical properties of the soil such as Total N, Available P, Exchangeable K, and pH were not significantly improved by the amendment of biochar. However, the cation exchange capacity of soil amended by biochar increased over the unamended plots.

Plant height, number of tillers per hill, number of spikelets and yield were significantly increased by the application of Inorganic Fertilizer alone or in combination with biochar. Biochar at the rate of 20 tons/ha showed promising result as it significantly increased the yield over the rest of biochar amended plots except for 5 tons/ha.

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