PERFORMANCE OF DRIP-IRRIGATED LETTUCE UNDER VARIOUS SOIL SUBSTITUTES

THESIS

JERWIN C. ANACAN

College of Engineering and Information Technology
CAVITE STATE UNIVERSITY
Indang, Cavite

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ABSTRACT

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The study was conducted at CvSU, Indang, Cavite from January 26, 2006 to February 24, 2006. The study aimed to: a) evaluate the performance of lettuce grown under the drip irrigation system; b) determine the growing medium suited for growing lettuce under drip irrigation system; and c) determine the cost of the study.

The study was conducted with four treatments having three replications each. The treatments were: T1 (pure coir dust), T2 (50 % coir dust and 50 % carbonized rice hull), T3 (50 % coir dust and 50 % saw dust) and T4 (50 % coir dust, 25 % saw dust and 25 % carbonized rice hull). The treatments were arranged in Completely Randomized Design (CRD).

The study revealed that the plant height, number of leaves, leaf diameter, leaf length, root length and yield were significantly affected by the different growing media. Lettuce grown in treatments having a mixture of coir dust and carbonized rice hull produced the greatest yield.

The fixed cost and the variable cost of the study amounted to P 7,273.50 and P 2,161.55, respectively, giving a total cost of P 9,435.05.

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PERFORMANCE OF DRIP-IRRIGATED LETTUCE UNDER VARIOUS SOIL SUBSTITUTES

JERWIN CORTEZ ANACAN

[1/] An undergraduate thesis presented to the Faculty of the Department of Agricultural and Food Engineering, College of Engineering and Information Technology, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for the degree of Bachelor of Science in Agricultural Engineering with Contribution No. AE – 2006 – 07 - 001. Prepared under the supervision of Dr. Leyma L. Cero.

INTRODUCTION

Drip irrigation is the slow and precise application of water or nutrient solution directly to the plant's root zone. It maintains near-perfect moisture level in the root zone of plants, avoiding the too wet/too dry swings typical of water head watering. In traditional watering methods, there is extreme fluctuation in the water content, temperature and aeration of the soil, resulting in plant stress. In drip watering method, the moisture content of the soil is kept relatively constant and oxygen is ensured to remain available to the root system.

Drip irrigation has its important role in agriculture. In many parts of the world, it is the only option available for harsh climates with limited water supplies.