

**THE EFFECT OF BURNT RICE HUSK AND DOLOMITE AS FERTILIZER
FOR *BRASSICA RAPACHINENSIS* USING ZERO ENERGY SOILLESS
AGRICULTURE (ZESA) SYSTEM**

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ABSTRACT

THE EFFECT OF BURNT RICE HUSK AND DOLOMITE AS FERTILIZER FOR *BRASSICA RAPACHINENSIS* USING ZERO ENERGY SOILLESS AGRICULTURE (ZESA) SYSTEM

In the past decades, the world population has rapidly growth and this issues related to high food demand. Agriculture is important sector in solving the demand of food over the world. However, the current chemical fertilizer application in agriculture causes the negative impacts on the environment. Besides, the limited spaces also become one of the major challenges to current agriculture. Recently to fulfill high demand of food, biochar application as fertilizer in modern soilless has attracted to public attention. Thus, the aim of this study is to observe the effect of different treatment of burnt rice husk in a growing medium with the addition of dolomite for the growth of bok choy (*Brassica rapachinensis*). Zero Energy Soilless Agriculture (ZESA) system was used in this study for the observation of the growth parameters such as number of leaves, height and fresh weight of plants. There are five different treatments were selected on mixture of medium which is T1, T2, T3, T4 and T5. T1 is act as a control with the ratio of 100% cocopeat while T2 until T5 with the ratio 3:1 of cocopeat and burnt rice husk and added of dolomite to each treatment with different amount. Characteristic of cocopeat, burnt rice husk and dolomite used were undergo chemical analysis by using FTIR and elemental analyzer. These treatments were arranged in randomized complete block design in four replicates. The plants is observed for 28 days with the measurement of number of leaves and plant's height is taken every 7 days. Based on the observation, the higher growing performance was on T1 treatment if comparison between ratio of cocopeat and burnt rice husk. If the comparison is between the quantity dolomite added, T2 has the best growing performance compare to other three treatment.

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