

## ABSTRACT

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*GROWTH RESPONSES AND RESPONSES OF SOME VARIETIES OF SAWD (Brassica juncea L.) ON DIFFERENCES IN NUTRITION CONCENTRATION WITH SMART AEROPONIC SYSTEMS.*

(xii+49+ 12)

*Kailan family (Brassicaceae). Kailan production can be increased by meeting the nutrients through fertilization. Unproductive soil conditions for growth can be pursued by applying liquid organic fertilizer). The problems that arise in kailan cultivation are optimal nutrient requirements and proper water use. Giving proper water can distribute water directly to the root area so as to support high crop production. The purpose of this study was to analyze the effect of variations in the frequency of watering drip irrigation and banana organic fertilizer on the growth and production of kailan. Randomized Complete Group Design nested pattern (Nested Design) which consists of 2 factors, namely factor I (main factor) is the Variation of Frequency of Watering Drip Irrigation consisting of 3 levels, namely watering 1 time a day (F1) watering 2 times a day (F2) and watering 3 times a day (F3). Factor II (nested factor) was Liquid Organic Fertilizer (P) consisting of 3 treatment levels, namely the first stage (without fertilizer) (P0), the second stage POC banana waste dose of 10 ml L-1 (P1), the third stage POC banana waste dose 20 ml L-1 (P1). Each treatment was repeated 3 times so that there were 27 experimental units. The growth parameters observed were plant height (cm), number of leaves (strands), leaf width (cm), fresh weight (g) and dry weight. The data obtained were analyzed in the SAS 9.4 Windows 11 program. If the results of the analysis show that the treatment has a real effect ( $F_{count} > F_{table}$ ) then a further test will be carried out with the Tukey/BNJ test (honestly significant difference), at a level  $\alpha = 5\%$ . The results of the study showed that the frequency of watering 2 times a day and 20 ml L-1 POC fertilization of banana waste increased kailan production on production parameters, namely total wet weight, dry weight and root canopy ratio.*

*Keywords: watering frequency, kailan, irrigation automation, liquid organic fertilizer*

*Bibliography (1011-2023)*