

ABSTRACT

Cayenne pepper is one of the main commodities in Indonesia because it has potential economic value and its demand continues to increase but the supply and availability continue to decline. One of the major influences on the productivity of cayenne pepper is fertilization. This project aimed to find out the effect of applying a combination of liquid organic fertilizer and *Arthrospira platensis* on the growth of cayenne pepper. Rabbit urine contains high macronutrients while *Arthrospira platensis* is the source of growth factors such as phytohormone and antioxidants. There were five treatments including control (P0), urine only (P1), 10% urine + 1 gr microalgae (P2), 30% urine + 1 gr microalgae (P3), and 50% urine + 1 gr microalgae (P4). Each treatment was then tested on 3 young cayenne pepper plants. Treatments were applied by foliar spray in the afternoon. Height of the plant and the number of leaves were observed once a week since the plants were still in the vegetative state. The result showed that the combination of liquid organic fertilizer and Spirulina affects the growth of height and number of leaves of cayenne pepper plants. The best concentration was 10-30% of liquid organic fertilizer. Rabbit urine provided high N, P, K while spirulina as a source of phytohormones were thought to be factors in the growth of height and number of leaves on cayenne pepper plants in this study.

Key words: cayenne pepper, rabbit urine, Spirulina, macronutrients, phytohormones