

## SELECTION OF A SUITABLE FERTILIZER MIXTURE FOR HIGH-DENSITY CABBAGE (*Brassica oleracea* L.) CULTIVATION IN NUWARA ELIYA, SRI LANKA

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### Abstract

Cabbage (*Brassica oleracea* L.) is a globally significant vegetable crop, particularly in temperate regions like Sri Lanka. The main objective of this study is to identify the most suitable fertilizer mixture for high-density cabbage cultivation in Sri Lanka's Nuwara Eliya area. The experiment consisted of five treatments namely; T<sub>2</sub> (Urea + Up country root special mixture (N:P:K:Mg=2:3:4:1)), T<sub>3</sub> (urea + vegetable top dressing mixture (N:K=3:2) + Calcium nitrate granules), T<sub>4</sub> (Urea + vegetable top dressing mixture (N:K=3:2) + Blue granules (N:P:K:Mg=6:6:8:1+trace elements)) and T<sub>5</sub> (Urea + Calcium nitrate granules + Blue granules), and the fertilizer recommendations (N:P:K=6:5:3) from Department of Agriculture was considered as control (T<sub>1</sub>). 'Krishna' F1 Hybrid cabbage variety used for the experiment Randomized complete block design (RCBD) was used as the experimental design with 5 replicates. Plant head weight, height, diameter and compactness of the cabbage heads were measured as yield parameters after harvesting. Data were analyzed by ANOVA and mean separation was done by using Duncan multiple range test (DMRT). According to the results, there was a significant cabbage head weight received in T<sub>3</sub> (1.84±0.105 kg) compared to other treatments. Moreover, the higher values for head diameter (18.92±0.419 cm) and head height (16.33±0.306 cm) were observed in T<sub>3</sub>. According to soil analysis, T<sub>3</sub> exhibited the highest reduction in pH by 0.62±0.082. Thus, this study concluded that the urea + vegetable top dressing mixture (N:K=3:2) + Calcium nitrate granules would be a more effective fertilizer mixture for high-density cabbage cultivation in Nuwara Eliya area among the used fertilizer mixtures.

**Keywords:** Cabbage, Fertilizer mixtures, Productivity, Yield

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