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## **Effect of rate and split application of fertilizer on growth and yield performances of *Brassica oleracea* var. *botrytis* under IoT-based protected house in low-country wet zone of Sri Lanka**

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An experiment was conducted to investigate the effect of rate and split fertilization on the growth and yield of cauliflower (*Brassica oleracea* var. *botrytis*) grown under IoT-based protected house conditions in Sri Lanka. Cauliflower variety White Flash (F1 hybrid) had grown using cocopeat potting media. Three different rates (1.0 g/plant, 1.5 g/plant and 2 g/plant) and three splits (once per day, twice a day and three times a day) of Albert's fertilizer mixture was tested on growth and yield performance of *Brassica oleracea* var. *botrytis*. The experimental design was two-factor factorial completely randomized design with nine treatment combinations and four replicates. Treatments were applied daily. Optimum temperature (25-30°C) and relative humidity (65-70%) were controlled using IoT platform. The interaction effect of rate and split of fertilizer on growth and yield parameters of cauliflower were significant. Among growth and yield parameters plant height (25.4 cm), number of leaves (29.88/plant), leaf area (318.2 cm<sup>2</sup>), curd diameter (13.85 cm), fresh weight of curd (498.45 g) and fresh weight of plant without curd (1329.05 g) were the highest when fertilizer was applied as 1.5 g/plant/day as 3 splits. The lowest values of all these parameters were found in 1.0 g/plant/day as single dose. This study proves that 1.5 g along with 3 split application of Albert's solution enhance the growth and yield performances of cauliflower with compared to existing famers' practice of 2 g along with 1 split grown under protected house conditions.

**Keywords:** Cauliflower, Growth, IoT-based protected house, Rate and split of fertilization, Yield

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