

5.4. Comparative Study on the Influence of Liquid Fertilizers on Cabbage Growth and Productivity

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The growing emphasis on sustainable agriculture in Sri Lanka has increased interest in liquid fertilizers as eco-friendly alternatives to conventional chemical inputs. To evaluate their effectiveness, a pot experiment was conducted from December 2020 to March 2021 at the Agriculture Farm of the University of Jaffna. This study examined the impact of different liquid fertilizers on the growth and yield of cabbage (*Brassica oleracea* var. *capitata*) under insect-proof net house conditions. A Completely Randomized Design (CRD) with ten replicates was used, consisting of four treatments: T1 (control with distilled water), T2 (Nitrobenzene, a chemical growth promoter), T3 (Azolla extract), and T4 (fermented cow urine). Organic treatments were prepared and applied as foliar sprays beginning two weeks

after seeding and continued weekly. Statistical analysis ($p < 0.05$) was performed using SAS software. It revealed that fermented cow urine (T4) significantly enhanced plant height, leaf number, and leaf area, as well as yield attributes such as head diameter, girth, and total yield. Beyond its fertilizing properties, fermented cow urine also acted as a natural pest repellent, contributing to healthier crop growth. These results underscore the potential of fermented cow urine as a cost-effective, eco-friendly alternative for smallholder farmers to improve cabbage production while advancing sustainable farming practices.