



Evaluation of Pelletized Poultry Droppings Fertilizer as an Alternative Nitrogen Source for Curry Chili (*Capsicum annuum*) Cultivation under Protected House Conditions

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Efficient nitrogen management is essential for high-value crops such as curry chili (*Capsicum annuum*), where excessive use of urea can degrade soil and contribute to environmental pollution. This study evaluated pelletized poultry droppings, derived from Single Super phosphate amended with poultry droppings, as a partial or full replacement for urea under protected house conditions, following Department of Agriculture recommended nutrient management practices. The pellets contained 2.2% nitrogen and were applied at levels equivalent to urea (kg/ha). The experiment was arranged in a Completely Randomized Design (CRD) with six replicates per treatment. Five nitrogen-equivalent treatments were applied: T₁—100% urea (control), T₂—75% urea + 25% pellets, T₃—50% urea + 50% pellets, T₄—25% urea + 75% pellets, and T₅—100% pellets. Growth parameters, including plant height (cm), number of leaves per plant, and stem girth (mm), were recorded at 50% flowering stage and at the first harvesting stage. Results showed that there were no significant differences ($p < 0.05$) among treatments, indicating that nitrogen from pelletized poultry droppings was sufficient to support normal vegetative growth of curry chili. These findings demonstrate that pelletized poultry droppings can be used as a sustainable nitrogen source to partially or fully replace urea in curry chili cultivation, supporting environmentally friendly fertilizer management strategies.

Keywords: Curry chili, Nitrogen Management, Organic, Pelletized Poultry Droppings, Urea Replacement