

## **Economic Viability of Cabbage Cultivation Under Protected Houses with and without Artificial Lights in Low Country Wet Zone of Sri Lanka**

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### **Abstract**

Cabbage is one of the most nutritious vegetables grown in Sri Lanka. Although, they are successfully grown in up country areas of Sri Lanka, recent studies have shown that there is a potential to grow cabbages in low country too. Therefore, this study aims to assess the economic viability of growing cabbage in protected houses with and without artificial lights in low country wet zone in Sri Lanka. The benefit-cost ratio was used to assess the economic viability of cabbage cultivation. The variable costs (agricultural inputs, labor and utility) and revenues were calculated to determine the benefit-cost ratio. The results revealed that benefit-cost ratio (revenue/variable cost) per unit area of cabbage cultivation without and with artificial lights are 0.56 and 0.60 respectively excluding the labor cost. Additionally, the benefit-cost ratio per unit area of cabbage cultivation without and with artificial lights are 0.31 and 0.38 respectively including the labor cost. Therefore, cabbage cultivation with artificial lights has a higher benefit-cost ratio than cabbage cultivation without artificial lights. However, temperature reducing mechanisms and installing renewable energy systems (i.e., solar power) are good alternatives in constructing protected houses in low country wet zone in Sri Lanka to reduce the cost and obtain more economic advantages.

**Keywords:** *Artificial Lights, Benefit-Cost Ratio, Cabbage, Protected House, Variable Cost*