

## ENHANCING PHOSPHORUS CONTENT IN *RAJARATA* COMPOST

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*Rajarata* compost, a product from Rajarata University of Sri Lanka (RUSL), is facing an issue with its low phosphorus (P) levels, despite being rich in nitrogen (N) and potassium (K). This study aimed to address the low P content issue in *Rajarata* compost. The experiment was conducted in the composting unit of the RUSL. The raw materials (RM) used were gardening waste and cow dung in a 2:1 ratio, with *Eppawala* rock phosphate (ERP) serving as the P source. Two different rates (R1-ERP: 75 kg of RM and R2- ERP: 100 kg for 1000 kg of RM) of ERP were tested, along with the existing ERP rate (R3-ERP: 50 kg for 1000 kg of RM) as the control. Three treatments were arranged in a completely randomized block design, and the data were analysed using analysis of variance followed by mean separation using the LSD test. The total P content of the treatments was analysed at 10-day intervals for up to two months. Electrical conductivity (EC), pH, total N, K, organic carbon (OC), sand content, and moisture content were analysed at the end of the production process. The C:N ratio was also calculated. All the measured parameters for composts were compared with the Sri Lanka Standards (SLS). At the end of the production process, R2-ERP has been identified as having significantly higher ( $1.10\% \pm 0.02$ ) total P compared to other treatments. However, it was not significant for total N, K, OC, EC, and pH compared to the other treatments, and the C:N ratio was 16. All measured physio-chemical properties of R2-ERP added treatment aligned with the SLS standards. In conclusion, the compost with R2-ERP was identified as rich in P, suggesting the potential for future production of P-rich, high-quality *Rajarata* compost.

**Keywords:** Compost, *Eppawala* rock phosphate, Phosphorous, Sri Lanka standards