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Utilization of compost for organic production of isabgol and cumin

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Compost has been identified as an alternative to fertilizer to increase soil fertility and crop production in organic farming. The aim of the present study was to evaluate the effects of compost on the growth characteristics, yield and phenological stages of isabgol (*Plantago ovata* Forsk) and cumin (*Cuminum cyminum*) under field condition, as well as, determining suitable composting rate. A completely randomized block design with three replications was employed. The effects of four levels of compost on phonological stages, morphological characteristics, yield and yield components, in addition seed quality both isabgol and cumin were investigated. Composting rate were 5, 10, 15 and 20 ton ha^{-1} (on the dry weight basis). This paper describes the results of phenological stages,crop growth and yields. The results demonstrated that treatment had no significant effect on phenological stages of both crops. The compost application, however, had significant effect on morphological characteristics and yield component of both species. Most factors were highest at 10 ton ha^{-1} compost and decreased with increasing the composting rate. The economic (705 and 682 respectively for isabgol nd cumin) and biological yield (352 and 1410 respectively for isabgol nd cumin) of both species were higher in soil receiving compost amendment and plots with 10 ton ha^{-1} compost had the highest yield. An increase in yields is attributed to a better nutrient status in compost-amended soil. Excessive composts applications are plant toxicity due to high salt content therefore reduced crop yield. It can be concluded the compost produced locally could be a suitable organic fertilizer for organic production of medicinal plants and application rate of 5-10 ton ha^{-1} would give the highest crop yield of isabgol and cumin.

Keywords: Compost, Organic farming, Isabgol, Cumin, Yield and yield component

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