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EFFICACY OF BIOLOGICAL WASTE ON CROPPING TRAITS AND NUTRIENT STATUS OF SOIL IN GARDEN PEA UNDER PROTECTED ENVIRONMENT

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Abstract

Mulching is one of the appropriate approaches which directly and indirectly enhances the growth and yield-related aspects and available nutrient status of the crop and soil by improving soil health and altering the environmental conditions. The present investigation is based on a creative approach to growing crops in a controlled environment along with the different biological waste. The present work was carried out in the Department of Vegetable Science and Floriculture, CSKHPKV, Palampur, HP. Randomized complete block design (RCBD) with four replications to know the effects of five mulch materials including clover, rye, compost, paddy straw, sawdust, and control was employed to check efficacy on garden pea *cv.* GS-10. The effect of various mulching materials registered a positively significant response for all the evaluated horticultural, quality traits, and soil properties. For better production and increased yield of pods and grains in the pea, mulching can be recommended under protected conditions. Whereas, most of the yielding attributes such as days to 1st flowering and pod formation, no. of seed pod⁻¹, seed weight, pod yield per plant, pod yield per plot, total yield, and TSS were recorded best with the application of compost mulch at the rate of 2 t ha⁻¹. Besides, these various mulching treatments had also been showing a positive influence of it on soil nutrient status. Meanwhile, the number of nodules, effective nodules/plant and available nitrogen were found highest with the treatment of clover, whereas the nutrient status of the soil concerning available phosphorus and potassium was recorded with compost mulch.

Key words: bio-waste, organic mulch, protected environment, soil environment, yielding attributes

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