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Use of herbal waste as a major ingredient in compost production

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Composting is the method that recycles organic matter in its environment. Compost is manufactured by decomposing a mixture of crop residues, manures and wastes. The compost usually provides all the major plant nutrients, NPK and wide range of micronutrients, where as inorganic fertilizers provide only one or two nutrients to the soil. Using compost in organic farming enhances soil structure, physical properties and assists crops to withstand the effects of water scarcity. Strategy of using compost is that it has definite social, economic and agricultural benefits. Thus wide range of materials can be used in preparing compost. Waste produce through herbal drug preparation is rich in nutrients. Reuse these waste in an environment friendly manner is an advantage. Therefore this preliminary research trial was carried out to produce high quality compost, which could be used to increase soil fertility level.

In present trial three different ratios of herbal waste, cow dung and lime were used as three mixtures. They were mixed thoroughly and each mixture was heap up to 0.80 m height with a basal area of 2.0 m^2. They were covered and regular watering was done to avoid drying. Turning of materials were done after second and fifth week to mix them well.

After three months fresh weight, some physical characters (texture, colour and smell) and major plant nutrients (N, P, K) and organic matter percentages were analyzed and pH was measured.

All three mixtures were highly friable and smelled earthy at the time of collection. Average pH value of mixtures was 7.3 which is favorable for plants. According to results the mixture with waste, cow dung and lime in ratio of 4:5:1 was the best mixture with 1.197 % N, 0.018 % P and 1.543 % K, 13.4 % organic carbon and 23.09% organic matter. All the mixtures are rich in N P K content and other physical properties. Next step of this trial would be apply them into field plants and find out its suitability for plants and compare with recommended fertilizers.

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