Journal of Plant Biology and Agriculture Science

Extended Abstract
Vol. 1, Iss. 1
2020

Effect of different organic wastes on the growt,yield and protein content of curcumalonga(tumeric).

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Introduction: Statement of problem: Considering the world demand for organic food and the improvement of soil health degraded by pollution, the use of organic manure in the planting of Tumeric in West Africa is less considered due to poor research and inadequate agricultural equipment. These have hindered the production of Tumeric in this part of the world especially in areas where inorganic manure is not affordable. This work addressed alternative means of Tumeric production. Different organic manure (pig dung, poultry waste and wood ash was used in planting Tumeric and their effects on the growth, yield and protein content evaluated. Data on plant length, leaf area etc were collected at forthnightly. Growth and yield were determined after harvesting and proximate analysis done to determine the nutritional value of Tumeric for each of the organic manure used.

The *purpose* of the study is to determine Effect of Different Organic Wastes on The Growt,Yield and Protein Content of Curcumalonga(tumeric).

METHODS: Curcumalonga L. (turmeric) is an important medicinal plant that has been historically used in herbal medicine and in the health food throughout Asia etc. Recently, the demands on rhizome of turmeric are increasing greatly by well-being boom, but there is not enough to meet the demands. To fulfill increasing demands, cultivation system strategies using the organic fertilizers are required to produce a greater amount of rhizome with good quality and yield. A field experiment was conducted to determine the effect of composts, NPK fertilizer(control, F), NPK + swine manure(SM) and NPK + fermentation manure from the wasted oriental medicine materials(OMWM), on rhizome yield and the content of bioactive components for quality. Our results showed that two compost applications can increase both rhizomes(24.1-25.9%) and curcumin(21.7-41.0%) yields, respectively, compared to F control. The content of amino acids increased significantly by SM and OMWM treatments. SM and OMWM application also increased the total phenol yields 7.8 and 8.7 g/10a compared with control 6.3 g/10a, the flavonoid yields 6.3 and 7.3 g/10a compared with control 5.3 g/10a, and also antioxidant activity 21.7 and 41%, respectively, as compared to the control. Especially, OMWM was more effective in total rhizomes yields and bioactivities and in the biosynthesis of curcumin and bioactive components than SM treatments, but the biological pathway was not clear, still. This experiment suggests that curcumin or bioactive components affected by adding SM and OMWM could increase the yields and quality of turmeric.

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This work is partly presented at Event on 4th Euroscicon Online Conference on Plant Science & Genomics , October 17-18, 2019, Paris, France