

Effects of Cattle, Pig and Chicken Composts on the Growth, Yield and Quality of Sweet Potato

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Summary

Field trials were conducted in Tayuan and Houlung to determine the effect of chicken, cattle and pig composts on the growth, quality and yield of sweet potato tuber and vine and soil fertility. The total yield of sweet potato tuber was significantly affected by cattle and pig compost treatments. Tuber yield increased about 11.4 % by cattle compost treatment at rate of 5 t/ha and increased 6.6 % by pig compost treatment, but as reduced 1.8 % by chicken compost treatment. The use of composts tended to reduce the length of vines and yield of vines and leaves, as compared to the check treatment. After harvest, the soil pH value in all treatments increased by 0.4-1.0 pH unit. The organic content of the soil increased by 0.38-0.52 % by cattle compost treatment. Available P and K in the soil increased by 25-27 kg/ha and 2-30 kg/ha, respectively for the cattle compost treatment. However, decreased in the available K and increased in the available Mg were also noted in the plot received livestock composts. In general, eating quality components, including flavor, sweetness and mouthfeel of compost treatments were better than that of the check treatment.

Key words: Livestock compost, Sweet potato, Growth, Quality, Yield.