

Abstract

In order to produce vermicompost from waste of eucalyptus trees as well as its chemical properties, two separate experiments were carried out in 2015. In the first experiment with eucalyptus tree waste without aromatic compounds mixed with cow manure and in the second experiment with eucalyptus tree waste containing aromatic compounds mixed with soil, which each of these separate experiments were conducted in completely randomized factorial design with three replications of 85-day courses at the Department of Water and Soil in Zabol University. The first test consisted of two factors a and b, factor a includes waste neutralized Eucalyptus tree waste with lime to non-neutralized Eucalyptus tree waste and factor b includes 11 levels Eucalyptus tree waste mixed with cow manure so that waste eucalyptus tree without aromatic compounds with percentages of 0 (control), 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 which is totally 66 experimental units. Analysis of first experiment variance showed that the secondary number of worms variables, the number of cocoon, C / N, TN, P, K, Fe, Zn, Cu, Mn, pH and Ec at 0.01 probability level and secondary weight variable of worms at 0.05 probability level and pH variable were non-significant in factor a. B factor as well as all the measured variables, there was a statistically significant difference at 0.01 percent. The second experiment showed that secondary weight variables of worms, worms secondary number, the number of cocoon, C / N, TN, P, K, Fe, Zn, Cu, Mn, pH and Ec and variable TOC were insignificant in factor a at 0.01 percent. All variables measured in the b factor were statistically significant at 0.01 probability level. The first test NE0 (litter manure) in terms of weight and number of mature worms and rich macro and micro elements was the best treatment and the second experiment, NE15 (bottom 15% of Eucalyptus), in terms of weight and number of mature worms as well as being rich in nitrogen, potassium, iron, copper and manganese was the best treatment and NE20 (20% Eucalyptus) is rich in phosphorus and zinc which was the best treatments. According to analysts, gaining aromatic compounds of eucalyptus wastes leads to increase the efficiency in terms of weight, the number of mature worms and became rich macro and micro elements.

Key words: Eucalyptus, cow manure, vermicompost, *Eisenia fetida*.



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