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Epigeal fauna of a brazilian Oxisol in reclaim

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The soil-litter system is the natural habitat for a large variety of organisms, microorganisms and invertebrates, with differences in size and metabolism, which are responsible for numerous functions. In this work we developed a study aiming to evaluate the epigeal fauna of the soil after planting Eucalyptus urograndis and the application of an organic compound arising from the composting of waste pulp production in a degraded soil. Monitoring the epigeal fauna was conducted for three years, in 2010 May, 2011 May and 2012 February. The experiment was carried in the Teaching and Research Farm, Faculty of Engineering, Ilha Solteira Campus, University of São Paulo State, located in Selvíria, Mato Grosso do Sul, Brazil. The experimental design was in randomized blocks, with 6 treatments and 4 replications. The plant used was Eucalyptus urograndis hybrid. Were tested doses of the compound and also the comparison with mineral water supply, with 6 treatments (SI - area without intervention; D0 - without fertilization; DAM - mineral fertilizer according to crop need; D10 - composted manure according the crop needs (10 Mg ha-1 of compost); D15 and D20 (15 and 20 Mg ha-1 of compost, respectively). In the central region of each treatment were installed 2 pitt fall traps, used to evaluate the activity of epigeal fauna how bioindicator of soil quality. We calculated Shannon diversity index, Pielou Evenness and richness groups. The results were analyzed by performing up analysis of variance, and homogeneity of variance test Skott-Knott. We used a significance level of 5%. A significant increase in the activity of the epigeal fauna wealth and groups throughout the study period. In 2010 May for the different treatments on average 2,967 organisms distributed in 67.48% of Hymenopteros, 21.33% of Collembolas, 2.53% of Hemipteras heteropteras and others 8.66% were collected. Not different between the treatments studied behaviors were observed. The epigeal fauna in 2011 May remained the same behavior towards dominant groups recorded in 2010. 4,042 organisms in 53.58% of Hymenopteros, 26.07% of Collembolas and 4.05% of Hemipteras heteropteras were collected. In 2012 February, 4,564 organisms in 56.46% of Hymenopteros and 33.06% of Collembolas were collected. In general, we observe the same behavior in relation to the prevalence of the dominant groups of epigeal fauna throughout the study period. Despite the increase in fauna activity, it is observed that the fauna remains concentrated mainly in the orders Hymenoptera and Collembola. In both trials, not different between the different treatments studied behaviors were observed. It was concluded carrying capacity of the medium is increased to the extent that the species grows.