

Direct seeding of green manure species as a strategy for shading in degraded areas under restoration process

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Workshop Information

I Workshop of Plant Biology (I Workshop de Biologia Vegetal) was held in the Bioscience Institute – UNESP, campus of Rio Claro, Brazil, during August 20 and 21, 2012. Workshop was a scientific event organized by Post-graduate students from that Institute aiming to integrate Post-graduate and Graduate students from different areas related to Plant Biology (Anatomy, Ecology, Evolution, Morphology, Physiology, and transitional areas) from different Universities. Workshop Organization offered a large number of speaking activities, scientific discussions, and extra short-courses to improve the knowledge and formation of students in Plant Biology.

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Received on August 14, 2012. Accepted on August 21, 2012. Online published on November 14, 2012.

Fragmentation of natural formations and habitat extinction due to human intervention has caused great biodiversity loss. In order to mitigate those impacts, it is necessary to implement restoration activities in historically degraded areas. This study consists in evaluating sowing of the shrubby legume native species *Senna alata* (L.) Roxb. and of the exotic species *Cajanus cajan* cv. BRS, as a means of green manuring, in order to rapidly cover the space and form a canopy, in degraded permanent preservation areas inserted in agricultural landscape. As a complementary technique, it also evaluates sowing of the species *Leucaena leucocephala* (Lam.) de Wit between plantation lines of diversity and coverage species seedlings. The study was conducted in permanent preservation areas degraded by agricultural activities, located in two sites of Usina São Manoel, in São Manuel-SP, Brazil and in one site of Usina São João in Araras-SP, Brazil. In each site, 16 plots ranging 30x24m were randomly assigned. In each plot, 3 treatments as well as one control were established: T1) Direct seeding of the green manure *Senna alata* as covering species consorted with seedlings of diversity species; T2) Direct seeding of the green manure

C. cajan cv. BRS; T3) Direct seeding of the green manure *L. leucocephala* (Lam.) de Wit between lines of covering species (5 different species, 12 individuals of each) and diversity species; T4) Control consisting in lines of covering species and lines of diversity species. Establishment of the diversity species seedlings was assessed for each treatment, in each plot. Emergency data, as seedlings height, canopy coverage and grass coverage have been obtained. Soil features as nitrogen, organic matter and other elements contents were evaluated in the beginning of the experiment and will be reassessed in the end of it. Data will be analyzed using univariate and multivariate analysis.