ABSTRACTS

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Photo and Biodegradation of Biodegradable Polymers Blends and Polypropylene

R.C.T., Pereira*[a,c], S. M. M., Franchetti[a], J. A. M., Agnelli[b], L.H.C., Mattoso[c]

[a] *Department of Biochemistry and Microbiology, University State "Júlio de Mesquita Filho", UNESP, Rio Claro, SP, Brazil*

[b] *Department of Materials Engineering, Federal University of São Carlos, UFSCar, São Carlos, SP, Brazil*

[c] *Embrapa Agricultural Instrumentation, CNPDIA/EMBRAPA, São Carlos, SP, Brazil*

The large use of plastics in the world generates a large amount of waste which persists around 200 years in the environment. To minimize this effect is important to search some new polymer materials: the blends of biodegradable polymers with synthetic polymers. It is a large area that needs a intensive research to investigate the blends properties and its behavior face to the different treatments to aim at the biodegradation. The blends used in this work are: some biodegradable polymers such as: poly(hydroxybutyrate) (PHB) and poly(ε-polycaprolactone) (PCL) with a synthetic polymer, polypropylene (PP), in lower concentration and adding pro-degradanting agents. These blends were prepared using a internal mixer (Torque Rheometer), and pressed. These films were submitted to UV phototreatment and following next to fungus biotreatment. The films analyses will be carried out by Fourier Transform Infrared (FTIR), UV-Vis absorption (UV-Vis), Scanning Electronic Microscopy (SEM), DSC and TGA.

These UV irradiated films not presented significant changes, but in before results of the group[1], relevant changes occur on the films after the four months biotreatment, in special, with the phototreatment followed next by the biotreatment.

Reference

[1] Campos, A.; Martins-Franchetti, S.M.; Agnelli, J.A.M. *Brazilian Journal of Microbiology,* **2003**, *34, Suppl. 1,* 111-113.