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Abstract

In this work, biocomposites were produced by compounding polypropylene (PP) with spent coffee grounds (SCG) obtained after soluble coffee preparation. The samples were prepared by extrusion compounding and injection molding using different SCG contents (0, 5, 10, 15 and 20 wt.%) in order to investigate the effect of particle loading on the thermal, rheological and mechanical properties. Then, the effect of bleaching treatments and the use of compatibilizers (silane and styrene-ethylene-butene-styrene-graft-maleic anhydride) on the biocomposites properties at 15 wt.% was examined. The results showed that good SCG dispersion and distribution into PP was achieved and that bleaching led to better interfacial interaction, which was further increased by using a coupling agent. As a result, the tensile and torsion properties were increased.

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