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The Effect of Enzymatic Keratin Hydrolysate on the Susceptibility of Cellulosic-Elastomeric Material to Biodecomposition

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Abstract : Polymeric materials have become an integral part of every aspect of today's industry. They have wide applications, inter alia, in areas such as medicine, food industry and agriculture. In agriculture, for example, they are used for the production of pots, irrigation systems and for soil mulching. The aim of this study was the attempt to produce a biodecomposable agricultural mat, by coating cotton fabric with a blend of carboxylated styrene-butadiene latex (LBSK) containing the enzymatic hydrolyzate of keratin from cattle hair, which would serve as a material for mulching. The production of such material allows the beneficial management of burdensome tannery waste constituted by keratin from cattle hair and at the same time, the production of agricultural mats that much faster undergo decomposition than commonly used polyethylene mats.

Keywords : agricultural mat, biodecomposition, biodegradation, carboxylated butadiene-styrene latex, cellulosic-elastomeric material, keratin hydrolyzate, mulching, protein hydrolyzate
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