



ISTITUTO ITALIANO
DI TECNOLOGIA

TITLE

Process for the production of biodegradable plastic material from cellulosic vegetable waste

INVENTORS

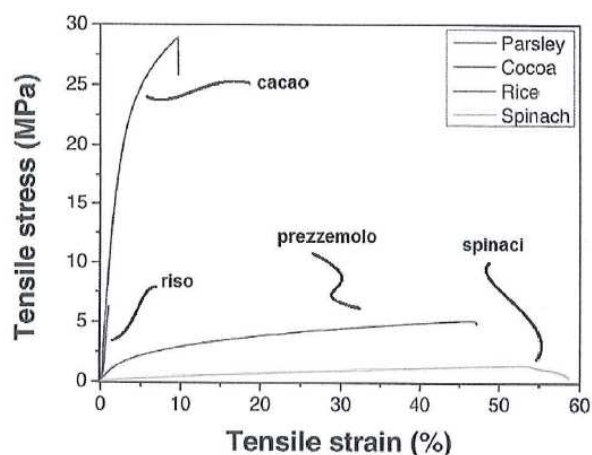
Ilker S. Bayer, Elisa Mele, Despina Fragouli, Roberto Cingolani, Athanasia Athanasiou

DESCRIPTION

The invention relates to a method for the production of biodegradable plastic material, obtained from vegetable waste materials, comprising the operations of:

- Dissolution with tri-fluoroacetic acid of a powder at least partially dehydrated of said vegetable waste material, in order to bring in solution a cellulosic fraction of said material;
- Removal of the tri-fluoroacetic acid solvent.

At the aforementioned solution of vegetable waste in tri-fluoroacetic acid could be added with additive like micro-crystalline solutions of cellulose, biodegradable or biocompatible polymers or waste of fibers in tri-fluoroacetic acid. Films, leaves, shaped articles or fibers could be obtained with mold casting, extrusion or electro-spinning



APPLICATIONS

Bio-plastics, plastic industry

KEYWORDS

Recycling, plant-waste, parsley, spinach, cacao, cereals, essential oils, cellulose, vegetables

BIBLIOGRAPHIC DATA

Procedimento per la produzione di materiale plastico biodegradabile da scarti vegetali cellulosici

Application Number

IT TO2013A000874

Priority Date

October 29, 2013

Applicants

Fondazione Istituto Italiano di Tecnologia

CONTACTS

Technology Transfer Office

Augusta Galano

+39 010 71781 568

augusta.galano@iit.it