



ISTITUTO ITALIANO
DI TECNOLOGIA

TITLE

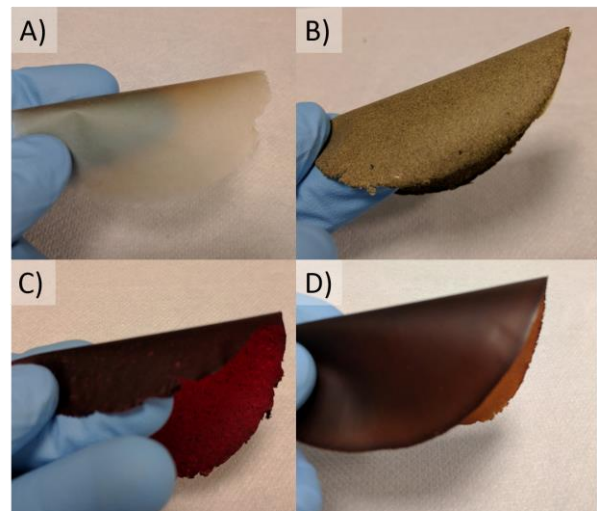
Water-based process for converting vegetables pomace in bioplastic films

INVENTORS

Giovanni PEROTTO, Ilker BAYER, Athanasia ATHANASIOU

DESCRIPTION

The process of the invention converts cellulose-rich vegetables, in particular originating from pomace, into bioplastic films. The resulting material is a composite film wherein cellulose with different degrees of hydrolization, pectins and other soluble matters like sugars are the matrix and water-insoluble materials (e.g. lignin) are homogeneously dispersed into the film. The conversion of dried waste into a plastic film is carried out dispersing the dried waste in an acidic water-based solution, having HCl in a concentration between 0,1 and 5% by weight, at room temperature and stirring for few hours. Upon casting the whole solution and evaporating the solvent, a bioplastic film like those shown in pictures A-D is obtained.



APPLICATIONS

Textures, new generation pet food, drug releasing tissue treatments, polymers, cosmetics

KEYWORDS

Bioplastics, conversion of processed vegetable powder, green chemistry, pomace valorization

BIBLIOGRAPHIC DATA

Un processo per la preparazione di film plastici biodegradabili

Application Number IT102017000004597

Priority Date January 17, 2017

Applicants Fondazione Istituto Italiano di Tecnologia

CONTACTS

Technology Transfer Office

Augusta Galano

+39 010 71781 568

augusta.galano@iit.it