Polymers to Care for the Environment

Hernandez Garcia, Jose
Diaz Alamilla, Aylin

Biopolymers are all those polymers that are naturally produced such as starch and cellulose. And they may be assimilated by various biodegradable species without having a toxic effect on the host giving them a great advantage in comparison to traditional polymers. Having as a fundamental characteristic that its physical-chemical and functional properties will be influenced by their granular and molecular structures, the avocado is the perfect example of a fruit that is enjoyed; however, its more salutary part, its seed, is wasted. Why wasting such seed if it may be utilized and produce bioplastics? Having a wide variety of this fruit in the State of Hidalgo, Mexico, the species to be used are: the creole, the pagua, the reed and the hass ones. The starch obtained from them is diluted and heated until reaching a gelling level. Having observed the difference among the species, glyserin and sugar can juice, another natural product, was added so as to the process is accelerated. It is important to mention that even though a better tendency of gelling was observed with the use of the creole and the reed varieties, we decided to work with the hass one due to the fact that it is the most abundant one. We must point out that the manipulation of textures obtained in the experimentation are attributed to a great extent to the amount of amylose and amylopectin concentrated in the samplings as well as the amount of added saccharose. The mesquite resin diluted in water favors its innocuousness and water permeability prolonging its degradation time besides providing the orthopedic insoles design with a better appearance, so that plastics derived from petroleum, which are difficult to degrade, may be substituted; a highly sustainable bioplastic is proposed

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