Design and Formulation of Food Coating Based on Vegetable Waste

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The purpose of this project is to create a protective layer that makes fruits and vegetables last longer; the project was created with carboxymethylcellulose polymer extracted from various dried plant residues, such as dried herbs, corn cob and wood sawdust, and thus reduce the burning of its biomass, through alkaline hydrolysis to break the cellulose polymer chains , hemicellulose and lignin, to subsequently carry out the synthesis reaction of carboxymethylcellulose and use it in the coating formulation. During the investigation some important results were obtained through thermogravimetric analysis, This analysis helps us to know the degree of temperature at which our coating disintegrates in some states of Mexico such as Baja California, Chihuahua or Guerrero, with warmer temperatures, around 30 degrees, the coating will be widely durable, since the 50 degrees is where the change of property loss is. The results were satisfactory because we determined that it was possible to inhibit the microorganisms in fruits, especially strawberries and lettuce, from their natural decomposition. This will prolong your life and maintain your vitality. In conclusion, it was possible to create a coating for food that would prolong the life of fruits and vegetables, and that would have a positive impact on the expenses of families and supermarket industries.

Awards Won: