

عنوان مقاله:

Examining physiochemical and the micro structural properties of nanocellulose film based on Pullulan-Gelatin

محل انتشار:

اولین کنگره بین المللی و بیست و چهارمین کنگره ملی علوم و صنایع غذایی ایران (سال: 1395)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

Considering the increased environmental issues, one can demonstrate that the use of natural biopolymer is gradually increasing due to their biodegradable properties to package the food products. One of the latest methods for improving the biodegradable properties of film, particularly their barrier to the water vapor permeability is the use of nano particles. To improve different properties of gelatin - pullulan composite film, the present study made use of the cellulose nano fiber. The nano bio composite of gelatin - pullulan was provided through adding the cellulose nano fiber on 4, 7, 10, 13 levels of weight percent to the Gelatin - pullulan biopolymer matrix. Water vapor permeability and micro structural properties films were studied. The addition of cellulose nano fiber to the pullulan - gelatin composite film results in decrease of the water vapor permeability. Scanning electron micrographs showed that the gelatin - pullulan composite film of a relatively smooth and uniform surface and can be seen holes and gaps on the cross-section. The addition of cellulose nano fiber or filler to the polymer-based matrix results in the compression of its structure and forms a non-smooth surface.

کلمات کلیدی:

Water Vapor Permeability, Pullulan, Gelatin, Nano fiber cellulose, Composite film

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