Title : Development of biodegradable film from a starch –chitosan mixture for food packaging purposes

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Abstract

This research aims to 1) Study the physical and mechanical properties and evaluate the performance of the starch film and chemical properties for fresh fruit. and 2) to develop biodegradable film from corn starch –chitosan mixture for food packaging purposes by using drying technique that is hot air oven with temperature of 60 ° C, 75 ° C, 90 ° C for 5, 4 and 3 hours, respectively. The results showed that corn starch –chitosan mixture for food packaging purposes by using drying technique that is hot air oven with temperature 75 ° C for 4 hours which was the best properties of all. Physical properties of corn starch was transparent, translucent and shiny, smooth on both sides. The thickness in the range was 0.10 - 0.15 mm. The color of film found that corn starch had the brightness (L) and a value was not different value. The temperature of 75 ° C had the maximum brightness and b value of the film was changed color in shades of green. The tensile strength of the cornstarch film mixed with chitosan when temperatures increased, The tensile strength of the film cornstarch reduced which was inversely proportional to the elongation. The cornstarch could be used for sealing machine. The film could be formed and filled with fresh grapes by comparison with corn starch film, plastic film and no wrapped. It found that corn starch film can preserve the physical and chemical properties of the grape that is more than other film and can preserve the transformation of grapes for 30 days.

Keywords: packaging films/ corn starch/ chitosan