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Effect of Oregano Essential on the Properties of Mango Kernel Starch Films (Conference Paper) (Open Access)

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Abstract

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The mango kernel starch (MKS) - glycerol (GLY) films were prepared via solution casting method. The blend ratio of MKS and GLY was fixed at 1:1 wt. %, while the composition of oregano essential oil (OEO) was varied from 0, 0.3, 0.4, 0.5, and 0.6 wt. %. In this study, the effect of OEO on mechanical, morphological and biodegradable properties of MKS - GLY films were evaluated. From the analysis, the optimum tensile strength of MKS - GLY film was obtained at 1.10 MPa, while the addition of 0.4 wt. % OEO to MKS - GLY film resulted in optimum tensile properties , which give a smooth surface with less voids, as presented in the micrographs by scanning electron microscope (SEM). Moreover, the addition of 0.4 wt. % OEO to MKS - GLY film exhibited minimum weight loss during soil burial test, thus confirmed the function of OEO as an antimicrobial agent. © Published under licence by IOP Publishing Ltd.

SciVal Topic Prominence ⓘ

Topic: Chitosan | Starch | permeability WVP

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Indexed keywords

Engineering controlled terms:

- Antimicrobial agents
- Essential oils
- Fruits
- Manufacture
- Scanning electron microscopy
- Starch
- Tensile strength

Engineering uncontrolled terms

- Blend ratios
- Minimum weight
- Oregano essential oil
- Smooth surface
- Soil burial test
- Solution-casting method
- Starch films

Engineering main heading:

- Soil testing

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