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Effects of glycerol incorporation on Semi-Refined Carrageenan film properties

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Derived from renewable, abundant seaweed, carrageenan-based films are becoming popular as food packaging material. In this work, semi-refined carrageenan (SRC) plasticized with glycerol were developed and characterised. The mechanical strength, moisture content, and optical properties of the films generally increased significantly with increasing glycerol concentration, however, the water vapor permeability decreased. In particular, the tensile strength and elongation at break increased at plasticizer additions of up to 40% and 50% (w/w) respectively. The addition of glycerol also improved the thermal stability and surface morphology of the films. The results show that the properties of the SRC films were comparable with refined carrageenan films suggesting that SRC has potential to be furthered developed into less expensive food packaging materials.

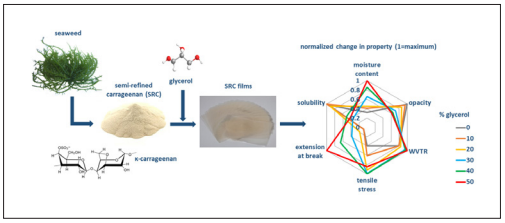

Figure 1. Experiment flowchart

Biography

Bakti B Sedayu is undertaking PhD research program in Victoria University, Australia. His project focuses on development of packaging material from seaweed.

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