

# **Food & Beverage Packaging**

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## **Edible packaging films from yuba**

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Soy milk forms stable emulsion systems, which also form composite films of soy protein and lipid upon heating. Soy protein films are termed yuba and films of variable thickness form depending on composition and concentration of protein and lipid in soy milk. Yuba is popular in China and Japan due to the high nutritional quality and digestibility of up to 93%. However, studies on the utilization of yuba and yuba films are limited. This study was conducted to characterize yuba as an edible packaging film by analyzing chemical composition, film structure, glass transition temperature ( $T_g$ ), storage stability, mechanical and optical properties of yuba. As yuba picked up successively, increased solid content and decreased depth of soy milk caused chemical composition (especially increased carbohydrates) and film structure changed, which decreased film water stability, mechanical properties,  $T_g$  and water barrier properties, while increased yuba thickness, yellowness, sorption rate and equilibrium moisture content ( $>40\%$  RH). Increased moisture loosened the film structure resulting in higher elongation and lower tensile strength values, whereas transparency increased until moisture content is 19~28% and became opaque again as moisture increased. As a plasticizer, water makes great differences on yuba film properties, moisture content of yuba film must be carefully selected to meet required mechanical and optical properties of the film depending on their specific applications.

### **Biography**

Yookyung Kim has completed her PhD from University of Georgia and Post-doctoral studies from USDA-Athens and Albany. She is a Professor in Korea University. She has published 36 papers in reputed journals.

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