

## Rheological Properties of Pork Salt Soluble Proteins in Reaction with Various Levels and Molecular Weights of Chitosans

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Chitin, poly- $\beta$ (1-4)-N-acetyl-D-glucosamine, is a biopolymer distributed in various plants and animal structures. Chitosan, the diacetylated form of chitin, has been used in a variety of functions in food systems. It has been reported not only the antimicrobial effect to some microorganisms, but also the improving functional properties for food systems. The objective of this study was to determine the interaction of pork salt soluble protein (SSP) with chitosans, as affected by molecular weight (MW) and level of chitosan at different temperatures (4 vs 20°C). After extraction of SSP from pork ham muscles, the protein content was adjusted to 3% using Lowry method, dissolved the two levels (0.3 vs 0.6%) of various molecular weights (Low: 1.5 kDa; Medium: 30~50 kDa; High: 200 kDa) and determine the rheological properties in 4 and 20°C. At 20°C, the addition of chitosan at the level of 0.3% into the pork SSP did not affect the viscosity, regardless of molecular weights, however the increased level of chitosan up to 0.6% decreased viscosity at medium or high molecular weight. Although increased viscosity values were observed at medium or high molecular weight, as compared to the low molecular counterpart, the viscosity was not affected by increased level of chitosan (0.6%) at the measurement of 4°C. These results indicated that significant interactions were observed between sample temperature and molecular weight of chitosans at certain level in the model system of pork SSP.