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Effect of citric acid concentrations to textural and microstructural properties of whole soybean gels and its mechanism

Plant-based products are gaining popularity and developing significantly fast in recent years. However, these dairy substitutes have not met the consumers' expectation for the texture, flavour and protein quality. In this regard, the aspect of high-protein products gains in importance. The objective of this project is to develop high-protein plant-based product, using the whole soybeans, with the aid of citric acid. The texture of the product including of mechanical and viscoelastic properties, water holding capacity are modified by changing the concentration of citric acid. The interactions between citric acid, soy protein and polysaccharides in the formulation are also investigated by being examined by protein-protein interactions test, microstructural characteristics by confocal microscopy and TGA.