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Changes in Soy Protein during Heating Analyzed by Rheometry

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Changes in the viscoelastic storage modulus (G') of a soybean flour (content) during heating at constant temperature in the range of 60 to 120°C were analyzed by pressure rheometry (3.44 MPa). G' varied due to three simultaneous phenomena: softening, structuring and breakdown. The ratio G'_t/G'_0 measured at the end of the heating period started to increase at 110°C, reached a maximum at 120°C and then decreased at higher temperatures. This result has been related to the breakdown due to temperature in a thermoplastic extruder. A kinetic model was developed to simulate the effect of the three underlying phenomena.

Keywords: [rheology](#), [soybean flour](#), [heating](#), [texture](#), [viscoelastic](#),

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