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Freeze-Gelation of Sucrose or Trehalose Treated Soymilk
[Makoto SHIMOYAMADA](#)¹⁾, [Wataru KOSEKI](#)¹⁾, [Ryo YAMAUCHI](#)¹⁾ and [Kenji WATANABE](#)¹⁾²⁾

 1) *Laboratory of Food Material Engineering, Department of Bioprocessing, Faculty of Agriculture, Gifu University*

 2) *(Presently) Faculty of Agriculture, Tokyo University of Agriculture*

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To estimate the effects of two different kinds of sugar on soymilk freeze-gel, sucrose and trehalose, respectively, were added to raw untreated soymilk. Soymilk containing sugar was processed to form the freeze-gel. The apparent hardness and gumminess of freeze-gel increased with a relatively low concentration of sucrose or trehalose and reached a maximum of 0.5% for each sugar. On the other hand, the higher the concentration of sugar tested, the more inhibited the gelation became. However, up to 1% the syneresis of the freeze-gel simply decreased with an increase of sucrose or trehalose. NMR relaxation experiments appeared to show that the motion of water molecules gradually slowed with the increase of sucrose, so, although the interactions of water, sucrose and protein, possibly through hydrogen bonding, were complicated, they were significantly related to the formation of the freeze-gel.

Keywords: [soymilk](#), [heating](#), [cooling](#), [freeze-gel](#), [sucrose](#), [¹H-NMR](#)

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