

Doctoral Dissertation Presentation

学位論文発表会

Effect of trehalose on the mechanical properties of deep-fried foods (トレハロースがフライ食品の力学的性質に及ぼす影響)

LE NGOC DANG TRINH
(Program of Food and AgriLife Science)

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Deep-fried food is one of popular foods in the world. In case of *tempura*, the fry coating becomes “glassy state” at least at the outer part when tempura is cooled down at room temperature. The glassy fry coating shows a favorable brittle texture. When storage time is prolonged, the fry coating changes from brittle texture to ductile texture because glass to rubber transition occurs through water sorption originating from the atmosphere moisture and/or from the food stuff. To maintain brittle texture of fry coating as long as possible, it is important to elevate the glass transition temperature (T_g) of fry coating. In our previous study, it was demonstrated that the mechanical T_g of fried batter particles could be elevated by the addition of trehalose. This study aimed to clarify the effect of trehalose on the physical properties of fried batter particles.

Contact: Kiyoshi KAWAI (kawai@hiroshima-u.ac.jp)

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