P200

Physicochemical and textural properties of germinated brown rice according to rice varieties

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Abstract

Germination is one of the techniques used to enhance the texture properties and nutritional value of the brown rice (BR). Therefore, germinated BR (GBR) has received significant attention during the last decade. Physicochemical and cooking properties of brown rice were examined before and after germination. Germination raised the cooking properties, such as water absorption, expanded volume and soluble solid of cooked BR (brown rice). The texture, measured using tensipresser, was significantly improved by germination. The hardness of cooked BR was decreased by germination, but the GBR was sticker. In RVA, all viscosity value (peak viscosity, break down, set back, and final viscosity) of germinated rice flour was also reduced while gelatinization temperature did not change. Amylose content and amylopectin chain length distribution of BR starch were slightly changed by germination. Overall results revealed that germination was an effective tool to improve texture and cooking properties of BR.

Keywords: germinated brown rice, physicochemical property, texture property, cooking property

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