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FFS2 *Effect of barley β -glucan on the palatability and rheological property of foods*

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A β -glucan powder from barley extracted with hot water has various functional properties which decrease blood cholesterol and increase immunity. Addition of β -glucan to the daily meal is good for health. In this study, the effect of β -glucan on the palatability and rheological properties of foods was investigated. Sensory analysis and color determination were done for foods to which β -glucan were added. Textural properties were also determined by a Texturometer.

When β -glucan was added to solid foods such as rice, bread, pound cake and hamburger during cooking, the color of the cooked foods became darker, though they were still acceptable. The acceptable range of the amount of β -glucan added to each food was determined by sensory test. It was found that pound cake allowed the most amount of β -glucan among the other foods studied. This suggested that it was possible to mix β -glucan and foods containing fat or oil. When β -glucan was dissolved in hot water and cooled down, it caused gelation at the concentration above 7%. The gelling temperature of β -glucan was slightly higher than that of agar gel and the melting temperature was obviously lower. Addition of β -glucan to agar gel in a ratio of 1-3% caused a decrease in the hardness. It was suggested that the combination of β -glucan and agar gel was effective to improve the texture of agar gel that was not easily soluble in the mouth.