# Dough and Breadmaking Properties of Various Strong Wheat Grains Cultivated in Japan

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## Abstract

The wheat dough and baking properties of various strong-type wheat grains cultivated in Japan; Kitanokaori (strong), Glenlea and Bluesky (extra-strong), and Haruyutaka (semi-strong), were evaluated by comparing with commercial wheat flour, Cameria (strong). Protein contents of Glenlea and Bluesky (15.8 and 15.6 %, respectively) were significantly higher than that of Cameria (12.4%), whereas Kitanokaori and Haruyutaka had significantly lower protein contents (11.4 and 9.7 %, respectively). The amylose contents of starches of Kitanokaori and Haruyutaka were significantly lower than those of the others. Kitanokaori also had the lowest lipid and ash contents among the wheat flours used. The doughs made from Kitanokaori, Glenlea and Bluesky had significantly higher water absorption, and increased rapidly the resistance to stretch during proofing. The bread baked from Kitanokaori had bigger loaf volume and lower firmness than the others after baking and during storage, whereas Glenlea and Bluesky breads had lower loaf volumes and higher firmness than did Cameria and Kitanokaori though they had higher protein contents. In addition, Haruyutaka bread had the lowest loaf volume and increased firmness rapidly during storage. .

**Keywords: Starch, strong wheat flour, breadmaking, dough property, bread staling**