

Dough Properties and Baking Quality of Several Domestic Wheat Flours as Compared with Commercial Foreign Wheat Flour

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Abstract

The qualities of flours milled from various kinds of wheats (Norin 61, Hokushin, Nebarigoshi and Haruibuki) grown in Japan were studied for application to breadmaking. Protein contents of these wheat flours were in the range of 7.2 ~ 10.0 %, lower than that of a commercial hard-type wheat flour, Cameria (12.4 %). Norin 61, Hokushin and Nebarigoshi had the higher peak viscosity and breakdown, lower final viscosities and setback than those of Cameria, while Haruibuki with high amylose content (29.2 %) had the lower peak and final viscosities than did the others. The dough made from the domestic wheat flours had significantly lower water absorption, development and stability time than that from Cameria. Among the domestic wheat flours, Hokushin had the strong consistency of dough to stretching than the others. In contrast, Haruibuki made the less extensible and firmer dough than the others. Loaf volume of bread baked from the domestic wheat flours was considerably lower than that from Cameria. Also, the firmness of bread from the domestic wheat flours was significantly higher than that of Cameria after baking and during storage for 5 days. Among the domestic wheat flours, Hokushin exhibited the good dough strength and big loaf volume of bread. In contrast, Haruibuki was found to have inferior dough and breadmaking qualities.

Keywords: Breadmaking, Domestic wheat, Fermograph, Staleness of bread, Dough properties