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Effects of Genotype and Growth Conditions on Apparent Viscosity of Heat-Treated Flour Paste and Their Correlation with Certain Flour Properties in Wheat Produced in Hokkaido

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We have confirmed the existence of genotypic and environmental differences in the apparent viscosity of heat-treated wheat flour paste. The positive year-to-year correlation indicates that the value is principally genetically controlled. Among 64 genotypes, arabinoxylan content and flour particle size were significantly correlated with apparent heat-treated flour paste viscosity, indicating that genotypic differences are mostly ascribable to differences in these two factors. Wheat cultivars grown under diverse conditions showed different viscosity and flour protein content, and these were positively correlated, implying that environmental differences are due to differences in protein content. The viscosity of unheated flour paste was found to be highly correlated with that of heat-treated flour.

Keywords: [viscosity](#), [wheat flour](#), [paste](#), [heat treatment](#), [flour particle size](#), [arabinoxylan](#), [protein](#)



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