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 Author: [ADVANCED](#) | Volume Page
 Keyword: |

[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

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[\[PDF \(134K\)\]](#) [\[References\]](#)

The Pasting Properties of Flour and Starch in Wheat Grain Damaged by α -Amylase

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We sought to determine the effects of sprout-induced α -amylase on the pasting properties of flour and starch in wheat grain. To accomplish this, we used grain from five winter and two spring wheat cultivars obtained by significantly delaying the harvest date. Furthermore, grain from one winter wheat cultivar was soaked in water for 24 h at 5°C and then stored up to 48 h at 20°C. α -Amylase activity and the pasting properties of flour and starch were examined in each wheat sample mentioned above. Extremely late harvesting was associated with higher α -amylase activity and lower peak viscosity of flour in general. However, little change in starch peak viscosity was observed during the late stage of development in most cultivars. A wetting treatment also indicated that an excess accumulation of α -amylase and a marked decrease in flour peak viscosity did not coincide with a large decline in starch peak viscosity.

Keywords: [\$\alpha\$ -amylase](#), [wheat flour](#), [wheat starch](#), [pasting properties](#)

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