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Effects of Sodium Dodecyl Sulfate on the Pasting Properties of Waxy Corn Starch Dispersed in Amylose Solution as Measured with the Rapid Visco-Analyzer

Masayuki Kugimiya¹⁾ and Aya Hirota²⁾

1) Faculty of Human Life and Environmental Sciences, Hiroshima Prefectural Women's University

2) Faculty of Human Science, Hiroshima Bunkyo Women's University

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Effects of sodium dodecyl sulfate (SDS) on the pasting properties of waxy corn starch (WCS) dispersed in amylose solution were studied by using a Rapid Visco-Analyzer. At an amylose/WCS ratio of 20/80, the peak viscosity was remarkably increased at the concentrations above 0.67%, although it was not affected below 0.56%. The peak viscosity was decreased with the increasing ratio of amylose up to 25% at 0.37% SDS as well as the control without SDS. The maximum setback viscosity was remarkably increased at the concentrations of SDS above 0.19% up to 0.37% and remained constant thereafter at the fixed ratio of amylose and also increased with the increasing ratio of amylose at the fixed concentration of SDS. These increases in the peak viscosity and maximum setback viscosity of WCS in amylose solution by SDS provided substantial support for the assumption made previously that the increases in the peak viscosity during heating and in the setback viscosity during cooling might be ascribed to the complex formation of amylopectin inside the swollen granules with SDS followed by a further expansion of the swollen granules, and the complex formation of the leached amylose with SDS followed by the gelation, respectively.

Key words: amylose, waxy corn starch, Rapid Visco-Analyzer, sodium dodecyl sulfate[\[PDF \(217K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)

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