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

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[\[PDF \(913K\)\]](#) [\[References\]](#)**New Preparation Method and Its Physico-chemical Properties of Foxtail Millet (*Setaria italica* Beauv.) Starch**Yoriko Tezuka¹⁾, Kazuko Hirao²⁾, Tomoko Hamanishi¹⁾, Naoko Matsunaga¹⁾, Keiji Kainuma³⁾ and Setsuko Takahashi¹⁾

1) Faculty of Home Economics, Kyoritsu Women's University

2) Aikoku Gakuen Junior College

3) Research Council Member, the Ministry of Agriculture, Forestry and Fisheries

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Two isolation methods, the Matsunaga *et al.* method and the improved Matsunaga method, were compared for the purpose of isolating high quality foxtail millet starch in a short period of time. Using the improved Matsunaga method, the foxtail millet starch was washed and sedimentated repeatedly after neutralization of sodium hydroxide by hydrochloric acid. The starch isolated by the improved method was high in yield, and low in protein and ash content. Thus, with the improved method, high quality foxtail millet starch was able to be prepared in 7 days. The starch isolated contained 18.5% amylose, showed X-ray diffraction pattern A, had an average diameter of 9.3-11.0 μm , larger than the average diameter of Japanese barnyard millet starch, and showed a polygonal shape like Japanese barnyard millet starch. The pasting curve was similar to that of corn starch. We thought foxtail millet starch could be used effectively in the same way as corn starch, because the results of DSC showed that foxtail millet starch retrogrades faster than rice or wheat starch.

Key words: foxtail millet starch, differential scanning calorimeter, gelatinization, retrogradation, gel properties

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