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

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[\[PDF \(400K\)\]](#) [\[References\]](#) [\[Supplementary Materials\]](#)**Characteristics of Pentosan in Polished Wheat Flour and Its Improving Effects on Breadmaking**Tomoko Maeda¹⁾ and Naofumi Morita²⁾

1) Department of Life and Health Sciences, Hyogo University of Teacher Education

2) Laboratory of Food Chemistry, Graduate School of Life and Environmental Sciences, Osaka Prefecture University

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Eight fractions of polished flours were prepared by gradually polishing soft-type whole-wheat grains using a rice-polisher. The gluten matrix of doughs and breads made from polished flours was broken by some pericarp layers and the appearances were not sufficient for breadmaking. Polished flours contained water-soluble pentosan (WSP) with a significantly larger amount of xylose as a main chain, while water-insoluble pentosan (WISP) had a smaller amount of xylose than those from N61 and commercial flour (Hermes). The addition of WSP obtained from polished flours of the innermost fraction 30-0% to Hermes significantly improved the dough and baking properties, as compared with that from N61. The improvement of polished flours for breadmaking was due to the characteristics of WSP, namely its high content, high ratio of xylose to arabinose, large amounts of ferulic acid and excellent foaming stability.

Key words: pentosan, polished wheat flours, bread, microscopy, gas chromatography[\[PDF \(400K\)\]](#) [\[References\]](#) [\[Supplementary Materials\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)[BibTeX](#)

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