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## Comparison of rice flour properties of different cultivars using wet and dry milling processes

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### Abstract

We conducted to compare the characteristics of rice flours according to the different milling processes. Five rice varieties (*Oryza sativa* L.) with different amylose content were prepared by wet and dry milling processes. The moisture contents of wet-milled rice flours (WMR) was mostly three-time higher than those of dry-milled flours (DMR). Water absorption index (WAI), water solubility index (WSI) and swelling power (SP) increased in proportion to temperature (50-90°C). WAI, WSI, SP of DMR showed higher value than those of WMR. Baeokchal (BOC) which is waxy rice cultivar was significantly high level of WSI. Pasting properties of DMR except BOC cultivar resulted in higher peak viscosity, trough viscosity, final viscosity and Setback. The levels of resistant starch in the four cultivars except Dodamssal (DDS) were under 1% irrespective of Milling processes, whereas the resistant starch contents of DMR and WMR in DDS was 9.18 and 6.27, respectively. Damaged starch content of WMR were less than those of DMR, moreover, negative correlation was observed between amylose content and damaged starch of rice cultivars. These results suggest that the properties of rice flour varied depending on the milling methods and varieties, and it could be a reference for selecting the appropriate processing purposes.

Keywords: rice cultivar, milling process, rice flour, starch property

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