

若手の会 ポスター発表 | 若手の会ポスター発表

🌾 2025年8月28日(木) 9:00 ~ 18:00 🏠 ポスター4Fロビー(4F ロビー)

[P107-P159] 「若手の会」および「国際ポスター賞」

8月28日(木) 9:00~18:00 (17:30撤収)

8月28日(木) 13:15~14:00 討論タイム (ポスター番号偶数番号)

8月28日(木) 14:00~14:45 討論タイム (ポスター番号奇数番号)

[P157] Effect of the Addition of Pregelatinized Japonica Rice Flours on the Rheological Properties of a Gluten-Free Pizza Base Dough

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キーワード：レオロジー、スターチ、米粉、アルファ化

Purpose: There has been an interest in expanding the use of Japonica rice flour in food applications. Nevertheless, as it is gluten-free, its use is limited. Therefore, a new technique using shear and heat milling can pregelatinize the starch present, allowing it to have novel properties. This innovation can boost its applications. For this study, we applied it to a pizza dough, as pizza consumption has been rising steadily in Japan.

Methods: Pregelatinized (A) rice flour was prepared using 2 varieties: Hoshiyutaka (H) and Mizuhochikara (M). Flour physicochemical properties were determined, including crystallinity by X-ray diffraction, hydration capacity, and pasting properties using an RVA. These flours were applied to 100% rice pizza doughs, using 0%, 10%, and 20% substitution percentages. The doughs were subjected to rheological tests: an amplitude sweep and stress sweep, by using a rheometer. They were also observed using a scanning electron microscope (SEM).

Results: Hydration capacity is significantly increased in pregelatinized flours (MA and HA). The pregelatinized (A) flour increased the pizza dough's viscosity but decreased its non-Newtonian behavior in rheological tests, with 20% substitution having the most notable effect. SEM images show more starch granules in the 0% substitution samples, meanwhile, 10% and 20% show the starch granules covered by other materials, which we hypothesize are the free starch chains of the pregelatinized (A) flour.