

Public Abstract

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Food Science

Puffing of okara/rice blends using a rice cake machine

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Graduation Term: Summer 2005

Okara is the by-product of soymilk and tofu manufactures. It is cheap and nutritious, thus has great potential to be applied in healthy snack foods. In this study, a puffed soy/rice cake product was developed and consumer preference and acceptance tests were conducted.

Okara pellets were prepared by extruding a mixture of dried okara and rice flour (3:2) (w/w) with a twin-screw extruder. Later, soy/rice cakes were puffed from the mixture of okara pellets and parboiled rice using a rice cake machine. The experiment factorial design was 4 x 2 x 3 x 3 with two replications. This was a Split Plot Design. Main plot was okara pellets and parboiled rice: 90/10, 70/30, 40/60, and 0/100 (w/w). Subplots were moisture contents: 14 and 17%, heating temperatures (221, 232, 243°C) and heating time (4, 5, 6s). The cakes were evaluated for specific volume (SPV), texture, color, and integrity. All the processing factors and most interactions had significant effects. The respective decrease of okara content and increase of moisture, heating temperature and time led to greater SPV, higher hardness, darker color, and higher integrity. The consumer tests indicated that the soy/rice cake containing 70% okara pellets was preferred to the other samples and the 90% one was liked least. The possible drivers of liking were okara pellets content, hardness, specific volume, bright color and integrity.