

Abstract

The aim of this study was to develop soft tofu from white sesame meal and cereals. The optimum ratio of white sesame meal, job's tears, and corn, heating and coagulation conditions were investigated. The optimum ratio of raw materials by using response surface methodology with mixture design was 69% (w/w) of white sesame meal and 31% (w/w) of job's tears. Corn wasn't added because the product had low cohesiveness. The optimum heating condition was 90⁰C for 10 min and coagulation condition was magnesium sulfate 3% of raw material weight for 40 min. The chemical, microbiological, physical, and textural qualities of this product were analyzed. Protein, fat, fiber, ash and carbohydrate were 71.44 ± 0.11, 15.67 ± 0.02, 6.49 ± 0.04, 2.07 ± 0.14 and 4.23 ± 0.09% (wet basis), respectively. TBA number was 0.06 ± 0.00 mg malonaldehyde/kg. The total plate count was 2.3 x 10¹ cfu/g. Yeast and mold count was less than 10 cfu/g. Syneresis was 20.74 ± 0.02% and water activity was 0.99 ± 0.00. Hardness was 448.80 ± 4.95 g. Springiness and cohesiveness were 0.76 ± 0.45 and 0.45 ± 0.04, respectively. Scanning electron microscopic observation showed that this product's structure was a loose network which composed of globular particles that bind together and was inserted with big and flat particles. There were many big and irregular gaps. In shelf-life study, this product can be stored in closed plastic box at 4⁰C for 5 days. Acceptance testing indicated that the average color, flavor, taste, texture, and overall liking scores were 5.70 ± 1.15, 5.30 ± 1.25, 5.11 ± 1.31, 5.58 ± 1.40, and 5.39 ± 1.23, respectively. About Forty three percents of consumers might purchase and intended to purchase which the main interested reason was good for health and about forty eight percents of consumers were not sure.