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Nutritional value, sensory characteristic, microbial profile, functional property and economical benefit of environmentally friendly “Quick Tempe”

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Abstract

"Quick Tempe" is tempe made by speeding up the acidification stage using Glucono Delta Lactone (GDL) as acidulant to reduce soaking time and minimize water waste. This research has been started since 2006. Several experiments have been done including study on the qualities of nutritional, microbial profile, bioactivity and sensory evaluation compared to the conventional tempe. The Quick tempe was able to reduce the production time from three to only two days. The quick tempe with back-slopping technique has been able to reduce total cost by 4.8% and increase total profit up to 49.9%. The protein quality of quick tempe was not significantly different compared to the conventional one and both were better than casein. The anti-nutritional factors i.e. phytic acid and trypsin inhibitor were significantly reduced by tempe making, however, there was no significant difference between the quick and conventional tempe. The difference of soaking process did not impact the nutritional value. There was also no significant difference in microbial profile and antioxidant, lipase and amylase inhibition capacities of both tempe. The texture attribute of conventional tempe sensorially was more preferred by panelists than the quick tempe. However, there was no significant difference between the overall sensory attributes in sensory acceptance. The quick tempe has been able to be implemented in medium and small scale industries as well as to support the ingredient of big-scale industry.

Biography

Dr. Hanny Wijaya is currently working as a Professor at Department of Food Science and Technology, Faculty of Agricultural Engineering and Technology, Bogor Agricultural University. She published more than 10 publications in reputed journals in last three and attended many international conferences.

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