

Effect of different Processing Methods on Chemical Composition and Sensory Quality of Soymilk

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Abstract

Background and Objective: Although soymilk is a dairy substitute for people with lactose intolerance; many people are reluctant to buy because of its unpleasant flavor produced by traditional processing. New techniques have been developing to improve flavor of soymilk but these have reported adverse affects on its protein content. Also, the cultivar of soybean and method of storage have influenced the quality of soymilk. The objective of this research was to study the effect of different extraction methods of soymilk (hot and cold extraction) on the chemical and sensory quality of soymilk and its quality during storage (shelf-life).

Methodology: Dry beans were soaked in cold and hot water for about 8 hrs, followed by grinding with enough added water (10:1), then boiled for 15 min and then, insoluble residue (okara) were separated by filtration. The chemical composition of soybean seed and soymilk were determined.

Results: Chemical composition of soybean seeds were reported as: moisture content: 3.6%, ash 5.88%, protein 52.50%, oil 12.30%, fiber 10.36%, carbohydrate 15.36%. Chemical composition of soymilk was found to be: moisture content 90.5%, ash 0.55%, protein 3.6%, oil 2%, fiber 0.45%, carbohydrate 2.9%), respectively. The chemical composition of soy milk samples (hot extraction and cold extraction) indicated that the nutrient composition of the two soymilk sample were significantly different ($P \leq 0.05$). Soymilk sample prepared by hot extraction contained more protein, fat, carbohydrates and fiber than the soy milk samples prepared by cold extraction, this increase could be due to processing conditions. The hot extraction method increased the water activity of the seeds and possibly improved the release of anti-nutrition material and reduced bean off flavors. This method thus might be a better method of processing of soymilk.

Conclusion: Further studies are needed to highlight the benefits of utilize soybean seed as raw material in manufacture of different milk and milk products.

Keywords: Soymilk, storage, chemical composition
