

The effect of addition of whey protein concentrate and emulsifier on characteristics of cheddar cheese analogue from corn milk

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Abstract	Corn milk has been considered as the ingredient of cheddar cheese analogue. In cheddar cheese manufacturing, whey protein and stabilizer like Tween-80 and Span-80 are required. This study objectives are to determine the best proportion of whey protein concentrate (WPC) concentration and emulsifier types to produce analogue cheddar cheese with corn milk base and its effect on the physical, chemical, and sensory characteristics of analogue cheddar cheese. The experimental design was factory randomized block design with two factors, the WPC level (20, 25, 30%) and emulsifier type (Tween-80, Span-80, and Tween-80 combination: Span-80). The physicochemical and sensory variables data were analyzed on a 5% F-test, and the significant results were further analyzed with the multiple-range test of Duncan at a level of 5%. The results showed that changes in WPC level had effects on yield value, water content, dissolved protein content, and fat content. The variation of emulsifiers affected water content and protein content. The best proportion of the analogue cheddar was WPC 30% and emulsifier Tween-80 1% with yield value 63.23%, pH 5.7, total dissolved solids 31.75%, moisture content 59.24%, protein dissolve 10.07% bk, fat content 13.65% bk, and total acid 1%.
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