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Abstract
Natto is a fermented food made of soybeans fermented by Bacillus subtilis and is rich in digestive enzymes and biologically active ingredients. The objective of this research was to investigate the vitamin K2 contents in different legumes used as medium in solid state cultivation of Bacillus subtilis. The effect of the addition of 1, 4 – naphthoquinone (NQ), a precursor of vitamin K2 on vitamin K2 synthesis, was also evaluated.
After 7 days cultivation, the vitamin K2 produced by various media are as follows: mung beans (1.99μg/g) 、adzuki beans (1.66μg/g) 、black soy beans (1.30μg/g)、Lima Bean (1.05μg/g)、Adlay (0.89μg/g) and Soybean (0.53μg/g). Addition of 5 mg/ml NQ 1 ml into fermentation media can greatly influenced the production of vitamin K2.The vitamin K2 contents are , respectively, mung beans (3.31μg/g)、adzuki beans (1.38μg/g)、black soy beans (2.10μg/g)、Lima Bean (1.20μg/g)、Adlay (0.83μg/g) and Soybean (2.92μg/g).These results show that different legumes used as cultivation medium can result in different vitamin K2 content while the addition of NQ precursor can selectively increase the resulting vitamin K2 content.
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