ABSTRACT

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"STUDY OF PSYCOCHEMICAL AND ANTIOXIDANT CHARACTERISTICS OF SOY YOGHURT MIXED WITH AFRICAN BITTER LEAF (*VERNONIA AMYGDALINA* DEL.) CRUDE EXTRACT"
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African bitter leaf (*Vernonia amygdalina* Del.) claimed to have high antioxidant, phenolic and flavonoid content. The objective of the research was to study the physicochemical and antioxidant characteristics of soy yoghurt added with African bitter leaf crude extract. Antioxidant activity (IC_{50}) of ethanolic bitter leaf crude extract was 398.481±8.780 ppm with total phenolic of 81.789±2.155 mg GAE/g sample, and total flavonoid of 133.704±5.395 mg QE/g sample. Different ratio of soy milk to African bitter leaf crude extract (82:0, 81:1, 80:2, 79:3) and fermented at different fermentation time (18, 20, and 22 h) to determine optimum treatment to produce soy yoghurt with the highest antioxidant characteristics. Three soy yoghurt that exhibited highest antioxidant activity was selected for sensory test. Soy yoghurt added with soy milk and bitter leaf crude extract with the ratio of 81: 1, fermented for 20 h, that for 22 h, and the ratio of 80:2 fermented for 22 h were selected for sensory test. 70 panelists were asked to give score for acceptability of the product. Soy yoghurt with ratio 81:1 fermented for 22 h exhibited the highest antioxidant activity (IC_{50}) value of 10099.971±342.167 ppm, total phenolic of 2.987±0.032 mg GAE/g, total flavonoid of 0.585±0.003 mg QE/g. Compared to control soy yoghurt with the value of 18062.119±76.31, 17341.841±230.198, and 16206.361±251.666 ppm, selected soy yoghurt with added crude extract exhibited higher antioxidant capacity. Thus, Addition of African bitter leaf crude extract was capable of improving antioxidant characteristics of soy yoghurt.

Keywords: African bitter leaf, antioxidant characteristics, ethanolic extract, soy yoghurt, *Vernonia amygdalina Del*.

References: 45 (2001-2017)