

Development of Blue Pea Flower Extract Incorporated Set Yoghurt

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Abstract

There is a considerable interest in natural antioxidants because of their potential nutritional and therapeutic value. The blue pea flower (*Clitoria ternatea*) is one of the major tropical flowers with high antioxidant capacity, attractive colour, and colour stability in. Previous study showed that the extract of blue pea flower is a good source of antioxidants. Thus, this study was conducted to develop a blue pea flower extract incorporating set yoghurt to improve the antioxidant capacity and to make it more attractive to the consumer. The blue pea flower was incorporated in powder form and liquid form separately for yoghurt preparation aiming to find the best method of incorporation to get a desirable homogeneous product. Thoroughly washed flowers were dried at ambient temperature for three days until a constant weight was observed. Then the dried flowers were ground into a fine powder using mortar and pestle. For a series of yoghurt production, this ground powder was directly used and for another series, blue pea flower extract was obtained using sonicator assisted hot water extraction where extraction was carried out at 50 °C for 30 minutes. A set of yoghurt samples were prepared with different concentrations of extracts. Three formulations of yoghurt incorporated with liquid extract of 10%, 20%, and 40% (v/v) and four formulas of yoghurt incorporated with a powdered blue pea flower of 1%, 2%, 3%, and 4% (v/w) were developed. A preliminary sensory evaluation was carried out to determine the most preferred yoghurt formula. Both blue pea flower powder incorporated yoghurt and blue pea extract incorporated yoghurt were examined through sensory evaluation. A ranking test was done by using 40 untrained panellists and results were analysed using the Friedman test. According to the results; the most preferred formulations were yoghurt samples added with 2% (w/w) blue pea flower powder and yoghurt added with 10% (v/v) blue pea flower extract. These two formulations were selected for further quality evaluation and storage studies.

Keywords: Anthocyanin, antioxidant, blue pea flower, sensory, stability

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