

Different Methods Anthocyanins Extracted from Saffron

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Abstract : The flowers of saffron contain anthocyanins. Generally, extraction of anthocyanins takes place at low temperatures (below 30 °C), preferably under vacuum (to minimize degradation) and in an acidic environment. In order to extract anthocyanins, the dried petals were added to 30 ml of acidic ethanol (pH=2). Amount of petals, extraction time, temperature, and ethanol percentage which were selected. Total anthocyanin content was a function of both variables of ethanol percent and extraction time. To prepare SW with pH of 3.5, different concentrations of 100, 400, 700, 1,000, and 2,000 ppm of sodium metabisulfite were added to aqueous sodium citrate. At this selected concentration, different extraction times of 20, 40, 60, 120, 180 min were tested to determine the optimum extraction time. When the extraction time was extended from 20 to 60 min, the total recovered anthocyanins of sulfur method changed from 650 to 710 mg/100 g. In the EW method Cellubrix and Pectinex enzymes were added separately to the buffer solution at different concentrations of 1%, 2.5%, 5%, 7%, 10%, and 12.5% and held for 2 hours reaction time at an ambient temperature of 40 °C. There was a considerable and significant difference in trends of Acys content of tepals extracted by pectinex enzymes at 5% concentration and AE solution.

Keywords : saffron, anthocyanins, acidic environment, acidic ethanol, pectinex enzymes, Cellubrix enzymes, sodium metabisulfite

Conference Title : ICBCP 2016 : International Conference on Biological and Chemical Processes

Conference Location : Tokyo, Japan

Conference Dates : September 05-06, 2016