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Using some food processing wastes in producing some nutritional components

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Abstract

Food processing wastes represents heavy burden on factories and cause enormous environmental problems, for example citrus waste arrives to about 45-50% of the weight of citrus original and the percentage of waste to 30-50% for vegetables and fruits in general. Natural color plays a significant role in determining the degree of consumer acceptance of the product. In addition carotenoids, vitamin A precursor, have high nutritional values which are important for human nutrition. The efficiency of different organic solvents such as acetone 85%, hexane, petroleum ether, ethyl acetate and ethanol 90% in the extraction of pigments from citrus peel was studied. Ethyl acetate is the best solvent in extracting carotenoids from citrus peel, followed by ethanol 90%. Chromatographic analysis, GLC, HPLC and TLC used for identified the extracted pigments and their components. The extracted natural pigments were mixed with different carrier materials such as starch, lactose, dextrin, Arabic gum, and it was noted that lactose is the best one, followed by starch. Also, it found that the sun light is the more factors that affect the stability of carotenoids pigments. It was found that alpha-tocopherol as antioxidants were relatively more stable than butylated hydroxytoluene (BHT) antioxidant up to 90ºC. Natural Extracted pigments were used in the coloring of some food products such as jelly and Tamr-Eldin and gave the highest values for the color, flavor and taste compared to commercial sample.

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