

## Studies on extraction of polyphenols from food wastes and its utilization for fortification of polyphenols

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■ **ABSTRACT** : Food processing is one of the most important industries over the world, however, byproducts of such industries, mainly organic material must be handled in appropriate manner to avoid any environmental violence. But these by products as well as the waste materials contain some good nutraceutical properties such as presence of polyphenols which can increased the antioxidant properties of the food materials. In this study the polyphenol contents from the wastes of some food materials such as cucumber peels, potato peels, pea nut hulls, pomegranate seed wastes, date seeds, pumpkin seeds are determined in mg GAE/g sample by using different solvents viz., water, ethanol, methanol and acetone as extracting medium. It was observed that, among these samples potato peels, cucumber peels and pomegranate seeds exhibited maximum polyphenol content in water medium, such as 5.14, 6.05 and 4.70 mg GAE/g sample, respectively, whereas pumpkin seeds and date seeds showed maximum polyphenol content in acetone medium, like, 6.06 and 4.40 mg GAE/ g sample, respectively. As water is one of the main ingredients of most of the processed foods, potato peels and cucumber peels wastes can be utilized for fortifications of polyphenols in vegetable soups. It has been observed that the polyphenol content can be increased upto about 2.7 times in case of cucumber peel fortified soups. Therefore, it can be concluded that cucumber peel fortified soups showed the best result considering its functional quality in terms of polyphenol content as well as overall acceptability in terms sensory analysis.

■ **KEY WORDS** : Food wastes, Polyphenol, Nutraceutical, Fortified soups, Sensory analysis

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