

The Influence of Apple Pomace on Colour and Chemical Composition of Extruded Corn Snack Product

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Abstract : Recovery of food wastes and their conversion to economically viable products will play a vital role for the management strategies in the years to come. Apple pomace may be considered as wastes, but they contain considerable amounts of high value reusable materials. Apple pomace, the by-product of apple juice and cider production, is a good source of fibre, particularly insoluble one. The remaining apple pulp contains 12% dry residue, which is half dietary fibre. Another remarkable aspect is its richness in polyphenols, components with antioxidant activity. Apple pomace could be an interesting alternative source for fibre and polyphenols in extruded corn meals. The extruded corn meals with the addition of finely ground apple pomace were prepared (the ratio of corn meal: apple pomace was 85:15 and 70:30). Characterization of the extrudates in terms of determining the chemical composition and colour was performed. The color of samples was measured by MINOLTA Chroma Meter CR-400 (Minolta Co., Ltd., Osaka, Japan) using D 65 lighting, a 2° standard observer angle and an 8-mm aperture in the measuring head. The following CIELab color coordinates were determined: L* - lightness, a* - redness to greenness and b* - yellowness to blueness. Protein content decreased significantly from 7.91% to 5.19% with increase in pomace from 0% to 30%, while total fibre content increase from 3.39% to 16.62%. The apple pomace addition produced extrudates with a significantly lower L* value and significantly higher a* value. This study has been fully supported by the Provincial Secretariat for High Education and Scientific Research of the Government of Autonomous Province of Vojvodina, Republic of Serbia, project 142-451-2483/2017 and the Ministry of Science and Technological Development of the Republic of Serbia (Project no. 31014).

Keywords : apple pomace, chemical composition, colour, extruded corn snack products, food waste recovery

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