



CONTRIBUTIONS TO EXPLORING THE BIOACTIVE POTENTIAL OF TOMATO PROCESSING BY-PRODUCTS

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Abstract: *The processing of raw materials of plant origin has increased considerably in recent years. More than 130 million tonnes of tomatoes are processed annually, resulting in 8 million tonnes of waste and by-products. Plant origin by-products are a natural source of carbohydrates, polysaccharides, proteins, vitamins, minerals, antioxidants and bioactive compounds. Two objectives were proposed in this work, such as (1) conditioning the tomato processing by-product by convective drying at a moderate temperature of 60°C (8 h per day for 2 consecutive days) to ensure microbiological, biochemical and chemical stability and to preserve its bioactive potential and (2) assessing the changes occurring in response to drying on antioxidant activity, total phenolic content, lycopene content and ascorbic acid (vitamin C).*

• Introduction

The by-product of tomato (*Solanum lycopersicum*) processing consists of a mixture of skins and seeds and is rich in phytochemicals (carotenoids, phenolic compounds and vitamins, etc.) with multiple health benefits.

• Material and method

Convection drying is well applied in food industry, the wet materials are dried using hot air at moderate temperature. The tomato by-product was subjected to chemical analysis in order to determine the bioactive compounds present.

• Results and discussions

The by-product from tomato processing constitutes a sustainable plant material, rich in polyphenolic compounds with high antioxidant activity, resulting in considerable quantities, which has been underutilized so far.

• Conclusions

Although the conditioning process by convective drying led to a decrease in the content of investigated bioactive compounds and total antioxidant activity, the dried by-product showed still high levels of antioxidant characteristics which justifies its reintegration as powder or natural extracts in the food chain.