For cited: Shammari, B. B. J. (2023). The influence of tomato seed flour on the nutritional value and quality of bread. Journal of Current Research on Engineering, Science and Technology, 9 (1), 89-98.



Crossref doi: 10.26579/jocrest.9.1.8

Abstract

Research Article/Araștırma Makalesi

The influence of tomato seed flour on the nutritional value and quality of bread

Bushra Bader Jerad SHAMMARI¹

Keywords Tomato seed flour, Chemical composition, Amino acid, Mineral content, bread.

Article History Received 11 Mar, 2023 Accepted 23 Jun, 2023 The purpose of this research was to enhance the bread's quality by adding tomato seed flour to it. At the levels of 2, 4, and 7%, tomato seed flour was substituted by wheat flour for producing bread. bread quality was evaluated and contrasted with that of bread without tomato seed using its physical, color, crumb cell, textural, and sensory qualities physicochemical characteristics, amino acid and minerals content were determined .The analysis revealed that the tomato seed flour had moisture 11.33%, protein 31.66%, crude fat 20%, total ash 3.16% and carboyhdrates 35.5%, The sample has a lot of magnesium content 29mg/g, sodium 15.7mg/g, potassium 7.06 mg/g, and calcium 0.76mg/g are the highest content 75.77 mg/g, Jron 72.28 mg/g, Zin 57.645 mg/g and Cu 14,205 mg/g. According to the findings, the seeds revealed a high protein content 31.66% rich in Lucien and lysine. Finally, the tomato seed can be regarded as a good source of minerals and protein in nature.

1. Introduction

One of the most popular vegetables consumed worldwide is the tomato (Lycopersicum esculentum), which can be eaten either fresh or prepared. In fact, tomatoes are only second to potatoes in popularity in Europe and the US. They are of significant economic value and are utilized in the food industry as a raw material to make a variety of goods, including juices, sauces, purees, pastes, and canned tomatoes. Tomato eating has been linked in recent years to the prevention of a number of ailments. (González *et al.*,2011).

The issues with industrial waste are getting more difficult to overcome, and a lot of work will be required to maximize the nutritional and industrial potential of waste and byproducts and untapped markets for agricultural goods. Tomato industrial processing produces by-products, such as tomato seeds, peels, pulp, and cores, which account for 10–30% of all processed tomatoes(Isik and Yapar,2017). About 3-7% of the tomatoes that are processed produce byproducts which is a. significant quantity weight that causes significant environmental issues for the impacted business because of the the organic material's disposal(Del Valle *et al.*,2007; Zuorro *et al.*,2011).

¹ Corresponding Author. ORCID: 0000-0001-6714-7777. University of Basrah, College of Agriculture, Department of food Sciences, Iraq