



MINISTRY OF EDUCATION  
AND SCIENCE OF UKRAINE  
NATIONAL UNIVERSITY  
OF FOOD TECHNOLOGIES  
NATIONAL ERASMUS+ OFFICE IN UKRAINE  
EUROPEAN STUDIES PLATFORM



PROCEEDINGS  
VII INTERNATIONAL CONFERENCE  
EUROPEAN DIMENSIONS OF  
SUSTAINABLE DEVELOPMENT



MAY 5-7, 2025, KYIV

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## TECHNOLOGIES FOR AMARANTH COMPLEX PROCESSING FOR THE PRODUCTION OF HEALTHY FOOD PRODUCTS

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One of the goals of sustainable development is responsible consumption, in particular, the transition to a significant reduction in waste volumes through the use of measures to prevent its formation, its reduction, recycling and reuse (Herrero et al., 2021). Such approaches should be implemented in the processing of plant raw materials in modern food technologies, in particular in the production of food products for health and preventive purposes.

One of the ways to improve the quality of nutrition of modern people is to introduce food additives with high taste and nutritional qualities into the diet, which include processed amaranth seed products. Amaranth (*Amaranthus* L.) is a valuable industrial, fodder, food and medicinal crop. Researchers are actively developing technologies for the complex processing of amaranth seeds to obtain a number of food and medicinal products from them: products of mechanical and thermal processing, amaranth oil, squalene, CO<sub>2</sub>-extracts, protein additives and pectin (Jimoh et al., 2022).

Products of mechanical processing of amaranth seeds, such as whole-grain flour, are obtained by grinding the seeds on roller mills or disintegrators without removing the seed coat. Taking into account the features of the fractional composition of amaranth seed proteins, protein concentrates, isolates, and protein-polysaccharide complexes have been obtained, which have high digestibility, water solubility, and emulsifying capacity. To obtain products from the processing of thermally processed amaranth seeds, it is proposed to extrude or roast them. Extrusion processing helps to reduce the trypsin content and increase the digestibility of the protein, as well as improve the organoleptic properties of the resulting product. Amaranth oil occupies a special place among the products of complex processing of amaranth seeds; its fatty acid composition is close to that of corn and it contains up to 77% unsaturated fatty acids, mainly represented by polyunsaturated acids of the  $\omega$ -3 family.

Vegetable forms of amaranth and its leafy part are considered as a potential source of coloring pigments, protein and vitamins. Amaranth foliage contains a large amount of protein (up to 38.3%), carotenoids, vitamins C, B<sub>1</sub>, B<sub>2</sub>, B<sub>12</sub>, E, flavonoids with P-activity (rutin, quercetin) and pectin, which is not inferior to apple pectin in its complexing ability. Such a valuable biochemical composition of different parts of the plant creates broad prospects for the use of amaranth in modern food technologies.

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