

ALTERNATIVE SOURCES FOR PLANT-BASED PROTEIN FOOD PRODUCTS

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Abstract:

Nowadays, food industry is interested in the use of nutritional compounds from plant sources in order to replace animal proteins. This concern comes in support of sustainable foods and biodiversity.

Sorghum Oryzoidum (soryz), a hybrid of sorghum, could be considered one of such raw materials, based on its chemical composition and high productivity, despite the poor climatic conditions in Republic of Moldova.

In the present work, the content of starch and proteins in the soryz grains was analyzed, using standard methods of analysis. This is a vegetable raw material with a high starch content between 74-82% starch in which the amylopectin fraction prevails. Due to the higher amylopectin content, soryz starch is characterized by a high viscosity and a lower gelling tendency. Proteins constitute the second important component of soryz grains. The value of the protein content, 13.07%, can vary depending on the changes that occur in the distribution of protein fractions and in the composition of amino acids. The distribution of protein fractions in the total protein content was 5.20% for albumins, 11.95% globulins, 49.32% prolamins, 18.23% glutelins and 13.86% for stroma. Glutamic acid is the major amino acid in the soryz proteins. It constitutes 34% of all amino acids, followed by the content of asparagine, alanine, leucine and arginine.

Soriz can be used in various composite food products, improving their nutritional and biological value.

Key words: *amino acids profile, biological value, chemical composition, proteins, sorzy, starch.*

Acknowledgments. The authors would like to thank the bilateral project 23.80013.5107.3TR Sustainable Nutrient-Rich New Generation Food Products Development: evaluating the relationship between ingredients, processing methods used, and techno- and bio-functional properties.