

THE USE OF SPENT GRAIN IN OBTAINING SOME FLOUR PRODUCTS

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Worldwide, 14% of food products are lost or wasted starting from the raw material (after harvesting, throughout the food chain) to the retail level. Food waste results not only in economic loss but also in immense environmental pollution, for example, food waste is associated with approximately 7% of total global greenhouse gas emissions. In addition, food waste is a big challenge for improving global food security, especially considering the fact of requiring around 60% more food for the growing world population by 2050. That is why it is necessary to reduce food waste during the food supply chain and find solutions for food security in a sustainable way [1,2].

Spent grain is the main by-product resulting from the brewing process and from the manufacturing process of some distilled alcoholic beverages. It contains husk, pericarp, and seed coat and is largely made up of cell walls. Spent grain can be successfully used in value-added products, enriching their nutritional value and chemical composition, being available throughout the year at a low purchase price. In our research we used spent grain resulting from the brewing and malt whisky industry. Both by-products are rich in fiber and protein content, which can increase the functional value of the finished products with the addition of spent grain. The studies carried out were based on the use of spent grain in recipes for the manufacture of pasta, wafers and an assortment of ginger bread [2,3]. The level of consumer acceptability was relatively high, averaging up to 15% spent grain, which makes it suitable for use in flour products.

The recipes for flour products developed through the research carried out demonstrate the existence of viable solutions for valorisation spent grain in new food products with added value and low costs.

References

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