

EFFECTS OF SEVERAL PURPLE POTATO PASTE ADDITIONS ON BREAD QUALITY

C. L. Badarau¹, M. C. Canja, F. Damsa, A. Margean

Introduction Diets rich in potato tubers containing polyphenols in flesh can be an excellent sources of natural antioxidants. Anthocyanin, the phytochemical which appears in various potato varieties, known especially for its health promoting effects in red wine, have a strong effects because their antioxidant properties. The goal of this research work was evaluation the anthocyanin and polyphenols content of some potato cultivars probably useful for bakery industry and the influence of these potatoes paste add on several bread quality indicators.

Material and methods Romanian potato cultivars used in experiments were Christian and Albastru Violet de Galanesti. Tuber appearance was evaluated based on tuber size, shape and eye depth. The analysis performed on bread (prepared using different potatoes paste addition 5%, 15% and 30%) were sensorial and physic chemical analysis (product volume, crumb porosity and elasticity, height/diameter ratio, moist and acidity). For potatoes and bread samples, total polyphenols content was determined by Folin Ciocalteu method and anthocyanin content was estimated by pH differential method.

Results The lowest total polyphenolics and anthocyanins content were found in variety Christian, while the highest one was record for cultivar Albastru Violet de Galanesti. Experimental results indicated that 15% potatoes paste from purple potato cultivar add was the most indicate to be used in bread processing. Regarding the contents of anthocyanins and polyphenols, the higher were in cas of the bread with potatoes paste from cv. Albastru Violet de Galanesti (30%). Exceptind the product volume, in all experiments, the quality bread indicators were in accordance with the values specified in the standard. The best values of bread quality were obtained in case of addition 15% purple colored potato paste additon in dough.

Conclusions After these preliminary tests, based on total polyphenol and anthocyanin content and tuber appearance, the purple flesh cultivar Albastru Violet de Galanesti could be recommended for obtaining a new bread, a challenge in the bakery industry.

Keywords: *purple potato, bread, anthocyanin, polyphenols.*

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Foreword

*The quality of each person's life, as well as the entire evolution of a society, depends on the nutrition and psychical health of the human being. The world is nowadays confronted with a demographic explosion, concomitantly with a planet-wide accentuation of agricultural and food deterioration. This is the reason why we have to be prepared, **in the XXI-th century**, to face the Global and Local Challenges in Food Science and Technology, generated by the the quantitative and qualitative food-related needs.*

Under this thema, more than 200 papers were received on the topics of food production, food processing, food quality and safety, nutrition, engineering and design, innovative technologies.

*The **3rd NEEFOOD Congress** aims to keep the quality of an integrated, multidisciplinary and interconnected international conference on the topic of agri-food fields and it also drawn the interest of numerous specialists who continuously attempt to identify solutions to difficult contemporary problems.*

*The impressive international participation encourages us to believe that the **3rd NEEFOOD Congress** may have positive echoes emerged from the experience and contribution brought by all **international participants** from Austria, Belgium, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Poland, Republic of Moldova, Serbia, Switzerland, Russia, Ukraine and United Kingdom together with researchers from Romania.*

*This book of abstracts contains selected abstracts of papers presented during the **3rd NEEFOOD Congress**.*

*A number of selected papers presented at **3rd NEEFOOD Congress** will be published by Elsevier. This selection will be done by the Congress Chairs, among the papers actually presented at the conference, based on a rigorous review by the Scientific Committee members.*

The program for this conference required the dedicated effort of many people. Firstly, we must thank the authors, whose research efforts are herewith recorded. Secondly, we thank the members of the Scientific Committee and the additional reviewers for their diligent and professional reviewing. Last but not least, we thank the invited speakers for their invaluable contribution and for taking the time to prepare their talks.

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