

F.63. PRODUCTION OF A FUNCTIONAL FOOD DRINK BASED ON THE BIOLOGICALLY ACTIVE POTENTIAL OF THE ANTHOCYANIN EXTRACT FROM GRAPE POMACE

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Abstract. Global and regional climatic, energy and food crises impose on the current scientific society the task of acquiring new fundamental and applicative knowledge in highlighting, evaluating, and directing the genetic and physiological mechanisms of the production process and the ecological resistance of plants. Research aimed to obtain a functional drink based on triticale species, with the optimization of its biological potential by the administration of some functional components. Triticale species homologated in the Republic of Moldova Inger 35 cultivated on the experimental field of the Institute of Genetics, Plant Physiology, and Plant Protection was studied in the Biochemistry Laboratory of the Genetic-Vegetable Resources Center and Bioaliment Platform of the University of Dunărea de Jos, Galati. The functional components used in the research were represented by natural bee honey harvested in 2018 in the proportion of 5 g /100 mL studied drink and anthocyanin extract from dried sweet grape pomace with a weight of 3 g /100 mL studied drink. The fermentation process of functional drink was carried out by the *Lactobacillus Plantarum* species (concentration $3,2 \cdot 10^9$ UFC/mL) for 4 hours. The obtained beverage was kept for 40 days at the temperature of 4°C and in the dynamics, every 7 days the specific and technological parameters were determined. The experimental results described the growth dynamics of lactic acid (0,5 g/100 mL beverage), log UFC/mL (0,42), and the descendant content of reducing sugars, starch, and pH value. The high content of antioxidants, obtained by fermentation and maintained at a high level during storage, has attributed to this drink the title of functional food quality with a benefic potential for human health. The number of viable *Lactobacillus Plantarum* cells was maintained at a high level during the conservation, thus giving the drink the quality of probiotic food and providing the human body with a quarter of the daily need for soluble and insoluble fiber at consumption of 150-200 mL/day. The optimization of the functional beverage production process by mathematical treatment of the results made it possible to establish the technological scheme that keeps the highest content of polyphenols, reducing sugars, fibers and NTG for 35 days of conservation.

Keywords: anthocyanin extract, functional drink, germination, technological process and triticale.

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