

FUNCTIONAL BIOPRODUCTS – PROTEIN ENRICHED PASTILLA

Ainur Zhakhanova¹, student
Turaly Shugyla¹, student
Nabiyeva Zhanar Serikbolovna¹, PhD
Zhexenbay Nurshash^{1,2}, PhD
Yuliya Gennad'evna Pronina¹, PhD
Almaty Technological University, Almaty, Kazakhstan¹
Asfendiyarov Kazakh National Medical university²

The relevance of the work. At present, an important direction in the development of the modern food industry is the expansion of the production of functional foods. The global functional food market is growing every year. Much research and experimentation is being carried out in this direction. Today, the production and consumption of functional food products is developing very rapidly in the world. Among the functional products, confectionery products are considered the most popular. In recent years, functional foods have become widespread abroad as a new direction in human nutrition. The concept of functional nutrition includes food products, the composition and biologically active substances of which are removed, enriched or replaced (additives are representatives of normal human microflora), antioxidants are products with vitamins and microelements.

Purpose and tasks of the work. The purpose of the work: to develop a pastilla technology with a functional focus. To achieve this goal, the following tasks were defined: 1. Based on the traditional technology of apple pastille, develop the technology of albumin-enriched pastille; 2. The study of organoleptic characteristics, nutritional value of pastilles with albumin and gelatin; 3. Determination of food safety of finished products.

4 types of pastille were developed: №1 control (without additives), №2 – (8% gelatin, 6% albumin), №3 – (6% gelatin, 6% albumin), №4 – (4% gelatin, 6% albumin). The technology of pastilles containing albumin and gelatin has been developed, and food safety has been analyzed.

The goals and objectives of the study were fully implemented, and therefore the following results were obtained:

1. Based on the traditional technology of apple pastille, the technology of pastille enriched with albumin and gelatin has been developed in order to increase the functional properties.

2. Studied organoleptic characteristics, nutritional value of pastilles with albumin and gelatin. In terms of organoleptic indicators, all samples met the requirements, in terms of consistency, surface condition, sample №2

received the highest rating, in taste, smell and color, no special differences were observed in all samples. As a result of the research, the nutritional value of sample №2 was as follows: the protein content was 14.22%, which satisfies 47.4% of the recommended FAO/WHO daily allowance, carbohydrates 14.71% (10% of the daily allowance), fat 0.57% (3.5% of the daily allowance).

3. Based on the results of determining the food safety of lozenges containing albumin, it was found that the product complies with the requirements of Technical Regulation of the Customs Union 021/2011 "On food safety".

Pastilla samples were prepared on the basis of traditional technology (Figure 1).

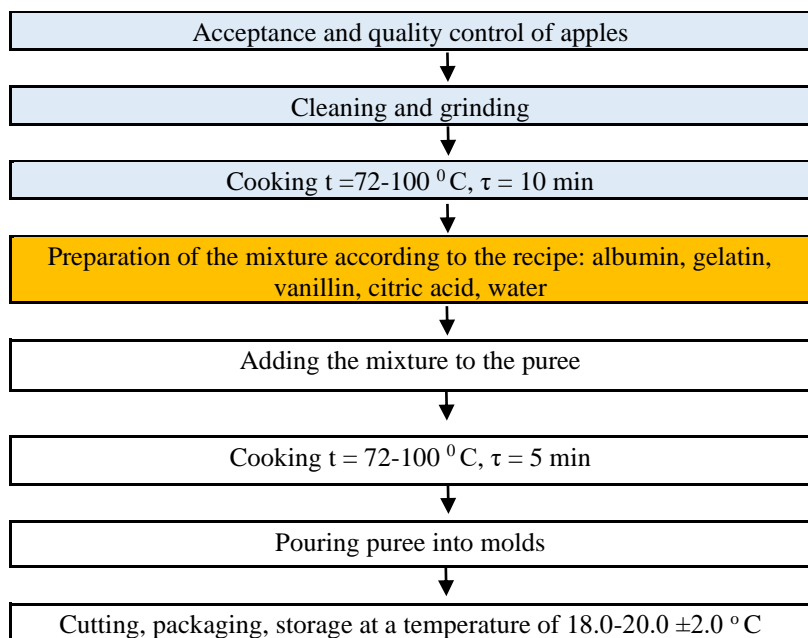


Fig. 1. Technological scheme for the preparation of specialized pastille

The research was carried out at the Research Institute of Food Safety of the ATU, Almaty of the Republic of Kazakhstan within the framework of the project № AP09058293 "Development of a technology for the production of dietary immunostimulating confectionery products based on the processing of local plant raw materials", funded by the Ministry of Education and Science of the Republic of Kazakhstan.