PROSPECTS FOR THE USE OF CHICKPEA LEGUMINOUS CROP IN THE PRODUCTION OF GLUTEN-FREE PASTA

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In recent decades, the attention of researchers has been increasingly attracted by the problem of intolerance to cereal protein - gluten. An increasing number of people are suffering from allergies, in which the consumption of any product containing gluten is a potential health hazard. Unlike many other types of allergies, gluten allergy can cause severe gastrointestinal disturbance and harm to the body.

To date, the demand for gluten-free pasta has increased in our country, as they are popular in European countries. It is impossible to imagine a human diet without such a product as pasta.

In Kazakhstan, this issue is not given due attention. Medical institutions in which patients are observed are forced to find ways to provide them with special healing grain products. There are also no enterprises mass-producing such products for this segment of consumers.

The same problem existed abroad, for many years, gluten-free food occupied a small niche. However, over the past 5-6 years, this direction has become one of the most prosperous branches of the food industry.

Given the above, on the basis of the research laboratory "Nanoengineering Research Methods" named after Academician of the International Academy of Engineering, Doctor of Technical Sciences, Professor Akhmetov A.S. of Taraz Regional University named after M.Kh. Dulati and laboratories of the Astana branch of LLP "Kazakh Research Institute of Food and Processing Industry" conduct research on the development of technology for the preparation of gluten-free pasta using chickpeas.

Chickpea is a food and fodder leguminous crop. Chickpea seeds contain 19.8% protein (up to 30%), 3.4-4.5% fat (up to 7%), 41.2% carbohydrates, 2.7% minerals. Chickpeas surpass many traditional legumes

in the content of beta-carotene (0.09 mg/kg), vitamins (P-carotene), macro- and microelements (sodium, iron, selenium). The absence of genetic modifications is an additional advantage of this culture.

Currently, chickpea flour is obtained by grinding chickpea beans, previously thoroughly cleaned of the seed coat containing anti-nutritional substances (trypsin inhibitors), in compliance with the rules for organizing and conducting the technological process at flour mills, as well as taking into account the sanitary norms and rules approved for this production. Chickpea flour in its composition contains: β-carotene - 0.06 g / 100 g, protein - 30%, fat - 4.4%, hemicellulose - 4.4%, mass fraction of nitrogen-free extractive substances - 57.9%.

The production process of gluten-free pasta consists of the following main operations: preparing raw materials, kneading pasta dough, pressing (or rolling), cutting a technological semi-finished product, cutting semi-finished of pasta, blowing and laying it out (25 ℃, 60-70%), drying (40 ℃, 4 hours), stabilization, cooling of dried products, rejection and packaging of finished products.

The analysis of literature data shows that recently special attention has been paid to the production of gluten-free pasta using chickpeas, which simultaneously acts as a supplier of nutrients in balanced quantities and has a preventive effect.

Despite the valuable composition of chickpeas, it has not yet found wide use as a food fortifier in the processing industries due to the difficulty of growing them.

Based on the foregoing, it seems appropriate to widely use chickpeas for enrichment with proteins, fats, carbohydrates and vitamins, including in the production of gluten-free pasta, which is in great demand among the population.