

IMPROVING THE FOOD PRODUCTS QUALITY IN THE HOTEL AND RESTAURANT INDUSTRY

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Abstract

One of the methods of preventing the incorporation of radionuclides and iodine deficiency is based on the introduction of food products in the hotel and restaurant industry, which have the properties to bind and remove radioactive substances, which are also rich in iodine. The purpose of the work was to study the feasibility of using elamin as a source of organic iodine for enriching food products with minerals, as well as their additives with inhibitor and sorbent properties.

Material for this study was confectionery, namely marshmallow with elamin and stevioside. More precisely, we have developed the pastille with elamine, 12% concentration and stevia (stevioside) 0.6% concentration per 100 g of product. We studied the properties of elamin capable of slowing the diffusion of carbohydrates, namely glucose (the adsorption properties of elamine were determined by the method of periodic dialysis); and the degree of enrichment with iodine (the amount of iodine was determined by inversion-voltammetric method). Also we performed clinical trials of the positive effect of elamin on the human body (the impact of the developed products on the consumer's body was determined by clinical studies conducted on the in the Okhtyrka Central District Hospital). The study involved 150 people, aged from 30 to 50 years, of which 32% men and 68% women, with iodine deficiency, high blood sugar, and grade I goiter. During 90 days the volunteers consumed 50 g of a sugary confection with elamine per day.

It was found that the dynamics of glucose diffusion during $\tau = 60 \times 60$ sec (or one hour translated in SI metric) decreases due to the use of elamin as an inhibitor by 55% in dialysate, which made it possible to put forward a hypothesis that the properties of elamin would reduce the glycemic index of products. The enrichment of food with minerals, in particular iodine, was also confirmed. It is noted that after the production of food with elamine, the degree of preservation of iodine in sugar confectionery is 50 - 60% of its concentration in the polysaccharide. Clinical trials confirmed iodine acceptability and efficiency in prevention of radionuclide incorporation.

The research results substantiated the feasibility of using elamine in the recipe of confectionary products in order to reduce the rate of glucose absorption, enrichment with minerals, in particular iodine.

Key words: *Elamin, Organic iodine, Diffusion of carbohydrates.*