

the most combined vegetable (grain products – wheat bran) and dairy components (cottage cheese enriched with bifidobacteria) will provide safe, the full of value biological food products with functional properties.

Aim. The aim of the work is to develop a technology for the production of a new type of functional product in the form of a cheese enriched with wheat bran and bifidobacteria.

Materials and methods. In this research, we used the following research objects: cow's milk, skim milk, bacterial starter: thermophilic starter «Sour milk cheese» Vivo (Ukraine), and mesophilic starter «Tvorojok cheese» "Genesis Laboratories (Bulgaria). As a vegetable component, wheat bran «Sto pudov» have been added. To enrich the finished product with probiotic microorganisms, lyophilized biomass of bifidobacterium *Bifidobacterium bifidum* strain №1 had been used.

During the experiment, the following research methods were applied: Gram stain; modified Gram's stain – Sineviy. The clarification of the acid-forming activity of the fermentation occurred by increasing the titratable acidity, or from the change in the active acidity, this method is based on the neutralization of acids contained in the product, a solution of sodium hydroxide in the presence of a phenolphthalein indicator. Determination of bifidogenic activity was performed by counting the number of bifidobacteria by dilution and cropping in a dense medium, with the count of the number of colonies grown after 72 hours of cultivation. To determine the quality indices of the finished product, the taste, smell and consistency were organoleptically checked, and the appearance, color, quality of packaging and labeling were visually. All physical and chemical, microbiological parameters, as well as toxic element concentrations were evaluated in accordance with the maximum permissible levels indicated in the tables, in accordance with the requirements of the normative documents.

Results and discussion. As a result of the research, a technology was developed for the production of cheese product enriched with probiotic and wheat bran. It has been established that wheat bran is a natural source of biologically active substances and a promising raw material for the enrichment of dairy products.

The conditions for fermentation of milk with symbiotic composition of thermophilic starter and bifidobacteria were selected. The results obtained indicate that the symbiotic combination – thermophilic starter + bifidobacterium has high biochemical activity and potentially will provide a larger probiotic effect in the finished product than with the use of the symbiotic combination – mesophilic starter + bifidobacteria.

The optimal dose (concentration of bran 1%) and the method of introducing wheat bran into the developed product, the following mechanism – 1) addition to water; 2) holding with 85 °C for 30 minutes; 3) mixing; 4) cooling to 35-37 °C, and 5) mixing with the milk base.

According to the results of the research, the recipe and technological scheme of production of cheese product enriched with probiotic and wheat bran were developed.

Based on the technology, cheese product was enriched with probiotic and bran, and controlled some organoleptic, physical, chemical and microbiological parameters, using the methods given above. The definition of the quality of the developed product showed the compliance of the indicators with the requirements of normative documentation during the entire period of validity (5 days).

Conclusions. Cheese is an indispensable product for infant and dietetic food, contains a complete milk protein, as well as minerals: calcium and phosphorus in the optimal ratio. Therefore, the expansion of the range of cheese products is in demand from consumers.

OROPHARYNGEAL CANDIDIASIS IN CHILDREN

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Introduction. Since the beginning of the 70s, there has been a rapid increase in the fungal infection in the pathology of childhood. At the same time, the incidence of mycotic lesions of the upper respiratory tract, especially oropharyngeal candidiasis, sharply increased. One of the global reasons for the growth of mycoses is considered to be serious environmental changes occurring on the planet in recent decades, contributing to changes in the state of the microecology and immunoreactivity of the

child's body. Along with the deterioration of environmental conditions, a significant role is played: widespread, sometimes unreasonable use of broad-spectrum antibiotics (mainly suppressing gram-negative flora), corticosteroid drugs (for various somatic pathologies), use of cytostatics, radiation therapy, hypovitaminosis, frequent infectious diseases of children, diabetes and other severe endocrine diseases, systemic blood diseases, chronic pathology of the gastrointestinal tract, sensitization weakening of the body due to serious illness, along with impaired immunity and increases the number of patients with human immunodeficiency virus infection.

Aim. To study the features of development, clinic and course of oropharyngeal candidiasis in children in the age aspect; to determine the factors contributing to the occurrence of oropharyngeal candidiasis in children.

Materials and methods. Internet resources and scientific literature.

Results and discussion. The increase in the incidence of mycosis worldwide is associated with the formation of increasingly more virulent pathogen strains. *Candida* yeast fungi are extremely common in nature, and people are constantly in contact with them. An increase in generalized candidiasis in childhood was noted from 1.9% of cases in 1975 to 15.1% in 1995, and along with mucous membranes and skin, the gastrointestinal tract is considered to be an entrance gate for candidemia. In 40–60% of cases, candidi doses remain unrecognized, late diagnosed and improperly treated, which significantly worsens its prognosis. A clear tendency to an increase in the number of candidiasis in childhood indicates a incidence of mycoses in children within 15% of the overall etiological structure of inflammatory diseases. Statistics of recent years shows that in 11.6% of cases, infant mortality is due to undiagnosed generalized candidiasis in life.

Conclusions. In childhood fungal diseases of the upper respiratory tract are detected more often than in adults, and are largely due to early dysbacteriosis, as well as various factors that weaken the reactivity of the child's body. What matters is the high frequency of candidiasis in pregnant women with the possibility of infection of the newborn already at the time of delivery.

The increase in the incidence of candidiasis, infection and superinfection with fungi contribute to the transition of acute processes in the pharynx to chronic ones, the occurrence of relapses and a more severe course of the disease.

Based on the above, it seems relevant and timely to conduct this study to develop issues of diagnosis and treatment tactics for this disease, search for methods of prevention, timely detection and increase the effectiveness of treatment, taking into account the age of the child.

ANALYSIS OF THE EFFECTS OF HYDRODYNAMIC CONDITIONS IN SUBMERGED CULTURING OF RECOMBINANT BACTERIA

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Introduction. Biotechnology development is closely related with the use of recombinant microorganisms carrying foreign DNA responsible for synthesis of a certain metabolite inserted via gene engineering manipulations. Recombinant DNA technology has enabled to create producers for large-scale synthesis of many bioactive substances, as well as to obtain products with improved properties or in higher quantities. There are several requirements to microorganisms used in creation of recombinant strains, which include the absence of pathogenicity and toxicity, as well as possibility of culturing on simple nutrient media. Most frequently, various bacteria of *Bacillus*, *Erwinia*, *Pseudomonas*, *Rhizobium*, and *Escherichia coli* genera, as well as microscopic fungi *Saccharomyces cerevisiae* are used for creation of recombinant microorganisms.

Presence of foreign DNA in recombinant microbial strains increases their sensitivity to culturing conditions. Thus, the necessary ratio between all process conditions has to be found. One of the limiting