methodological complex that directs students to mastering complex technical training information focus of some students to regulate their previously acquired knowledge of agricultural machinery, stimulating them to active learning activities.

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Abstract.*In Article rassmatryvayutsya problems uchebnoho process agricultural high school related razlychnoy hotovnostyu studentov for subject Study* "Selskohozyaystvennыe mashiny s and Using". Predlozhenы deystvennыe WAYS s solutions at the expense of dyfferentsyatsyy approaches for management poznavatelnoy deyatelnostyu students.

Keywords: poznavatelnaya Activities, Perception, Exercises, motive, ponyatyyno lohycheskaya-sector thinking, shaped sphere of thinking, thinking эmotsyonalnaya area, praktycheskye classes

Annotation.*The problems of the educational process of Agrarian university connected with different students' readiness to the study of the subject "Agricultural machines and their utilization" are examined in paper. The effective ways of their solution owing to the differentiation of approaches in the management of cognitive students' activity are proposed.*

Key words: educational activities, perception, exercises, motive, conceptual and logical thinking, creative thinking, emotional perception, practical training

UDC 637.146.34: 638,167

BIOTECHNOLOGY DAIRY DRINKS BEE PRODUCTS

O. O. Snizhko, MA

Abstract. *A method of improving probiotic properties, food and biological value of fermented milk drinks through the use of bee products. Technological stages of preparation, determined their sequence and reasonable step for making apiproduktiv biotechnology dairy drinks. Scientifically substantiated temperature-time regimes biotechnological fermentation system "milk-apiprodukty-LAB». It is established that the use of bee products can accelerate the production of dairy drinks by 13%. The results of the experiment laid the foundation for the development of technical standards for yogurt "Honey."*

Keywords: Biotechnology, yogurt, honey, apiprodukty technological modes

Resolution of problems. Today in the domestic food market demand for "luxury" organic dairy products made from purely natural, without any transformation of raw materials is growing [1, 2]. However, the range of quality safe dairy drinks, which would have aimed effect on the consumer, high consumer properties and prolonged shelf life to consume presented insufficient and needs improvement. Instead, there is a wide range of dairy products with synthetic or modified components. Unnatural fillers, stabilizers, thickeners, food recycling have some advantages, but it does reduce the nutritional and biological value of natural dairy products. In addition, natural raw milk passing mandatory heat treatment, loses important biologically active substances, including vitamin C.

Analysis of recent research showed that the leading scientists in the world today is actively seeking ways to enrich traditional dairy products in short supply nutrients and probiotic cultures, which would have a synergistic effect. The most common use of prebiotic dresser plant origin, including the leading role of crops and their products as sources BAR [3]. Urgent to create synbiotychnyh KMH is the search and introduction of components of plant and animal origin that have both the technological and physiological functionality. [4] A promising biotechnology fermented milk drinks may be using natural bee products (BoP) as a powerful source of essential nutrients [5].

the purpose of the experiment was to develop and explore biotechnology dairy drinks with bee products.

Materials and Methods. Control (C) and D (D) laboratory samples of fermented milk beverages produced in the similar conditions with the same natural ingredients (milk cow, dvs-culture), but differed among themselves The presence of BOP: Honey - 0.5% MM and OB - by 0.2%.

During the experiment used standard, well-known methods and techniques of research.

Results. Research activity in various crops cultivation conditions have shown that in environments with PB may get biomass growth higher than 7.4% of control. Fermentation temperature increase to 2 ° C increase causes acidity in 1 ° T, a similar influence on the content of CFU / ml was observed (Table. 1).

1. Activity crop cultivation under different conditions; n = 3, p≤0,05.

Sample	Titrated acidity, ° T	Time clot formation, hours.	Lg cell number LAB, million / ml
Culturing temperature 38 ° C			
Control	85 ± 1	5,5 ± 0,3	8,7 ± 0,2
Experiment	90 ± 3	5,0 ± 0,1	9,4 ± 0,1
Cultivation temperature of 40 ° C			
Control	86 ± 1	5,4 ± 0,1	8,8 ± 0,1
Experiment	91 ± 1	4,7 ± 0,1	9,5 ± 0,2
Culturing temperature 42 ° C			
Control	88 ± 1	4,8 ± 0,1	8,5 ± 0,1
Experiment	93 ± 2	4,0 ± 0,1	9,3 ± 0,3

Number lactic acid microorganisms grown at a temperature of 38°C was lower than the amount grown at 40 °C 1.0% in the control group and 2.0% - in research. Further raising the temperature of fermentation to 42°C caused, conversely, reduce the number of viable cells in control and in the experiment, on average, by 3.4% in comparison with the samples, the cultivation of which was conducted at 40 °C and 2% compared with the samples that skvashuvaly for 38 °WITH.

The acceleration coagulation causes reduced ability of microorganisms to the biomass accumulation and the number of viable cells reduced both in control and in the experiment. For example, in monitoring the acidity of 85 °T Lg cfu / ml is 8.7, and at pH 88 °T - 8.5, with the formation of a clot at the specified pH is reduced by 13%. Similar dynamics is observed in the experimental samples, but the loss of cell concentration for each 1 °T in their twice lower. It should be noted that it is not necessary to accelerate coagulation by reducing the probiotic properties. Therefore, the recommended fermentation temperatures 38-40°C for 5,0 ± 0,3 hours.

Biotechnology yogurt with bee products consisting of a combination of physical and chemical processes underlying hardware design (Fig. 1). All the operations to prepare PB, which provide heat treatment on biotechnology that was developed for the temperature conditions were not higher than 42 °WITH.

Preparation of thick honey involves melting a thermostat chamber BA - drying in the oven (Fig. 1, Pos. 14) at 40 ± 2°C and humidity of 3 ± 1%, crushing (Fig. 2, Pos. 13) to a particle size of 10-20 microns [6] and

the treatment of bactericidal lamp (Fig. 1, Pos. 16) with a surface dose of 3 ± 1 kGy [7]. Primary MM preparing frozen is thawing in thermostatic chamber at a temperature no higher than 40 ± 2 °WITH.

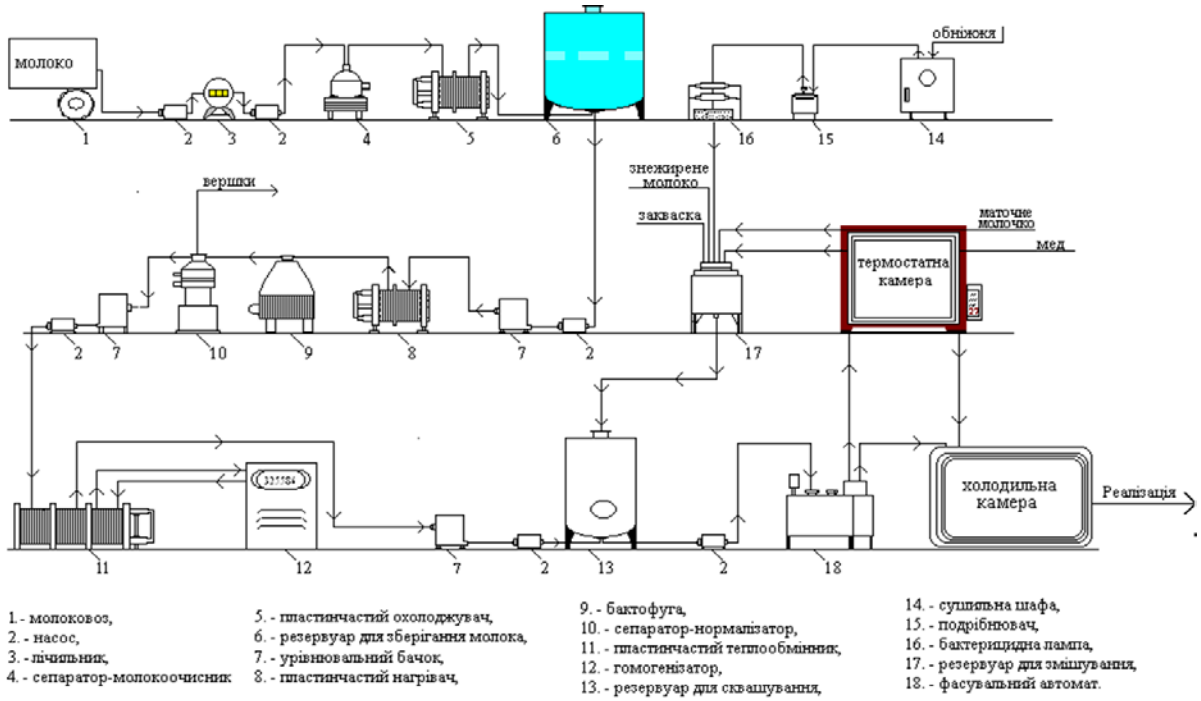

Fig. 1. apparatus- technological scheme of bee products of yogurt.

An important step for biotechnology KMH of PB is to determine the stage (moment) introducing filler into the KMH. In the experiment involved four samples: K - manufactured by traditional technology; D1 - contained PB dissolved in raw milk before pasteurization; D2 - contained PB made together with leaven; D3 - PB made in dairy base. Analysis was performed daily until the control of two prototypes not reach 140°T (Fig. 2).

Titrated acidity sample D3 growing with such intensity that on the third day reached the limits of the maximum allowable norm - 140°T, which is undesirable for storing natural product. Therefore, the way to make PB used to manufacture sample D3, could be considered acceptable (permissible) for proper correction of the warranty period towards a significant reduction of the latter or subject to inhibitors of acidity. Neither option is desirable, this is not provided biotechnology and further work was not used. The nature of the dynamics of the acidity of other samples had a similar pattern D3, but the intensity was significantly lower. The reference sample acquired at the maximum allowable acidity 7 day storage. Sample D1 in this period was 147 acidity °T, perhaps because pasteurized apiproduktiv saccharides, which are metabolic

factor in the growth of lactic acid microorganisms - producers of lactic acid.

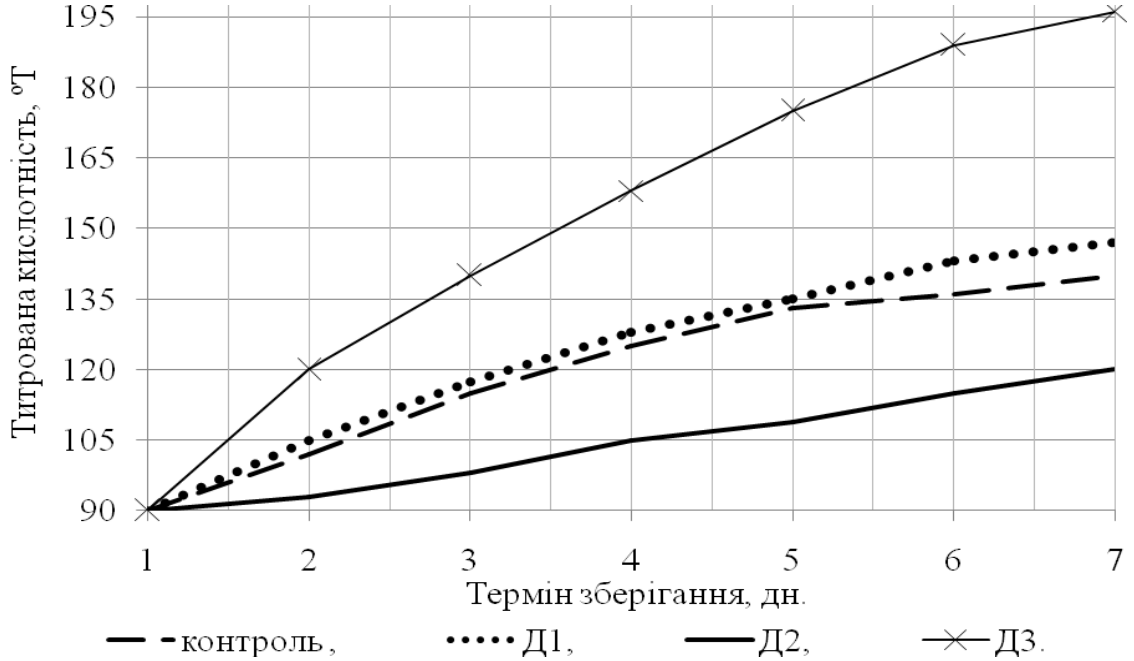

Fig. 2. Change the acidity of fermented milk beverages in different ways making of apiculture products.

The best results were observed in the prototype D2, whose acidity during storage growing smoothly. This is probably due to the specific properties of SDS, which at the same time acting stimulants of growth of lactic acid bacteria in fermentation stages and processes of dairy stabilizers during storage of the finished product.

Prepared PB and starter introduced into pasteurized and cooled to a temperature of 39 ± 2 °With milk m.ch.zh. 0.05%, mix thoroughly for 10-15 minutes. Zakvashuvannya mixture to bring in skimmed milk fermentation tank, where pasteurized and cooled to a temperature of 39 ± 1°With milk m.ch.zh. 4.0%, once again stirred and left alone for fermentation (TANK way) or continuing stirring poured into consumer packaging and steer in the thermostat (thermostat mode). Further process steps are similar to the general principle technological scheme of production of dairy drinks. The results of the experiment laid the foundation for the development of technical standards for yogurt "Honey."

Conclusions

1. experimentally established optimum temperature and time profiles of biotech processes in the production of KMH SDS. In particular, fermentation temperature 39 ± 1 °C, fermentation time 5,0 ± 0,3 hours.

2. It is established that the use of bee products can accelerate the production of dairy drinks by 13%.

3. INyznachyly sequence of process stages of preparation and making of apiculture products for the biotechnology dairy drinks with bee products.

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Abstract.*Method for proposals Increase probyotycheskyh properties, and pyschevoy byolohycheskoy Values kyslomolochnыh napytkov putem use in s production of products pchelovodstva. Razrabotanы Technological эtapы Preparation Boom s sequence and obosnovano Stage vnesenyya pchelovodstva of products in biotechnology kyslomolochnыh napytkov. Scientific obosnovano temperature and fermentation regimes vremennыe byotehnolohychnoy system "milk - apyprodukty - LAB». Established something of products pchelovodstva Using obespechyvaet yntensyfykatsyyu production kyslomolochnыh napytkov. Results polozhenы experiment based development of normative-technical documentation for yogurt "Medovыy."*

Keywords: of Biotechnology, yogurt, honey, apyprodukty, Technological regimes

Annotation.*Method for enhancing probiotic properties, food and biological value through the use of milk beverages in their production of bee products. The technological stages of preparation, their sequence and justified step of introducing bee products in biotechnology fermented*

beverages. Scientifically proven temperature-time regimes biotechnological fermentation of "milk - apiproducts - LAB». It was found that the use of bee products provides an intensification of production of fermented milk beverages. The experimental results are the basis for development of normative and technical documentation for yogurt "Honey".

Key words: biotechnology, yogurt, honey, apiproducts, technological modes

UDC 621.3: 631.53.027.33

DEFINITION OF TIME EXPOSURE disinfecting GRAIN PROCESSING in strong electric fields

S. Usenko, Ph.D.

Abstract.*The results of research on the impact of moisture barley concentration of ozone in the grain mass under the action of strong electric fields and nomohramu designed to determine the time required for the effective dose of disinfecting treatment of barley.*

Keywords: strong electric field, disinfecting processing, grain weight, nomogram dose treatment, ozone

Formulation of the problem. For the purpose of disinfecting grain microflora are chemical, biological and physical methods. At present, grain processing is carried out mainly by chemical means. But at the achievement of positive results,

use of chemicals has a number of negative consequences, including the pollution and pesticides as their accumulation in the soil and in the plant products that pose a threat to human and animal health, the complexity of the performance of work [1]. There are also a number of diseases for which the chemicals can not provide the desired effect. This primarily refers to diseases and Fusarium molds developing during storage. Besides chemical methods can not be used in the processing of food grains parties.

One of the promising areas of the developing world in recent years is the use of strong electric fields for pre-treatment of crop seeds in order to stimulate growth processes and processing grain mass storage with the aim of neutralizing the surface microflora [2].