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

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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].

The department of electric and electrotechnologies National Agriculture University of Ukraine in recent years conducted research on the use of strong electric fields for pre-stimulation of seeds and disinfecting processing grain storage [3-6].

The purpose of research - Development of an effective way of determining the exposure time of the grain mass disinfecting treatment at a strong electric field.

Materials and methods of research. As a result of experimental studies have found effective dose of disinfecting treatment [7], which depends on exposure time and the concentration of ozone. Determining the concentration of ozone in the grain mass can set the time required for an effective dose. In production terms the problem of determining the dose is complicated because measurement of ozone concentration difficult and time-consuming process requiring additional equipment. It was therefore necessary to develop alternative and easy way to determine the dose of grain processing based on the known parameters of the grain mass, such as humidity. Moisture causes the dielectric properties of the grain mass that significantly affect the bit processes it under an electric field of high tension, and therefore the concentration of ozone.

Results. To investigate the influence of humidity on the concentration of ozone used barley varieties "Etiquette" with moisture from within 12.2% to 17.2%. In studies distance between the electrodes was 3 cmHeight 6 cm barley mixture. The voltage on the electrodes was 16 kV. From the analysis of experimental research in Fig. 1 shows that the maximum ozone concentration is achieved with certified Moisture 14-14,5%. This can be explained by the ability of the grain mass to move from the state of the insulator to a conductor, depending on the humidity. So at 12% moisture corn in a state dielectric and the number of ions in interstitial fluid is very small. In this condition the grain mass partial discharges occur infrequently and therefore ozone concentration is quite low. With increasing humidity increases the number of ions in the intercellular fluid grains, which contributes to the formation of the electric field in the air on and under intense passage bit processes. Therefore, there is an increase of ozone concentration to a moisture content of 14.5%. With further increase in the number of ions humidity continues to rise, but after a lot of grain begins to leak current conductivity that prevents the accumulation of charge in the air inclusion. The intensity of the occurrence of partial discharge is reduced. As a result of the studies defined mathematical dependence Co = f (W):

$$K_o = \mathrm{a} + b \cdot W - c \cdot W^2 + d \cdot W^3, \qquad (1)$$

where: a =-52834; b = 9891; c = 600; d = 11,88 - factors for barley grain mass.

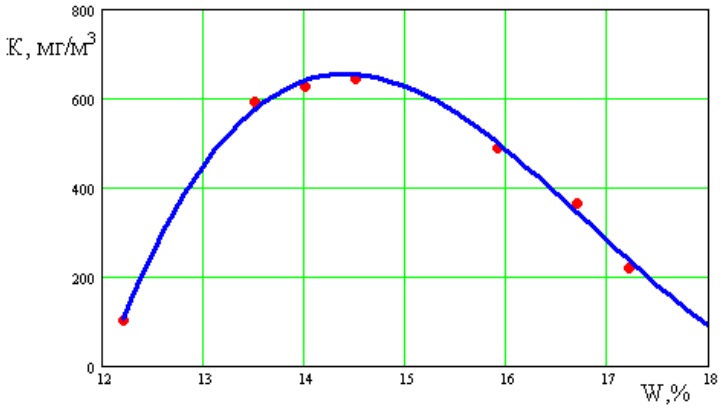

Fig. 1. Dependence of the concentration of ozone in the grain mass depending on its moisture: • - Data obtained on materials research; ▬ - Built on the graph of the empirical formula.

Also for the construction of the nomogram should be established to determine the dependence of exposure time at different concentrations of ozone dose needed to ensure treatment 2940 (mg · m 3) / min, which provides 90% neutralization of harmful microorganisms. [7] The dependence is shown in Fig. 2. Parameters defined for developed installation, the distance between the electrodes 3 cm, dielectric polyethylene plates thickness of 0.5 mm and a voltage to the electrodes 16 kV.

Fig. 2. Dependence of exposure time at different concentrations of ozone dose needed to ensure treatment of 2940 mg m3 / min.

Using the above relation (Fig. 2) and mathematical dependence of ozone concentration in the grain mass at a field strength of 5.3 kV / cm of humidity (1), was built nomohramu that shown in Fig. 3.

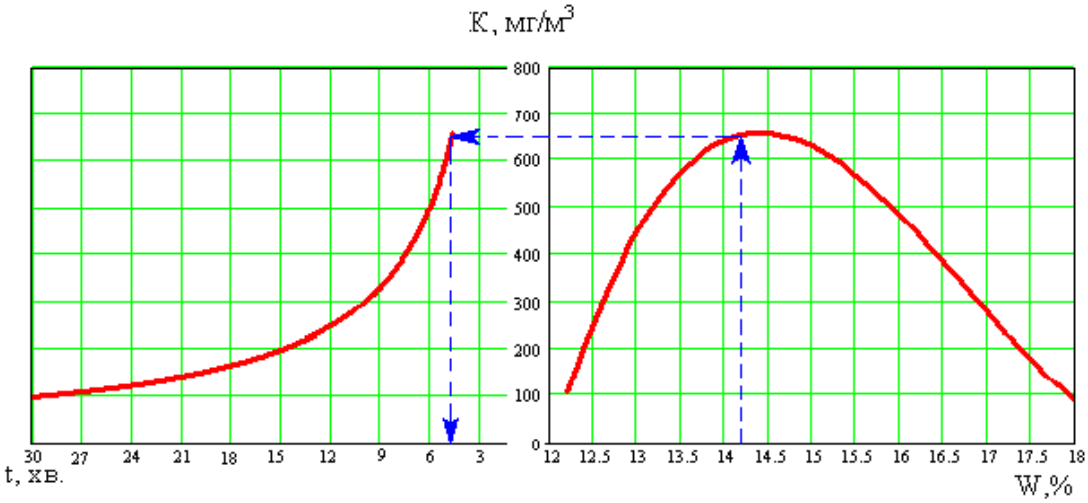

Fig. 3. Nomogram to determine the exposure time of barley in a production environment.

For the given nomogram can determine the time needed to ensure an effective dose of disinfecting treatment of barley grain mass at a certain value of its moisture.

Conclusion. Effective decontamination of grains in the electric field of high tension possible while ensuring the required dose treatment, depending on ozone concentration and exposure time. Measurements of ozone concentration difficult and time-consuming process requiring additional equipment. So nomohramu developed, using which you can determine the exposure that is necessary to ensure the effective dose of disinfecting treatment of barley grain weight (2940 (mg · m 3) / min) subject to the relative humidity of barley.

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Abstract.*Predstavleny results of the study on barley Effect humidity concentrations of ozone in the pod zernovoy Mass action of strong electric fields and razrabotannuyu nomohramu for definitions of time, neobhodymoho to implement the Effective dozy obezzarazhyvayuscheho obrabotku barley.*

Keywords: sylnoe the electrical field obezzarazhyvayuschee obrabotku, zernovaya Massa, nomohramma dose obrabotku, ozone, Exposition obrabotku

Annotation.*Results of the study of the effect of moisture barley in the amount of ozone in the grain mass under the action of strong electric fields and nomohramu designed to determine the time required to ensure effective dose of disinfecting treatment of barley.*

Key words: strong electric field, disinfecting processing, grain weight, nomogram dose treatment, ozone exposure treatment

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SYNTHESIS CAM DRIVE MECHANISM ROLLER MOLDING INSTALLATION WITH COMBINED DYNAMIC DRIVING MODE

VS Loveykin, PhD
KI kidneys, Ph.D.

Abstract.*The design roller molding installation with cam drive mechanism and built the cam profile for the combined dynamic mode reciprocating molding cart.*

Keywords: roller molding installation mode motion cam, drive

Formulation of the problem. In installations roller forming concrete products during their work there are significant dynamic loads in elements of the drive mechanism and the elements forming carts[1-6]. Despite the rather extensive study of the process of forming concrete products bezvibratsiynym roller method [13]So far not been investigated