Section 5. **COMMODITY RESEARCH AND EXPERTISE OF NON-FOOD PRODUCTS**

**MOISTURE CAPACITY AND HYGROSCOPICITY OF NATURAL LEATHERS**

V. Zakharenko, S. Sorokina, G. Krutovoy

The object is merchandising characteristics of food raw material and products; the – improvement of methodology of food products’ examination with porous structure through the increase of settling ability of determination of their capillary and porous structure is the purpose of the research; research methods – standard, physical-chemical, organoleptic and original are used in the work; the results – are theoretically substantiated and developed, the devices for the determination of general and differential porosity of bakery and combined food stuffs are created; theoretical bases of egg-shell permeability are developed; the first differential approach to the estimation of consumer properties during eggs storage is scientifically grounded. An approximating equation of moisture sorption-desorption by food products in all range of relative air moisture, which satisfactorily describes the process of food products’ sorption; the formula for the calculation of sorption warmth of aquatic steam on the surface of porous products is developed, that allows to estimate changes in dispersion of the combined products depending on properties of the additives; the developed methods of research are used for the substantiation and adoption of normative documentation on new products. Novelty lies in the development of methodology and physical methods of food products’ porous structure research; specification of correlative connections of distributing pores differential function on radiuses with food products’ quality; development of the method for the determination of new quality index - coefficient of variation of food products’ filtering pores area, which correlates with their organoleptic indexes and coefficient of egg-shell permeability. It allows to forecast the terms of storage of chicken eggs after taking. The resnets are introduced into food industry enterprises and educational process; the branch of industry - food industry.

**Keywords:** tanning, natural leather, hydrophyllic properties, quality.
AUTOMATED MEASUREMENT OF PORE DISTRIBUTION IN LEATHER PRODUCTS

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The aim of this article is the definition and justification of the main measuring system requirements on the basis of modern computer technologies.

The basic measuring parameter is the change of pressure in the experimental facility in the course of time. The research was carried out by observing the change of pressure measured by a manometer with simultaneous timing. A complete change of pressure in the chamber with the prototype has occurred in a short period of time, so it was impossible to record the value of pressure. This limited the nomenclature of the research samples. To improve the accuracy of the research values determination, the experimental facility was supplemented by a computer measuring system, which could precisely determine the decrease of pressure in time during the research.

The structure of the automatized system for the measurement of pore distribution in leather products is proposed and substantiated. It is experimentally proved that the measurement system allows to record experimental signals, to create the required text file and to exercise further information processing with a standard software. The developed measurement system can be used with a desktop computer and laptop, which extends the scope of its use. Preliminary operation confirmed, the efficiency of the measuring system functioning; the validity of the assumptions and technical solutions regarding the proposed system structure and the processing methods of the received information.

Keywords: differential pore distribution, leather, analog-to-digital converter, mathematical software.

CORROSION RESISTANCE OF ALUMINIUM FOIL IN THE SOLUTIONS OF SURFACE-ACTIVE SUBSTANCES

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Application of surface-active substances in food technologies requires the need for corrosion testing of aluminum foil in aqueous solutions of industrial SAS. The purpose of the work is to determine the corrosion resistance of aluminum foil in alkaline aqueous solutions of the surface-active substances.
The corrosion resistance of the foil samples was evaluated by the gravimetric and electrochemical methods. The foil samples were kept in aqueous solutions SAS for 48 hours at a temperature of 298K. During the test the samples of the foil were in an electrical contact with the steel plates. The corrosion rate of the foil was determined by the change in mass of the samples during the corrosion per unit of surface and time of the researches.

It is also found that the solutions of the nonionic SAS, such as "Syntamid-5" and "Dytalan E", show no appreciable corrosive action on the aluminum foil. After the tests the shiny foil surface remained intact in their solutions and had no visible signs of corrosion. According to the scale of the corrosion resistance of metals, the foil in such an environment is "very stable", the deep corrosion rate reached 0.010...0.013 mm/year.

**Keywords:** corrosive tests, aluminum foil, surface-active substances, corrosion rate.

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**ENRICHMENT OF SOFT SOAP WITH TOCOPHEROL AND EXFOLIATE PARTICLES**

**O. Domanova, T. Vanchina**

Nowadays the market of toiletries in Ukraine is one of the biggest according to the volume of sales. However, its assortment needs correction because soft soap unlike hard one has no specialization for consumers. For this reason we have examined customers’ needs and elaborated an experimental sample of soft soap designed for mature skin and containing scrub of apricot kernel, tocopherol and essential oil of apricot kernel. Small parts of scrub remove from the skin old and cork cells. After pilling skin becomes smooth and soft. Its blood supply improves that makes wrinkles and pigmented spots less visible. Tocopherol (vitamin E) contributes to quick regeneration and repair of cells which is essential given the fact that scrub is used daily. Besides, tocopherol slows down aging processes, protects skin from ultraviolet exposure. It is also indispensable for dry skin because it maintains water-lipid balance, abirritates and eliminates skin peeling. Essential oil of apricot kernel has been added to the structure of the soft soap in order to improve organoleptic indicators and meeting aesthetic needs of the consumers. It has anti-inflammatory, tonic and rejuvenating effect. Apricot (apricot-kernel) oil has distinctively low acid content and moderate stringiness which facilitates penetration into skin. In cosmetics apricot oil can be applied for care of skin of any type.

**Keywords:** soft soap, scrub, apricot kernels, tocopherol, essential oil, assortment.