



8th Central European Congress on Food

Food Science for Well-being

23-26 May 2016, Kyiv, Ukraine



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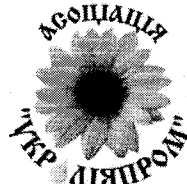
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BOOK OF ABSTRACTS

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НАЦІОНАЛЬНА АСОЦІАЦІЯ
ВИРОБНИКІВ ДИТЯЧОГО ХАРЧУВАННЯ,
МОЛОЧНОКОНСЕРВНОЇ ТА СОКОВОЇ ПРОДУКЦІЇ
"УКРКОНСЕРВМОЛОКО"



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Collection of abstracts by leading scientists, specialists and young researchers in the field of food science, technology, chemistry, economics and management presented to the Congress

The congress addressed the following topics:

FOOD EXPERTISE, SAFETY AND TECHNOLOGIES

- **Food Expertise and Safety**
- **Food Technologies**

ENERGY SYSTEMS FOR FOOD CHAIN

- **Energy Efficiency**
- **Machine Building for Food Chain**
- **Intelligent Control Systems**

NATURAL BIOACTIVE COMPOUNDS, FUNCTIONAL AND NATURAL FOOD PRODUCTS, PACKING, STORING AND PROCESSING

- **Natural Bioactive Compounds, Functional and Local Food Products**
- **Packaging, Storing and Processing**
- **Food Processing**

MODERN CHALLENGES AND COMPETITIVENESS

YOUNG FOOD SCIENTISTS — OUR HORIZON

Recommended for teaching staff, engineering and technological personnel, managers of food industry

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Viktoriia DOROHOVYCH, Dariia POPOVA ENRICHMENT OF PROTRACTED COOKIES OF DIETARY FIBRE AND PROTEIN COMPONENTS	35
Elena KOVALENKO, Vladimir KOVBASA, Bohdan HREBEN, Vladislav NAHORNIY, Tatiana KUPRIYANOVA DETERMINATION OF THE BLANCHING DURATION OF POTATO CHIPS WHILE PRODUCTION	35
Tamara NOSENKO, Irina LEVCHUK MICROWAVE PRETREATMENT IN OIL SEED PROCESSING	36
Natalia PASHOVA, Galina VOLOSHCHUK, Tatjana GOLIKOVA TECHNOLOGY OF RYE BREAD WITH TOPINAMBUR POWDER	36
Igor GAPONYUK INFLUENCE OF TEMPERATURE AND MOISTURE GRADIENT IN INTERPHASE MOISTURE	37
Volodymyr NOSENKO, Svitlana LITVYNCHUK, Viktoriya DOROHOVYCH, Irina TARASENKO IMPROVING TECHNOLOGICAL PROCESSES OF WAFFLES PRODUCTION USING PHYSICAL METHODS	37
Nataliya OVERCHUK, Tetyana ZHARUK, Yuliy KAMBULOVA REDUCED INTAKE OF FRUIT AND BERRY MARMALADE	38
Anatoliy UKRAINET, Vasyl PASICHNIY, Andriy MARYNIN, Oleg KHRAPACHOV POSSIBILITIES TO STABILIZE THE SHELF LIFE OF MEAT AND MEAT-CONTAINING PRODUCTS	38
Vera DROBOT, Anastasiia SHEVCHENKO, Yuliia BONDARENKO ENRICHING OF BREAD FOR PATIENTS WITH DIABETES BY MINERAL SUBSTANCES	39
Yuliya GLADKA, Olena SHCHETININA, Olena SYDORENKO, Olena KHARKIANEN SCIENTIFIC PRINCIPLES AND PRACTICAL PREREQUISITES OF BIOLOGICALLY VALUABLE FOOD FROM AQUATIC ORGANISMS	39
Yakov VERKHIVKER, Ella ALTMAN, Alexander BESSARAB POWER OF TECHNOLOGICAL FUNCTIONING OF PRODUCTIONS OF THE FOOD INDUSTRY	40
Igor SHCHUTSKIY, Oleg GALUZYSKIY FOOD-GRADE ALCOHOL PRODUCTION TECHNOLOGY WITH THE USE OF DEWATERING UNIT	40

Section 2. ENERGY SYSTEMS FOR FOOD CHAIN

Subsection 2A Energy Efficiency

Oleksij PYLYPENKO, Iaroslav ZASIADKO, Roman GRYSHCHENKO, Andriy FORSIUK EXPERIMENTAL AND THEORETICAL STUDY OF ICE FORMATION ON VERTICAL COOLED PIPES	41
Maxim MASLIKOV EVALUATION OF ENERGY SAVING POTENTIAL IN FOOD INDUSTRY OF UKRAINE	41
Liudmyla HAPONYCH, Igor VOLCHYN THE ENGINEERING METHOD FOR CALCULATING OF THE FLUE GASES' PARAMETERS OF COAL-FIRED TPPS AND CHPs BASED ON SOLID FUEL CHARACTERISTICS	42
Iuliia KUIEVDA, Sergey BALUTA, Valeriy KUEVDA AN ASYNCHRONOUS DAMPING DEVICE FOR DECREASING SHAFT SWINGS OF POWERFUL TURBINE-GENERATORS	42
Yaroslav ZASIADKO, Mykola PRYADKO, Pavlo ZASYADKO 3-D MODELING OF BIOMASS AND NATURAL GAS CO-FIRING	43
Oleksiy DAN'KO, Volodymyr SHESTERENKO IMPROVEMENT THE EFFICIENCY OF POWER SUPPLY SYSTEM FOR FOOD INDUSTRY ENTERPRISES	43
Volodymyr SHESTERENKO, Igor IZVOLENSKIY TWO-LEVEL SYSTEM CONTROL SOURCES OF REACTIVE POWER AT FOOD PRODUCTION ENTERPRISES	44
Lyudmila KOPYLOVA, Sergey BALUTA, Yuri CHORNYI TWO-TIER SYSTEM OF AUTOMATIC VOLTAGE REGULATION SYSTEM IN THE ELECTRICITY INDUSTRY	44
Yuri CHORNYI, Volodymyr SHESTERENKO ANALYSIS SYSTEMS OF REGULATION SOURCES OF REACTIVE POWER IN FOOD PRODUCTION	45
Roman GRYSHCHENKO, Andriy FORSIUK, Oleksiy PYLYPENKO 3D SIMULATION OF WATER COOLING	45
Mykhailo KHMELNIUK, Alexei OSTAPENKO, Olga YAKOVLEVA EFFICIENCY EVALUATION OF GEOTHERMAL HEAT PUMP SYSTEM ON LOW GWP REFRIGERANTS	46
Mykhailo KHMELNIUK, Iegor BUTOVSKIY, Vladimir KOGUT ANALYSIS OF EJECTOR COOLING FLOW	46
Vladimir KOGUT, Vladimir BUSHMANOV, Iegor BUTOVSKIY, Mykhailo KHMELNIUK DEVELOPMENT OF EJECTION FILTER FOR CONDENSATION OF CANCEROGENES FROM SMOKE GASES	47

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DEVELOPMENT OF EJECTION FILTER FOR CONDENSATION OF CARCEROGENES FROM SMOKE GASES

Development of the industry, and an increase in companies using boilers in the production processes the impact on the environment is growing rapidly. The problem of creating more efficient flue gas cleaning techniques is becoming increasingly important.

The greatest amount of harmful emissions into the atmosphere occurs at boiler ignition and during its transient modes. The composition of flue gas depends on the type of fuel or combustion modes; it may include thousands of different compounds.

Ignition of the boiler requires significant costs of time. During the ignition process increases the quantity of harmful emissions into the flue gases. Incomplete burning of fuel results on creation of a group of harmful substances called carcinogens. There are several hundred types of carcinogens, of which only a few dozen sufficiently investigated.

Flue gas composition can be easily predicted when high quality coal is used as a fuel in boilers. However, in Ukraine, it is planned to use mixtures of various quality grades of coal and fuel oil with other liquid fuels. In this case calculating the flue gas composition becomes problematic. Known methods are not suitable for treatment of carcinogenic tar.

Flue gases heading via line fall within the plenum, where they are accelerated and directed to the ejector. After subsequent acceleration in ejector filter confusor flue gases flow through the device for feeding liquid refrigerant from the storage tank liquid refrigerant is injected through a fine nozzle. The mixing and clashing streams of particles leads to a drastic reduction in the flue gases and their condensation temperature. After passing through the filter of the ejector diffuser flow enters the pipe, the flow velocity is reduced. Streams are separated in the receiver by changing the direction of flow. Condensed harmful fractions fall into the flue gas condensate collector and sent to the consumer. This method can be very useful in the currently existing conditions. And to ensure a significant reduction in air pollution pool areas close to industrial facilities using boilers.

KEY WORDS: *ejection filter, condensation, flue gases*