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8th Central European Congress on Food

Food Science for Well-being

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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 NATIONAL FOOD PRODUCTS, PACKING, STORING AND PROCESSING
- **Natural Bioactive Compounds, Functional and Local Food Products**
- **Packaging, Storing and Processing**
- **Food Processing**

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Section 2. ENERGY SYSTEMS FOR FOOD CHAIN

Subsection 2A
Energy Efficiency

Inna PYLYPENKO[1], Evgenii KOTLIAR[2], Liudmyla PYLYPENKO[1],
Elena SEVASTYANOVA[1], Anna YAMBORKO[3]
l.pylypenko@mail.ru
[1]*Odessa National Academy of Food, Odessa*
[2]*National University of Food Technologies, Kyiv*
[3]*Odessal. I. Mechnikov National University, Odessa*
UKRAINE

EPIPHYTIC AND REGULATED MICROBIAL CONTAMINANTS OF EDIBLE RAW MATERIAL AND PRODUCTS

Group composition of epiphytic microorganisms, which contaminates widespread types of fruits, vegetables, berries on mesophilic aerobic and optionally-anaerobic microorganisms, mushrooms, yeasts, coliforms (BGEC)indices were studied. The considerable contamination of raw material from Odessa and Poltava regions by mesophylic bacilli, from $1{,}8 \cdot 10^2$ to $7{,}6 \cdot 10^8$ CFU/g was stated. It was shown that basic isolated morphotypes of bacilli can be ascribed to *subtilis-licheniformis* group.

It was found, that fruits of different varieties grown in the same conditions and harvest at the same time, differ in the predominant species of fungi. For example, on the surface of Antonovka apples average is: fungi of the genera *Alternaria* — 80%, *Mucor* — 10%, *Fusarium* — 8%, of other species — 20%, whereas the apple varieties Rennet Symyrenko fungi *Penicillium* predominate (57%), *Aspergillus* (23%) and other types of on average 20%. The concentration of patulin depending on the degree of spoilage of garden-stuffs was determined by priority method which we have developed.

Among the isolated bacteria from plant raw materials there have been found causative agents of food poisoning — *B. cereus* and others. *B. cereus* is found in 6.2% of the investigated samples of fruit, 33% of the samples of carrots, parsley 21% of the samples, 9.5% of samples of canned foods.

The influence of technological operations on microbial contaminants of vegetable raw materials in the process of recycling was studied.

The high thermal resistance of microorganisms-group *subtilis- licheniformis*, which makes their presence in canned products may be the cause of deterioration of the organoleptic properties of the products and cause toxic effects on the body.

KEY WORDS: *microbial contaminants, food products safety*