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UkrUFoST»

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THE FORMATION OF CARCINOGENIC COMPOUNDS IN PRODUCTION OF FOODSTUFFS
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The extraordinary problem of production of quality foodstuffs is that they have various harmful substances, heavy metals and radionuclides. As a rule, the harmful impurities in small concentrations remain out of attention. The most dangerous things for human health are cancerogenic substances which contained in negligible concentrations in foodstuffs and cause malignant formations in organism. Their content in products can be identified by only a few laboratories in Ukraine. One of the most dangerous carcinogen is N - nitrozodimethylamin which is formed during formation amine groups under the influence of temperature.

Nitrates are normal products of metabolism of nitrogenous substances for any plant and animal organism, so there are not any products «without nitrates» in nature. The acceptable daily dose of nitrates for an adult is 325 mg per day. Maximum allowable concentrations of nitrates are defined for vegetables and fruits.

Nitrosamines are formed during production of many foodstuffs. Thus, they are contained in a large number in different beverages (juice, beer and Scottish whiskey), foodstuffs (dairy products, smoked products, pates, fruit and fruit and vegetable puree), cosmetics, cigarettes. They are mainly formed during thermal processing of foodstuffs - extraction, concentration, drying, etc.

Nitrate content in canned products of plant origin is, mg/kg: vegetable juice – no more than 70...340, vegetable puree – to 160, canned vegetables – 50, fruit and vegetables canned 200. Maximum allowable concentrations of nitrates in dry dairy mixtures is 30 mg/kg in most European countries.

The concentration of N-nitrozodimethylaminu in most sorts of beer is 40...70 µg/kg, the main part is accumulated during production of malt (N content - nitrozodimethylaminu in brewery malt is 300 µg/kg). The average N content - nitrozodimethylaminu in most varieties of cheese is 0,9 µg/kg, but in some areas it reaches to 9,1 µg/kg.

KEY WORDS: food, nitrosamines, carcinogens
