

## THE NEW DIRECTION OF CREATION OF THE STUFFED DISHES FOR FOOD OF MILITARY PERSONNEL

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The need of every person in different foodstuffs depends on a number of factors: physical activities, environment conditions, sex, age, physical development and others, which is especially important for the consideration of normalizing nutrition of the military personnel, different contingents in their everyday life and, especially, during combat missions when body burden increases. Essential influence on the ability to perform combat missions by the division has an initial value of energy accumulated in an organism of each soldier and security of the division with food for its replenishment. It gives the grounds to studying, researching and structuring definition of food rations for the military personnel.

The main orientation in the improvement of military nutrition consists of the development and optimization of food rations. The daily energy expenditure and the correlation of main foodstuffs in a ration are important for food rations composition. Daily energy expenditure can change depending on a season and the performed combat missions. According to the formula of the balanced nutrition and quantity of energy expenses it is possible to distinguish the following groups, where  $k_b$  – a share of proteins,  $k_g$  – a share of fats,  $k_u$  [1]:

$E = 4500 \dots 5000 \text{ kcal: } k_b/k_g/k_u = 0,13/0,29/0,58;$

$E = 5500 \dots 6500 \text{ kcal: } k_b/k_g/k_u = 0,12/0,28/0,60;$

$E = 6500 \dots 8000 \text{ kcal } k_b/k_g/k_u = 0,11/0,27/0,62.$

It should be noted that a perspective task is the development of specialized food items for military personnel which will allow to combine easily the structure of food rations depending on the performed combat operations. Perspective products for the development in this direction are the stuffed products (pies, pancakes, cheesecakes, etc.).

The prospect of using stuffed products is that with the fixed nutritional value of the shell depending on the stuffing ingredients and their proportion we can create products with the desired nutritional value.

We developed technology of semi-finished pancakes with the optimized amino-acid composition which can be successfully used in the production of the stuffed products [2]. Protein content in the developed

semi-finished products exceeds the content of the traditional semi-finished pancake for 10,88% and the coefficient of amino-acid utility is 0,92. The semi-finished product is rich in macro- and micro-nutrients, the content of ashes is 98,66% more than in a traditional semi-finished product. A protein concentrate of sea mollusks «Rapamid» received by means of hydrolysis was used as a dietary additive. This preparation contains more than 22 natural antioxidants, more than thirty biogenic macro- and micronutrients, more than 20 amino acids (including all irreplaceable), essential polyunsaturated fatty acids, taurine, simple peptides, different complexes of vitamins.

Use of ultra-filtering derivatives of lactic primary products is planned as one of the combined forcemeats protein ingredients. Development of a number of forcemeat mass recipes which, in a combination with the developed dough cover, will be optimized by the correlation of the main feedstuffs in the rations of military personnel with different energy consumption depending on the carried out combat operations is conducted.

#### **Literature**

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2. Deinychenko, L.G., Peresichny, M.I., Kramarenko, D.P., Deinychenko, G.V. (2015), The method of manufacturing of semi-finished pancake, Ukraine, Pat. 96313.