OPTIMISATION OF ENERGY CONSUMPTION OF MANUAL LABOR IN LIVESTOCK

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Among measures to further improve the economic efficiency of livestock production occupy an important place on improving the organization manual labor staff. In most cases, the basic criterion for assessing the living and labor is essential time. However, it does not take into account such important properties as gravity work, labor intensity, monotony of work and so on. At the same time, any type of work related to the costs of physical and mental energy, and psyhychnym and emotional stress.

The purpose of research - development model for calculating the energy consumption of machine and manual process in animal husbandry.

Materials and methods of research. Energy consumption rights pursuant to productive works experimentally determined by indirect calorimetry (gas exchange). According to GOST 12.2.049-80 regulatory body for energy shift should not exceed 1046.7 kJ / h (250 kcal / h). Lack of consideration when designing machinery components associated with it, especially the man, the subject of labor and energy, is the discrepancy between the normative and actual values of performance indicators established components, which leads to changes in its technological level, quality and cost-effectiveness, and the cause of some cases of industrial injuries and occupational diseases.

Results. The importance of energy systems engineering approach is that only through energy transformation are possible and material transformation that is the essence of any process. As energy transformations involved all components of the process, in this energy manifested their unity. Qualitatively new stage in the development of productive forces associated with the replacement of manual labor to machine tools and transfer machines of the energy functions.

It is known that the interaction of the elements of the process changes the subject of work by the characteristics of which form the basis of separation process

for production operations, and those in turn to technological transitions (end of technological operations). From the energy point of greatest interest are technological transitions and manufacturing operations.

Optimization of energy consumption in the "man-machine" starts with determining the minimum energy required for processing items of work transitions technological operation called useful energy. Its value consists of a minimum of energy and energy losses in the processing zone. Based on the maximum permissible level of human and energy required for production unit energy consumption of man, we can calculate the marginal artificial performance.

Conclution

Based on the proposed model has develop an algorithm for calculating the energy performance of the process of distribution of milk replacer implemented on a computer. Analysis of the results shows that the specific energy using installations KPG-10 up 21.84 kJ / head, which is 22.6% less than using the installation UVT-20, thus increasing the burden on the operator of the 120 to 180 heads. Complete energy operator with up 912.1 kJ / hr., Which is less than the maximum allowable energy.