

## **EFFECT OF DEVIATION IN POWER QUALITY INDICATORS ON TECHNOLOGICAL COMPONENT LOSSES IN LIVESTOCK**

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The main electrified process in the production of livestock and poultry are: preparation and distribution of feed; cleaning manure; creation of appropriate microclimate, including ventilation and lighting, milking and primary processing of milk, egg collection, incubation eggs and more.

The greatest difficulty is the loss calculation of the consumer, as in this case must take into account the technological features of production. The loss of consumer consists of two parts: the electrical and technological component. Electrical component based on job descriptions and performance of the system is measurable. Indicators technological component dependencies installed approximation based on empirical data.

**The purpose of research** - to develop methods for determining the technological component damage rejecting power quality parameters in animal husbandry.

**Materials and methods of research.** The total value of the loss of rural consumers 96 - 100% is a loss of production and loss of less than 4% - labor costs in the performance of manufacturing operations manual. Therefore, the most important is to determine the damage from loss of production.

Features thoroughly calculate the losses of agricultural consumers of voltage deviations considered in S. Kucer. The damage that occurs in livestock complexes at a voltage different from the nominal regarded as a direct and amounts of additional damage. The direct component is the amount of losses from cost overruns of active and reactive power, and the damage associated with a reduction in the life of electrical installations. Additional component is expressed through reduced productivity and the loss of animal products due to changes in the performance of certain production lines and plants.

The research results of S. Kucer reflected in the guidelines VIESH where given technological parameters depending on the specifications of electrical installations. This information allows you to change depending on technological parameters when voltage deviations.

These recommendations VIESH models designed for electrical installations and that produced in the 70's of last century and now almost does not apply. They are defined only for large livestock and poultry farms and complexes. Conducted research only damage from exposure to voltage fluctuation. In addition, some are not, depending adequately reflect the real processes occurring in electric drives of agricultural machinery. Therefore there is a need to develop new methods for determining the loss of technological deviations of power quality.

The technological component in livestock losses due to power electric power low quality, includes losses:

- From lost productivity of working machines;
- From reduced productivity of livestock and poultry;
- From disease, death of livestock and poultry and their premature rejection;
- Because of the damage to the finished product;
- As a result of reduced yield quality.

**Results.** The technological component damage rejecting power quality parameters contains two components: reduced productivity of animals and feed from overspending.

Both components are determined by technological component damage largest shortfall of production, changes in the coefficient of preservation and change the cost of feed animals.

In determining the technological component damage need to know specific production process analytical expression dependencies productivity of animals or crops yield indices of power quality. To this end, the SP VIESH Kucher were analyzed and summarized the results of biological research, and obtained averaged curves that characterize the change zootechnical performance production on external factors

The main factor affecting the performance of young animals, birds have a microclimate in the premises.

Analytical dependence that bind change with changes in animal productivity performance working machine with deviations of power quality. This made it possible to get changes depending on the performance of farm animals rejecting voltage installations in artificial microclimate and consumption of feed.

### **Conclusions**

Found that when a voltage reduction of 20% on the terminals of electric weight gain of pigs decreased by 5.8% calves - by 2.1%, milk yield of cows - by 0.5% with increasing feed intake calves by 4.8% and pigs - 13.4%. When the voltage of technological losses smaller than at its depression. The current frequency deviation of current network technology does not cause significant damage (they do not exceed 0.2%).