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CREATION OF A COMFORTABLE MICROCLIMATE IN THE PREMISES OF THE POULTRY FARM

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В роботі представлено рішення, щодо покращення якості продукції та підвищення продуктивності комплексів птахівництва. Позитивний результат досягається завдяки застосуванню адаптивної, фізіологічно ефективної опромінювальної установки. Визначено конструкцію світлового приладу зі світлодіодними джерелами повно-спектрального складу випромінення для пташників з клітковим утриманням птиці.

Light is a very important factor for ensuring the life of a bird, as it affects its growth, development and productivity. The spectrum of light, illumination and length of daylight are also important for poultry farming. Electricity costs for lighting account for up to half of all costs in poultry houses, so saving electricity is very important for reducing the costs of poultry products. As the cost of electricity increases every year, it is necessary to find the optimal balance between all components of lighting programs for growing and keeping poultry in order to minimize lighting costs. When keeping a large flock in a small area, it is important to smoothly turn on and off the light sources to avoid injury to the birds [1-3].

Traditional lighting systems for poultry houses are made in the form of closed lamps with incandescent lamps of 60-100 W.

In this connection, there are scientific and practical tasks for the development of technical means for lighting systems based on modern LEDs for use in poultry houses. The development of technical means for the lighting system of poultry premises will require scientific substantiation of the structural and technological parameters of the lamps, the power system, as well as the system and control. Modern software packages allow you to calculate the indicators of the light environment with a high level of accuracy using any light source and light device. Multivariate lighting calculations in poultry life support systems were performed in the DIALUX software environment and their comparative analysis was performed. As a result, it was established that the use of this lighting system reduces electricity consumption for lighting by 2 times compared to a system based on fluorescent lamps.

Production tests have shown that the power consumption of this lighting system is 0.62 W/m2 for the illumination of floor-mounted poultry houses, and for a 96x18 m poultry house, taking into account the efficiency of the transmission converter, the power consumption is 1064 W. The use of an energy-saving lighting system increased the egg production of the bird by 4.2%.

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