In summary, it should be noted that Ukraine is on the way to establishing an organic waste management system that would comply with EU standards and principles. Although certain aspects, such as the waste management hierarchy and extended producer responsibility, are already reflected in legislation, their full implementation still requires the creation of appropriate infrastructure, control and coordination mechanisms, and institutional support.

Thus, the European Union has a systematic, regulatory and institutionally coordinated policy in the field of organic waste management. Ukraine has demonstrated progress towards harmonisation, but lags behind in the practical implementation of the declared principles. The most pressing tasks remain infrastructure modernisation, legislative unification and the implementation of EU standards in the field of organic waste management.

List of sources used:

1. Elrabay'a, D., Marchenko, V. (2021). The Legal Support of Organizational and Economic Processes of Municipal Waste Management in the European Union and Ukraine. *Economics & Law.* https://doi.org/10.15407/econlaw.2021.03.074

2. Gómez Palacio, J.M., Ruiz de Apodac, A., Rebollo, C., & Azcárate, J. (2002). European Policy on Biodegradable Waste: A Management Perspective. *Water Science and Technology.* https://doi.org/10.2166/WST.2002.0362

3. Honcharuk, I. (2023). European Regulatory Practices and Handling of Digestate in the Context of Agro-Ecological Transition of EU Countries within the European Green Deal. https://doi.org/10.37128/2411-4413-2023-3-10

4. Melnyk, O., Scliar, V., Sabadash, S., & Butova, V. (2021). EU Municipal Organic Wastes Management and Its Implementation Prospects in Ukraine. https://doi.org/10.2478/rtuect-2021-0014

5. Shapovalov, Y. B., Shapovalov, V., Salavor, A., & Yakymeko, I. (2018). Comparison of EU and Ukraine Regulatory Framework for Biogas Production. *Scientific Works National University of Food Technologies.* https://doi.org/10.24263/2225-2924-2018-24-5-9

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ANALYSIS OF MEANS FOR CREATING A MICROCLIMATE IN THE BARN

Considerable attention is paid to the issue of microclimate. The optimal microclimate in the barn ensures the health of the animals, the maximum feed conversion, and therefore productivity. Extreme temperatures and humidity have a

negative impact on the animals, as well as on the staff and the building itself. Therefore, the study of means to create a microclimate is extremely important.

It should be noted that the ventilation system of barns is important to ensure comfortable conditions for keeping animals, which directly affects their health, productivity and overall well-being. Poor air circulation causes moisture to build up indoors, which can lead to the development of mold, fungi, and other pathogens. This, in turn, negatively affects the health of cows. Lack of proper ventilation In the summer, it can lead to overheating, which will cause heat stress in animals. In winter, an insufficient supply of fresh air can cause the accumulation of harmful gases such as ammonia and carbon dioxide. High concentrations of these substances harm the respiratory system, irritate the mucous membranes and reduce the overall immunity of cattle. Poor ventilation conditions have a negative effect on appetite and overall comfort, which results in a decrease in milk yield and worsens product quality. Also, the accumulation of harmful gases and dust is dangerous for people working in barns. It can cause allergies, respiratory illnesses, and other health problems [1-2].

Devices that use evaporation to cool the air, they consume 75% less electricity than air conditioners.

To investigate and analyze the significance of ventilation systems and their impact on the productivity of cows.

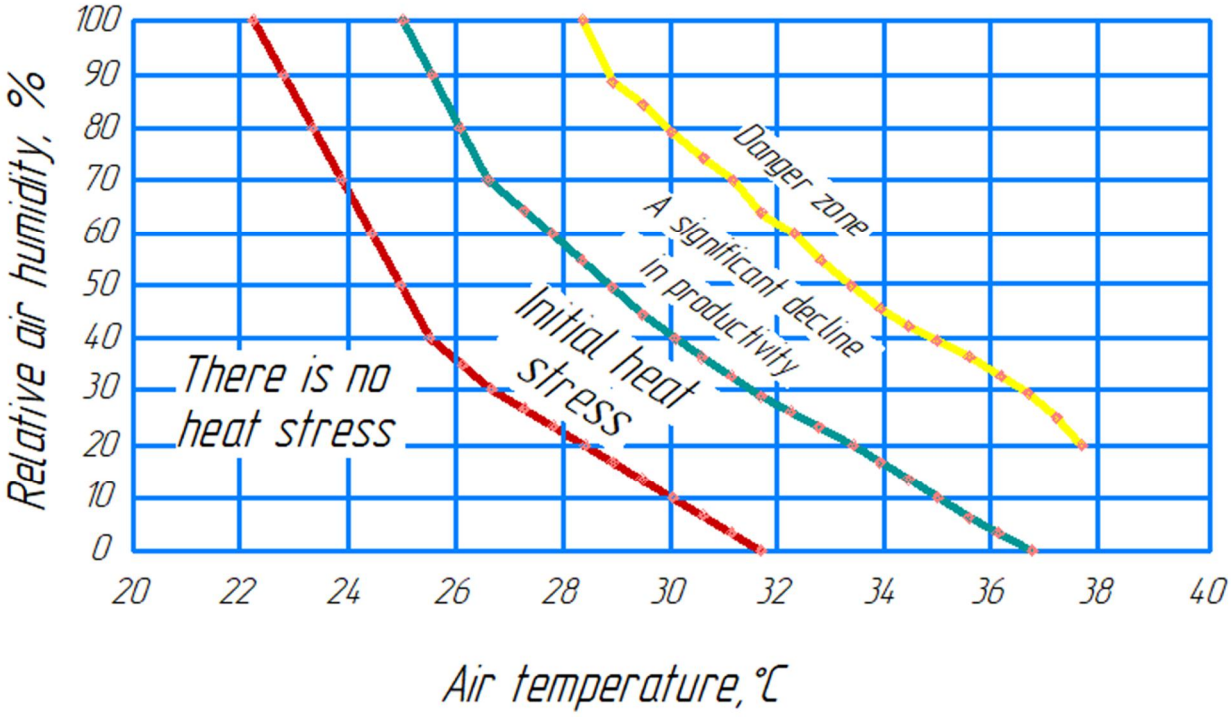
The microclimate in the barn depends on a number of factors, including:

- air temperature in the room (optimal from + 4 to + 150C);
- air humidity (it should be in the range of 50 - 75%);
- air velocity (to prevent drafts in winter, the speed should not exceed 0.2 m/s);
- concentrations of harmful gases; it increases at the same time as the temperature;
- lighting (for dairy cows - at least 120 lux, for calves - 80 lux);
- Dust.

One of the main ways to prevent heat stress is to install a ventilation system.

Air temperature and humidity are interrelated (see figure). Humidity is also decisive, because temperature does not always decide the comfort of the animal. If the humidity is low, animals tolerate the heat more easily. The optimum temperature for a dairy cow ranges from +5 to +15°C. Heat stress in highly productive cows is observed at temperatures above +23°C and 60% humidity.

One of the main ways to prevent heat stress is to build solutions to the construction of the barn room, especially in the case of renovating old premises according to standard projects that have 30-50 years of operation. Therefore, it is necessary to make the most of construction solutions. With the use of modern building materials, which in the hot period will not allow excessive heating of the interior space of the premises.



Rice. - The effect of heat stress on cows depending on temperature and humidity.

The temperature throughout the house has significant fluctuations. So at night it can drop to +14 °C, and during the day it can reach almost +40 °C. Such temperature changes have a negative effect on animals. The roof of the barn. It is through the roof of the building that it heats up the most and at the same time loses heat. Therefore, roof insulation is of great importance. During construction, sandwich profiles are immediately installed or additional insulation (for example, insulation spraying) is used.

Natural ventilation. In many Ukrainian farms, the windows in the cowsheds are closed or covered with film. It is recommended to make the most of natural ventilation. It is necessary to make the side walls of the barn as open as possible (the height to the roof is 4.20 - 5.00 m, the length of the roof is one third of the height of the wall). One of the important points when designing a barn is its placement taking into account the wind rose. The north-south direction is optimal.

The presence of natural light in the barns not only saves energy, but also has a beneficial effect on cows. For this purpose, a light ridge is installed. It is used to provide natural ventilation (opening - 2 cm per one running meter of barn width; for example, 46 cm with a barn width of 23 cm).

Mechanical ventilation. The main task of mechanical ventilation is to increase the speed of air movement around the animal's body in order to provide a cooling effect. An increase in air velocity from 0.90 to 1.35 m/s is equivalent to a decrease in the temperature in the barn from 4 to 6°C. There are several types of them with

which you can achieve the required air velocity, in particular: ceiling fans, VHV fans, axial fans

Despite the significant design differences of these units, they have the same purpose, namely, to increase the speed of air flow in the room, which will lead to a decrease in temperature, respectively, will create comfort for animals.

The modern direction in creating a microclimate, especially in the summer, is the use of air cooling using an evaporative air system. To do this, use fine atomizers or evaporation panels. At the same time, the evaporation of water significantly reduces the air temperature, but the efficiency depends on the performance of the fans that ensure the movement of air. The air is cooled 10 degrees below the outside, with simultaneous cleaning and complete replacement of the air in the room.

Conclusions: the use of modern systems to create a microclimate ensures energy savings and an optimal microclimate in the barn, animal health, maximum feed conversion, and therefore animal productivity.

List of used sources:

1. Microclimate in cowsheds and calf sheds: a comprehensive approach // Electronic resource / https://siydobro.com/systema-mikroklimatu-u-korivnykakh-ta-svynokompleksakh/mikroklimat-u-korivnykakh-i-teliatnykakh-kompleksnyy-pidkhid/
2. Evaporative air cooler JHCOOL T9 // Electronic resource /https://tdfavorit.com.ua/ua/p493563442-ohladitel-vozduha-isparitelnogo.html
3. Air Coolers as an Effective Alternative to Traditional Air Conditioners // Electronic resource / https://techhome.kiev.ua/uk/news/evaporative-air-cooler-air-conditioner-alternative/

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BUILDING AN ECONOMIC SECURITY MANAGEMENT SYSTEM IN AGRICULTURAL INTERPRISES

The main task of the management system of the enterprises economic security is to predict and be ahead of possible threats leading to crisis and to conduct anti-crisis management, which is aimed at the overcoming the crisis state of the enterprise.

In our opinion, the main condition for the formation of the system of the economic security management is to determine the areas in which the main factors of threats and dangers can be found. They are economic (impossibility of enterprise reproduction), social (unsatisfactory terms of employment and remuneration),