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НАУКОВИХ ДОСЛІДЖЕНЬ**

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# ВЕТЕРИНАРНА МЕДИЦИНА ТА ЗДОРОВ'Я ТВАРИН

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## INTEGRATED ASSESSMENT OF STRESS RESPONSE IN CATTLE: FROM ENVIRONMENTAL EXPOSURE TO ANIMAL-BASED INDICATORS

Stress in cattle develops through the interaction between environmental or technological challenges and the capacity of an individual animal to respond to them. Under production conditions, animals within the same herd may experience similar housing, feeding and climatic conditions, yet their biological responses can differ substantially. This variability complicates stress assessment because environmental exposure does not necessarily correspond directly to the magnitude of the biological response. Consequently, reliable evaluation requires consideration of both the challenge imposed on the animal and animal-based indicators reflecting its response.

Individual stress resistance provides evidence of this distinction. Studies in dairy cows have demonstrated that differences in stress resistance may be associated with characteristics extending beyond immediate physiological reactions. Milk from cows differing in stress resistance showed differences in technological properties relevant to cheese production, indicating that individual responsiveness may ultimately influence the suitability and quality of animal-derived products [1]. Similar variability has been demonstrated in breeding bulls, where animals with different reactions to stress differed in morphometric and histological characteristics of the reproductive organs and in parameters related to sperm production [2]. These findings suggest that stress response should be considered as a multidimensional biological phenomenon with potential consequences for both productive and reproductive functions.

Environmental exposure represents the first level of its assessment. Thermal load is particularly relevant in dairy cattle because animals may experience substantial changes in temperature and humidity during the production cycle. The temperature-humidity index (THI) provides a convenient quantitative description of environmental heat load. However, THI characterises the external challenge rather than the biological response itself. Animals exposed to comparable thermal conditions may differ in their ability to maintain physiological stability, production and normal behaviour. Therefore, environmental indices are most informative when interpreted together with indicators obtained directly from the animals.

Physiological biomarkers represent a second level of assessment because they provide information about internal regulatory responses to environmental challenges. Cortisol is involved in the regulation of the stress response and adaptation, and changes in serum cortisol concentration have been demonstrated in dairy cows exposed to heat stress. Differences observed under acute and chronic thermal exposure indicate that the physiological response may depend not only on the intensity of the challenge but also on its duration and the adaptive state of the animal [3]. At the same time, laboratory biomarkers generally require biological sampling and provide information corresponding to particular sampling points. Their interpretation should therefore take into account the environmental conditions preceding and accompanying sample collection.

Behavioural indicators provide another source of animal-based information and are particularly valuable because they can potentially be recorded repeatedly or continuously. Rumination reflects feeding and digestive activity and may contribute to the assessment of changes in the functional state of dairy cows. Sensor-based recording has demonstrated the possibility of identifying individual rumination cycles and regurgitation events with high agreement between automated measurements and direct observations [4]. Such technologies increase the temporal resolution of animal monitoring and can complement periodic physiological or laboratory examinations.

The value of combining different levels of information is illustrated by herd-level assessment of heat stress. An integrated approach incorporating THI together with milk production, feed intake and welfare-related indicators demonstrated that different characteristics of thermal exposure, including maximum daily heat load, cumulative exposure and insufficient night-time cooling, may be associated with different components of herd response [5]. This indicates that neither a single environmental index nor an individual animal-based measure is sufficient to represent the complexity of stress under practical production conditions.

A useful conceptual framework can therefore distinguish four interconnected levels of stress assessment: environmental exposure, physiological response, behavioural response and functional consequences. Environmental indicators describe the magnitude and duration of the challenge. Physiological biomarkers characterise internal regulatory processes, while behavioural indicators provide information on changes that may be monitored at a higher temporal frequency. Productive, reproductive and technological characteristics subsequently reflect functional consequences that may emerge when adaptive mechanisms are insufficient to maintain biological stability.

The temporal relationship between these levels is also important. Environmental exposure occurs continuously, whereas physiological measurements are usually obtained at selected time points, behavioural changes may develop over shorter intervals, and consequences for production or reproduction may become evident only after a delay. Assessment based on measurements collected at different temporal scales should therefore consider not only whether individual indicators change, but also when these changes occur relative to environmental exposure.

Such integration is particularly relevant to precision livestock management. Continuous environmental and behavioural monitoring can identify periods or animals requiring closer attention, whereas targeted physiological assessment can provide additional information on the biological significance of detected changes. Productive and reproductive records can subsequently be used to determine whether these responses are

associated with economically important consequences. In this context, precision technologies should not be considered replacements for physiological or veterinary assessment, but rather as complementary tools within a multilevel monitoring system.

In conclusion, stress response in cattle cannot be adequately characterised by a single environmental, physiological or behavioural indicator. Evidence of individual differences in stress resistance and their associations with milk technological properties and reproductive characteristics demonstrates the biological and productive relevance of such variability. Integrating environmental exposure with physiological biomarkers, behavioural monitoring and functional outcomes provides a more comprehensive framework for assessing stress under production conditions. This multilevel approach may contribute to earlier recognition of unfavourable responses and provide a methodological basis for more targeted monitoring and management of cattle.

## References

1. Chernenko, O.M., Chernenko, O.I., Pokhyl, O.M., Sanzhara, R.A., Khmeleva, O.V., Mylostyvyi, R.V. (2021). The influence of cows stresses resistance on cheese yield and quality. *Ukrainian Journal of Ecology*, 11 (2), 224-228.
2. Chernenko, Oleksandr, Bordunova, O., Shulzhenko, N., Mylostyvyi, R., Chernenko, Olena, & Prishedko, V. (2022). Comparison of morphometric and histological properties of testicles and sperm production in breeding bulls with different reaction to stress. *Veterinarska Stanica*, 54(2), 193–209. <https://doi.org/10.46419/vs.54.2.3>
3. Hoffmann, G., Strutzke, S., Fiske, D., Heinicke, J., & Mylostyvyi, R. (2024). A New Approach to Recording Rumination Behavior in Dairy Cows. *Sensors*, 24(17), 5521. <https://doi.org/10.3390/s24175521>
4. Mylostyvyi, R. V., Wrzecińska, M., Samardžija, M., Gutyj, B. V., Yefimov, V. H., Skliarov, P. M., & Lieshchova, M. O. (2024). Impact of heat stress on blood serum cortisol level in dairy cows. *Theoretical and Applied Veterinary Medicine*, 12(4), 3–8. <https://doi.org/10.32819/2024.12016>
5. Mylostyvyi, R., & Izholdina, O. (2025). An Integrated Approach Using Temperature–Humidity Index, Productivity, and Welfare Indicators for Herd-Level Heat Stress Assessment in Dairy Cows. *Animals*, 15(22), 3341. <https://doi.org/10.3390/ani15223341>
6. Sanzhara, R. A., Kucher, S. O., Pastushok, R. S., Mykolaichuk, L. P., Gutyj, B. V., & Mylostyvyi, R. V. (2025). The efficiency of feed paste consumption affects wintering success and subse-quent colony development in honey bees. *Scientific Messenger of LNU of Veterinary Medicine and Biotechnologies*, 27(102), 52–56. <https://doi.org/10.32718/nvlvet-a10208>