

COW WELFARE – ITS RELATION TO HEALTH AND PRODUCTION

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Summary

The level of animal comfort can make a great difference of economical results between herds with similar systems of breeding. The goal of presented work was creation the system of evaluation the welfare of cow from the point of physical and mental health, behaviour and management systems.

Key words: welfare, cow, production

Introduction

The scientific knowledge about the assessment of well-being is only one part of what we need to resolve animal welfare problems. According Fraser and Leonard (4) conceptual framework showing that farm animal welfare is influenced by five interrelated factors (values, economics, knowledge, technology and regulation).

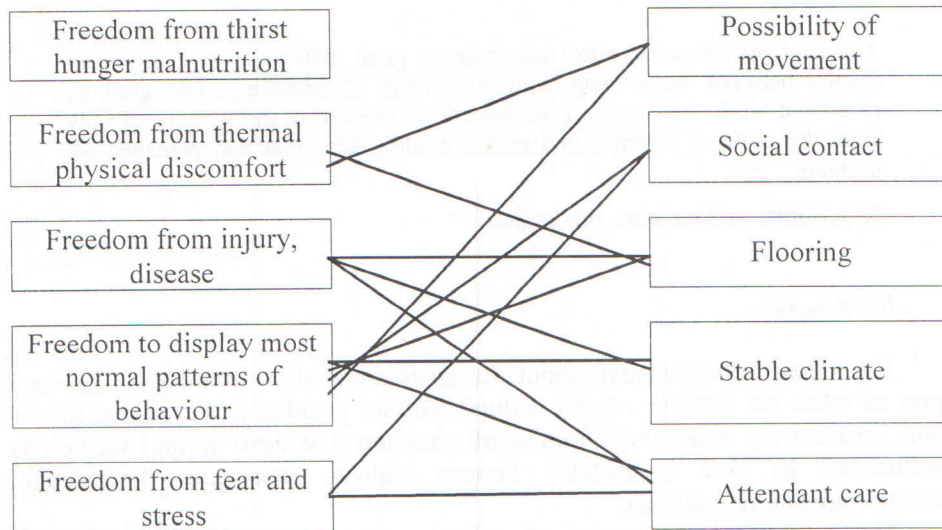
The scientific assessment: of animal well-being involves finding the indicators of three broad criteria: 1) a high level of biological functioning; 2) freedom from suffering in the sense of prolonged fear, pain and other negative experiences; and 3) positive experiences such as comfort and contentment (3). Individual productivity can reflect biological functioning, with reductions in productivity having possible implications for suffering and other negative experiences. Pathology indicates breakdown in biological functioning. Epidemiology by identifying conditions conducive to disease. Physiological measures of short-term arousal can also be used to corroborate

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and quantify negative experiences. Abnormal behaviour is a form of biological breakdown generally thought to be caused by negative psychological states.(2)

According Bartussek (1) the system of evaluation of selected factor influencing on farm animal welfare comes from general known principles of Five Freedoms defined by Farm Animal Welfare Council in 1979, which can be express in the relation to the necessity of Five freedoms breeding environment security (1).



Garcia, M. et all. (5) described four main items that influence the comfort of dairy cow stall design, bedding, flooring and ventilation.

Material and methods

For the assessing animal welfare have been developed and are use a lot of methods. It is generally agreed that a various parameters must be combined in order to obtain a valid assessment of animal welfare (8,9). Each of the methods of assessment that have been suggested until now is based on two categories of different parameters of welfare. The first category is based on monitoring the influence of housing systems on animal welfare. The second category is focused on the animal's organisms.

The goal of presented work was creation the system of evaluation the welfare of dairy cattle from the point of physical and mental health, behaviour and management systems.

Results and discussion

A welfare assessment method basically include two difference types of measures: environmentally-based measures (description of the housing system and management) and animal-based measures (different recording of behaviour, health and production as a measure of how the animals react to the system). Environmentally based measures may be recorded relatively easily. But they are considered to be more indirect measures of animal welfare than animal-based measures. (10). When assessing welfare, it is more time efficient to measure housing system and management procedures than to look at the animals.

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The short version of result we do present in the form of following schemes.

I. Identification card

Stable orientation in the actual landscape	climatic condition hygienic protection zones
Stable characteristics	veterinary hygiene protection of breeding preventive biosecurity arrangement of the farm stable construction and hygienic parameters
Technological systems and equipment	type of animal housing feeding watering manipulation with excrements lighting ventilation heating

II. Stall specification card

Stall design	type of stable proportions space allowance density	Ventilation	type (natural or mechanical) carbon dioxide concentration airflow capacity uniformity of air flow in stable emergency ventilation
Bedding	type "drop knee test"	Flooring	level of slipping grooving floor

III. Health criteria

Animal physiological health	production parameters reproductive parameters health herd feeding management- system, strategy, ratio ingredients
Animal mental health	respiration frequency, heart rate and body temperature effect of stable and floor space of hierarchy status on behaviour –normal, abnormal, stress, aggressive etc - number of lying cows - number of chewing cows - resting time during the 24 hod. - number of dirtying cows

Farm animal welfare and the design of stables and equipment are in correlation. The successful stockman will create for animals the environmental condition, which minimise stress, excessive competition for feed and water and potential of injury.

Stalls should provide a clean, dry and comfortable lying area. In free stalls have animals a greater freedom for movement and exercise, and more opportunity for social interaction. (11) Free stalls result in fewer injuries, lower bedding requirements, ability to fit more animals per unit area and cleaner cows, unlike tie-stalls which also tend to inhibit heat detection (8). Comfort and cleanliness of animals is dependent not only on amount and type of bedding, but also in animal stocking density, type of shelter, temperature and humidity levels (). Bedding materials used in stalls are chosen on the basis of availability, cost and suitability, as well the need. The manure disposal system will dictate the bedding material if any, and how much is appropriate. Well bedding maximises moisture absorption, adds resilience, makes stalls comfortable, increases usage and reduces potential for injury (6).

All walking surfaces should be skid-resistant. Solid grooved concrete floors are ease cleaning, decreased disease harbouring and good traction.

Ventilation system should prevent high humidity in winter and heat build-up in summer.

Effective feeding technology optimise feeding system, strategy and ration ingredients to encourage cow comfort, normal feeding and social behaviour of the herd. We agree with Stookey (12) that intensive dairy production is an improvement in animal welfare if good management principles are employed . On the contrary, if the management is poor, it should be clear that there is much potential for poor welfare. Stress caused by environmental and social

factors and their relation is necessary to reduce and avoid their impact on health, production, reproduction and welfare.

Conclusion

Measures of welfare are needed to give producers and consumers the information they need to evaluate management practices and determine which technological system provide the high level of farm animal welfare.

Evaluation of stable for assessing health and welfare of cattle we are presented in condensed form. The evaluation is based on the present contemporary state of this problem in this field and personal experiences. The practical use of this methodology will be the subject of our next publication.

Aknowledgements

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DOBROBIT KRAVA – PRETPOSTAVKA ZDRAVLJA I PROIZVODNJE

Sažetak

Kada su životinje iste pasmine držane na isti način stupanj komfora je taj koji dovodi do velike razlike u krajnjem ekonomskom ishodu. Cilj ovog rada je stvaranje sustava vrijednosti dobrobiti krava s točke fizičkog i mentalnog zdravlja, vladanja i sustava menagmenta.

Ključne riječi: dobrobit, krava, proizvodnja

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