

STUDY ON THE WELFARE OF DAIRY COWS ON FARMS IN SOUTHERN ROMANIA

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Abstract

The study aimed to present the importance of welfare regarding the animals, more specifically dairy cows. Five farms from the south of Romania where taken in the study. In order to examine the level of the welfare for these farms was used the system ANI 35 (Animal Need Index), system that has 5 groups in its component. The analysis period was represented by the livestock year 2021-2022. The main results prove the fact that in Romania, in the south area, the cows from the farms studied benefit of optimal and good welfare condition. However, there are groups of characters that can be improved, in particular type and characteristics of the floor and outdoor areas. The paper highlighted the strengths but also the weaknesses regarding the welfare in the dairy farms. Based on the results obtained, correlated with the results from the rest of the country the national authorities can develop welfare legislation and the farmers can see where to action in order to ensure for animals better conditions.

Key words: ANI 35, dairy cows, Romania, welfare.

INTRODUCTION

Animal welfare has always been an object of interest in animal husbandry, but in the past it was not known under this name. Our ancestors also paid attention to the cows resting place, watering, feeding and last but not least their health. All this without knowing the term of “welfare”. After the introduction of the term welfare, several definitions have been given to it over time. However, all definitions require the following: disease prevention and treatment, appropriate nutrition, shelter, management and humane handling (Fraser, 2008), in order to ensure the welfare of dairy cows.

If in the past the welfare was perceived only as the absence of pain, injury or illness and immediate treatment of animals, nowadays the perspective changed. These are no longer enough, the people are concerned about the modern farming techniques more precisely by the intensive system (Rushen et al., 2008). In the present, the welfare must include suitable space for each age group, appropriate space at the feeding front and the possibility of the animals to engage in social interactions and express their natural behaviour. That “new tradition” in animal welfare started in 1964 with the

publications of Ruth Harrison in *Animal Factories* and continued in 1965 with the measurement adopted by UK Government in the Brambell committee. As an example of interest of behavioural restriction, in a Brambell report we find the following sentence written: we must draw the line at conditions which completely suppress all or nearly all the natural, instinctive urges and behaviour patterns characteristic of actions...as found in the ancestral wild species and which have been little, if at all, bred out in the process of domestication (Brambell, 1965). Since the subject is of interest to many international governments legislative norms were adopted in order to to establish welfare norms and at the same time prohibit certain practices. In 1978, The Swiss Animal Protection Ordinance states that cows raised in loose - housing systems should not exceed the lying stalls available and must be kept in a manner that will not interfere with their behaviour. Also, in the same period other European countries adopted similar animal welfare legislation that formed the base of European Union legislation. In the same time, others are of the opinion that this information are secondary comparing with food safety, taste and nutrition (Weatherell et. al. 2003; Grunert et al., 2004). The UE Commission

conclude that must be understood at the level of the caretaker, in the moment when the farmer will understand that the productive level is closely related to welfare the desire to implement all measures will come naturally.

The main purpose of this paper is to observe how the welfare is perceived in Romania dairy farms, what the legislation provides and what are the benefits produced by this both for cows and for people.

MATERIALS AND METHODS

The present research is based on amount of data, obtained after observing five farms in southern Romania. In these farms there are cows belonging to the Holstein and Montbeliarde breeds.

Two systems are usually used to evaluate the welfare conditions: ANI 35 and ANI 200 (ANI - Animal Need Index). The difference lies from the fact that ANI 35 system evaluate more the environmental and microclimate conditions while the ANI 200 system focuses on health and freedom of movement.

In our paper, in order to evaluate the welfare for the farms from southern Romania was used the system ANI 35. In system ANI 35, the animals welfare is studied according to five groups factors:

- freedom of movement;
- social interactions;
- characteristics and type of the floor, outdoor surface type;
- lighting, air quality and noise;
- tending and maintenances conditions.

For each of the 5 groups of factors, a sheet is drawn up. ANI is calculated by summing the points awarded for each of the 5 groups of factors separately.

The data obtain were processed and interpreted in order to present as correctly as possible the situation regarding the welfare of the animals in the studied farms.

RESULTS AND DISCUSSIONS

In order to analyze and interpret the welfare level from all the five farms from southern of Romania we will present the data from each group.

Firstly, we will present the data regarding the freedom of movement of the cows.

Table 1. Freedom of movement evaluation

Freedom of movement					
Group of factors/No. of farm	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5
Minimum area available m ² /head	3	3	2.5	2	2.5
Rest area comfort	3	3	3	2	3
Comfort offered by the stand	0.5	0.5	1	0.5	0.5
The possible movements in the stand	1	1	1	0.5	1
Access to the paddock days/year	3	3	3	3	3
Access to pasture days/year	-	-	1.5	1.5	1.5
Total points	10.5	10.5	12	9.5	11.5

In Table 1, the highest score registered is at Farm 3, with a total of 12 points. At a very small difference is Farm 5, with only 0.5 points above, Farm 1 and Farm 2 have the same score, 10.5 (in these farms the cows do not have access to pasture) and the lowest score is registered at Farm 4, a score of 9.5 points. We should mention that all farms received 3 points for the access to the paddock, that means that the animals are having access minimum 270 days/year.

Also, only Farm 4 do not received max points for the comfort of the resting area, only 2 points, which means that the level of comfort is medium. Farm 1, 2, 3 and 5 were noted with In table 1, the highest score registered is at Farm 3, with a total of 12 points. At a very small difference is Farm 5, with only 0.5 points above, Farm 1 and Farm 2 have the same score, 10.5 (in these farms the cows do not have access to pasture) and the lowest score is registered at Farm 4, a score of 9.5 points. We should mention that all farms received 3 points for the access to the paddock, that means that the animals are having access minimum 270 days/year.

Also, only Farm 4 do not receive max points for the comfort of the resting area, only 2 points, which means that the level of comfort is medium. Farm 1, 2, 3 and 5 were noted with maximum points at this group of factors, 3 points, this means an increased level of comfort.

In the following we will present the results obtained after the second group of characters.

Table 2. Social interactions

Social interactions					
Group of factors/no. of farm	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5
Minimum area available m ² /head	3	3	2.5	0	3
Group structure	1.5	1.5	2	0	0.5
Manag. of young cattle	0.5	0.5	0.5	0.5	0.5
Access to the paddock days/year	2.5	2.5	2.5	2.5	2.5
Access to pasture days/year	-	-	1.5	1.5	1.5
Total points	7.5	7.5	9	4.5	8

According to the second table, Farm 3 registered again the highest score for the social interactions group. All farms were scored with 0.5 points for the management of calves and young cattle, that because are raising calves obtained only in their farms, but in separate boxes. Maximum points were obtained by all the farms for the access to the paddock, the cows having access more that 270 days/year.

The lowest score is counted at Farm 4 and the causes are next: 0 points for the area available per head (less than 6 m²/head) and 0 points for group structure (the cows being maintained in a linked system).

Farms 1 and 2 are scoring again the same, like in the previous group, but in this case only 7.5 points. That situation is caused again by the fact that the cows from these two farms do not have the opportunity to pasture.

Further, in Table 3 will be presented the result after completing the forms for the next group.

Table 3. Type and characteristics of the floor and outdoor areas

Type and characteristics of the floor and outdoor areas					
Group of factors/no. of farm	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5
The elasticity of the resting area	2.5	2.5	2.5	2.5	2.5
The degree of cleaning in the resting area	0.5	0.5	0.5	0.5	0.5
The risk of slipping in the resting area	1	0.5	0.5	0.5	0.5
The quality of the floor in the active area	1	0.5	0.5	0.5	0.5
The type and characteristics of the paddock	1.5	1.5	1.5	0.5	1.5
The type of pastures	-	-	0.5	0.5	0.5
Total points	6.5	5.5	6	5	6

As we can see in Table 3, Farm 1 obtained the highest score at this group of welfare, 6.5 points, at that in the circumstation with no pasture. Farm 3 and 5 registered 6 points, Farm 2 - 5.5 points and Farm 4, the lowest score, only 5 points.

All the farms obtained 2.5 points for the elasticity of the resting area (that means a thickness greater than 60 mm of the straw layer). Also, same score for the degree of cleaning in the resting area, 0.5 points (in others words the resting places are clean).

For the floor quality only Farm 1 obtained 1 point, in this case, the floor is clean, with no risk and not generating foot diseases.

The rest of the farms obtained only 0.5 points, here we can find a floor with a medium potential risk and the cows can suffer foot diseases. Regarding the paddock, Farm 4 has one of medium quality and the others paddocks of good quality, paved.

Table 4. Lighting, air quality and noise

Lighting, air quality and noise					
Group of factors/ No. of farm	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5
Natural illumination	1.5	1.5	1.5	1.5	1.5
Air quality	1.5	1	1	0.5	1
Air currents in the resting area	0.5	0.5	0.5	0.5	0.5
Noise level	0.5	0.5	1	1	1
Outside access days/year	2	1	0.5	0.5	0.5
Outside access h/day	2	2	2	2	2
Total points	8	6.5	6.5	6	6.5

Regarding the quality of the air, level of noise and lighting the Farm 1 scored the highest, 8 points. Farm 2, 3 and 5 have equal score, 6.5 points, Farm 4 the lowest score, only 6 points. All the farms received 1.5 points for natural illumination, meaning the fact that the shelters are close but the animals are having a good natural illumination. Equal score for the outside access also, the cows having access more than 230 days/year. For the noise level, Farm 1 and 2 were scored with 0.5 points, because are equipped fans but noise produced by them is not very loud.

The last group is represented by the tending and maintenances conditions. Here, again Farm 1 received the highest score, 7 points. Compared with the others farms, Farm 1 scored 1 point for the hygiene for feeding, watering and accommodation, while the rest only 0.5 points. The difference is also from the health of the batches, Farm 1 received 1.5 points and the others only 1 point. (1.5 - a very good health condition, 1 - a good condition). At hoof health all farms received 1 point, meaning a good condition, with an incidence of injuries less than 5%.

Based on Figure 1 we can extract the information that all the farms recorded the highest score at group - freedom of movement. At the same time, the group with the lowest

scores is represented by type and characteristics of the floor and outdoor areas, an important indicator that shows us that there is potential for improvements at this level.

Table 5. Tending and maintenances conditions

Group of factors/ No. of farm	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5
Hygiene of accommodation, feeding and watering areas	1	0.5	0.5	0.5	0.5
Skin condition	1	1	1	1	1
Air currents in the resting area	1	1	1	1	1
Body hygiene of animals	0.5	0.5	0.5	0.5	0.5
Hoof health	1	1	1	1	1
Incidence of technopathies	1	1	1	1	1
The batches health	1.5	1	1	1	1
Total points	7	6	6	6	6

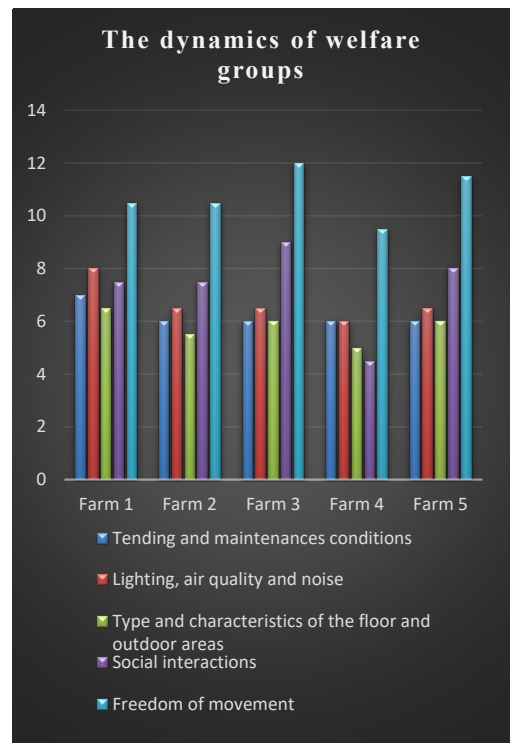


Figure 1. The dynamics of welfare groups



Figure 2. View from the paddock where the animals have access

After summarizing the groups scores, obtain the following results:

- Farm 1 - Total Score: 39.5 points;
- Farm 3 - Total Score: 39.5 points;
- Farm 5 - Total Score: 38 points;
- Farm 2 - Total Score: 36 points;
- Farm 4 - Total Score: 31 points.

According to these results we deduce the fact that the cows from Farms 1, 2, 3 and 4 have a optimal welfare and the cows from the Farm 4 have a complete welfare.



Figure 3. View from the rest area comfort

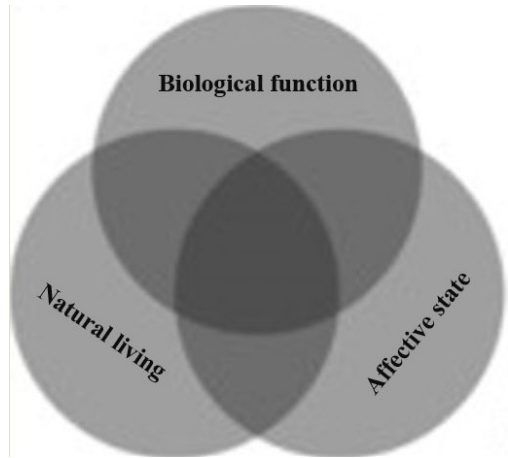


Figure 4. The welfare components

CONCLUSIONS

The concept of welfare arouses more and more interest in Romania, especially among farmers, but also among the national authorities. We note the existence of welfare norms and the constant interest in their improvement. According to the study we can find that dairy farms from the south of Romania ensure very good welfare conditions for the cows. At the same time, we cannot deny the fact that are possibilities to improve these conditions, particularly at the type and characteristics of the floor and outdoor areas and at tending and maintenances conditions.

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