

RESEARCHES REGARDING THE HENS' WELFARE ASSESSMENT IN A FARM FROM ILFOV COUNTY

C. TOGAN¹, F. FURNARIS², ELENA MITRANESCU², S. BUSTANI², ELENA STAIUCU², ADRIANA ORASEANU³, SILVIA ANTONIU³

¹Romanian National Sanitary-Veterinary and Food Safety Authority, 1B Negustori Str., District 2, Bucharest, cristitog@yahoo.com

²Faculty of Veterinary Medicine Bucharest, 105th Splaiul Independentei, District 5

³Institute of Diagnosis and Animal Health, 63rd Dr. Staicovici, District 5, Bucharest

Summary

The researches in the present paper were run in May 2007 in a farm from Ilfov County, with deep-litter intensive system. It was assessed the welfare at group level in one shelter housing Ross 308 hybrid parents.

Since Romania hasn't an official integrative numerical system for establishing the welfare of laying hens, an Austrian system was used - Animal Needs Index 35. The method implies scoring both engineering-based parameters (shelter architecture and equipments) and animal-based parameters (feathers condition, skin condition, number of cocks in the flock etc.) ranged in five areas of influence: locomotion, social interaction, flooring, light and air, stockmanship. For deciding a specific parameter score, measurements, anamnesis or direct observation of the flocks have to be done and sometimes in-depths analysis with state of the art devices (BK 2250 sonometer - noises level, Dräger Miniwarn gas-meter - air quality and LM-8000 multifunction devices - draughts velocity, airflow and light intensity). For feathers condition and skin condition parameters, assessment methods were those suggested by R. Tauson in 2004. The final ANI 35 score are obtained by summing scores for all parameters.

The hen flock's welfare final score in the studied house was 19,5 points. This value shows an average welfare, precisely at the superior border of the interval marking average welfare (final score between 16 and 21 points).

Key words: welfare, Animal Needs Index 35L, hens, assessment

The concept of animal welfare refers in the matter of fact to the quality of an animal life and has two aspects: an objective one and an ethical one (Tannenbaum, 1991; Sandoe and Simonsen, 1992).

Animal welfare was controversial even from the beginning of animal husbandry either for production or as pets. At present, there was recorded a noticeable increase of human society concerns regarding this matter, consumers and general public becoming aware of it due to own experience, knowledge gained during school and media and also due to the proofs offered by scientific researches that the animal welfare is extremely important in public health, food safety, environmental protection and biologic diversity. Thus, our community expects a well coordinated and efficient response to animal welfare issues, to work together and bring all our expertise and resources to minimize the suffering caused to

animals. We have a moral duty to act humanely.

Materials and methods

The study was run in May 2007, in a house with Ross 308 hybrid parents' hens from a farm in Ilfov County. The main features of the applied husbandry conditions were the following: use of wood shavings and sunflower seed hull as deep litter in the scratching area; use of perches in order to assure the normal hierarchical relations among birds and normal group structure; use of two lines of 402 L-shaped nipple drinkers suspended above the droppings level, in order to avoid litter damping by water waste; use of 500 circular feeders; use of group nests with a conveyor system for collecting eggs and transportation; use of last generation multi-step dynamic ventilation and artificial lighting systems (Figure 1). In the shelter are housed 5200 hens and 520 cocks.

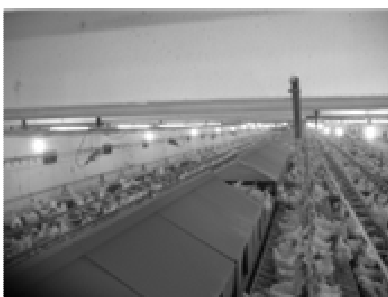


Fig.1. The inner view of the assessed hen house (group nests in centre, plastic grid droppings area and littered scratching area on both sides)

As our country doesn't have an official system of animal welfare assessment, we have used in the study the methods belonging to the Austrian system ANI 35 for laying hens (Bartussek H., 1995). The level of hens' welfare was established by awarding points for 35 parameters, either engineering-based (shelter architecture and equipments) or animal-based (feathers condition, skin condition, number of cocks in the flock etc.) divided in five areas of influence: locomotion; social interaction; flooring; light and air; stockmanship. For deciding a specific parameter score, measurements, anamnesis or direct observation of the flocks have to be done and sometimes in-depths analysis with state of the art devices (BK 2250 sonometer - noises level, Dräger Miniwarn gas-meter - air quality and LM-8000 multifunction devices - draughts velocity, airflow and light intensity). For feathers condition and skin condition parameters, assessment methods were those suggested by R. Tauson in 2004 (Figures 2 and 3). The final ANI 35 score are obtained by summing scores for all parameters.

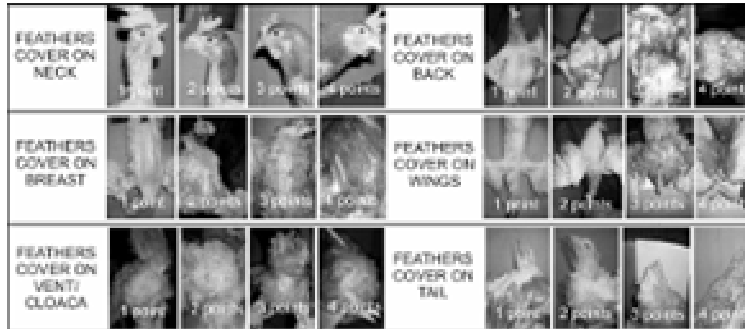


Fig.2. The criteria of estimating the plumage condition (Feathers Condition Score)

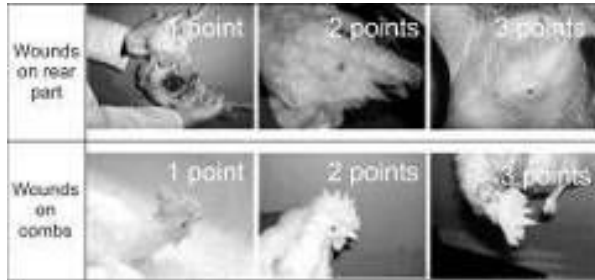


Fig.3. The criteria of estimating the skin condition (Skin Condition Score)

Results and discussions

In table 1 are shown the scores for different assessed parameters from the ANI 35L system charts, the general scores for each area of influence and the final ANI 35 score. The parameters related to outside yard (time spent in the yard or in the grassland, facilities in outside area etc.) are not found in the following table because the hens from the farm does not have access to outdoor.

Table 1

The scores obtained following the assessment of the welfare of laying hens reared in intensive system in an Ilfov County farm

Locomotion	Space allowance	Percentage of littered scratching area	Elevated perches available					General score for 1st area of influence: 2.5 points
	0.5 points	1 point	1 point					
Social interaction	Size of flock	Space allowance	Availability of nests, drinkers and feeders	Elevated perches available	Cocks present in the flock			General score for 2nd area of influence: 3.5 points
	0 points	0.5 points	1 point	1 point	1 point			
Flooring	Length of	Quality of	Covering	Tickness	Condition	Floor in		General

LUCRĂRI ȘTIINȚIFICE MEDICINĂ VETERINARĂ VOL. XLI, 2008, TIMIȘOARA

	perches	perches	of droppings level	and type of litter	of litter	the nest area		score for 3rd area of influence: 3 points
	- 0.5 points	0.5 points	0.5 points	1 point	1.5 points	0 points		
Light and air	Light in the stable	Air quality	Draughts in resting area	Noises				General score for 4th area of influence: 2.5 points
	0.5 points	1 point	1 point	0 point				
Stockmanship	Cleanliness of facilities	Technical condition of facilities	Carcasses in hen house	Plumage condition	Skin condition	Records keeping	Birds health	General score for 5th area of influence: 8 points
	1.5 points	1.5 points	0.5 points	1 point	1.5 points	1 point	1 point	
ANI 35 final score								19.5 points

As shows the above table, the lowest scores were those recorded for the locomotion, light and air and flooring areas of influence (2.5 points; 2.5 points and 3 points).

The following deficiencies were noticed: too small space allowance (0.19 sqm/hen), the oversized flocks, an available perch length too small (0,12m/hen), low quality of floor in the nest area (plastic matting), the use of artificial lighting – although even and with good intensity - instead of mixed, too loud noises generated by the multi-step ventilation system.

The highest score was that recorded for the stockmanship area on influence, respectively 8 points, fact proving a good farm management system, correctly applied.

Conclusions

1. The welfare level of the stock reared in intensive system in the hen house from the above Ilfov County farm was average, the obtained ANI 35L final score being 19.5 points.
2. The positive issues highlighted by this study were farm management and practices and the negative ones were: too small space allowance, oversized flocks, too small available perch length, poor quality of floor in the nest area, use of artificial lighting instead of mixed, too loud noises.
3. In order to improve the level of laying hens' welfare, all the above mentioned negative issues have to be carried out.

References

1. **Bartussek, H.** – Tiergereitheitsindex TGI 35 L 1995 Legehennen, Veröffentlichungen Heft 25, BAL Gumpenstein, 1995
2. **Tauson, R., Ambrosen, T., Elwinger, K.** – Evaluation of the procedures for scoring the integument of laying hens – independent scoring of plumage condition, Acta Agric. Scand. 34, 1984
3. **Teușdea, V.** – Bunastarea si protectia animalelor, Editura Omega Print, Bucuresti, 2005
4. **Teușdea, V.** – Igiena veterinară. Adăpostirea animalelor, Ed.Omega Print, București, 2003
- 5.*** – www.livsmedelssverige.org/hona/scoringsystem/scoringsystem.pdf (Tauson R.; Kjaer J.; Maria G. A.; Cepero R., Holm, K-E - Applied scoring of integument and health in laying hens; 2004)
- 6.*** <http://www.beehive.govt.nz/speech/animal+welfare+not+marginal+issue>