

APPLYING BIOSECURITY MEASURES TO A POULTRY UNIT

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Abstract

Solving welfare problems requires establishing clear lines of communication between society, farmers, researchers and animals.

For the elaboration of this paper we analyzed how the principles regarding welfare of hen broilers in FermaDor Iași poultry unit are applied: adequate nutrition, adequate shelter, proper behavior, good health.

The study concluded that all animal welfare principles have been applied and respected in the establishment.

The amount of water consumed by chickens is between their physiological requirements, namely 1.6 - 2 times more than the consumption of fodder, a bird in the given case at the age of 35 days consuming 338 g / water compared to 214 g /fodder.

The combined granulated feed administered to the chickens is balanced in all nutritional aspects. It is distributed through an automatic spiral line system, organized in 4 feed lines with 586 feeders / hall, distributing a nourishing for 66 chickens. An optimal feeding front is provided for the whole herd of birds.

Lighting in the study farm has an intensity of 30 lux in the first 7days of the chickens and decreases to 5 lux in the growing and finishing period.

Treatments in the FermaDor are ensured by vaccinating from day 7 and by administering of a drug or feed additive substances through feed and water.

The density of the chickens in the hall is from 18.29 to 17.62 chicken/m² or 42 kg/ m² depopulation, taking into account mortality.

Trained staff capable of working has exemplary behavior and attitude towards raised birds.

Key words: welfare, liberty, health, comfort, protection

INTRODUCTION

Animal welfare is an expression used to designate the quality of life of animals and refers to their health, comfort and protection. The term welfare refers to the condition of the animal and not to how it is cared for by the human being.

Animal welfare has a direct influence on productivity, with a positive correlation between them. A higher animal welfare degree brings more farm productivity and vice versa. Also, in terms of ethical principles, progress in this area can be seen as a breakthrough in the development of the society in which we live.

MATERIALS AND METHOD

In order to accomplish the work, the conditions for breeding hens in the FermaDor unit were analyzed, comparing the application of the principles of well-being to the unit with the recommendations stipulated in the Protocol 6 Welfare Quality. In the farm, broilers are grown on permanent litter bedding, in 8 blind halls, each 114 m in length and 19.4 m in width and with a usable area of 2211 m².

Various parameters and methods of exploitation of the chickens were analyzed, the employees of the unit were interviewed and photographs were taken to capture the various behaviors and conditions of the pups and the appearance of the work equipment.

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RESULTS AND DISCUSSIONS

The FermaDor watering system is in the form of 8 watering / canning lines.

One day pots are given glucose in an amount of 750 mg/1000 liters of water. Antibiotics are introduced according to the growing needs in amounts of 5%, 1%, 0.1% / kg body of bird. Between two different treatments there is a few hours in which clean water is given. Drugs are administered via a metering unit, which regulates the amount and time of administration, depending on the number of birds in the hall (Figure 1).



Fig. 1 Feeding on paper in the FermaDor unit

Right to specific food

The energy and nutritive value of the feed provides the specific age requirements of the chickens (Table 1).

Table 1 Examples of recipes used on farm no. 7-8 FermaDor

Specification	Start 1-10 days	Growth 11-21 days
EM (kcal)	3025	3150
U %	12	12
PB %	23	21.19
GB %	6	8.5
CB %	3.6	4.1
Cen B %	5.1	4.9
Ca	1.05	0.92
P	0.5	0.45
NaCl	0.21	0.21

In FermaDor, the granulated fodder is kept on day-old chicks on paper and on the 7th day of life of the chickens they are removed from the halls because they can represent a favorable environment for the development of microorganisms as a result of the accumulation of manure and fodder (Fig. 2). This feeding mode stimulates the appetite of the chickens by increasing their interest and attention to the feed zone due to the production of a characteristic sound when the chicks are rolling on paper.



Fig. 2 The nutrient at optimum height in the Farm Unit

After 7 days of age the chickens receive the feed in the feeders.

In each hall are distributed 586 feeders, organized in 4 feed lines, ensuring a nourishing to 66 chickens. The height of the feed front (fig. 3) is adjusted regularly, along with checking the uniformity of the feed on all feed lines.



Fig. 3 Mechanism of water pressure regulation and dosing of substances in water in farmhouses 7-8 FermaDor

The right to an appropriate environment

Lighting is provided with lamps. The lighting duration is 24 hours for day-old chicks, 23 hours up to 7 days, and 18 hours up to the age of 39 days. During the period of 39-42 days, 24 hours of light are provided to allow the chickens to consume as much food as possible.

The intensity of artificial light is in line with the European Union's 30-pound norms in the first 7 days of chickens' living, the

intensity gradually decreasing to 5 lux in the growing and finishing period. of the rest period, the intensity is 0.2 lbs, which is ensured by the use of blind halls, properly isolated against any external environmental factor, implicitly light.

The temperature of Ross 308 broiler chickens in the study unit is the same as recommended by the producer of this hybrid, and is correlated with the age of the birds (Table 2).

Table 2 Recommended temperature for broiler chickens ROSS 308 308 [4]

Age (days)	1	3	6	9	12	15	18	21	24	27
Temperature (C°)	30	28	27	26	25	24	23	22	21	20

The halls are preheated 24 hours before receiving the chickens by means of gas-powered aerotherms, and after the age of 27 days the temperature of 20° C is maintained.

The air intake in each hall is passive and is made using 6 hinged fans with a capacity of 11000 m³/h, along with holes located on the sides of the hall along its entire length.

The air outlet is carried out by 12 fans up to 40000 m³/hour, located at one end of the hall, opposite the buffer chamber. These fans perform a forced air discharge and can also be operated independently as needed.

The halls are insulated from the outside by a polyurethane foam and in the case of heat, the pad-cooling system (Figure 4) of the halls can also be activated to apply outside cooling to the interior. This system works on the basis of water evaporation.



Fig. 4 Cooling pad cooling system used in the FermaDor unit (original photo)

The chemical composition of the hall erosion is determined and recorded with sensors (Figure 5 and Figure 6), distributed uniformly in the halls and placed at the head of the birds.

During the study, the ammonia level in the air was maintained at 5 ppm and carbon dioxide at 2500 ppm. The relative air humidity at unit level for all eight halls was 55%. These values are within the recommended guidelines.



Fig. 5 Ammonia sensor used in the FermaDor unit [5]



Fig. 6 Carbon dioxide sensor used in the FermaDor unit [5]

Right to diagnosis and treatment of diseases and prevention of pain and suffering.

The main methods of ensuring the health of birds are to provide balanced feeds, clean water in sufficient quantities and provide an optimal microclimate together with an adequate space for various activities. However, because genetically engineered hybrids are used in poultry production, they have a diminished organic resistance, which is why a surplus of preventive and treatment measures is required.

FermaDor broiler breeding unit follows a series of treatments and vaccinations beginning on day 7 of the chickens, aimed at avoiding the establishment of diseases and pathological conditions in the flock. In addition to this, the chickens are analyzed periodically and sacrificed in human conditions, those who would not reach the age of depopulation. This is done to avoid undue suffering of the chickens and to prevent the establishment of pathological risk factors in the flock.

CONCLUSIONS

Following the analysis of the welfare principles and their application in the Farm Unit, we have gained a new vision and appreciation of the importance of this concept.

The right of access to fresh water and specific food in the FermaDor unit is fully respected.

The right to an adequate environment is applied in accordance with the legislation in force and the physiological specificity of the broiler.

The right to the diagnosis and treatment of illness and the prevention of pain and suffering is another important aspect where the unit under study complies with the legal and ethical framework.

Relief of mental fear and suffering is ensured in the units studied by employing trained and trained staff with exemplary behavior and attitude towards the raised animals, and any negative deviation in the human-bird relationship being sanctioned on the farm by management personnel.

The right to provide space for the expression of normal behavior in the case of the studied unit consists mainly in observing the optimal density in the population.

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