UNIVERSITY OF LIFE SCIENCES ”KING MIHAI I” FROM TIMISOARA
”YOUNG PEOPLE AND MULTIDISCIPLINARY RESEARCH IN APPLIED LIFE SCIENCES”

05-06 November 2026



EVALUATION OF PRODUCTIVE PERFORMANCE AND ANIMAL WELFARE IN MODERN BROLER CHICKEN PRODUCTION SYSTEMS: A CASE STUDY OF POULTRY PUI SRL FARM, BIHOR COUNTY, ROMANIA

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ABSTRACT: This study aims to assess productive performance and animal welfare on a broiler farm in Bihor County, Romania. Production indicators and welfare parameters will be analyzed to identify relationships between management practices, animal welfare and productivity, supporting recommendations for efficient, sustainable and responsible poultry farming.

• Introduction

The evaluation of modern poultry production systems requires the correlation of zootechnical results with the condition of the animals. A high final weight or low specific consumption does not fully describe the quality of the rearing process. Animal-based measures capable of capturing problems that may remain hidden in aggregate economic indicators should be included in the welfare analysis. EFSA's scientific opinion on broilers provides a benchmark for the selection of these measures, including mortality and plantar dermatitis [5]. Summaries on broiler welfare associate rapid growth with health and locomotion problems [6].

• Material and method

The methodology uses a demonstration scenario with three hypothetical batches of broilers for the calculation and descriptive comparison of the production and welfare indicators, and the validation will then be carried out through data and observations from the farm.

• Results and discussions

Table 1. Production parameters and performance indicators for the batches

Indicator	L1	L2	L3
Stocked number, heads	15,000	15,000	15,000
Duration, days	42	42	42
Final body weight, kg	2.65	2.75	2.85
Total losses, %	4.8	3.6	2.8
Delivered number, heads	14,280	14,460	14,580
Delivered live weight, kg	37,842.0	39,765.0	41,553.0
Feed conversion ratio, kg/kg	1.78	1.69	1.62
Total feed used (derived), kg	67,358.8	67,202.9	67,315.9
Apparent daily gain, g/day	62.1	64.5	66.9
Final stocking density, kg/m^2	31.54	33.14	34.63
EPEF, points	337.5	373.5	407.1

Source: own calculations. The usable area is assumed to be 1,200 m^2 for each batch. The values shown are rounded after calculation.

• Conclusions

The demonstration model highlights how the production indicators can be analyzed together with the welfare of broilers, without representing real results of the AVICOL FARM PUI SRL farm. It is proposed to validate the data on real cycles, to monitor plantar lesions and locomotor capacity, as well as to test improvements in litter and microclimate, based on controlled measurements and comparisons.

Acknowledgement: SC AVICOL FARM PUI SRL farm.