



ULST Timisoara  
**Multidisciplinary Conference on  
Sustainable Development**  
15-16 May 2025



## PERFORMING SYSTEMS OF OBTAINING QUANTITATIVE AND QUALITATIVE PRODUCTION IN SHEEP

IOAN PETROMAN<sup>1\*</sup>, IOAN ȚIBRU<sup>1</sup>, IOAN SAUER<sup>1</sup>, IULIA MUNTEANU<sup>1</sup>, CORNELIA PETROMAN<sup>2</sup>

<sup>1</sup>Development Research Station for Raising Sheep and Goats, S.C.D.C.O.C. Caransebeș

<sup>2</sup>Banat's University of Life Sciences "King Mihai I", Faculty of Management and Rural Tourism, Timisoara

\*Corresponding author's e-mail: [i\\_petroman@yahoo.com](mailto:i_petroman@yahoo.com)

**Abstract:** The categories of sheep raised in intensive or semi-intensive systems to obtain competitive quantitative and qualitative productions should adapt well to climate changes to respond to economic nutrition, to adapt to the grazing systems efficiently converting the vegetable resources depending on the management objectives implemented at the farm level, through integrative management strategies that should expressly include total quality management. Thus, through this scientific approach, managerial solutions have been identified by which both quantitative production and, especially, the qualitative one be improved depending on the operating system, without environmental risks, using biological material adapted to the existing environmental conditions for the optimal use of fodder resources, to preserve the ecosystem biodiversity in the area of professional sheep farms, and intensifying sheep exploitation by ensuring sheep welfare according to the animal category and identifying new quality production management solutions. Quality production management solutions should consider the systematic collection and interpretation of data on the biological and reproductive capacity of sheep, the economics of exploitation and technical data on sheep welfare, the zootechnical indicators of the farm and the types of diets, all for the provision of balanced diets depending on the forage available per season, balanced feeding by productive groups, physiological states and performances, the integration of nutrition into the management of quality production, the sustainable use of local resources and the reduction of environmental risk, through the degradation of natural environmental factors.

### • Introduction

Good grazing management should include grazing distribution, appropriate number of animals, proportion of animals, season of use, grazing system, and type of animals, because grazing distribution is affected by several factors: location of salt and minerals; location of water source; size of pasture; location of shading; population density; housing sites; grazing habits of sheep; palatability of forages; grazing system; shelter spread type; type of sheep combination; type of electric fence/enclosure; type of vegetation; type and category of sheep and direction of prevailing winds. Sustainable pasture management plans should include: a distribution by sheep category, a distribution by sheep type, an appropriate number of sheep, an appropriate grazing system, and other strategies that maximize animal production per unit area based on sustainable pasture management techniques.

### • Material and method

To improve quantitative and qualitative production systems within this scientific endeavour, in addition to the obvious objective of improving production quality, the initial aspirations were also for the cross-compliance scheme to contribute to improving the image of sheep breeding and exploitation on modern farms. The farm model proposed for implementation has the potential to create a basis for increased cooperation between stakeholders, which contributes to moving conventional agriculture towards increased sustainability and responsible use of local feed resources by using modern methods of balancing rations. Integrated production management promotes a new orientation of exploitation towards increased sustainability, recovery and restoration of degraded lands, and reduction of desertification because a quality management system requires a rapid assessment of nutritional needs for qualitative production, the use in exploitation of biological material with high productive capacity adapted to the exploitation environment, together with the creation of rules on the sustainable use of resources. For this purpose, fodder resources (pastures) according to their nutritional value can be separated into high and low areas when land degradation is taken into account and monitoring systems can be used through cutting-edge technologies implemented for high-performance production at higher feed conversion yields.

### • Results and discussion

Improving systems to obtain sustainable quantitative and qualitative production in the different categories of sheep raised and exploited in an intensive or semi-intensive system should take into account at least the following five objectives included in integrated production management strategies:

1. **adaptation of sheep to the exploitation system** and the environment, an objective that involves the implementation of the following management measures on farms:
  - adaptation of grazing systems to environmental changes (plant and animal biodiversity, water availability, soil system, air temperature);
  - mitigation of greenhouse gases;
  - selection of herds based on robustness and hoof quality;
  - use of biological material that produces less manure;
  - regulation of herds based on genetic value and production quality.
2. **nutrition based on individual performance and production quality**, aiming to achieve the following objectives through management measures implemented through integrated production management;
3. **improving reproductive systems** by achieving the following objectives imposed by the integrated production management system;
4. **control of the health and welfare of sheep**;
5. **implementation of new breeding and exploitation technologies.**

### • Conclusions

Through the new integrated management model proposed for implementation, a new orientation of quantitative and qualitative production is promoted, towards increased sustainability, unaltered maintenance of the quality of environmental factors, and restoration of meadows or degraded lands due to excessive exploitation, because a total quality management system proposes rapid assessment of nutritional needs depending on the genetic value of the biological material exploited. Maintaining well-being and the biological capacity to manifest natural behaviours, ability to perform, social comfort, feeding frequency and balancing rations, the number of hours of grazing per day depending on the season, rest, and rumination supported by new growth and exploitation technologies become means for obtaining quantitative and qualitative productions that satisfy the economic efforts of farmers.