

## INTEGRATED MANAGEMENT IN SHEEP PRODUCTION

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**Abstract:** This paper presents the seven systems of an Integrated Management System (IMS) – "Quality Management System (QMS)," "Environmental Management System (EnvMS)," "Safety Management System (SMS)," "Energy Management System (EneMS)," "Food Safety Management System (FSMS)," "Compliance Management System (CMS)," "Information Security Management System (ISMS)" and investigates how it is implemented in sheep production aiming at intensifying production in this important sector of agriculture.

### • Introduction

Integrated Management System (IMS) integrates all the systems of an organization – "Quality Management System (QMS)," "Environmental Management System (EnvMS)," "Safety Management System (SMS)," "Energy Management System (EneMS)," "Food Safety Management System (FSMS)," "Compliance Management System (CMS)," "Information Security Management System (ISMS)" – into a complete framework (Figure 1):

- The Quality Management System (QMS): aims at improving effectiveness and efficiency, meeting customer and regulatory requirements, promoting continuous improvement, and reducing waste; documents, tracks, and manages quality-related procedures, processes, and responsibilities in an organization; has requirements specified by ISO 9001:2015.

- The Environmental Management System (EnvMS): can help eliminate or reduce negative environmental impacts associated with activities, products, and services; focuses on meeting the commitments exposed in the environmental policy of the organization; has as primary "customer" the local, regional, and global environment; has guidelines and requirements specified by ISO 14001.

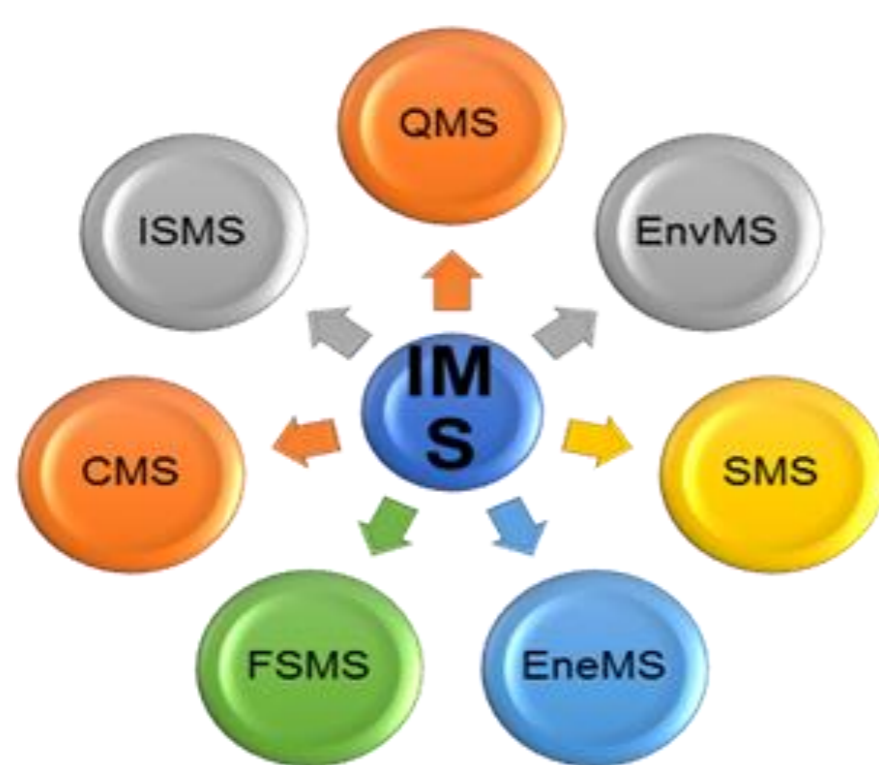


Figure 1. Components of an "Integrated Management System"

### • Material and method

The material used in this study consists in books and articles on seven components of an integrated management system in sheep breeding. The bibliographic research method used is aimed at showing the measure in which these seven components of an integrated management system are at work in sheep breeding – animal feeding, breeding practice, embryo production, emissions from sheep, food safety, herd management, sheep breeding, sheep production, sheep reproduction, etc.

### • Results and discussions

Environmental Management System (EnvMS) in sheep breeding focuses on the following: agricultural environment, anaerobic environment, chamber environment, controlled environment, environmental aspects, environmental challenge, environmental change, environmental characteristic, environmental concern, environmental condition, environmental constraint, environmental dynamics, environmental epidemiology, environmental factor, environmental hazard, environmental heat, environmental impact, environmental issue, environmental monitoring, environmental pollution, environmental quality, environmental responsibility, environmental risk, environmental stress, environmental stressor, environmental sustainability, environmental temperature. Safety Management System (SMS) in sheep breeding refers to: added safety; lagoon safety, liquid storage safety, manure handling safety, pond safety; environmental epidemiology, hazard, pollution, risk; safety aspect, safety concern, safety device, safety equipment, safety hazards, safety issue, safety regulations, safety requirement, and safety shield.

Energy Management System (EneMS) in sheep breeding concerns: energy consumption, energy efficiency, energy management, energy minimization, energy production, energy requirement, and energy use.

Food Safety Management System (FSMS) in sheep breeding is concerned with biosafety and food safety.

Compliance Management System (CMS) in sheep breeding is mentioned by a single author: compliance data, compliance inspection, and regulatory compliance.

Information Security Management System (ISMS) is not present in sheep breeding literature.

### • Conclusions

The conclusions of the study are:

- The seven systems of an Integrated Management System presented are operational in many fields of activity among which agriculture and, implicitly, sheep breeding (animal feeding, breeding practice, embryo production, emissions from sheep, food safety, herd management, sheep breeding, sheep production, sheep reproduction, etc.);

- The distribution of the seven systems of an Integrated Management System is extremely uneven – QMS – 38 topics, EnvMS – 36 topics, SMS – 18 topics, EneMS – 7 topics, CMS – 3 topics, FSMS – 2 topics, and ISMS – no topic – but this speaks of itself of the importance given, in sheep breeding literature, to quality, environment, and safety.