POSSIBILITIES FOR CHOOSING OPTIMAL SHEEP HOLDING SYSTEMS FOR MILK PRODUCTION

CSIZMADIA ANDREA ȘTEFANA[1], ARMAȘ ANA GINA[2], PETROMAN CORNELIA*[1]
[1]Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania", Faculty of Management and Rural Tourism, Timisoara
[2] Research and Development Station for sheep and goat breeding Caransebes
*Corresponding author's e-mail: c_petroman@yahoo.com

Abstract
Improving the production of sheep milk can be done by improving the integrated management of the farm, depending on resources, operating system, breed or hybrid, it is necessary to implement a knowledge management in which the information infrastructure consists of exploitation technologies, measures on feeding, choosing the optimal system according to the fodder resources, the orientation of the selection and improvement according to the heritability of the desired character, managerial methods and practices for achieving the goals. Best integrated management practices must also provide for the creation of a good community relationship between farmers and consumers, the maintenance of a healthy environment in the area of farms and the planning of the financial future of specialized farms for milk production. The more milk the sheep produce, the higher the meat production, due to the heavier weight at weaning, but the selection must be based on this criterion, in order to prolong lactation.

Key words*: sheep, production systems, milk*

INTRODUCTION

Milk production is influenced at sheep by environmental and genetic factors, with some peculiarities that can and must be exploited by applying the most efficient technologies for enhancing the lactogenic capacity of different sheep breeds. Because sheep farmers are interested in obtaining the sheep they farm as much milk as possible, for processing, a new rethink is needed on the structure of breeds and hybrids to be used for milk production obtained on professional farms. [1,5,12,16]

Under the operating conditions imposed in professional farms, it is necessary to control the factors that control milk production, including an important role for the breed being exploited, the amount of milk obtained per lactation in the sense that sheep breeds have productions:

- large - Lacaune, Friza, Awassi, Langhe breeds;
- medium - Turkish, Sardinian breeds;
- small - meat breeds, Merions and Karakul.

It is found that individuality offers each breed, regardless of its degree of improvement and improvement of production, a very wide variability as well as age in the sense that production has an upward trend until the fourth lactation. In addition to genetic factors, race, individuality, sex, type of calving, conformation, total production is also influenced by internal environmental factors such as age, ability to convert food, physiological condition and health but also by environmental, external, climate, soil, vegetation, factors nutritional level and production system.

Only the simultaneous and at the same time competent use of all these large groups of genetic and non-genetic factors that influence milk production in sheep, by applying the most modern technologies appropriate to production systems and efficient capitalization of biological characteristics of local breeds, with high adaptability to exploitation will help increase production and ensure the needs of consumers in the market of sheep's milk products. [2,8,9,15]

In the current situation, with the change of sheep exploitation directions through the use of the heterosis effect, the objectives regarding the improvement of breeds have changed, the main motto of breeders being the increase of the level of milk productions.

In the western part of Romania, where large flocks of sheep are exploited in professional farms with plant resources, measures are needed to stimulate this activity: investments in the selection and improvement of the native Turcana and Ratka breeds, optimal nutrition systems, maintenance, reproduction management and integrated management of its production and capitalization. [3,4,10,14] The intensification of dairy sheep production will aim at:

- increasing the duration of lactation by stimulating feeding during lactation;
- efficient use of plant resources by improving grazing management;
- grazing for longer periods and intensifying reproduction by stimulating estrus;
- prolonging the vegetation period by setting up artificial grasslands with plants that ensure an optimal nutritional level for the planned milk productions. [6,7,11,13]

MATERIAL AND METHOD

For the research were taken into study mother sheep's of Turcana breed, exploited in Arad County, Western Region of Romania, the main purpose of the studies being the analysis of the productive capacity of sheep in order to propose for implementation the most efficient technology to increase milk production. The objectives of the research were to find the best systems for the exploitation of the Turcana breed, which is well adapted to the climatic conditions in the researched area and to propose the best farm management for prolonging lactation.

RESEARCH RESULTS

Taking into account the fact that the sheep studied are in control of production, being exploited in professional farms we recommend the implementation of the best farm management for milk production in sheep by selection based on total production by lactation and hybridization with Lacaune breed when:

a). exploitation is made extensively on natural meadows in purebred for milk production growth;

b). exploitation is made in a semi-intensive system by hybridization of F1 lambs (Lacaune x Turcana) [15];

c). extensive exploitation on cultivated meadows, purebred and provision of plant resources to stimulate milk production and prolongation of lactation;

d). semi-intensive exploitation on hybrid sheep on cultivated meadows by controlling the nutrition of lactating sheep to achieve the expected milk production;

e). in a semi-intensive system on cultivated meadows and additional feeding of lambs to increase milk production.

Taking into account these aspects, we consider that it is necessary for the improvement of the exploitation management for Turcana sheep and hybrids with Lacaune, exploitation systems specific to the type of production.

Regardless of the extensive or semi-intensive exploitation system, we consider that the most important aspect in the exploitation of sheep for milk is the management of the farm. This type of management is based on:

1. information flow management from farmers and market distributors or farmers and consumers.

2. knowledge management in which the information infrastructure consists in (Figure 1):

a. exploitation technologies;

b. measures regarding feeding;

c. optimal production systems according to feed resources;

d. orientation of selection and improvement according to the heritability of the desired character;

e. managerial practices for achieving goals.

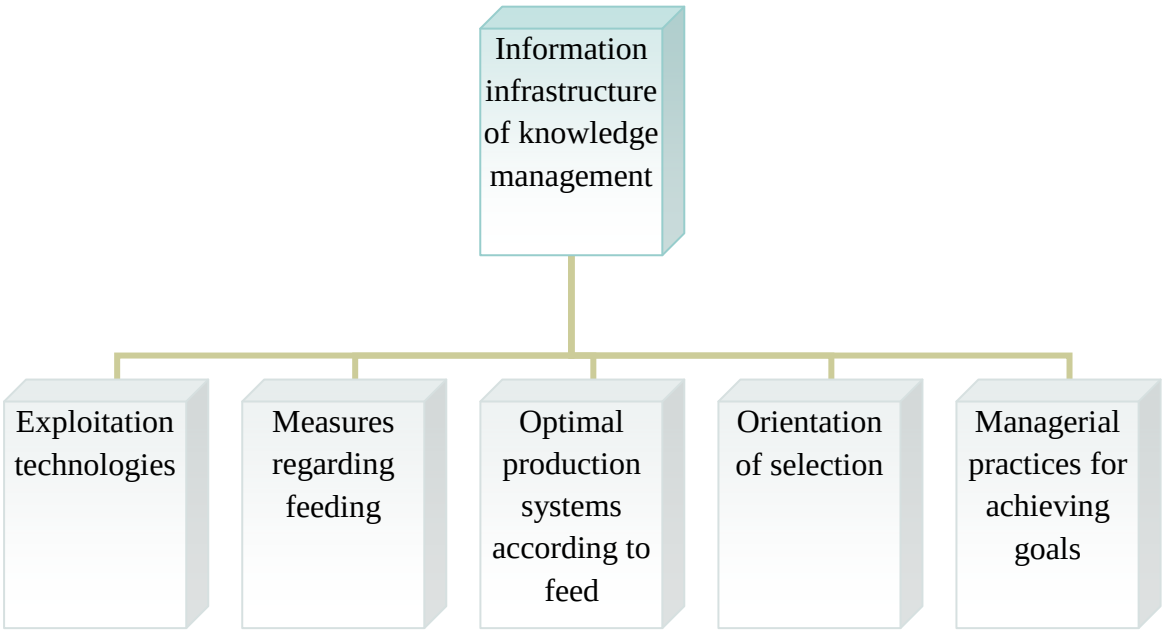

Figure 1. Information infrastructure of knowledge management

The main steps to be taken in improving the total milk production of Turcana breed and hybrids with milk breeds depending on the production system are the following:

- accessing knowledge regarding selection, breeding, nutrition, production management;
- facilitating the increase of the knowledge volume by improving the human resource from the professional farms;
- generating new knowledge, based on research in the field;
- proposing modern systems and technologies for the exploitation of dairy sheep depending on the adaptability degree of hybrids;
- integration of knowledges in technological processes with a high degree of economy;
- measuring the value of knowledge;
- the impact of the management process;
- knowledge representation;
- knowledge transfer to all farmers members of the product association on the sheep breed;
- the use of accessible knowledge in making decisions regarding the operating system, integrated production management.

3. integrated quality management, in obtaining milk production;

4. best practices in integrated milk production management which should include:

- creating a good community relationship between farmers and consumers;
- maintaining a healthy environment;

- planning the financial future of the sheep farm specialized in milk production.

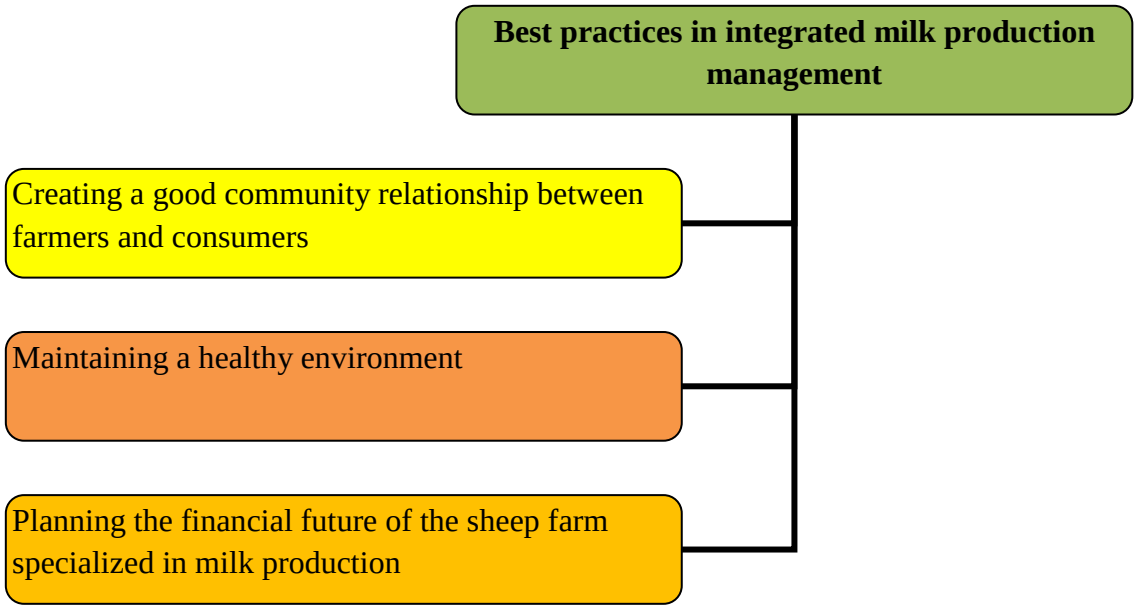

Figure 2. Best practices in integrated milk production management

We can conclude that integrated production management, based on theoretical and practical knowledge on obtaining production in different systems in professional farms has real chances of improvement by adopting the best management, depending on the financial strength of the farm and the method of operation and selection to obtain an increased production of sheep's milk in economic conditions.

CONCLUSIONS

In current context when the demand for sheep's milk products is increasing, there have been major changes in the exploitation of dairy sheep through the use of purebred milk and hybrid sheep, due to the benefits of the heterosis effect in terms of milk production. Also the sheep of Turcana breed, a native species, with a high degree of adaptability to the climatic conditions in the researched area, can be exploited in purebred or mixed with Lacaune milk breeds depending on the exploitation system, plant resources and financial possibilities of professional farms. Regardless of the extensive or semi-intensive exploitation system, we consider that the most important aspect in the exploitation of sheep for milk is the management of the farm.

This type of management is based on the information flow management, knowledge, quality and best production management practices. By using integrated production management according to the financial strength of the farm, increased milk production can be obtained depending on the operating system and existing plant resources, because sheep's milk is a valuable product for obtaining high quality dairy products, much appreciated by consumers on the market.

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