

IMPROVING COMPETITIVENESS AND SUSTAINABLE APPROACH TO MANAGEMENT IN ANIMAL HUSBANDRY

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ABSTRACT: The paper presents the importance of management and its contribution to achieving economic and humane results in animal husbandry. The presentation is a part of the overall importance that opens possibility for further analysis of the achievements, empirics and the extension of scientific discipline. Reality and other limits are limiting factors, but also an incentive to invest even more in overcoming the above, relying on information systems and techniques. A fair number of traditional attitudes have been overcome and scientific knowledge has been extended to emphasize individualism with the reduced need for staff expansion.

Key words: *management, animal husbandry, economic goals, humane*

INTRODUCTION

Management as a science discipline is largely based on the theoretical analysis and approach to the problem/s through its basic processes: planning, organizing, managing and controlling. Management Eng. Management in translation, depending on the concept, means conducting, guidance, administration, business, disposal, directing or managerial work. The approach to management process itself comes from a higher complex level on the one hand, but logical on the other. Nevertheless, globally, management is based on the concept of universality and, therefore, it is multidisciplinary.

As the economy is based on managing scarce resources, management also includes the efficiency of using resources. The efficiency of using resources gives the result in the effective realization of goals. Efficiency means a complement of effectiveness, practically demonstrating "the right thing in the right way", that is, maximizing the relationship between the output and the input, of a particular production, business or other type of process.

The concept of universality is a complement to other scientific disciplines, which means that management principles can be recognized in other scientific areas, and in the last decades, cases with prefix management are identified, that is, infiltration is evident in

the fields of natural, technical-technological, medical, agricultural, social and humanistic sciences.

MATERIAL AND METHODS

The research methodology is based on a literature review, analysis and descriptions, or a review of all data sources. It covers the analysis of the situation in the livestock sector of the Republic of Serbia, the approach to the structure of factors, the connectedness of factors and the economic effects as a result of both the undertaken and the potential activities. For the application of the scientific description, it was necessary to possess predispositions on the scientific plan, because based on the given descriptions, it is possible to propose activities or their synthesis. The paper relies on empirical conclusions that can be checked in the future. Using the objective description we have expanded aspects and confirmed the already built views.

RESULTS AND DISCUSSION

Considering the agricultural policy, the general level of development, the inventory, the production of milk and meat, as well as the issues of the entire cattle breeding of the Republic of Serbia, the situation of livestock production in our country and its economic significance has been demonstrated.

Global process and development, increased level of standards and food needs, contributed to the development of livestock as a specific economic branch and the basis of the agricultural policy of the developed countries of the European Union and the domestic economy of the Republic of Serbia, which traditionally relied on agriculture and animal husbandry. As mentioned above, the management refers to the process arrangement in achieving the planned goal, relying on existing resources with capacities, but it is not sufficient if one doesn't know how to manage them.

The process of planning, organizing, managing or controlling is not complete if we skip the strategic factor of any business activity, which is human resources. Human resources may be downsized, which is a fact in most cases, but nevertheless, it can be also sufficient because management also adjusts the availability of resources. It is only after reviewing and rounding up the existing capacities that the implementation of strategic business objectives can be achieved. Management in animal husbandry is a part of organizational sciences at the level of a smaller or larger business entity or agricultural holding and refers to animal husbandry. Cattle raising includes the following:

- cattle breeding;
- sheep farming;
- goat breeding;
- pig farming;
- poultry raising;
- horse breeding;
- mixed cattle breeding etc.

Sere et al., 1996, conclude that livestock makes an important contribution to most economies as it produces food, ensures safety, improves crop production, generates cash income to urban and rural areas, provides fuel and transport, and produces goods with added value that can have multiplicative effect of creating the need for services.

Herero et al., 2009, state that the cattle is a global source of significant benefits to society in forms of food, income, nutrients, employment, insurance, towing, clothing and more. Farmers in most cases deal with cattle breeding of several species, i.e. cattle, sheep and poultry, and in some cases goats too. According to the data on the territory of Serbia, the most dominant is mixed cattle breeding, which means that no cattle breed is specified. Herero et al., 2010, state that farmers in mixed cattle systems produce around half of the world food. Activities mentioned above require knowledge, experience, persistence, resourcefulness, that is, intellectual capacity, resources and general social responsibility. In the activities of the villagers/peasants, according to these activities of the manager, there are also activities beside breeding and choosing their own selection or the purchase of quality livestock:

- food preparation-hay,
- concentrated food and meals,
- supply of the brood material,
- marketing campaigning
- recommendation and marketing.

In the last decade, Serbia has recorded a marked decline in livestock cattle at the level of agricultural holdings due to, social, economic and ultimately cultural changes. A positive foreign trade in milk and dairy products is being achieved, but at the expense of the economy of the Republic of Serbia, a quantitative growth of imports is registered, while the decline in milk and meat exports is recorded. The effect of this is expressed by the decline of standards of farmers and the gross domestic product of the Republic of Serbia. The need for an answer was from the beginning expressed, but never started, or realized. In order to contribute to the answer to this question, we will introduce the initial elementary views that are reflected in the primary position. The first and primary position is based on the awareness of political leaders that sustainable agriculture and livestock is a strategic factor in the economic development of the Republic of Serbia.

According to Sharma i Shardend (2011), sustainability of agriculture is a combined product of a social, economic and ecological factor and also depends on time and spatial variations.

The already mentioned position that animal husbandry is a significant economic branch can be a fairly detailed discussion. According to factual situation and historical indicators, agriculture, and cattle breeding more specifically, has always been in the strategic, first place. Practically it was the primary factor for sustaining social stability.

Although it is primary and strategic, the potential livestock capacity has never been utilized so far. The European road nation requires the Republic of Serbia to maximize the production capacity, in this case the production of milk and meat, for the purpose of achieving as high quota as possible, on the one hand, and, on the other hand, full employment of human capacity. The result of this is reflected in the increase in export capacity as one of the most important alternatives, as well as in the increase in the technical and technological aspect of production and sustainability. Delgado et al., 2001, state that the extension on the live livestock reserves provide the possibility of expanding capacity of existing production and distribution systems. Agriculture and cattle breeding of the Republic of Serbia have a potential and a pronounced comparative advantage not only on the Balkan Peninsula, but also on a significant part of the territory of the European Union. By emphasizing the strategy for development of agriculture and cattle breeding, the Republic of Serbia would build the position and improve the overall competitive advantage of the economy economically, and sustainable development as

well. The Republic of Serbia has large natural and other capacities for dairy cattle breeding, calf breeding, fattening up bulls, as well as other activities of which the most important is milk processing and dairy products production.

According to the statistical yearbook of the Republic of Serbia for 2018, Table 9.1, production of agricultural goods and services at the producer prices of the current year, milk production slightly increased from 35 047.9 million dinars to 35 387.5 million dinars and from the cattle form 30 352.6 million dinars to 31 039.7 million dinars, which shows the obvious need for even greater results achieved by not big business systems, but small agricultural farms. Although it is evident that there is a slight increase in both segments, it is important to emphasize that the impact can be observed by high milk yield per head that is individual.

The achievement of the maximum economic results in animal husbandry is based on the respect of biological laws, the genetic potential of domestic animals, the uniqueness of nature as a whole, the control of the weather and other external factors, animal reproduction in general, and further deeper analysis in order to increase the contribution to the production and synthesis of all the above. Realization would create the creation of new genetic potentials that require a new relationship, starting from the environment in which they exist, which means temperatures and hygiene and the rest of the accompanying chemical and health care. According to Wathes and Charles (1994), taking care of the place where animals live is the main determinant of the health, welfare and productivity of animals.

Nienaber and Hahn (2007) emphasized that although weather-resistant animals are available, biometeorology plays a key role in rational management, which means that under cold stress, reducing the loss of the heat is the key and under hot stress reducing the heat is the key.

Achieving economic goals does not depend only on the technique available, but also on the management, the application of its functions, i. e. processes with the idea of satisfying domestic needs, increasing international traffic in this and the rest of the domain, and maximizing profits. As already mentioned, there are a number of factors that negatively affect the development of animal husbandry. The most intense of them is the competition which activities are based on increasing the ratio of inputs and outputs in the production process, political support and other economic capacities. In addition it is important to state that the size of the holding, that is the company, the location and the distance, strategically influence business success and development, or competitiveness. Practically, the greater the distance from the urbanized environment, the better, from the ecological point of view, but from the aspect of available labor and distance of consumers the greater is the distance it is the worse for the holding.

Enhancing competitiveness includes rounding up the production and processing process, from fertilization to the sales process, thus extending the portfolio of flexibility and market adaptability. This requires need not to circumvent the scientific support, determining the necessary proportion of the accommodation quadrature, the necessary ambient, monitoring the biological cycle, as well as continuous investment in genetics, which results in a reduction in fatigue and an increase in the production characteristic of the herd in possession. However, in Serbia, because the existing potentials are not used sufficiently, the limit of production possibilities is not being reached it is evident that the use of the resources is inefficient. This fact is complemented by small production on the one hand and low consumption of domestic products on the other side of the market. According to Steinfeld et al., 2006, individual consumption of livestock products is

closely linked to per capita income, that is, with the rising incomes of people who usually increase the consumption of milk, meat and eggs to the extent they become fully integrated with daily diets. Practically, one can identify the irrational use of the existing cattle potential on one side, and insufficient state incentive on the other.

In addition to range of possibilities for milk cattle breeding, due to economic limitations, it is largely transferred to fattening up cattle breeding. Breeding fattened up bulls and cows is however, an easier activity than keeping dairy cows. The purchase of milk has been developed so that it is protected and privileged from large business systems, while small producers are under the burden of milk purchasers, that is, their criteria that are reflected in the control:

- fat content
- protein
- dry matter
- bacteria
- somatic cells

Practically, the purchase involves rejection, that is, control of milk quality, real and unrealistic perpetrators at the level of small farms and individual milk producers.

According to the observations of numerous experts from agriculture cattle breeding was a factor that brought Serbia's agriculture out of deficit.

The normal and sustainable development of livestock production depends on the applied cattle breeding technology. This indicates the need for effective development of management in the field of animal husbandry, establishing the necessary technique of realistic possibilities of norms in achieving the planned. Overcoming the economic principles both at the beginning of the business and at the advanced stage, where economic results are optimal, is necessary. The reason is the principles of humanity in the primary place. By respecting both principles, their maxims and socially responsible business are achieved. Socially responsible business in this segment represents the harmony between the economic benefits of animal breeding and the biological laws of nature. In order for humanity to be sustainable, according to Hemsworth (2001), it is necessary to identify negative and positive elements of interaction between humans and animals for animals in order to gain the opportunity to alleviate some of the aversive interactions that is sometimes necessary in livestock production.

Sorensen et al., 2010, state that current European farmers are experiencing the transfer of managerial tasks for field agriculture to a new paradigm, which requires increased attention to economic sustainability and interaction with the environment for which information systems integration is needed for the purpose of formal instructions, recommended guidelines and documentation requirements for different decision-making processes.

The development of information systems in all segments led to the development of software solutions for all processes, both business organizations and agricultural holdings. They can record all activities, track revenues and costs, and see realized and potential profit. As in all other business systems, in agricultural systems as well information systems influence the making of significant decisions that contribute to the achievement of profits, quantity and quality of the holding of resources and livestock funds.

Using the information systems, the multidisciplinary of management in agribusiness, i.e. animal husbandry, is evident. Mathematical, statistical, economics, veterinary, biology and management methods are used to achieve maximum results and an optimal

strategy for fulfilling it. By, by using application of new integrated agro software for recording and monitoring farm business operations, for example, FarmSoft P.G. 20.17., it is evident how far the level of application of information systems in agriculture and farming has reached. Farm Soft P.G.20.17, consists the following modules, shown in Table 1.

Table 1. List of agricultural land management modules

Module	Application
1.	Book holdings
2.	Crop farming
3.	Olericulture
4.	Pomiculture
5.	Cattle breeding with cow milk production
6.	Sheep farming with sheep milk production
7.	Goat farming with goat milk production
8.	Pig breeding
9.	Open fattening animals
10.	Services to third parties and monitoring of household expenses
11.	Storage of manufactured goods
12.	Commerce (procurement and sales)
13.	Simple bookkeeping

The modules individually enter the data relevant for further analysis: inventory of animals by categories, food consumption by categories, data on animal insemination, data on animal welfare and health, data on animal death and scrapping of animals, sale of animals, etc.

Management in animal husbandry from one aspect isolated, conservative and poorly exposed to changes from another aspect requires adaptation with constant changes, innovations and new technical and technological solutions, relying on information systems. However, despite the intensive development of information systems in the future, according to Thornton (2010), production will increasingly be under the influence of competition for natural resources, especially land and water, competition for food and the need for work in the polluted environment.

CONCLUSIONS

By realization of this, by achieving an optimal level of health, a domestic relationship with animals, a high level of productivity of domestic animals can be achieved. From another aspect, by achieving an optimal level of management, that is, organization of work and business, success is inevitable.

Management in animal husbandry is built on economic, organizational, marketing, social, technical, technological, and information postulates. Yet one of the basic postulates of animal husbandry is based on morphology of domestic animals, genetics, their reproduction, and improvement of the level of quality with economic effects. If the analysis was raised to a higher level, cybernetics could be identified as one management system on agricultural holdings, farms, organizational system, as well as a general set of

information and activities related to the collection, storage and processing of data, with the aim of rational use of resources. In addition, the negative effects and stress that is necessary to eliminate, as well as affect the resistance of the animal organism, from balanced diet, fertilization, breeding, selection, to the very products they provide, are identified.

The aim of managers in animal husbandry is to achieve maximum goals, i.e. productivity with maximum organization, using existing resources, relying on ethical or human principles. However, in order to achieve this, the manager must be maximally involved in the process of animal breeding.

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