SUMMARY

of the doctoral thesis entitled:

RESEARCH REGARDING THE IMPACT OF FEEDING TECHNOLOGY AND REARING SYSTEM ON THE INCIDENCE OF CALF DISEASES AND GROWTH INDICATORS IN DAIRY FARMS

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Calves rearing, whether cows or buffaloes, is essential to ensure a steady flow of animals, which contributes to the stability and sustainability of milk production on farms. Investing in calf health and development directly influences the quality and quantity of milk produced, having a significant impact on the farm's long-term economic profitability. In addition to their role in agriculture, buffaloes contribute to the maintenance of biodiversity and the efficient use of natural resources, adapting well to local conditions and helping to preserve traditional rural landscapes.

The present thesis is structured in two parts: the first part presents the bibliographic study of the chosen theme, and the second part reports the own research carried out.

Part I of the thesis begins with the first chapter titled "STAGE OF RESEARCH REGARDING VINEYARD GROWING TECHNOLOGIES". In the course of this chapter, data are presented regarding the importance of raising calves, by highlighting how to feed, shelter and care for them. Also in this chapter, new technologies to be applied in farms are presented, which facilitate the detection and prevention of calf ailments.

Chapter II of the thesis is called "RESEARCH ON CATTLE FEEDING SYSTEMS" and includes four subchapters. This chapter begins with the description of the development stages of the digestive system in ruminants, presenting each transition period and the influence of the calf feeding method (milk, concentrates, fibrous fodder, etc.) on them. Furthermore, the importance of watering calves from an early age is described and encourages the calf to consume as much feed as possible.

The third chapter is called "STATE OF RESEARCH INTO LIVESTOCK TECHNIQUES". In this chapter, the methods of very early, early and late weaning are described, which are applied in farms in Romania, but also in other countries. These methods are differentiated by the age at which milk suppression is applied or by the amount of feed ingested by the calf.

The fourth chapter of the thesis is entitled "CURRENT STATE OF KNOWLEDGE REGARDING THE HEALTH AND WELL-BEING OF CALVES" and aims to highlight the main diseases that occur in calves between 0-3 months. The main conditions that have a large economic impact, in all countries of the world, are represented by neonatal diarrhea and the complex of respiratory diseases. Thus, vaccination remains the main recommended method of prevention. Moreover, the welfare of animals, especially calves, is an increasingly intensively discussed concern, and thus a subchapter referring to it was also introduced in the thesis.

The second part of the thesis describes the PURPOSE AND OBJECTIVES OF THE RESEARCH, representing the first chapter of this part. The proposed objectives were the following: the study of the dynamics of body weight of calves from birth to weaning; the study on the influence of farm size on rearing technologies and the health status of calves in dairy cow and buffalo farms; the study of calf rearing technologies in dairy farms in Romania according to criteria such as the organic or conventional rearing system. In order to achieve what was proposed, data on growth from an emblematic farm for Romanian animal husbandry were analyzed, and for the influence of the breeding system and for the size of the farm, a questionnaire was created that was distributed to several farms in the country, the final analysis being realized on 81 of them.

Chapter VI is entitled "RESEARCH ON THE DYNAMICS OF BODY WEIGHT OF CATTLE FROM BIRTH TO WEANNING" and presents statistics on the correlation between parameters such as: weight at calving, weight at calving, age at weaning, the amount of IgG in the blood, but also the average growth daily. Thus, we obtained a very weak and almost negligible correlation (-0.016) between calving weight and calf weaning age; moderate to strong positive correlation (0.571) between calving weight and weaning weight; a moderate to strong negative correlation (-0.587) between birth weight and IgG level; Strong correlation of 0.709 between mean daily gain (DMG) and weaning weigh

Chapter VII is entitled "COMPARATIVE RESEARCH ON THE INFLUENCE OF FARM SIZE ON REEDING TECHNOLOGIES AND CATTLE HEALTH STATUS ON DAIRY COW AND BUFFALO FARMS". In this chapter, the data obtained from the distributed questionnaires were systematized. The sizes considered, for cow farms, were distributed as follows: small farms (between 5 and 25 heads), totaling a total of 32 dairy cow farms; medium farms (26-100 heads), which totaled a total of 23 farms, and finally large farms (over 100 heads), which totaled a total of 26 farms. For buffalo farms, sizing was into small and medium farms (5-50 head), with a total of 5 farms, and large size farms (over 50 head), thus obtaining response from 3 farms.

The size of the farm statistically influences several technological parameters, such as the separation of the calf from the mother cow, the type of milk administered, the way the calves are maintained, the method of administering colostrum/late, the existence of the colostrum bank, the period of individual maintenance, the existence of farrowing cages , the amount of milk administered, the type of hay used in calf feed. The size of the farm has a major importance also on the health parameters, statistically influencing the incidence of diarrhea, respiratory diseases, dehorning and the method of applying this method,

For dairy buffalo farms, farm size statistically influences the timing of the first colostrum administration, the method of colostrum administration, and health influences piglet vaccination.

The next chapter is called "COMPARATIVE RESEARCH ON GROWING TECHNOLOGIES AND LIVESTOCK HEALTH STATUS IN ORGANIC AND CONVENTIONAL GROWING SYSTEMS". The responses we relied on total 21 organically certified farms and 60 conventional dairy farms, and for buffalo farms we obtained 6 conventional farms and 2 organically certified farms. According to this chapter, the breeding system has a statistical influence on the deworming of calves, statistical differences between buffalo farms raised in organic and conventional systems, being non-existent.

The last chapter concludes this thesis, with a series of recommendations, but also general conclusions. The role of this chapter is to briefly highlight the data obtained in order to raise buffalo calves and dairy cows in Romania.