SUMMARY

of the doctoral thesis entitled:

RESEARCH ON THE MORPHO-PRODUCTIVE AND REPRODUCTIVE CHARACTERISTICS OF THE ȚURCANĂ BREED

PhD-student: **PUIE Andrei**
Scientific coordinator: ***Prof. Univ. Dr.* CĂLIN Ion**

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Sheep breeding is mainly found in the mountainous areas of Romania, characterized by favorable geo-climatic conditions for this agricultural activity, also possessing important natural resources for oviculture. The exploitation of these resources, as well as the environmental conditions, led to the formation of rustic sheep breeds, including the Țurcană breed, exploited by Romanian farmers for its mixed productions.

The prospects for sheep breeding at national level emphasize the importance of evaluating the breed-specific productive performance and the biodiversity of the existing biological material in order to implement breeding technologies to improve the breed's productive performance. Through selection and breeding, as well as by capitalizing on the existing gene pool, the biological potential for the production of the Țurcană breed can be increased. By developing clear, precise and efficient genetic improvement programs, remarkable results can be achieved in species of zootechnical interest, including the breed of sheep of the Țurcană breed.

Among the productions of Țurcană sheep breeds, milk production registers the largest share, followed by wool and meat, according to the type of breed and the class of sheep from which it comes. Therefore, the orientation directions of breeding and exploitation must start from the knowledge of the real characteristics of the sheep breeds. Thus, mixed types and new breeds of sheep specialized in the direction of meat, milk, wool, fleece production can be created.

Considering the importance and spread of the Țurcană breed in the context of Romania, given its adaptability to various environmental conditions and the mixed character in terms of productions, the study of this breed from the perspective of morpho-productive and reproductive characteristics is of interest both at the level of researchers scientists, as well as local farmers raising this breed, also having a major importance for the national agricultural economy.

Therefore, the main purpose of the work entitled "*Research on the morpho-productive and reproductive traits characteristics of the ecotypes of the Țurcană breed*" is to recognize the productive capacities of the varieties of local populations of the Țurcană breed, and the productive differences between varieties, and to propose improvement directions in order to homologate these varieties as breeds, favoring multiple benefits. First, official recognition of the breed at the national level would help validate the importance of the breed and facilitate access to economic resources and support programs for individual breeders. Approval could also open up new opportunities for the development of the agricultural economy by increasing the income of breeders, accessing the international market and promoting the breed's national products. At the same time, another benefit of breed approval is the perpetuation of the breed for future generations of breeders by preserving the heritage of the Romanian sheep sector. Increasing the competitiveness of the sheep sector is another possible result of approval, stimulating breeders to develop activities to breed this breed and achieve competitive results at national level.

An important aspect considered in this paper is to facilitate the implementation of selection and improvement programs of the breed in order to improve the morpho-productive and reproductive characteristics of the Țurcană breed. Thus, this paper provides an in-depth analysis to highlight the potential of the breed and its contribution to the sustainable and competitive development of the Romanian sheep sector.

This study therefore follows several general directions in order to develop specific objectives. First of all, the study proposes the development of research on the production of milk, meat and wool in the Țurcană breed in Romania, by collecting statistical data from the farms registered in the Official Production Control and the Genealogical Register. Secondly, the aim is to find, based on these detailed researches, some breeding directions that can be used, at national level, to establish an improvement program that promotes the performance of the Țurcană breed and their ecotypes. Thirdly, it is intended to determine the economic efficiency of the exploitation of the Turcana breed for the production of milk, meat and wool, at national level in the applied breeding systems.

In order to achieve the purpose of this research, the following specific objectives have been proposed:
- Defining the global and national importance, orientations and prospects of sheep farming
- Study of the phenotypic characters of the sheep populations of the Țurcană breed.
- Analysis of the productive aptitudes of the sheep populations of the Țurcană breed.

The doctoral thesis entitled *RESEARCH ON THE MORPHO-PRODUCTIVE AND REPRODUCTIVE CHARACTERISTICS OF THE ECOTYPES OF THE ȚURCANĂ BREED* has two parts. The first part includes a bibliographic study structured in two chapters, and the second part includes his own researches, presented in chapters III, IV, V and VI. In order to achieve this goal, several stages have been established, which are described in the six chapters of the work.

Chapter I presents the main directions for sheep farming worldwide, focusing on the development of the sheep sector and the classification of countries on the importance of sheep farming in the regions described. Also, the orientations of the sheep breeding sector in Romania are analyzed, determining the evolution of the sheep sector in recent years and long-term development prospects.

Chapter II presents the origin, formation and spread of the Turc Țurcană an breed, as well as the varieties and ecotypes of this breed. Also, the characteristics and skills for the production of milk, meat and skins of the Țurcană breed are defined.

Chapter III presents the purpose and objectives of the work, as well as the research methods and materials used for the study. In order to achieve the main goal of the titled paper, namely to recognize the productive capacities of the varieties of the local populations of the Țurcană breed, as well as to fulfill the specific objectives of this paper, various research methods were used, which allowed the collection, analysis and interpretation of data through statistical methods. These research methods allowed the evaluation of the morphoproductive and reproductive characteristics of the Țurcană breed populations in Romania.

Chapter IV presents the study of the phenotypic characters of the sheep populations of the Țurcană breed (Bălă, Brează, Bucălaie ecotypes). The study of phenotypic characters is an important aspect in order to evaluate and improve sheep populations of the Țurcană breed, as it provides necessary information regarding the genetic potential, productivity and adaptability to the specific conditions of the areas where this breed is raised. By analyzing the three ecotypes of the breed, namely Bălă, Brează and Bucălaie, the present study provides an image of the breed's traits. The aim of this study is to understand the phenotypic variability between the three ecotypes of the Țurcană breed, represented by sheep selected from holdings breeding these ecotypes. In order to obtain results representative of the objective, the study involves the analysis of body measurements and the determination of the body weight of the sheep from the samples selected for analysis. The objective of determining these phenotypic characters is to identify characteristics that can be improved through breeding and genetic selection methods.

Chapter V presents the analysis of the productive skills of the sheep populations from the Bălă, Brează and Bucălaie ecotypes of the Țurcană breed, in the direction of milk production. For each individual ecotype, the indicators relevant to milk production will be determined, constituting a basis for discussions regarding the differences and similarities between the productive abilities of the three ecotypes in the direction of milk production, as well as their comparison with the standard of the Țurcană breed.

Chapter VI presents the conclusions and recommendations in order to support the importance of the Țurcană breed and their ecotypes in Romania, noting that the Țurcană breed demonstrates a remarkable adaptability and a high economic potential, being exploited especially for milk production. The study confirmed the significant differences between the Bălă, Brează, Bucălaie ecotypes both in body conformation and in milk production, having a major potential for genetic improvement. In this sense, it is recommended the reproductive isolation through the selection and improvement of the Bălă, Brează, and Bucălaie ecotypes, their recognition as distinct breeds, the implementation of genetic programs to improve production and capitalize on the economic potential.