# OPINION

regarding the dissertation work for awarding the educational and scientific degree of ***Doctor*** in the field of higher education 6. Agrarian Sciences and Veterinary Medicine, professional area 6.3. Animal Breeding, scientific specialty: Breeding of Farm Animals, Biology and Biotechnology of Reproduction.

**Author of the dissertation work:** **Zornitsa Boykova Petkova,** a part-time doctoral student in the Department of Animal Breeding Sciences at the Agricultural University - Plovdiv

**Title of the dissertation work:** *Modern Trends in the Creation of High-dairy Sheep Population in Bulgaria and Opportunities for the Use of Pleven Blackhead Sheep in the Selection Process*

**Reviewer:** **Prof. Dimitar Ferdinndov Grekov, DSc** (field of higher education 6.Agrarian Sciences and Veterinary Medicine, professional area 6.3. Animal Breeding, scientific specialty: Breeding of Farm Animals, Biology and Biotechnology of Reproduction), assigned a member of the scientific jury according to Order № РД-16-612/14.05.2025 of the Rector of the Agricultural University.

## 1. Relevance of the topic

Bulgaria is a country with long traditions in the development of dairy sheep breeding. In this regard, is the improvement of milk yield is of great importance by using both local breeds and breeds adapted to Bulgarian climatic conditions. In this aspect, applying a systematic, scientifically based approach and breed-forming process in conjunction with new technologies of sheep breeding and feeding is of particular importance for obtaining rapid results from the selection process. The thesis set out in the dissertation work is of particular relevance. It aims at determining the status and trends in dairy sheep breeding by studying the dynamics of development and productivity of part of the controlled dairy population, as well as at establishing the possibilities for using the main local dairy breed - the Pleven Blackheaded sheep - in the selection process in order to create a high-milk population in our country. By solving the problem, the traditions of Bulgarian sheep breeding are continued and the profitability of the industry is increased.

## 2. Aim, tasks and methods of research

The aim and tasks are clearly and precisely formulated on the basis of a phenological and population-genetic analysis of a selectively isolated part of the dairy population in Bulgaria by studying the current trends in the development of dairy sheep breeding and the possibilities for using the Pleven Black-headed sheep in the breed-forming process. Regarding the implementation of the aim, specific tasks have been set to determine the development directions and the possibilities for productivity management in the Synthetic Population called *Bulgarian Dairy* by determining the possibility of using the Pleven Black-headed sheep as a basis for creating a highly productive dairy population in our country. An important factor is determining the possibility of using high-blood crosses of the Pleven Black-headed breed with the Asaf breed for year-round production, by studying the milk yield and lactation stability at different calving seasons.

## 3. Visualization and presentation of the obtained results

The dissertation is written in an excellent academic style and clear language. The total volume of the dissertation work is 185 pages. They include the following parts: 3 pages for abbreviations, 1 page - Contents, 2 pages - Introduction, 26 pages - Literature Review, 2 pages - Aim and Tasks, 10 pages - Material and Methods, 102-106 pages - Results and Discussion summarized in 6 pages, 3 pages - Conclusions and Recommendations, 25 pages – References with 302 sources, of which 57 in Cyrillic and 245 in Latin, 2 pages – Contributions, publications related to the dissertation -1. Research results are presented in 53 tables, 30 figures and 12 photos.

## 4. Discussion on the obtained results and the used references

Based on a thorough literature review, a clearly set goal, precisely specified tasks and the many obtained own results, a thorough in-depth analysis has been made. The results obtained are presented very well in tables, figures and photos and are interpreted professionally, which shows thorough knowledge and deep understanding of the material. The correct methodological approach, adequate equipment and the exceptional awareness and precision in the work of the doctoral student have also contributed to the in-depth analysis. The presented material has both clear scientific value and practical applicability. The summary of the obtained and analyzed results makes a good impression. The Pleven Black-headed sheep can be used as a basis for crossing with more highly productive breeds. The crosses of the Pleven Black-headed sheep with the Asaf breed have a high potential for milk

production, but are more sensitive to the influence of unfavorable environmental factors, as with increasing blood count, the sensitivity increases. The Pleven Black-headed sheep has a high milk yield potential. Under appropriate feeding conditions it is not inferior to crosses with Asaf. 13 conclusions and 4 recommendations add more knowledge about the Pleven Black-headed sheep.

**5. Contributions of the dissertation work**

All contributions are based on the experimental work and correspond to the discussions and conclusions. All studies and in-depth analysis provide the basis for the formation of 9 original contributions of a scientific and applied nature. 7 of them represent scientific-applied contributions, 1 is an original contribution of an applied nature and 1 is of a confirmatory nature. I accept all conclusions and contributions. I believe that the studies, analyses and conclusions are a contribution to Bulgarian breeding science and will provide an opportunity to further develop the traditions and support the knowledge about the Pleven Black-headed sheep.

**6. Critical notes and questions**

I have no critical notes.

**7. Publications and citations**

The doctoral student has presented four scientific publications based on the developed dissertation work. In three of the publications she is the first author. The total number of points is 45 out of the required 30. The publications are indexed in a world database. This gives me reason to give a high positive assessment to the work of the doctoral student Zornitsa Petkova. The presented Author`s summary objectively reflects the structure and content of the dissertation work.

**CONCLUSION:**

Based on the various research methods learned and applied by the doctoral student, the correctly conducted experiments, the developed generalizations and conclusions, I believe that the presented dissertation work meets the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations of the Agricultural University - Plovdiv for its implementation, which gives me grounds to evaluate it **POSITIVELY**.

I would like to propose to the esteemed Scientific Jury to also vote positively and award **Zornitsa Boykova Petkova** the educational and scientific degree of ***Doctor*** in the field of higher education 6. Agrarian Sciences and Veterinary Medicine, professional area 6.3. Animal Breeding, scientific specialty: ***Breeding of Farm Animals, Biology and Biotechnology of Reproduction***.

**Date:** 24.06.2025.

**Place: Plovdiv**

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