D. A. TSENOV ACADEMY OF ECONOMICS – SVISHTOV

OPINION

from

Assoc. Prof. Elena Yordanova Shopova, PhD

field of higher education: 3. Social, economic and legal sciences, professional field: 3.8. Economics, Scientific specialty: "Economics and Management (Agricultural Economics)"
Department of "Agricultural Economics "
D. A. Tsenov Academy of Economics, Svishtov

Regarding: Dissertation prepared by PhD candidate Petar Angelov Chernaev, PhD candidate No.: d010422269, for obtaining the educational and scientific degree of 'Doctor', doctoral program: 'Economics and Management (Agricultural Economics)' on the topic: 'Digital Transformation of Animal Husbandry – Problems and Opportunities' at SA 'D. A. Tsenov' – Svishtov.

Basis for submitting the review: participation in the composition of the scientific jury for the defense of the dissertation, in accordance with Order No. 1285/24.11.2025 of the Rector of "Dimitar A. Tsenov Academy of Economics"

I. General characteristics of the presented dissertation work

Volume: The dissertation work is a logically well-constructed study with a volume of 265 standard pages and includes an introduction, a main statement in three chapters (234 pages), conclusions, conclusion, a list of abbreviations used, a list of figures used and a list of tables used. The text is illustrated with a total of 36 figures and 24 tables, which creates greater clarity and overview and facilitates the formulation of systematized conclusions and a conclusion.

The volume of the dissertation work is optimal and balanced in terms of content and allows the doctoral student to present and defend the set goals and objectives.

Structure: The main text of the dissertation work includes an introduction, three chapters and a conclusion. The introduction includes the main required attributes:

relevance of the topic, purpose of the study, object, subject, research hypotheses and tasks, research thesis. In the first chapter, the doctoral student presents the theoretical foundations of digital transformation in modern animal husbandry. In the second chapter, he examines the challenges and opportunities in the digitalization of animal husbandry farms. In the third chapter, digital solutions for intelligent and effective animal husbandry in Bulgaria are proposed. After each chapter, conclusions are formulated. The conclusion summarizes the tasks completed by the author of the dissertation work and the confirmation of the research thesis.

Literature: The list of literature used covers a total of 160 sources, including internet sources. The bibliography includes diverse, authoritative and up-to-date sources that are cited correctly, and the literature used is relevant to the topic of the dissertation.

II. Assessment of the form and content of the dissertation

The topic of the dissertation "Digital Transformation of Animal Husbandry - Problems and Opportunities" is relevant, as it is determined by the need to increase the profitability and competitiveness of Bulgarian animal husbandry. The issues are argued by the doctoral student and are significant for the theory and practice in the field of digitalization of processes in the management of livestock farms, with an emphasis on specific problems and challenges in the implementation of digital solutions, as well as sustainable models for intelligent and efficient animal husbandry. Examples of good practices and innovative projects in the field of digitalization in animal husbandry worldwide are given, recommendations are made, with which the doctoral student demonstrates a high degree of knowledge of the researched issues.

The stated goal of the dissertation is of interest and is achieved by presenting a comprehensive overview of current digital trends, their practical applications and the potential they have to increase productivity while ensuring animal welfare. The dissertation answers questions related to the challenges and ethical considerations that arise with the application of innovative technologies, offering a balanced perspective on the future of agribusiness.

The object of the study is the opportunities and challenges in digitalization and the construction of the "ideal farm" with its own feed and realization (meat direction). The subject of the study is digital tools and the use of artificial intelligence (AI) for more profitable and environmentally friendly management of the livestock farm and realization of the production (meat).

The research thesis, which is defended by the doctoral student logically and purposefully, is that through the use of properly selected and qualitatively implemented digital methods and innovative technologies, which are interconnected, it is possible to simultaneously increase the quality and profitability of production, while minimizing the impact on the environment.

The study is based on the current state of the software and hardware solutions of a specific innovative company working in the field of digital technologies. The goal is to achieve a higher level of sustainable model of the "Ideal Farm".

The structure of the dissertation is balanced and corresponds to the general standards for comprehensive scientific research. There is a clearly formulated general objective of the study (to develop and validate a comprehensive framework for planning, implementing and evaluating the digital transformation in livestock farming, allowing informed management decision-making and sustainable added value under different production and institutional conditions), and the ability to successfully link with the five research hypotheses has been demonstrated regarding: the digitalization of the livestock farm, the digitalization strategy in each individual farm, the software solutions for control and management of the livestock business, the livestock business support system and the tracking of the process "from field to fork" and the quality of production in the digitalization of all processes along the chain.

A total of seven research tasks have been set and successfully presented in a theoretical and practical aspect. In terms of content, the study is characterized by precision of analysis, free interpretation, author's opinions, correctness of references and citations.

The style of presentation is scientific and logically consistent.

The abstract of doctoral student Petar Chernaev in terms of content and structure meets the established standards for the synthesized presentation of a dissertation and correctly reflects the main points of the overall content of the work.

III. Scientific and scientific-applied contributions of the dissertation

I accept the contributions of the dissertation stated by the doctoral student. The reference presented in the abstract objectively reflects the scientific and scientific-applied contributions significant for the researched field, as follows: the doctoral student has made an in-depth analysis of the state of the digitalization of animal husbandry in a national and international scope and an assessment of the investment costs for the digitalization of the various processes and their profitability. The main contributions, significant for the research area, are the author's classification of livestock farm profiles, the creation of a scale of the impact of digitalization in different farm profiles by process, the creation of automated identification systems and their integration with an ERP system for managing livestock businesses, the development of a new approach to food (meat) traceability, the development of a scheme for implementing software solutions to reduce the administrative burden on farmers and strengthen control, the creation of a theoretical model of the "ideal farm" with minimal impact on the environment. Of particular interest in the author's original ideas are a patentable model of a system for improving selection using AI and the study of the "virtual sheep" phenomenon.

Through the presented publications on the topic of the dissertation, Petar Chernaev

has made his main ideas, scientific research and results public.

IV. Summary assessment of the dissertation

The dissertation by doctoral student Petar Chernaev for the acquisition of the educational and scientific degree "Doctor", doctoral program: "Economics and Management (Agrarian Economics)" on the topic: "Digital Transformation of Animal Husbandry - Problems and Opportunities", meets the established criteria and standards for dissertation work. In the scientific work we find active author participation, scientific opinion on the topic and in-depth knowledge of the research problem. The author skillfully analyzes the achievements in scientific literature and practice. The purpose of the study is formulated clearly and specifically, it is interpreted in the research tasks, which have been successfully completed, and an answer to the questions and hypotheses of the author is presented.

The general impression of the presented dissertation work of doctoral student Petar Chernaev shows in-depth theoretical knowledge, skills for independent research thinking and competence of the author in the specific topic under study and its issues.

V. Conclusion

As a member of the scientific jury (order No. 1285, Svishtov, November 24, 2025 of the Rector of the Academy of Economics "D.A.Tsenov" - Svishtov) in an open procedure for public defense of a dissertation work developed by doctoral student Petar Angelov Chernaev, for the acquisition of the educational and scientific degree "Doctor", in the doctoral program "Economics and Management (Agrarian Economics)" on the topic "Digital Transformation of Animal Husbandry - Problems and Opportunities", I give my positive opinion for awarding the scientific degree "Doctor" to Petar Angelov Chernaev.

15.12.2025г. Reviewer: .....
Svishtov (Assoc. Prof. Elena Yordanova Shopova, PhD)