STATEMENT

on a dissertation for obtaining the educational and scientific degree "Doctor" in the field of higher education: 3.0 "Social, economic and legal sciences", professional field: 3.8 "Economics", scientific specialty "Economics and Management (Agriculture)",

Author of the dissertation: Rosen Plamenov Ivanov, PhD student at the Department of Economics at the Agricultural University, Plovdiv

Topic of the PhD thesis: Risk management in agriculture

Reviewer: Assoc. Professor Dr. Rositsa Petrova Beluhova-Uzunova, Agricultural University-Plovdiv, Department of Economics, 3. Social, economic and legal sciences, 3.8. Economics, scientific specialty "Economics and management (Agriculture)", appointed by Order № RD/ 16-368 / 13.03.2025 of the Rector of the Agricultural University - Plovdiv as a member of the scientific jury.

1. Relevance of the topic

Risk management in agriculture, and more specifically in fruit growing, is an important aspect of the sustainable development of the agricultural sector. Agricultural production strongly depends on natural conditions, seasonality and several external factors that agricultural producers cannot control. This dependence is even more visible in fruit growing, as orchards require constant investments and are particularly vulnerable to climatic anomalies such as frost, drought and heavy rains. The relevance of the topic is emerging in the context of the challenges associated with climate change and the instability of global markets. Growing requirements for quality, environmental sustainability and food safety put additional pressure on producers, who must adapt to the new conditions. The development and implementation of effective risk management strategies, such as insurance, product diversification, and implementation of sustainable technologies and digital solutions, are essential for increasing the competitiveness of fruit producers and ensuring their long-term sustainability.

Therefore, the topic of risk management in agriculture is important not only for individual farmers but also for the development of rural regions in Bulgaria. Improving the sustainability of the sector can lead to growth in income, employment opportunities and promotion of local production.

2. Aim, tasks, hypotheses and research methods.

The dissertation aims to assess the types, impact and frequency of risks in fruit growing and to propose effective risk management methods and strategies tailored to the specific characteristics of fruit farms.
The study addresses a set of specific objectives as follows: (1) Analysis of key theories and empirical aspects of risk management in agriculture; (2) Development of a methodological framework for objectively examining the types, frequency and impact of risks, as well as their management in the specific case of fruit farms; (3) Collection of primary data from a representative and diverse sample of fruit growers in Bulgaria and conduct of a critical analysis of the risk management process in fruit growing, identifying sector-specific characteristics and exploring potential improvements; (4) A

definition of managerial and institutional solutions that could contribute to better risk management and sustainable development of the fruit-growing sector in Bulgaria.
The subject of the study is risk management by fruit farms, which largely determines their ability to achieve sustainable development and economic viability.
The object of the study is fruit farms of various types across the entire country but primarily concentrated in the Upper Thracian Plain.
Research Methods. The main methodological approach is deductive. Primary data were collected through a survey among various fruit farmers. The results were analysed using descriptive and comparative methods, and statistical analyses – regression and analysis of variance – were also used to find causal relationships between factors and to compare the results from different groups of farms, respectively.
The aim of the study is clearly and precisely formulated. The tasks, object and subject of the survey allow the PhD student to achieve the set goals. The research methods have been selected correctly and provide an opportunity for conclusions and recommendations.

3. Visualization and presentation of the results.

The dissertation has 200 pages and is structured as follows: introduction and exposition in four chapters, conclusion, contributions and references. The dissertation contains 45 figures and 16 tables. The cited and analysed literature includes 144 sources, of which 34 are Cyrillic and 110 are Latin.

4. Discussion of the results and theoretical background.

The PhD thesis includes an introduction, four chapters, conclusion and contributions.

The introduction outlines the relevance of the topic of risk management in agriculture, with a special emphasis on fruit growing. The motivation is argued through the connection between the increasing climate and economic challenges and the insufficiently developed scientific base in this field. The goals and objectives are formulated logically and related to the study's object and subject.
In the first chapter, a theoretical framework of the study is highlighted, presenting models and definitions related to risk management. A significant contribution is the empirical analysis of the types of risk specific to fruit growing - from climatic to organisational and biological. The chapter offers a systematisation of risks while revealing their interrelation and significance.
In the second chapter, the methodological framework of the study is presented. The subject, object, time scope and data sources are described, as well as the structure of the survey and the sample. A balance between quantitative and qualitative approaches and the logical sequence in defining and testing the hypotheses are observed.
In the third chapter, through an in-depth analysis of data from fruit farms, the significance of different risk categories is assessed, as well as the effectiveness of the applied management practices. Particular attention is paid to the demographic characteristics of the farmers and their role in the management processes. A systematic assessment of the hypotheses is made, which shows the PhD student's analytical approach. The chapter is characterised with the clarity and argumentation of the conclusions.
The fourth chapter provides not only an interpretation of the results but also specific recommendations - both at the production and institutional levels. The emphasis is on the need for policy changes, as well as the role of the public sector in supporting risk management.
The final part synthesises the main conclusions of the PhD thesis, highlighting the contributions and outlining directions for future research. The author demonstrates an understanding of the challenges in the field and the ability to formulate practical and sustainable solutions based on scientific analysis.

5. Contributions of the PhD thesis

The following scientific and scientific-applied contributions of the dissertation can be highlighted:
1. Risk management and types of risk in agriculture are analysed, emphasising fruit growing, which is not a widely discussed topic in Bulgarian scientific literature, and that contributes to overcoming the gap between practical needs and the scientific basis in risk management in agriculture.
2. A theoretical model is developed, and a framework for risk management in fruit growing in Bulgaria is proposed based on empirical data and scientific analysis.
3. The main factors influencing risk management in Bulgaria's fruit growing are mapped.
4. Applicability of the model in practice - the theoretical model could be used to assess individual farms and implement management decisions.
5. Empirically substantiated proposals for addressing the problems in risk management in fruit growing.
6. Guidelines are provided for the role of the public sector and institutional support through specific proposals for policies, partnerships and interventions to improve the environment for agricultural producers.
The scientific and scientific-applied contributions are precisely formulated and correctly reflect the research in the dissertation. I accept them and give a positive assessment.

6. Critical remarks and questions.

I have the following question for the PhD student:

1. To what extent and in what way can the developed theoretical model for risk management in fruit growing be adapted and implemented in Bulgaria, and what potential challenges would such an adaptation pose for small agricultural producers?

I recommend publishing the research results in journals with an impact factor to make them more visible to a broader scientific community.

7. Publications and citations.

Two publications are presented in connection with the dissertation. They are directly related to the subject of the dissertation and reflect its main parts. The articles are published in the journal Agricultural Sciences of the Agricultural University-Plovdiv.
The publications submitted for review meet the qualitative and quantitative requirements for obtaining the degree.

The presented abstract objectively reflects the structure and content of the dissertation.

CONCLUSION:

Based on the different research methods applied by the PhD student, the correctly performed analysis, the formulated recommendations and conclusions, I consider that the presented dissertation meets the requirements of the Law for Development of Academic Staff in the Republic of Bulgaria, The Regulation for the Application of the Law for Development of Academic Staff in the Republic of Bulgaria and the Regulations of the Agricultural University - Plovdiv for its application, which gives me reason to evaluate it **POSITIVE**.

I would like to propose to the Scientific Jury to vote **POSITIVELY** and award Rosen Plamenov Ivanov the educational and scientific degree "Doctor" in the scientific speciality "Economics and Management (Agriculture)"

Date: 27.04.2025
Plovdiv

Reviewer: .....
(Associated Prof. Rositsa Beluhova-Uzunova)