



OPINION

On the dissertation for the award of the educational and scientific degree “Doctor” in: field of higher education 6. Agrarian Sciences and Veterinary Medicine, professional field 6.2 Plant Protection (Phytopathology), scientific specialty Plant Protection.

Author of the dissertation: MARTIN GEORGIEV MARINOV, doctoral student of full-time study at the Department of Phytopathology at the Agricultural University, Plovdiv.

Topic of the dissertation: EPIDEMIOLOGY AND CONTROL OF CYLINDROSPORIOSIS IN CHERRY AND SOUR CHERRY (*BLUMERIELLA JAAPII*).

Reviewer: Associate Professor Dr. Milena Georgieva Petrova-Dimova, Agrarian University - Plovdiv, Faculty of Plant Protection and Agroecology, Department of Phytopathology, professional field: 6.2 Plant Protection, scientific specialty: Plant Protection, appointed as a member of the scientific jury according to Order RD16-1330/22.11.2024 of the Rector of the Agrarian University - Plovdiv.

1. Relevance of the problem.

Cylindrosporiosis is an economically important disease of cherries and sour cherries, widespread in all regions of the world where these fruit species are grown and causes great losses. In rainy spring, mass leaf fall is observed in plantations as early as July-August. This weakens the trees, non-standard planting material is obtained, the quality of the fruit harvest deteriorates, yields are reduced in the current and next year, the trees become more sensitive to frost, and often leads to death. The topic of the dissertation is relevant and of high practical contribution, since the increasing climate change, combined with the high plasticity of the pathogen and the emergence of resistant forms, requires continuous updating of knowledge about the biology of the fungus *Blumeriella jaapii* and the strategy for combating it. Development of sustainable and environmentally friendly methods for controlling the disease is not only of regional importance, but also part of the global aspiration for sustainable agriculture.

2. Purpose, tasks, hypotheses and research methods.

The purpose and tasks of the presented dissertation are outlined from the in-depth literature analysis. The purpose is clearly and precisely formulated, and five main tasks are indicated for its achievement. The three-year research was conducted at a modern scientific and methodological level on the territory of the Agricultural

University, Plovdiv and in five regions of Bulgaria with intensive production of cherries. It should be noted that the volume of the study is quite large and is a combination of field experiments, laboratory observations and mathematical models for predicting the development of the disease.

3. Visualization and presentation of the results obtained.

The dissertation is written on 184 pages and includes 8 sections that are properly structured and meet the requirements for awarding the ESD "Doctor". The results obtained are summarized and very well illustrated, through the skillful use of 38 tables and 51 figures, showing the ability of the doctoral student to systematize scientific information.

4. Discussion of the results and literature used.

A comprehensive and in-depth literature review on the topic has been made, indicating studies by our and foreign authors on the problem under study. 310 sources have been analyzed, of which 43 in Cyrillic and 267 in Latin, which shows the excellent information and ability to work with scientific literature of the doctoral student.

The discussion of the results has been done consistently and in-depth. The doctoral student skillfully compares, compares and comments on the results obtained based on data from other authors. The dissertation shows that Martin Marinov can independently conduct field experiments, laboratory and microscopic observations, work with predictive models and statistical data processing.

5. Contributions of the dissertation.

Based on the results obtained, the doctoral student Martin Marinov has formulated six scientific contributions of an original nature, four contributions of a confirmatory nature and seven contributions of an applied nature. I accept all the presented contributions and consider them to be the personal work of the candidate.

➤ Original scientific contributions

The presented dissertation reveals innovative approaches and results obtained for the first time in the world, which significantly expand the understanding of the epidemiology and control of the disease, such as hourly reporting of the amount of spores in the air, differentiated reporting of ascospores and spring macroconidia, application of the Eisensmith and Jones forecast model with integrated meteorological forecast, identification of infectious events under field conditions using control plants.

➤ Scientific and applied contributions

The applied results of the study have practical significance and can contribute to the development of a disease management scheme adapted to different agroclimatic conditions. A significant scientific and applied contribution is the optimization of plant protection by reducing the use of fungicides, which will contribute to the sustainable development of the sector.

6. Critical comments, questions and recommendations.

I have no critical comments. My recommendation to the doctoral student is that all the obtained, original data be formatted into articles and published in reputable scientific publications.

7. Published articles and citations.

The doctoral student presents one scientific article related to the dissertation work, published in the journal Agrarian Sciences in 2022. He also participated in two scientific conferences in Bulgaria and the Republic of Serbia in 2019.

The presented abstract objectively reflects the structure and content of the dissertation work and is excellently structured. It is illustrated with 23 figures and 28 tables.

CONCLUSION:

Based on the various research methods learned and applied by the doctoral student, the correctly conducted experiments, the generalizations and conclusions made, I believe that the presented dissertation work meets the requirements of the Law on Agricultural Research and Development of the Republic of Bulgaria and the Regulations of the Agrarian University for its application, which gives me reason to evaluate it POSITIVELY.

I would like to propose to the esteemed Scientific Jury to also vote positively and award Martin Georgiev Marinov the educational and scientific degree of "doctor" in the professional field 6.2 Plant Protection (phytopathology), scientific specialty Plant Protection.

Date: 31.01.2025
City Plovdiv

PREPARED THE OPINION:

Assoc. Prof. Dr. Milena Dimova

