OPINION

on dissertation work for obtaining an educational and scientific degree "**Doctor**" in the field of higher education: 6. Agricultural sciences and veterinary medicine, professional direction: 6.1 Plant breeding, scientific specialty: Viticulture

Dissertation author: assistant Anelia Svetoslavova Popova, doctoral student of self-preparation at Department of Viticulture and Horticulture at the Faculty of Viticulture and fruit growing at Agricultural University – Plovdiv.

Dissertation topic: "Comparative study of vegetative and reproductive manifestations of some Syrah variety clones"

Reviewer: Assoc. Prof. PhD Boyan Stalev Stalev. Field of higher education: 6. Agricultural sciences and veterinary medicine, professional direction: 6.1 Plant breeding, scientific specialty: Viticulture, designated as a member of the scientific jury by order No. RD-16-660/07.06.2023 by the Rector of AU- Plovdiv.

1. Relevance of the problem.

The dissertation is dedicated to an extremely topical and important problem for viticulture science and practice. It is due to practical and technological achievements regarding the consumption qualities of the wines obtained from clones from Syrah variety. The topicality of the topic is also reinforced by the fact that for the first time in our country the content of trans-resveratrol and C13-Norisoprenoids (β-damascenone, α-ionone and β-ionone) in wines are tracked and determined. These are leading compounds depending on the terroir effect on the typicality and aromatic wine profile. The results of these analyzes are presented first time in Bulgaria. I believe that the dissertation work is up-to-date and successfully developed by the doctoral student assistant Anelia Svetoslavova Popova.

2. Purpose, tasks, hypotheses and research methods.

The aim of the dissertation work is to conduct research on the vegetative and reproductive manifestations of Syrah clones numbered 100, 174, 470 and 524, grafted on a rootstock SO4 and grown in the area of Brestnik village, as well as a general evaluation of the obtained wines with a view to improving vine growing technology and grape processing. Nine tasks have been developed to achieve the

goal. The research methods used are current for the purposes of the dissertation work.

3. Transparency and presentation of the obtained results.

The dissertation contains 174 pages, including 28 tables, 62 figures and 3 appendices. The headings of the sections and subsections are clearly formulated, which makes it easier for the reader. A variety of appropriate methods and means of presentation of the experimental material are applied. This shows that the candidate has had a good school of experimentation, arrangement and analysis of the data obtained. The dissertation is written in a good language and style, it appears that the doctoral student successfully applies some computer solutions and technologies.

4. Discussion of the results and used literature.

The interpretation of the experimental data and conclusions are scientifically based. They present in full the results of the tasks set at the beginning of the experiment. A total of 13 conclusions are presented. Before beginning the interpretation of the main part of the experiment with clones 100, 174, 470 and 524, the doctoral student studied and summarized 257 literary sources, of which 12 were in Cyrillic and 245 in Latin, which is a testimony to her awareness of the issues related to the subject of the dissertation work.

5. Contributions of the dissertation work.

Based on the obtained results, 3 scientific and 2 scientific-applied contributions were formulated within the dissertation framework. I consider the presented contributions to be the personal work of the PhD student Assistant Anelia Svetoslavova Popova.

Scientific contributions

- ✓ For the first time, the reaction of Syrah clones 100, 174, 470 and 524, grown under conditions of the Rhodope collar, high-stemmed trained, with a short pruning system and loading with 12 buds per vine, was established. The Syrah 100 and 524 have shown their biological potential to the greatest extent.
- ✓ The content of C13-Norisoprenoids (β-damascenone, α-ionone and β-ionone) in wines varies significantly, depending on the biology of the branch and the cultivation technology. The wines under the soil and climate conditions of the Rhodope collar are distinguished by a rich aromatic profile.

- ✓ The wines from Syrah clone 524 with a reduced yield are distinguished by the highest organoleptic qualities - high content of total and sugar-free extract, content of anthocyanins, total phenolic substances, higher color intensity, aroma, finesse, body, harmony, length of flavor and fruitiness.

Scientific and applied contributions

- ✓ Syrah 524 and Syrah 100 wines with reduced yield are distinguished by the highest content of coloring matter and trans-resveratrol, which makes them suitable for the pharmaceutical industry in the production of drugs against cardiovascular, cancer, neurodegenerative and other diseases.
- ✓ The wines quality obtained from clones 100, 174, 470 and 524 is much higher when summer pruning operations are applied, such as pruning, bunch thinning and others, which necessitates the determination of the optimal number of bunches , as a mandatory practice.

6. Critical Notes and Questions.

I do not indicate notes and recommendations, because I gave them in advance and they were taken into account in the final dissertation design.

7. Published articles and citations.

The doctoral student presented one independent publication connected with dissertation, which was published at the International Conference "Agriculture for Life-Life for Agriculture" in University of Agronomic Sciences and Veterinary Medicine of Bucharest, 04-06 June 2021, Romania and meets the minimum science metric requirements.

Citations from the doctoral student are not indicated. The abstract is prepared in accordance with the requirements of the Law on Scientific Degrees and Titles, fully reflects the results of the conducted research, as well as the structure and content of the dissertation work.

CONCLUSION

Based on the scientific and applied by the doctoral student, various research methods, the correctly conducted experiments, the generalizations and conclusions made, I believe that the presented dissertation meets requirements of the National Legislation and the Regulations of the Agricultural University-Plovdiv, which gives me reason to evaluate it POSITIVELY.

I take the liberty of proposing to the honorable Scientific Jury to vote also positively and award assistant Anelia Svetoslavova Popova with the educational and scientific degree "doctor" in the scientific specialty "Viticulture".

Date: 15.06.2023
Plovdiv

PREPARED THE OPINION: .....
(Assoc. Prof. PhD Boyan Stalev Stalev)