



OPINION

on the dissertation for obtaining the educational and scientific degree of "doctor" in: field of higher education 6. Agricultural Sciences and Veterinary Medicine, professional field 6.1, Plant Breeding, scientific specialty "Selection and seed production of cultivated plants"

Author of the dissertation: Todor Donkov Donkov - full-time doctoral student at the Department of "Viticulture and Fruit Growing" at the Agricultural University, Plovdiv

Topic of the dissertation: "Research on some variety rootstock combinations for plums and apricots"

Reviewer: Prof. Dr. Argir Todorov Zhivondov, Institute of Fruit Growing - Plovdiv, field of higher education 6. Agricultural Sciences and Veterinary Medicine, professional field 6.1, Plant Breeding, scientific specialty "Selection and seed production of cultivated plants" appointed as a member of the scientific jury by order No. RD 16-777/26.03.2026 of the Rector of the AU.

1. Relevance of the problem

The facts presented in the introductory section and the systematized review of the literary sources very accurately present the situational picture concerning the two fruit crops, domestic plum and apricot. This fully justifies the need for the development of this dissertation work. The presence of so many plum and apricot varieties, as well as the created diversity of different types of rootstocks for the two fruit species, necessitates the urgent study of the mutual influence between the two components in the fruit tree system, both in a nursery and in a plantation. I believe that what has been presented so far shows not only the significance of the topic of the dissertation work, but also its necessity and relevance.

2. Purpose, tasks, hypotheses and research methods.

The purpose of the study, as well as the tasks that must be solved and completed in order to achieve the set goal, are formulated precisely, clearly and with the necessary specificity for the two fruit species.

In a methodological aspect, all groups of reported indicators for the four experiments included in the dissertation are specified specifically and with the necessary clarity. All indicators are formulated with the necessary accuracy, and the ways or methods of their reporting are indicated. Traditional and modern research methods have been used in a good combination between them.

3. Visualization and presentation of the obtained results.

The research data are very well illustrated and creatively systematized in 28 tables, 36 figures and 7 photos. The results are presented concisely in a good and accessible form for all reader categories - researchers, students and specialists in fruit growing.

4. Discussion of the results and used literature.

As a result of the conducted in-depth three-year research, the doctoral student has achieved high, very good and valuable results for both fruit growing science and practice. I am convinced that both of these areas will be enriched with new theoretical and, above all, practical knowledge.

The obtained results have been professionally analyzed and interpreted in a way that shows that the doctoral student has the necessary professional training for independent future appearances in the research field. A creative effort has been made to make a more complete analysis of the data possible in order to extract the maximum amount of information. The data were statistically processed at a significance level of LSD 0.05, which allows for better comparability between the variants, taking into account the significant differences in their values. The mathematical processing of the research data also guarantees higher reliability of the conclusions drawn. As a result of the data analysis, a total of 18 valuable conclusions were drawn, 9 of which are related to the plum culture and the same number of which concern the apricot species.

The rich list of literature used includes a total of 342 publications, of which 21 are in Cyrillic and 321 in Latin. This clearly shows that the doctoral student has thoroughly familiarized himself with the state and relevance of the issue to the highest possible and accessible degree. The authors are correctly cited and thematically systematized in the literature review in synchrony, corresponding to the chronology of the researched indicators in the dissertation.

5. Contributions of the dissertation

A total of 10 contributions have been formulated, of which 3 are original, 5 are scientifically-applied and 2 are confirmatory, which I fully accept. I believe that the most significant of them are the following: Scientific contributions

- For the first time in Bulgaria, the influence of the rootstocks GF 677 and Garnem with a Stanley intermediate on the growth and reproductive manifestations of the apricot variety Hargrand in a nursery and plantation has been established;

- For the first time in our country, the influence of the same variety-rootstock combinations on the course of the flowering phenophase and the influence they have on some physiological indicators of the plants of the Hargrand variety has been established; Scientific and applied contributions

- Peach-almond hybrid rootstocks in combination with the Stanley rootstock induce higher productivity in the Hargrand variety compared to the traditional seed-based Janka rootstock;

- The rootstocks GF 677 and Garnem with the Stanley rootstock, as well as the Ishtara and Wavit rootstocks do not form shoots, unlike the Janka rootstock;

- The studied rootstocks GF 677 and Garnem with the Stanley rootstock exhibit good compatibility with the Hargrand variety;

- Wavit and Ishtara demonstrate good compatibility with the studied plum varieties;

- For the creation of new apricot plantations, the rootstocks GF 677 and Garnem are recommended as a good alternative to the Janka rootstock.

6. Critical notes and questions.

I have the following minor notes and recommendations for the doctoral student:

1. It would be better if brief characteristics of the rootstocks used in the experiments were also presented, just as brief pomological descriptions of the varieties participating in the research are quite reasonably presented.

2. On page 12 of the literature review, it is stated through a quote that the Ackermann rootstock was discovered in Germany as a wild form of *Prunus domestica*. It is accepted that this species does not have a wild representative, as most fruit species have, but only degraded, primitive forms.

3. In terms of terminology, I recommend using the expression "open flowers" instead of "blooming flowers" and "trees" instead of "trees" when commenting on their cultivation in a nursery. The expression "gives shoots" is used instead of the more appropriate "forms shoots". On page 18 it says "solid substance" instead of "dry substance".

The notes, recommendations and clarifications made do not in the least diminish the significance of the presented dissertation. My goal is to try to somehow contribute to raising the future research work of the doctoral student to an even higher professional level.

I have the pleasure of personally knowing the doctoral student Todor Donkov. I know well that he was an excellent student and an ambitious assistant. I am a direct witness to the very good performance of the doctoral student, together with his scientific supervisor Assoc. Prof. Dr. Anton Yordanov, during their participation in an international symposium on fruit growing abroad.

7. Published articles and citations.

In connection with the developed dissertation, the doctoral student has presented three collective scientific articles published in the scientific journal *Journal of Mountain Agriculture* in the Balkans. The presented abstract is 58 pages long and objectively reflects the structure and content of the dissertation.

CONCLUSION

Based on the various research methods learned and applied by the doctoral student, the correctly conducted experiments, the data analyses, generalizations and conclusions, I definitely believe that the presented dissertation fully 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 full reason to evaluate it **POSITIVELY**.

I would like to propose that the esteemed Scientific Jury also vote positively and award the full-time doctoral student Todor Donkov Donkov the educational and scientific degree of "doctor" in the scientific specialty "Fruit Growing".

04.08.2026.

City of Plovdiv

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