



REVIEW

Cocerning: competition for "associate professor" in the scientific specialty "viticulture", announced by the Agricultural University - Plovdiv in SG no. 6 of 22 January 2021, with candidate Chief Assist. Prof. Dr. Boyan Stalev Stalev

Reviewer: Prof. Dr. Kiril Todorov Popov (*Field of higher education 6.0. Agricultural sciences and veterinary medicine, professional field 6.1. Plant growing, scientific specialty - viticulture*) appointed as a member of the scientific jury, according to Order No RD 16-414/05.04.2021, with candidate Ch. Assist. Prof. Dr. Boyan Stalev Stalev.

1. Data on the professional development of the candidate

Ch. Assist. Prof. Dr. Boyan Stalev Stalev was born on August 2, 1982. In 2005 he obtained a bachelor's degree in "Agronomy /Viticulture and Horticulture/" and in 2006 he defended a master's degree in "Production of sowing and planting material" with professional qualification "agronomist" at the Agricultural University - Plovdiv. In 2013 he was awarded the educational and scientific degree "Doctor", after defending a dissertation on "Comparative study of organic and conventional production of table grapes in the area of the village of Nayden Gerovo, Plovdiv region".

From 2008 to 2012 he was an assistant professor in viticulture of the Department „Viticulture“ at the University of Plovdiv. From 2013 to the present, he is a Chief Assistant Professor.

Participates in 3 training modules for professional development under the Operational Program "Development of Human Resources" in 2010 and 2011 in the following areas: "DNA - technology", "Statistical processing of experimental data" and "Contemporary educational technologies and learning strategies". In 2012 he participated as a lecturer under measure 111 "Profesional training, information activities and dissemination of scientific knowledge". In 2017 he completed a two-day course on quality management and the requirements of ISO 9001: 2015.

Dr. Stalev actively participates in the organizational life of the Agricultural University. He is a member of the Faculty Council of the Faculty of Viticulture and Horticulture in the period 2012-2019 and a member of the Academic Council of the Agricultural University in 2016/2019.

He has a basic knowledge of English and Polish language.

2. Scientific production presented by the candidate

The materials are with the incoming application filed with the Rector of AU

required by LDASRB and its Regulations, personal documents, official notes, author's reference for contributions of the scientific works, list of scientific works, participation in scientific forums and citations. Outside the required documents is presented, a translation of the abstracts of the scientific papers in Bulgarian.

In the competition for "**Associate Professor**" Ch. Assist. Prof. Dr. Boyan Stalev participated with a total production of **35 publications**, which he grouped as follows:

➤ Scientific publications in the nomenclature specialty - **31 pieces**, from them:

Related to the doctoral dissertation - **3 pieces**, *which are not subject to consideration*; with impact factor - **4 pieces** (No 1, 2, 3 and 4); in referenced and indexed in world-famous databases - **6 pieces** (No 5, 7, 8, 9, 10, 11); in non-refereed journals with scientific review - **11 pieces** (No 12, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25); publications in conference proceedings - **7 pieces** (No 6, 13, 14, 15, 26, 27, 28); scientific-popular - none published.

➤ Scientific publications out of the nomenclature specialty – **1 piece** (29).

➤ Published book based on a defended dissertation work – **1 piece**.

➤ Monographic work – **1 piece**.

➤ Textbooks - none published.

➤ Study guides – **1 piece**, *which is published in Polish language, in co-authorship*.

The works that are subject to review are 27 in the nomenclature specialty and are distributed as follows:

- Publications with impact factor – 3 pieces;
- Publications in peer-reviewed and indexed scientific journals – 5 pieces;
- Publications in non peer-reviewed journals with scientific review – 9 pieces;
- Publications in conference proceedings – 7 pieces;

The following scientific publications are not subject to review No 1, 5 u 29, which are out of the nomenclature specialty, No 18 is duplicated by No 17 and No 25 is duplicated by No 7;

- Published book that duplicates a defended dissertation work – **1 piece**.
- Monographic work – **1 piece**.
- Study guides – **1 piece**, *which is published in Polish language, in co-authorship*.

The indicated scientific publications meets the minimum national requirements under Art. 2b, para. 2, 3 and 5 of LDASRB and Annex to Art. 1a of RALDASRB (Table 1).

Table 1. Minimum number of required points by groups of indicators for employment of AD "Associate Professor" in professional field 6.1. Plant growing

Group of indicators	Minimum national requirements (points)	Points of the candidate in the competition
A	50	50
B	100	100
G	200	217,1
D	50	125
E	-	2,86
Total number of points	400	494,96

3. Main directions in the research work of the candidate. Demonstrated skills or talents for research management (project management, attracted external funding, etc.).

The research activity of Ch. Assist. Prof. Dr. B. Stalev is related to organic production of grapes, agrobiological and technological issues in the cultivation of vine culture, the mutual influence between rootstock and scion in the production of vine planting material, with the creation and cultivation of vine plantations, where economic analysis were made.

Participates in the implementation of 10 projects, one of which is a leader. Eight of the projects are from the nomenclature specialty of the candidate.

4. Evaluation of the pedagogical activity of the applicant

Ch. Assist. Prof. Dr. B. Stalev has 13 years of pedagogical experience as an assistant and chief assistant professor at the University of Plovdiv. He participated in development of 4 training programs in viticulture - full-time and part-time form of education, viticulture and biotechnological methods and production of vine planting material. The total academic auditorium and non-auditorium occupation /according to the presented reference/ for 5 training years, from 2015 to 2020 is 2446.8 /489 hours on average per training year/ hours.

Out of stated pedagogical activity, he lectured on the "Erasmus" program at the West Pomeranian University of Technology in Szczecin from 2009/10 to 2016/17 to incoming students in the same program in English. The lecturing material is based on the main disciplines forming the specialty "viticulture" - viticulture, ampelography and production of vine planting material.

For his active participation in the "Erasmus" program he was awarded of an appreciation diploma for the development of relations between the Agricultural University of Plovdiv and the West Pomeranian University in Szczecin - Poland in 2015.

5. Significance of the obtained results

The presented scientific publications, **which are subject to review** are 27 pieces. Of them: in journals with impact factor - 3, publications in refereed and indexed scientific journals - 5 pieces, publications in non-refereed journals with scientific review - 9 pieces, publications in conference proceedings - 7 pieces, published book based on a defended dissertation work - 1 piece, monographic work - 1 piece and one study guides published in Polish language in co-authorship.

In Bulgarian language have been published - 8 scientific works, in English – 17 and in Polish - 2 scientific works.

The candidate in 5 of them is an independent author, in 3 - first, in 9 - second, and in the remaining 10 - third and subsequent author. This shows his leading role in the preparation of 67% of the presented publications and proves his qualities and abilities to work in a team, which should be highly valued in the contemporary development of science and in particular of the viticulture.

The list of citations contains 16 citations - 4 in Bulgarian and 12 in foreign editions, 4 of which with an impact factor, showing the relevance of the scientific papers submitted by the candidate.

6. Significance of contributions to science and practice.

As a result of the overall research activity presented in the scientific works of Ch. Assist. Prof. Dr. B. Stalev were indicated scientific contributions, which can be summarized as such with original and methodical, confirmatory and scientific-applied character.

Contributions with original and methodical character:

I consider as important original contribution laboratory established in the West Pomeranian University of Technology in Szczecin, Poland, the parameters of nitrate and nitrite concentrations in grapes, the content of vitamin C, pH of the extract, dry matter, organic acids, change of the individual elements of the dye matter in the process of grape ripening. This is new information that makes it possible to expand the application of grapes in the food industry, in healthcare and in the development of some new technological solutions in wine production (No 16, 17, 19).

Several times higher content of polyphenols with anti-radical and antioxidant activity was proved in the seedless table varieties Aphrodite and Blyan with well-developed rudiments and in the red dessert varieties Troy and Phoenix with soft seeds, compared to the varieties Bolgar and Palieri. The use of the new seedless varieties Aphrodite, Blyan, Troy and Phoenix is a new alternative to table grape production (No 14).

The mutual influence of the most widely used in our country vine rootstock with 58 wine and table seed and seedless varieties during the stratification and development of vines in the nursery has been established. The investigation shows that the rootstock

CO₄ has a good affinity with the grafted varieties, with the exception of the varieties Rusalka 3, Srebrostruy, Sultanina, Mavrud Nikopolski and Pinot Noir (No 20, 21).

Through laboratory analysis, the individual colors that compound the dye material contained in the skins of some red varieties and their change in the process of grape ripening have been established. The information is useful in the technological decisions of winemakers in vinification of grapes (No 16, 17, 19).

The relation between the leaves gas exchange and the yield of table variety Velika has been established in different ways of maintaining the soil surface and it has been proven that the use of mineral fertilizers and organic (manure) fertilizer causes photosynthetic activity of leaf apparatus and fruiting of vines (No 2).

I accept the published in Polish language as a methodological guidance for viticulture and enology, which includes specialized information for lectors, students, specialists and producers of grapes and wines.

Contributions of a confirmatory character

It was found that the application of manure and straw mulch in the cultivation of the dessert variety Velika increases the amount of microorganisms in the soil, which leads to increased mineralization of organic matter and increase the productivity of vines (№ 2).

Numerous criteria included in the Geographic Information System (GIS) have been used to determine the appropriate locations for vineyards in the Karlovo region (№ 8).

Scientific-applied contributions

It was established a dependence between leaf gas exchange and yield in the Velika variety, with different ways of maintaining the soil surface. It has been proven that the use of mineral fertilizers and manure increases the photosynthetic activity of leaves, the mass of grains and grapevine clusters, well as the yield (№ 2).

Complex studies of the agrobiological requirements and technological qualities of the red wine varieties Tempranillo and Syrah branch 99 and branch 100 in two different microregions have been performed. Differences in yield, quality of grapes were found in both varieties. They are higher in the microregions of the village of Pesnopoy compared to those in the village of Brestnik. The resulting young wines have a more intense color, stronger aroma, firm and long-lasting, dominated by floral nuances and berries. Young wines have potential and contain ingredients and components necessary for their further development into quality red wines (No 6).

It has been proven that the ripening period change from the beginning of August to the end of September 15-20, instead of the middle of August and the beginning of October. In the study foliar treatment of vines in the Mavrud variety was applied with Ca and Cu. This enables the vine plants to prepare in time for the dormant period and

to carry out an earlier harvest, especially for late-maturing varieties such as the Mavrud variety (No 28).

The production costs necessary during the first two years of planting a new vineyard and the economic efficiency in growing table varieties using biological technology have been established (No 11, 26).

New results have been obtained from the conducted researches for the quantitative changes of some nutrients, such as phosphorus, the ammonium form of nitrogen, etc. in the soil layer from 0 to 30 - 60 cm in May - July - September, in conventionally and organically grown vines. These results would be used to improve the technology of organic grape production (No 4).

The presented monographic work "Using some technological solutions in the design and cultivation of organic vine plantations" provides additional information about the production of organic table and wine grapes. It offers to the practice an original technology for uprooting, replanting and growing organic vines. The most appropriate ways of forming and maintaining vineyards for organic grape production have been established and recommended for practice. A system of measures has been developed to reduce labor and material costs in the cultivation of organic vines in order to increase profits and increase the economic efficiency of this production.

Without evaluating the dissertation work, published as a book, evaluating its significance for practice, as it promotes the latest technological solutions at the regional level, in an important wine region.

7. Critical remarks and omissions

Most of the omissions in some of the scientific papers by their character refer to: insufficient research period in agrotechnical experiments - one year (No 8) and two years (No 2, 3, 4, 5, 6, 9, 12, 14, 16, 17, 20, 21, 22, 23, 26, 27, 28);

In work No 12 cannot accept the first conclusion, which states that: "The mass of the vine canes after pruning in the row spacing is distributed according to a normal law."

The omissions and remarks are made with intent, if deemed appropriate, to be taken into account in the applicant's future research activity.

8. Recommendations

Ch. Assist. Prof. Dr. B. Stalev could focus on the following areas of research - organic production of grapes and wines, agrobiological and technological research of vine varieties and technological solutions in the cultivation of vineyards.

Bigger weight and reliability would have agro-technical research with a research period of not less than three years, and those related to indicators of load, yield and quality of grapes to be taken into account when the vines enter full fruiting.

It is desirable Dr. Stalev to strive for participation in research related to the nomenclature specialty - viticulture.

9. Conclusion

The presented to me for review scientific production in connection with the competition for associate professor shows that Ch. Assist. Prof. Dr. Boyan Stalev is a consistent, qualified scientist and lecturer who seeks originality in the results, works diligently and energetically on various topics in viticulture science. His scientific developments for the most part have an original character and enrich viticultural science in the areas - organic grape production, agrobiological and technological issues in the cultivation of vines, issues related to the mutual influence between rootstock and scion in the production of vine planting material and economic issues related to the creation and cultivation of vineyards.

The presented scientific production of the candidate meets the requirements of LDASRB, RALDASRB and the Regulations of the Agricultural University for its application. All this gives me a reason to evaluate **POSITIVELY** his research, pedagogical and scientifically applied activity.

I allow myself to suggest to the esteemed Scientific Jury also to vote positively, and the Faculty Council of the Faculty of "Viticulture and Horticulture" at the Agricultural University - Plovdiv to award the academic position "**Associate Professor**" to Ch. Assist. Prof. Dr. Boyan Stalev on the scientific specialty "viticulture".

May 14, 2021

Reviewer:.....
(Prof. Dr. Kiril Popov)