

REFEREE REPORT

АГРАРЕН УНИВЕРСИТЕТ гр. ПЛОВДИВ	
Вх. № <u>70096</u>	Дело № <u>23</u>
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On the materials submitted in the competition for the occupation of academic position "Assoc. Prof." in the professional area 6.1. "Plant Science", scientific specialty "Soil Science" announced in the State Gazette 98 of 17.11.2020

Applicant for the competition: Violeta Steliyanova Valcheva

Prepared by Prof. Ekaterina Georgieva Filcheva, PhD, ISSAPP "N. Poushkarov" (retired), field of higher education 4. "Natural sciences, mathematics and informatics", professional field 6.2. "Plant science", specialty "Soil Science" determined by the order № RD 16/52, 22.01. 2021 of the Rector of the Agricultural University – Plovdiv, as a member of the scientific jury

1. General data about the career and thematic development of the candidate

Assistant Professor Violeta Steliyanova Valcheva, PhD, was born on June 12, 1980 in the city of Pleven. She completed her secondary education (1994-1998) at "Hristo G. Danov" High School in Plovdiv, in 1998-2003 she received a Bachelor's degree in Agricultural Economics with very good results, and in the period 2004-2005 she obtained a Master's degree - Accounting and Control with excellent success (6.00) in AU, Plovdiv. In the period 2006-2011 Violeta Valcheva was a full-time doctoral student in the Scientific specialty "Soil Science", Department of "Agrochemistry and Soil Science", AU, Plovdiv. Since October 2008 she has been an Assistant in Soil Science, performing practical and laboratory exercises in Soil Science, Problem Soils, Technologies for Restoration of Damaged Soils and Terrains, Chemical Reclamation of Acid and Saline Soils, at the University of Plovdiv. From December 2011 to the present time she is Assistant Professor of Soil Science - gives lectures and conducts exercises in the same mentioned above specialty at the University of Agriculture, Plovdiv.

Assistant Professor Dr. Violeta Valcheva has the following special skills: good presentation; good communication as a result of teaching; very good computer skills, work with mapping programs, large-scale imaging and three-dimensional visualization of soil and landscape reclamation sites, works with Autocad and related applications with Map info, Surher 12. She has mastered applications related to the visualization and typing of water regime in the soil, Works with SPSS, Windows 2000 (Word, Excel, Access, Power Point, Data base Systems). As an advantage in the scientific construction to the skills mentioned above is the proficiency in Russian and English at a very good level.

2. General description of the submitted materials.

The production of the Assistant Prof. Dr. Violeta Valcheva has been established with the requirements of Art. 26 paragraph 2 and 3 of the Law on the Development of Academic Staff in the Republic of Bulgaria and the Regulations for its implementation, as well as the criteria presented in an annex to the Regulations for the Application of the Law in the Agricultural University - Plovdiv for the Academic position "Assoc. Prof".

In the competition for "Associate Professor" Assistant Professor Dr. Violeta Valcheva participates with a total production of 31 works, grouped as follows:

Scientific publications in the nomenclature specialty - 31 issues, of which:

- *Publications related to the doctoral dissertation - 3 issues (Agricultural University, Plovdiv - 2 and Ecology and Health House of Science and Technique, Plovdiv-1.*

- *Publications with impact factor - 0 copies*

- *Publications in peer-reviewed scientific journals - 21 issues;*

- *Publications in unreferenced journals with scientific review (5 pcs.) or edited volumes (conference proceedings) (5 pcs.) - 10 issues;*

The personal participation of Assistant Professor Dr. Violeta Valcheva in these 31 works is illustrated by the fact that 3 articles (II-8, III-9 and 10) are individual, self published articles (she is a sole author), in 11 (I - 3, 8, 10; II; 4, 5, 9; III 1, 2, 4, 6) – she is the first author, in 12 materials (I-4, 5, 6; II 1, 3, 6, 7, 11; III 3, 5, 7, 8) – she is the second author, and in the other 5 (I -1, 2, 7; 9; II 10) – she is the third or next author.

Textbooks - 0 numbers.

Study guides - 1 issue in co-authorship with Assoc. Prof. Dr. Krassimir Trendafilov and Assoc. Prof. Dr. Rada Popova

30 pieces are subject to analysis for the preparation of the review.

I will not discuss Article I. 7. as I am a co-author of the paper (R. Ilieva, E. Filcheva, I. Iliev, M. Todorova, R. Popova, V. Valcheva, M. Almaliev, K. Trendafilov. 2015. Chemical and instrumental methods for determining the organic component of soils. 70 years AGRICULTURAL UNIVERSITY - Plovdiv Jubilee scientific conference with international participation "Traditions and challenges to agricultural education, science and business. Scientific papers, Volume LIX, vol. 5, October 29-31, 2015, 331-337).

A list of oral presentations (1) and posters – 9 is presented (Reports of World and European Congresses and International Symposia), and 4 reports and 13 posters for participation in forums hold in Bulgaria. The reports and posters are mainly works published in prestigious journals. This gives the wider scientific community the opportunity to get acquainted with the researches.

The articles for participation in the competition are indexed in worldwide database as follows:

EBSCO, CABI, WEB of Science - 13; WEB of Science - 9; EBSCO, CABI - 5; EBSCO, Google Scholar - 2.

Attached are documents confirming 8 citations in Bulgarian journals with IF and foreign publications of the published materials for participation in the competition "Associate Professor".

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

The attached document from Assistant Professor Violeta Valcheva, PhD for participation in three projects (1. Project, funded by Devnya-Cement AD; 2. Minyo Staykov Commerce LTD and a project funded by AU – Plovdiv) is a confirmation of the candidate's ability to successfully handle research with external funding regardless teaching.

The main directions in the large-scale research work with laboratory, pot experiments and field experiments, as well as on the soil classification systems of the candidate can be formulated as follows:

I. Soil Science

1. Chemical and instrumental methods for the determination of the organic component of soils were compared to recommend a method appropriate to the purpose of the study (I-7).
2. Study on the content and distribution of active Ca in carbonate and non-carbonate saturated cinnamon forest soils was studied (II-1).
3. Comparison of soil classification systems to describe degradation processes was dial (II-4).
4. A several-stage model for reclamation of lands for growing grapes has been drawn up. The model includes climate, soils and reclamation activities (II-5).
5. Studies on the spatial changes in the particle size distribution and organic carbon at three depths of Chromic Luvisol, 0-25; 25-50 and 50-75 cm was carried out (II-6).
6. Long-term study of the acid-base balance of non-carbonate soils in Bulgaria in connection with the suitability to form the soil component of the vine terroir (II-7, II-11).
7. Investigation of the dynamics of movement of the micronized limestone, imported as an ameliorant, for neutralization of the harmful acidity of Eutric Fluvisols was carried out. Study on the influence of liming (micronized limestone) on the indicators characterizing the acid-alkaline balance in genetically acid soils was performed (III-3; III-7). The change of the degree of saturation with bases of the constant positions with easily mobile exchange bases when using micronized limestone was also traced (III-10).
8. Study on the dynamics of desorption and saturation of the sorption positions with Ca and Mg in the conditions of pot experiment was performed (III-6).
9. Studies on the influence of liming of soil and morphological parameters of lavender grown in organic farming were carried out (III-9).

II. Agro-chemistry

1. Study of the influence of long-term fertilization (45 g) and cessation of fertilization (since 2006) on the content of humus, some other physicochemical parameters and absorbable

nitrogen and phosphorus (I-1, I-2). The nitrogen mineralization potential was studied in the same field experiment and soil type (II - 9).

2. Study of the influence of mineral fertilization with nitrogen, phosphorus and potassium on the indicators of harmful soil acidity and the composition of biomass and yield of the wine grapes varieties - Sauvignon Blanc, Chardonnay, Cabernet Sauvignon and Merlot, grown on Chromic Luvisols was carried out (I-3). Study of the influence of liming with $\text{Ca}(\text{OH})_2$ 1.0; 2.5 and 5.0 t/ha of the same soils and wine grapes varieties and to increase the content of N and Mg in the leaves of different grapes varieties has been proven (I-4; II-2). In this experiment, the reaction of grapes rootstocks to the content of Ca, Mg in the nutrient solution was studied (II-2), and the increase of Mg in the rootstocks of wine grapes varieties was statistically proven (II-3). In this experiment, the influence of hydrated lime on the acid-base balance and the chemical composition of the wine grape varieties was studied (III-2; III-4).

3. Differentiated fertilization with P and K based on geospatial data on their soil reserves was studied (I-6).

III. General Agriculture and Erosion

1. Hydromeliorative solutions for irrigation and drainage of vineyards in Northeastern Bulgaria were studied (I-5).

2. Study of the suitability of eroded terrains for the creation of orchards in the area of the town of Elena (I-8), study of the potential of the lands in the village of Archar for the creation of wine varieties (I-9; II-10), study of terrains around Karnobat for the possibility of growing perennial crops (I-10), study the possibility and suitability for growing strawberries, raspberries and blueberries in the area of Gotse Delchev (II-8) were processed. Studies of poorly productive soils in the village of Chernogorovo for their suitability for growing vineyards for high quality red wines was evaluated (III-5).

3. Studies on the efficacy of the herbicide Kosmic for weed control in vines was carried out (III-1).

4. A reclamation method for erosion protection using perennial crops has been proposed (III-8).

4. Assessment of the pedagogical preparation and activity of the candidate and her role in the training of young scientists.

I believe that the attached employment document with lectures for the years from 2008 to the present certifies the ability to train young people. In addition is the number of graduates students (diploma works) to whom Violeta Valcheva was the head are as follows: 1 - specialty Ecology and Environmental Protection (Faculty of Plant Protection and Agroecology), 3 - Faculty of Viticulture and Horticulture and 1 - Faculty of Agronomy.

5. Significance of the obtained results, proved by citations, publications in prestigious journals, awards, membership in international and national scientific bodies, etc .;

Attached are documents confirming 8 citations in Bulgarian journals with IF and foreign publications of the published materials for participation in the competition "Associate Professor".

As a President of Bulgarian Humic Substances Society (BHSS) I would like to share that assist. Prof. Dr. Violeta Valcheva is a member of BHSS and member of the Bulgarian chapter of International Humic Substances Society, and she attended with presentation the Ist Congress on Humic substances and establishment of the Turkish Humic Substances Society, Sakaraya, Turkey, 6-9 June, 2012.

6. Significance of contributions to science and practice. Motivated answer to the question to what extent the candidate has a clearly defined profile of the research work;

The specificity of the attached documents for participation in the competition for "associate professor" of the candidate is the preparation of the contributions in the research work. The experimental work presented is very descriptive, from which follows a formulated contribution also described in details. The candidate has divided the contributions into scientific and applied ones.

My opinion on the division of the contributions according to the requirements of the Regulations for the Application of the Law in the Agricultural University - Plovdiv for the Academic position "Assoc. Prof" is as follows:

I. ORIGINAL CONTRIBUTIONS

I consider as an original contribution 7, which is defined by the candidate as scientific under number 7. It can be formulated more briefly, namely: The application of micronized limestone, which covers all tests for fast acting ameliorant in terms of harmful acidity achieves full reclamation effect in the first year at a depth of up to 40 cm on the studied soils. Due to its low hygroscopicity, it is suitable for centrifugal and belt spreaders. Tests with lavender, roses and vines show a stable habit, while lavender shows an increase in quantitative and qualitative indicators of yield and biological reclamation effect for a short period of time (III-7).

II. METHODOLOGICAL CONTRIBUTIONS

I consider the contribution defined by the candidate as a scientific-applied contribution - 2 as a methodological achievement, formulated briefly as follows: The representativeness of the system of reclamation-research sampling from terrains of different complexity has been tested and studied. The system has solved the question of the reliable and sufficient for the purposes of reclamation practice description of the soil cover and the landscape (II-5, II-6, II-11). Based on this model, a concept has been developed according to

which the reduced productivity and reclamation shortcomings can be considered not as a reclamation problem, but as a specific feature of the terroir (II-4, II-6 and II-7).

III. SCIENTIFIC CONTRIBUTIONS

The scientific contributions formulated by the candidate are 9 in number and are a continuation of the guidelines from the research work on the dissertation "Doctor". Of these, I define number 7 as original. Contributions 6 and 9 of the scientific Achievements I transfer as scientific-applied ones.

As scientific contributions I keep the numbers 1, 2, 3, 4, 5, 8. They can also be presented with a shorter wording.

IV. SCIENTIFIC-APPLIED CONTRIBUTIONS

The scientific-applied ones, formulated by the candidate, are two. My opinion is that 6 and 9 of the scientific contributions can be referred to the scientific-applied achievements, becoming 3 (number 1 and 6, and 9 from the scientific Achievements).

7. Critical remarks and recommendations

1. When quoting the name of the soil, it is good to mention the classification system and the year of the respective version.
2. What is the ratio of soil: distil water in the part of materials and methods when determining the pH in an aqueous extract?
3. Is there a legal attempt to compare the methodology of Palaveev and Totev used by you with the method of Prof. DSci. Ganev, which also recommends a method of calculating the lime rate for acid soils and he is also considered in some of the articles?
4. The contributions are very descriptive. Despite the previously noted introduction to research, the contributions themselves are very detailed and need to be edited.

The notes can be accepted rather as recommendations and do not reduce the value of the materials submitted for review.

8. Personal impressions and opinion of the reviewer

Assistant Professor Violeta Valcheva, PhD, shows depth, correctness, awareness, with extensive experience in teaching with lectures and exercises with students.

My personal impressions for my cooperative work show that she is a consistent, persistent and thorough scientist - researcher.

CONCLUSION

Based on the analysis of the pedagogical, scientific and scientific-applied activity of the candidate, I believe that Assistant Professor Violeta Valcheva, PhD, fully complies with the requirements of the Law for Scientific Development in Bulgaria, the Rules of its Application and the Regulations for its implementation, as well as the Internal Rules for the

implementation of the Law at the Agricultural University-Plovdiv. The presented works are up-to-date, with scientific contribution, with citations in renowned journals, as well as on the basis of the overall scientific activity. I believe that the candidate fully covered the requirements of the Academic Staff Development Act and its regulations. Assoc. Dr. Violeta Valcheva fully cover the requirements for the administrative position "Associate Professor" and covers the requirements with 505.05 points (A-50; B169.5; G - 175 + 61.15; D - 50), which exceed the minimum requirements.

All this gives me the reason to positively evaluate the overall activity of the candidate in the competition for the administrative position "Associate Professor" at the University of Plovdiv - Violeta Valcheva.

I allow myself to suggest to the esteemed Scientific Jury also voting positively, and the Faculty Council of the Faculty of Agronomy at the Agricultural University - Plovdiv to elect Assistant Professor Dr. Violeta Valcheva for "Associate Professor" in the scientific specialty "Soil Science".

Date: 22.02.2021.

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Sofia

REVIEWER:

(Prof. Dr. Ekaterina Filcheva)