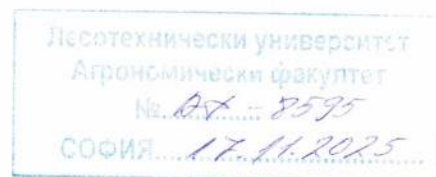


OPINION



on the materials submitted for participation in a competition for the academic position of **"associate professor"** in the field of higher education 6. Agricultural sciences and veterinary medicine, professional field 6.1. Crop production, scientific specialty Plant breeding and seed production of cultivated plants in the discipline "Plant breeding and seed production of cultivated plants"

In the competition for associate professor, announced in the State Gazette, issue 58/18.07.2025 and on the website of the LTU with procedure code AGR-AsP-0625-175 for the needs of the Department of Agronomy at the Faculty of Agronomy, Silvia Valentinova Vasileva, Faculty of Agronomy, Agrarian University - Plovdiv, Department of Plant Breeding, participated as a candidate.

Prepared by: PhD Lilyana Markova Koleva Associate Professor Plant Protection from the University of Forestry

1. Brief biographical information about the candidate

Senior Assistant Professor PhD Silvia Valentinova Vasileva was born on 20.02.1985. After completing her secondary education at the 1st Secondary School "Sveti Sedmochislenitsi", Targovishte with a degree in Biology, she continued her studies at the Plovdiv University "Paisiy Hilendarski". In 2007 she received a Bachelor of Science degree in Biology, and in 2009 a Master of Science degree in Plant Protection at the Agricultural University – Plovdiv. In the period from 01.03.2010 to 01.03.2013 she was a doctoral student at the Department of Genetics and Plant breeding of the Agricultural University – Plovdiv. The developed dissertation is in the scientific specialty of the competition and is on the topic "Plant breeding - genetic analysis of quantitative and qualitative traits in malting barley".

Chief Assistant Professor Silvia Valentinova Vasileva in 2011-2012 worked in the National Agency for Evaluation and Accreditation, Sofia, holding the position of junior expert. Since 2013, he has been an assistant professor in "Plant breeding and Seed Production of Cultivated Plants" at the Department of "Genetics and Plant breeding" of the Faculty of Agronomy, Agrarian University – Plovdiv, and since 2015, he has been a chief assistant professor in the same department. Lectures and practical classes in the disciplines: Genetics with basics of plant breeding; General plant breeding; Plant breeding and seed production of cultivated plants; Plant biotechnology and others. Participates in the Erasmus+ program and many other international mobilities related to her scientific and teaching activities.

2. Compliance with the submitted documents and materials of the candidate with those required under the Regulations for RAS at LTU

The submitted documents and materials meet the requirements stipulated in the Act on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation and the Regulations for the Development of the Academic Staff at the University of Forestry. The candidate Silvia Vasileva meets the conditions for occupying the

academic position of "associate professor", as she appears in the competition with the following number of points by indicators: A /Dissertation work for awarding the ONS "doctor" / 50 points; B /Habilitation work - scientific publications in publications that are referenced and indexed in world-renowned databases with scientific information/ 183 points; D /Publications / 79.5 points; D /Citations or reviews in scientific publications/ 200 points; E /Participation in projects/ 140 points. The sum of the points is 652.5 points with a required minimum of 400 points for occupying the academic position of "associate professor" at the University of Forestry.

3. Evaluation of the candidate's teaching and learning activities (work with students and doctoral students)

Silvia Vasileva is a well-established lecturer at the Faculty of Agronomy of the Agrarian University - Plovdiv, with over ten years of experience in the field of Breeding and Seed Production of Cultivated Plants. She began her academic career in 2013 as an assistant professor in the discipline "Breeding and Seed Production of Cultivated Plants" in the Department of Genetics and Breeding. In her work, Vasileva leads lectures and laboratory exercises, develops curricula (author and co-author of 7 programs) and actively participates in the preparation of students. She demonstrates high commitment to the learning process through significant individual employment. During the academic year 2023–2024, her individual academic employment amounted to 618.7 hours. Under her supervision, 7 students successfully defended their diploma theses, and in the period 2020–2025, she prepared 7 reviews of bachelor's theses in the departments of "Genetics and Breeding" and "Plant Breeding". The supervision of graduate students and the preparation of reviews demonstrate her competence and contribution to the learning process.

4. Assessment of the candidate's scientific, applied scientific and publication activities

Within the framework of the competition, the candidate Silvia Vasileva has presented materials that demonstrate scientific research activity. These include: 1 book; 20 scientific articles and reports and 13 scientific and applied science projects.

4.1 Participation in scientific, applied science and educational projects

Silvia Vasileva demonstrates active research activity in the field of Crop Plant Breeding. She participates in 6 scientific national and 1 international project, is the leader of 2 and a participant in 5 institutional projects. Vasileva has a significant contribution to the organization and conduct of scientific events, including AURORA WORKSHOP – Tomato Plovdiv Event, 05–06 October 2023, Plovdiv, Bulgaria (within the RADIANT project) and General Assembly, Dundee, Scotland, 12–14 September 2023 (RADIANT project). The work is aimed at developing innovations and sustainable practices in agriculture, actively contributing to international scientific cooperation.

4.2 Characteristics of published scientific results

Published scientific results are classified as follows:

- ✓ Book: Vasileva S., 2025, " Plant breeding-genetic analysis of quantitative and qualitative traits in malting barley", Publishing House: Intel Entrans, ISBN: 978-619-7703-98-6, based on a defended dissertation for the award of the educational and scientific degree "doctor". The presented work contains a comprehensive methodology

for a comprehensive study of plant material for the needs of plant breeding, which combines classical plant breeding approaches – agrobiological characteristics, phenotypic evaluation, biometric analyses and determination of productive and qualitative traits, which are the main reference points in practice; genetic analyses – assessment of heritability, type of inheritance, combinative ability and identification of suitable parental forms for hybridization; application of molecular marker systems for assessing genetic diversity and for initial screening of promising genotypes. The work demonstrates thorough analysis, independence and contribution to the field of malting barley breeding.

- ✓ Scientific paper and reports: as a habilitation thesis, 10 scientific publications were presented in publications that are referenced and indexed in world-renowned databases of scientific information (SCOPUS – 7 and Web of Science – 3), 6 of which are in foreign refereed journals and 4 in Bulgarian refereed journals. The number of publications in non-refereed journals with scientific review or published in edited collective volumes is 10, 6 of which are in international and 4 in national journals. The candidate is an independent author of 2 publications. Of all 21 publications described here, 8 are in Bulgarian, and the remaining 13 are in English.

The materials presented by Silvia Vasileva testify to consistent scientific activity, significant contribution to the development of plant breeding and engagement in project work. The projects implemented within the framework of national and international programs demonstrate active teamwork, management skills and applicability of scientific developments.

4.3 Reflection of the candidate's scientific publications in the literature (known citations)

Data for a total of 24 citations are presented; 8 of them are in scientific publications, referenced and indexed in world-renowned databases of scientific information Web of Science and SCOPUS. The remaining 16 citations are in non-refereed peer-reviewed journals. These data reflect the significance and visibility of the scientific results at the national and international level.

4.4 Contributions to the candidate's work (scientific, applied science, applied)

Scientific activity and scientific contributions could be grouped and summarized as follows:

Scientific and contributions

An integrated methodology for cereal crop breeding has been developed, combining classical breeding criteria with molecular markers and genetic analyses. Studies have been conducted on hybrid generations of barley and tobacco, establishing the efficiency of breeding and the nature of inheritance of productive traits in different generations. Optimal stages for plant breeding by key morphological and physiological indicators, as well as parameters for brewing qualities, have been determined. A method for rolled crops for early assessment of drought resistance has been verified. For the first time in Bulgaria, the genetic diversity and structure of *Pyrenophora* populations have been studied *terres* using *ISSR* markers, *regional distribution and prevalence of the species P. terres* were established. QTL loci associated with tolerance to phytopathogens were mapped, and an initial comparison of NDVI data from different satellite sources for crop monitoring was made. The results contribute to the improvement of breeding programs by integrating phenotypic, genotypic and distance data.

Scientific and applied contributions

The research covers plant breeding programs in main crops with the aim of improving productivity, adaptability and quality indicators. In the case of malting barley, the varieties *Neda* and *Gorast* have been recommended as the most suitable for long-term cultivation in Bulgaria, due to the optimal combination of yield, resistance and technological characteristics. Donor forms for hybridization have been identified, aimed at increasing yield, drought resistance, brewing qualities and early maturity, as sample 96105023 is distinguished by high combinative ability and is key to the development of scientifically based plant breeding programs. In the field of vegetable crops, tomato breeding with a high content of antioxidants has been carried out by integrating metabolic profiles and marker-assisted methods, which contributes to the genetic improvement of nutritional value. In the case of beans, a significant volume of genetic plasma, including local varieties, natural populations, mutant generations and hybrid lines, has been studied by applying UPOV descriptors and molecular markers (ISSR, SSR, SCAR), with the aim of identifying promising genotypes for state variety testing. The results obtained constitute a basis for sustainable development of breeding programs and increasing the competitiveness of Bulgarian plant breeding.

The research conducted by Silvia Vasileva proves the effectiveness of integrated breeding approaches, combining phenotypic, genotypic and distance data, creating prerequisites for sustainable development of plant breeding in Bulgaria. The results obtained support the increase in productivity, adaptability and quality of the main crops.

5. Assessment of the candidate's personal contribution

The submitted materials demonstrate consistent scientific activity, sustainable development of research competencies and significant personal contribution. The publications contain author's analyses that are distinguished by innovation and relevance. No signs of appropriation of other people's results have been identified, which guarantees originality and scientific integrity.

6. Critical notes

I have no significant critical remarks on the materials submitted for the competition. However, I would like to make some recommendations that could improve scientific activity, such as developing specific strategies for implementing QTL information in practical plant breeding through marker-assisted programs, expanding the analysis by including additional indices (EVI, SAVI) and integrating with drone data for more precise crop monitoring, adding an analysis of the profitability and costs of implementing the recommended varieties, including scenarios for different climatic conditions.

7. Personal impressions

Based on the presented teaching and scientific-methodological activity, Silvia Vasileva fully meets the requirements for promotion to the academic position. In addition to the significant commitment to the educational process, she also demonstrates activity in the scientific field through participation in research projects, publications in reputable scientific journals and development of curricula that integrate current scientific achievements. Her work in the field of plant breeding and seed production of cultivated plants contributes to the development of agricultural science and practice.

8. Conclusion

Based on the presented materials and the achieved results, I propose that Senior Assistant Professor PhD Silvia Valentinova Vasileva be elected as an "associate professor" in the discipline "Plant breeding and seed production of cultivated plants" in Professional field 6.1. Crop production, scientific specialty Plant Breeding and seed production of cultivated plants in the discipline

Prepared the opinion:



The opinion has been forwarded to: 17.11.2025.