АГРАРЕН УНИВЕРСИТЕТ
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REVIEW

regarding the competition for the academic position of "Associate Professor" in the scientific specialty of Plant Growing, announced in the State Gazette, Issue 65 of July 17, 2026; candidate: Chief Assistant Professor Dr. Rumyana Georgieva Georgieva.
Prepared by Prof. Dr. Tanko Peev Kolev, Agricultural University – Plovdiv, appointed as a member of the scientific jury pursuant to Order No. RD 16-902 dated September 17, 2026, issued by the Rector of the Agricultural University – Plovdiv.

Reviewer: Prof. Dr. Tanko Peev Kolev (retired), Agricultural University – Plovdiv; Field of Higher Education 6: Agricultural Sciences and Veterinary Medicine; Professional Field 6.1: Plant Growing; Scientific Specialty: Plant Growing. Appointed as a member of the scientific jury by Order No. RD 16-902 dated September 17, 2026, issued by the Rector of the Agricultural University.

1. General information regarding the candidate's career and thematic development;

Chief Assistant Professor Dr. Rumyana Georgieva began her professional experience as a trainee from June 2011 to September 2011 at the "Iskra" Cooperative in the village of Kapinovo, General Toshevo Municipality, where she acquired practical knowledge related to the preparation, cultivation, and harvesting of agricultural produce. From August 1, 2013, to August 31, 2013, she was an intern at AGES (Austrian Agency for Health and Food Safety) in Vienna, Austria. Her primary activities included processing soil samples, identifying the presence of potato nematodes, determining the resistance levels of various potato varieties to these nematodes, and monitoring the tomato leafminer (*Tuta absoluta*). From April 1, 2014, to February 22, 2017, she worked as a technical assistant (agronomist) at SGS Bulgaria (located at 1 William Froude St., Varna), where her duties involved receiving and preparing samples for analysis and providing consultations on the selection of analytical methods. In November 2019, following the successful defense of her dissertation, she was awarded a PhD in the field of Plant Production. From January 21, 2020, to July 1, 2022, she served as an Assistant, and on July 1, 2022, she was appointed as a Chief Assistant in the Department of Plant Production at the Agricultural University of Plovdiv. Her core responsibilities include conducting practical exercises and training sessions, establishing field trials, and authoring academic publications. In 2011, Rumyana Georgieva obtained a Bachelor's degree in Agronomy (Field Crop Production) from the Agricultural University of Plovdiv. From February 2012 to October 2013, she studied at the University of Natural Resources and Life Sciences (BOKU), Vienna, where she obtained a Master's degree in Plant Protection. Since 2019, Rumyana Georgieva has participated in numerous training courses at the following institutions: Humboldt University of Berlin; PECO Institut; Trakia University, Stara Zagora; Leibniz University Hannover; Prof. Dr. Asen Zlatarov University, Burgas; Aeres University of Applied Sciences Wageningen; and the Agricultural University, Plovdiv.

2. General description of the submitted materials.

Chief Assistant Professor Dr. Rumyana Georgieva is participating in the competition for the academic position of "Associate Professor" (*dotsent*) with a total of 20 works, categorized as follows:

• Scientific publications in the relevant field – 24 items, consisting of:
- Publications related to her doctoral dissertation – 4 items (which are not subject to review);
- Publications with an impact factor/impact rank – 12 items;
- Publications in peer-reviewed and indexed scientific journals – 8 items;
- Publications outside the designated speciality – 1 item (which is not subject to review)

Rumyana Georgieva's personal contribution to these 20 works is evidenced by the fact that she is the sole author of 7 (35 %), the first author of 8 (40 %), the second author of 3 (15 %), and the third (or subsequent) author of the remaining 2 (10 %).
• Textbooks – 0 items.
• Study guides – 0.
• Book – 1.

A total of 20 items are subject to analysis for the purpose of preparing this assessment.

3. Main areas of the candidate's research work. Demonstrated skills or aptitude for leading scientific research (project management, securing external funding, etc.).

Currently, the primary challenge facing the agricultural sector is identifying alternative approaches that are safe for human health and environmentally friendly. Sustainable crop management constitutes one of the fundamental pillars of modern agriculture. Through methods such as plant breeding, appropriate variety selection, and ecosystem management, crop production can be adapted to climate change. Selecting the right variety is among the most critical management practices for achieving higher productivity. Research into how different varieties respond to varying environmental conditions—under the application of diverse sustainable farming practices—enables the formulation of evidence-based recommendations for agricultural producers, thereby facilitating informed decision-making.
The development of agronomic practices that enhance the utilization of natural resources—aimed at improving soil health and crop productivity—is of crucial importance for the long-term sustainability of agricultural technologies. - Studies on the effect of applying plant biostimulants on the productivity of certain essential-oil-bearing and cereal crops
- Studies on the effect of fertilization on the productivity of *Rosa damascena*
- Studies on agrotechnical aspects of the oil-bearing *Rosa damascena*.
- Study of the agronomic performance of lavender varieties
- Study of the influence of contrasting environmental conditions on certain quantitative and qualitative traits in maize
- Studies on the impact of foliar treatment products on quantitative and qualitative traits in clary sage (Salvia sclarea) and coriander
Chief Assistant Professor Dr. Rumyana Georgieva has participated in five projects that provided funding for the conducted research:
→ A bilateral cooperation project between Bulgaria and Austria, funded by the Bulgarian National Science Fund (Contract No. KP-06-Austria), titled "Prospects for the Control of Diseases and Pests in Organic Rose Cultivation" (Duration: 11/08/2021 – 30/06/2024).

→ Project Leader for "Agronomic Performance of High-Yielding Maize Hybrids" under the National Program for Young Scientists and Postdoctoral Fellows – Phase I (2022–2023) and Phase II (2024–2025).
Dr. Georgieva has also participated in several other projects:
→ Erasmus+ Program: "Good Teaching Practices in Education for Effective Learning within Integrated Food Systems" (GOODFOOD), Project No. 2020-1-PL01-KA203-082209 (2020–2022).
→ Study of the effect of various forms of potassium and magnesium fertilizers on the yield and quality of table grapes and lavender (2020–2024).
→ Project No. 10-25, titled "Evaluation of Quantitative and Qualitative Indicators of Amaranth (*Amaranthus hypochondriacus* L.) in Relation to Fertilization Regime, Inter-row Spacing, and Weed Control," for the period 2025–2028.

4. Evaluation of the candidate's pedagogical preparation and activities. Their role in the training of young scientific personnel.

The candidate's pedagogical preparation and activities, as well as their active role in the education of students, make a very positive impression. Dr. Georgieva is an effective and successful educator with a solid track record at the Agricultural University of Plovdiv. During the 2021–2026 period, her total teaching workload amounted to 2,366.6 hours, comprising lectures, practical exercises, Erasmus-related activities, and non-classroom academic duties.
The activities carried out include:
Lectures: 54 hours.
Practical exercises: 1,324.6 hours.
Erasmus activities: 514.4 hours.
Non-classroom academic duties: 473.7 hours.
Curricula developed: 2 (course titles: "Biological and Conventional Production of Industrial Crops" and "Climate-Smart Agriculture"). She has served as academic supervisor for 13 diploma theses, 9 of which have been successfully defended (7 by Bachelor's degree students and 2 by Master's degree students), and is currently supervising 4 students (3 Bachelor's and 1 Master's).
Highlighting her contribution to the education of students and young researchers, it is also worth noting that she has completed a number of training courses: a course on Innovative Educational Technologies under the National Program "Enhancing the Competencies of Lecturers at State Higher Education Institutions Training Future Teachers" (2020); the acquisition of pedagogical qualification as a vocational training teacher (2022); participation in a training course under the Agripol project, covering topics such as cognitive dissonance, didactic teaching strategies, and individualized approaches (2022–2023); participation in a training course on the "Application of a Competency-Based Approach in the Education of Future Teachers," conducted as part of the National Program "Enhancing the Competencies of Lecturers at State Higher Education Institutions Training Future Teachers" (2023); participation in a training course on "Systemic Group Instruction and the Creation of Blended Learning Courses (combining in-person and online formats)" (2024); and participation in a summer school under the BEAMING project, focused on the core principles of a "Culture of Inclusive Innovation" within higher education institutions engaged in education and research in the field of bioeconomy. She has adopted the principles of project-based learning; the development of a network-oriented culture; initiatives for diversity, equity, and inclusion; the involvement of students in project activities; curriculum design;

interdisciplinarity; psychological safety; learning from mistakes; and inclusive teaching methods that support education for sustainable development in 2024.

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

The scientific research and associated scholarly contributions of Chief Assistant Professor Dr. Rumyana Georgieva are the result of experimental work conducted in several key areas. These include the study of specific technological aspects in the cultivation of cereals and essential-oil-bearing crops, as well as the response of major field crops to contrasting environmental conditions.
A total of 6 citations in indexed and peer-reviewed scientific databases have been recorded.
The results reported in Dr. Georgieva's scientific publications demonstrate a strong theoretical grounding in specific issues, a detailed familiarity with the existing literature, a sound academic writing style, and a critical approach during discussions.
Dr. Georgieva actively disseminates the results of her research by participating in poster sessions and lectures presentations at scientific forums and conferences in Bulgaria (with international participation) as well as scientific events abroad—totaling 6 (1 oral presentation in Italy, and 5 poster presentations—3 in Romania and 2 in Bulgaria).
The interest shown in the presented results, Dr. Georgieva's visibility through citations, and her publications in reputable scientific journals attest to the scientific value of the work conducted and confirm the candidate's standing as a qualified candidate for the position of Associate Professor (*Dotsent*).
Dr. Georgieva has been a member of ENOAT since 2021, and since 2022, she has served on the board of ENTER as General Secretary.

6. Significance of contributions to science and practice. Assessment of the extent to which the candidate possesses a clearly defined research profile.

I rate the significance of the presented contributions—systematized based on the results of the candidate's research and teaching activities—as very high.

I. ORIGINAL CONTRIBUTIONS

1. It has been documented for the first time that the roots of the oil-bearing *Rosa damascena* are naturally mycorrhizal, and that the density of the mycorrhizal community is not affected by the plant protection products applied. (B8)
2. A more acidic soil reaction and higher precipitation levels lead to a lower degree of root colonization in the Damask rose (*Rosa damascena*). (B8)
3. For the first time, changes in mycorrhizal density throughout the various phenological stages of Damask rose (*Rosa damascena*) development—resulting from the application of organic fertilizers—have been documented. The highest density is observed during the flowering stage, when the plants have the greatest nutritional requirements. Fertilization with bone meal stimulates mycorrhizal density to the greatest extent throughout the entire study period and can be utilized in the context of sustainable agriculture. (G4)

4. Production technologies influence changes in the density of the natural mycorrhizal community in maize hybrids. Genotypic differences among the hybrids have been established, manifested as variations in the percentage of mycorrhizal colonization. The hybrid with the highest yield also exhibits the highest percentage of natural mycorrhizal colonization. No-tillage technologies show a positive effect on natural mycorrhizal communities, though not on the productivity of the maize hybrids. (G3)

II. SCIENTIFIC CONTRIBUTIONS

1. As the rate of nitrogen fertilization increases, the variation in the plasticity index among triticale varieties reaches its lowest point. Based on the mean values of the plasticity coefficient, the 'Rakita' and 'Sadovets' varieties are classified as ecologically plastic. The standard AD-7291 exhibits the lowest ecological plasticity. Rye-type varieties demonstrate greater stability than wheat-type varieties. (G8)
2. In triticale, the yield plasticity coefficient correlates positively with all yield components. A positive correlation was established between the yield stability coefficient and the number of spikes per m^2, as well as the grain weight per spike. A negative correlation was observed only with respect to plant height. (V1)
3. A strong negative correlation was found between grain yield plasticity and test weight, as well as between plant height and test weight in triticale varieties. (V11)
4. For the first time, the effect of a propolis extract has been evaluated as a biological control agent against the rose stem girdler (*Agrilus sp.*)—the most economically significant pest of the oil-bearing rose. Combined treatment with propolis extract and Limocide not only inhibits the formation of new galls but also demonstrates the highest efficacy, significantly reducing the adult insect population. (G7)
5. The fertilization rate for triticale influences the partial productivity of nitrogen, phosphorus, and potassium. The average partial productivity of these nutrients decreases as the fertilization level increases. At higher fertilizer application rates, each unit of added nutrients results in lower grain production or a lower accumulation of protein within the grain. No significant varietal differences were observed regarding the efficiency of nitrogen, phosphorus, and potassium utilization for grain yield formation. (B9)

III. PRACTICAL CONTRIBUTIONS

1. The application of growth-stimulating products enhances not only yield components but also the content and quality of essential oil in coriander (B6) and clary sage (G2).
2. In maize, the effect of biostimulants on quantitative and qualitative yield parameters, as well as on crude protein content, depends on the specific hybrid. The bacterial product "Biostart" facilitates the accumulation of maximum crude protein content, regardless of the hybrid used. (G6)
3. For the first time, the productivity and quality of Bulgarian lavender varieties have been studied under the conditions of Northeastern Bulgaria. In the Dobrich region, the 'Druzhba' variety achieved the highest yield of fresh flowers; this is attributed to higher values for structural components, such as the number of inflorescences per plant, the length of the flowering stem, the number of floral whorls, and the total weight of inflorescences per plant. The 'Sevtopolis' variety exhibited the highest essential oil percentage, yield, and extraction efficiency, while the 'Hemus' variety recorded the highest quality of essential oil. (B3, B4)

4. Fertilization with bone meal contributes to an increase in the average yields of rose blossoms and the essential oil content in the oil-bearing *Rosa damascena*. The application of bone meal and vermicompost increases the percentage of monoterpene alcohols in the oil, which in turn enhances the quality of the raw material (G5). In the case of medicinal chamomile, organic fertilization improves the overall agronomic performance of the crop and enhances the quality of the essential oil by increasing the content of β-farnesene, chamazulene, α-bisabolol, α-bisabolol oxide A, and α-bisabolol oxide B (G1).
5. Products based on entomopathogenic fungi provide effective and environmentally safe control of the green rose aphid in organic *Rosa damascena* plantations. Although less effective, the local strain *Beauveria bassiana* 214 shows potential as a locally adapted biological agent. (B10)
6. Orange oil extract (Limocide®) successfully controls populations of insects with piercing-sucking mouthparts in *Rosa damascena* plantations and can be effectively used in organic farming. (B2)

IV. METHODOLOGICAL CONTRIBUTIONS

Among the contributions listed in the sections on original, scientific, and applied contributions, those with a specific methodological nature include items 1 and 3 (original contributions), 2, 3, and 4 (scientific contributions), and 7, 8, 9, and 10 (applied contributions). A methodological contribution to the candidate's teaching activities is the development of curricula for full-time and part-time Bachelor's and Master's degree programs at the Agricultural University of Plovdiv (specifically, the courses: "Biological and Conventional Production of Industrial Crops" and "Climate-Smart Agriculture").
The significant nature of the candidate's scientific and applied research, along with her methodological achievements, clearly demonstrates that the applicant for the position of "Associate Professor" possesses a well-defined profile in both research and pedagogy within the field of higher education, specifically in the scientific specialty of "Plant Growing."

7. Critical Remarks and Recommendations

I have no critical remarks regarding the submitted materials. I recommend that Chief Assistant Professor Dr. Rumyana Georgieva develop and publish a monograph covering the core areas of her research work. To better inform farmers, I also suggest that she publish her findings in the journal *Zemedelie Plus* ("Agriculture Plus") and other practical, science-based agricultural publications.
8. Personal Impressions and Reviewer's Opinion
I have known Dr. Rumyana Georgieva since she began her doctoral studies, and I have observed her subsequent professional development in both science and teaching as an Assistant and later as a Chief Assistant Professor.
The achievements of Chief Assistant Professor Dr. Rumyana Georgieva characterize her as an ambitious and capable specialist with strong research potential, as well as the ability to work both independently and as part of a team.
Dr. Georgieva's professional profile establishes her as a successful researcher with a promising future as an educator deserving of further academic advancement to a tenured faculty position at the Agricultural University of Plovdiv.

CONCLUSION

Based on the analysis of the candidate's pedagogical, scientific, and applied-scientific activities, I conclude that Chief Assistant Professor Dr. Rumyana Georgieva meets the requirements outlined in the *Law on the Development of the Academic Staff in the Republic of Bulgaria* (LDASRB), the *Regulations for the Application of the LDASRB*, and the specific *Regulations of the Agricultural University of Plovdiv*. Chief Assistant Professor Dr. Rumyana Georgieva has accumulated a total of 616 points across all indicator groups, exceeding the 400-point threshold required for the rank of "Associate Professor" (*dotsent*).

Consequently, I provide a POSITIVE assessment of her overall professional activity.

I recommend that the esteemed Scientific Jury also cast a positive vote, and that the Faculty Council of the Faculty of Agronomy at the Agricultural University of Plovdiv appoint Chief Assistant Professor Dr. Rumyana Georgieva to the position of "Associate Professor" in the scientific field of "Plant Growing."

Date: 30.10.2026
Plovdiv

REVIEWER:.....
(Prof. Dr. Tanko Kolev)