АГРАРЕН УНИВЕРСИТЕТ
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# REVIW

**Regarding** the competition for the academic position of "Associate Professor" in the scientific specialty "Crop science", announced in the SG, *No* 65 of 17.07. 2026, with candidate Chief Assistant Professor Dr. Rumyana Georgieva Georgieva from the Agricultural University – Plovdiv.

***Reviewer:*** ***Prof. Radka Veleva Ivanova,*** **PhD,** Agricultural University – Plovdiv; professional field 6.1 „Crop science", scientific specialty „Crop science", appointed from the Rector of the Agricultural university as a member of the Scientific Jury with Order № РД – 16/902 от 17.09.2026 г.

In the competition for "Associate Professor", announced for the needs of the department "Crop science" at the Agricultural University, Plovdiv, participates only one candidate - Chief Assistant Professor Dr. Rumyana Georgieva Georgieva.

**1. Brief introduction of the candidate.**

Rumyana Georgieva was born on February 23, 1988, in the city of Haskovo. She completed her secondary education in 2007 at the "Geo Milev" Language High School in Dobrich, studying German as her first foreign language and English as her second. In 2011, she graduated from the Agricultural University of Plovdiv with a degree in Agronomy, and in 2013, she earned a Master's degree in Plant Protection from the University of Natural Resources and Life Sciences (BOKU) in Vienna. Following her Master's studies, Rumyana Georgieva gained practical experience at the Austrian Agency for Health and Food Safety (AGES) in Vienna to further enhance her professional qualifications. Upon returning to Bulgaria, she worked as an agronomist at SGS Bulgaria in Varna. From 2016 to 2019, she was a full-time PhD student in the Department of Crop Science. In 2020, she was appointed to the academic position of Assistant, and since 2022, she has served as a Chief Assistant in the same department. In 2023, she obtained a teaching qualification from Trakia University. Since 2021, Chief Assistant Georgieva has been a member of ENOAT (a European network of higher education lecturers and researchers focused on organic farming and agroecology), and in 2022, she was elected to the Board of Directors of ENTER, serving as General Director. Chief Assistant Georgieva possesses a very high level of proficiency in German (C1 level – specialized language skills), is fluent in English (B2 level – independent language skills), and has a beginner-level (A1) command of Spanish. She also demonstrates a high level of computer literacy and utilizes a wide range of software applications, including Word, Excel, PowerPoint, Internet, BIOSTAT, and SPSS.

**2. General description of the scientific production.**

The competition documentation has been prepared in accordance with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for its implementation at the Agricultural University – Plovdiv. Chief assistant profesor d-r Rumyana Georgieva is participating in the competition for the academic position of "Associate Professor" with a total of 24 scientific publications, grouped as follows:

- ❖ Publications related to the educational and scientific degree of "Doctor" – **4 items**, which are not subject to review;
- ❖ Scientific publications for the purpose of attaining the academic position of "Associate Professor," which do not duplicate those submitted for the acquisition of the educational and scientific degree of "Doctor" (PhD) – **21 items**.

Minimum number of points required across indicator groups for appointment to the academic position of "Associate Professor":

- **Indicator A** – minimum requirements: 50 items; materials submitted for 50 points;
- **Indicator B4** – 10 publications; minimum requirement: 100 items; materials submitted: 206 items;
- **Indicator G6** – Published book based on a defended dissertation for the award of the educational and scientific degree of "Doctor" – 40 items;
- **Indicator G7** – minimum requirement: 200 items; materials submitted for 230 points;
- **Indicator D13** – minimum requirement: 50 items; materials submitted correspond to 90 items.

In accordance with the minimum national requirements set out in the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation, and the Regulations of the Agricultural University – Plovdiv, the candidate has accumulated **616 points** surpassing the required minimum of 400 points-thereby exceeding the minimum national scientometric requirements for the academic position of "Associate Professor" by 216 items.

Publications submitted by the candidate for the current competition for the academic position of "Associate Professor" in the designated field, which are subject to analysis – **20 items.**

- **Indicator B4** – Scientific publications (at least 10) in journals that are refereed and indexed in internationally recognized scientific databases (Scopus, Web of Science with IF, SJR in quartiles Q1, Q3, Q4) – 12 items (60%).

- 1 of them with a very high impact factor (IF 5.9) — *Industrial Crops and Products* (2022), Q1, SJR 0.90, IF 5.9;

- 4 items, with a combined impact factor (IF 2.3) in quartile Q4;
- 7 items, with an impact rank (SJR) in quartiles Q3 and Q4.

- **Indicator G7** – Articles and reports published in scientific publications that are peer-reviewed and indexed in internationally recognized scientific databases – 8 items.

Outside the nomenclature specialty – 1 item.

Twenty publications were analyzed for the preparation of this opinion. Of these, d-r Georgieva is the sole author of 7 (35%); first author of 8 (40%); second author of 3 (15%); and third author of 2 (10%). All publications are in English.

**3. Main directions of the candidate's research work, leadership of and participation in research projects, external funding secured, etc.**

The trends of global warming and ongoing climate change, which have become firmly established in recent years, exert a detrimental impact not only on the development and yield of agricultural crops but also on the quality of the resulting produce. For this reason, the majority of Senior Assistant Professor Georgieva's research focuses on studying the behavior of various Bulgarian and foreign varieties and hybrids specifically cereals and essential-oil-bearing crops grown in different regions of the country, with an emphasis on their adaptability and plasticity. Much of this research explores ways to enhance productivity and product quality by adjusting mineral fertilizer application, accounting for the influence of preceding crops, and utilizing products that stimulate or modulate crop growth amidst dynamically changing environmental conditions. Organic field crop cultivation also plays a significant role, contributing simultaneously to environmental protection, the preservation of biodiversity, and the strengthening of agroecosystems. In this context, particular attention is given to the use of various biostimulants, immunostimulants, foliar fertilizers, and fungal agents, and their effects on the soil and plants, with the ultimate goal of producing "clean" (residue-free) agricultural products. Collectively, these aspects clearly define the candidate's profile in the field of scientific research.

The subject of the scientific research conducted by d-r Georgieva are essential oil (11 – 55%) and cereals crops (9 – 45%).

Dr. Georgieva's professional growth and development as a researcher have also been fostered by her participation in the development of four research projects; this demonstrates her capacity to lead, work within a team, and secure additional external funding.

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

Assistant Professor Georgieva has over 6 years of teaching experience working with students. Her pedagogical training, as well as her role in the education of both domestic and international students and early-career researchers, is highly impressive.

According to the certificate provided by the Agricultural University – Plovdiv (NOF5/23, dated September 8, 2006), Dr. Georgieva's teaching workload for the period 2021–2026 amounted to 2,366.6 hours (calculated in terms of practical exercises). Of this total, under the Erasmus program, she delivered 514 hours of lectures and practical exercises in English; for this purpose, she also developed the curricula for the courses "Biological and Conventional Production of Industrial Crops" and "Climate-Smart Agriculture."

Six students have successfully completed their degree theses under her supervision—three at the Bachelor's level and two at the Master's level—and she is currently supervising four additional students.

D-r Georgieva's professional skills and knowledge as an educator and researcher have been further refined and enriched through her participation in various courses, seminars, and specialized training programs organized by both domestic and international universities. These include two training courses under the ENTER program (European Network for Training in the Agricultural Sector)—featuring lecturers from prestigious universities—as well as a project under the Erasmus+ program.

Assistant Professor Georgieva has participated in a significant number of educational courses and seminars held at both domestic and international universities—including Aeres University of Applied Sciences Wageningen (the Netherlands), Leibniz University Hannover, Humboldt University of Berlin, the PECO Institute (Germany), Angel Kanchev University of Ruse, Prof. Dr. Asen Zlatarov University (Burgas), and the Agricultural University of Plovdiv—focusing on the development and quality of education both in Bulgaria and abroad.

These additional training programs at prestigious scientific centers have facilitated the acquisition and application of new theoretical, experimental, and practical scientific approaches within Senior Assistant Professor Georgieva's teaching and experimental work. Her professional development is characterized by a consistent commitment to enhancing her qualifications and a successful, progressive career advancement through various academic ranks; she also demonstrates strong teamwork skills, effective communication, and a high sense of responsibility in the execution of assigned tasks.

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

The significance of Chief Assistant Professor Georgieva's research results and her standing within the scientific community are evidenced by the number of citations in various publications. The 6 citations provided appear in scientific journals that are refereed and indexed in internationally recognized scientific databases. All citations are from foreign authors, indicating that her research has gained recognition within the international scientific community. The quality of her scholarly output is further demonstrated by citations in journals with very high impact factors (3 citations are in journals with a combined Impact Factor of 13.517, such as the *International Journal of Molecular Sciences*, *Agronomy*, and *Plants*).

According to the submitted report on citations under indicator D13, the candidate has accumulated a total of 90 points, against a requirement of 100 points.

Another positive aspect regarding the dissemination of her research findings is her participation in 2 national and 5 international scientific forums, where she presented her work through oral and poster presentations.

**6. Significance of the contributions to science and practice. A reasoned response to the question of the extent to which the candidate possesses a clearly defined profile in research work.**

**I. ORIGINAL CONTRIBUTIONS**

1. It has been established for the first time that the roots of the Damask rose (*Rosa damascena*) are naturally mycorrhizal, and that the density of the mycorrhizal community is not affected by the plant protection products applied (B8). A more acidic soil reaction and higher precipitation levels lead to a lower degree of root colonization in the Damask rose (B8).

2. As a result of the application of organic fertilizer, a change in mycorrhizal density across the various phenological phases of the *Rosa damascena* (oil-bearing rose) development has been documented for the first time. The highest density is observed during the flowering phase when bone meal is used as fertilizer. (G4)

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

4. For the first time, the effect of propolis extract as a biological control agent against *Agrilus* is evaluated. Combined treatment with propolis extract and

Limocide inhibits the formation of new galls and significantly reduces the population of adult insects. (G7)

## II. SCIENTIFIC CONTRIBUTIONS

1. In triticale, rye-type varieties exhibit greater stability than wheat-type varieties. As the rate of nitrogen fertilization increases, the variation in the plasticity index decreases. (G8)

2. The yield plasticity coefficient in triticale shows a positive correlation with all yield components. The yield stability coefficient demonstrates a positive correlation with the number of spikes per $m^2$ and the grain weight per spike. A negative correlation was observed only with respect to plant height. (V1)

3. A strong negative correlation has been established between grain yield plasticity and hectolitre weight, as well as between plant height and hectolitre weight, in triticale varieties. (B11)

4. The mean partial productivity of nutrients (nitrogen, phosphorus, and potassium) decreases as the fertilization level increases. At higher fertilizer rates, each unit of applied nutrient results in lower grain production or reduced protein accumulation. No significant varietal differences were observed regarding the productivity of nitrogen, phosphorus, and potassium in relation to grain yield formation. (B9)

## III. SCIENTIFIC AND APPLIED CONTRIBUTIONS

1. The application of growth-stimulating products enhances not only the components of productivity but also the content and quality of the essential oil in coriander (B6) and *Stachys byzantina* (G2).

2. The effect of biostimulants on the quantitative and qualitative parameters of yield, as well as on crude protein content, is dependent on the maize hybrid. The bacterial product Biostart facilitates the accumulation of the maximum crude protein content, regardless of the hybrid. (G6)

3. The productivity and quality of Bulgarian lavender varieties were studied under the conditions of Northeastern Bulgaria. The 'Druzhba' variety yielded the highest quantity of fresh blossoms. The 'Sevtopolis' variety exhibited the highest essential oil content, yield, and oil recovery rate, while the 'Hemus' variety produced essential oil of the highest quality. (B3, B4)

4. In the oil-bearing *Rosa damascena*, fertilization with bone meal increases the average yield of rose blossoms and the essential oil content. The application of bone meal and vermicompost improves the quality of the raw material by increasing the percentage of monoterpene alcohols in the oil. (G5)

5. Organic fertilization of medicinal chamomile increases both the yield and the quality of the essential oil by raising the content of β-farnesene, chamazulene, α-bisabolol, α-bisabolol oxide A, and α-bisabolol oxide B (G1).

6. In organic Damask rose plantations, products based on entomopathogenic fungi provide effective and environmentally safe control of the green rose aphid. Although less effective, the local strain *Beauveria bassiana* 214 shows potential as a locally adapted biological agent (B10).

7. Orange oil extract (Limocide®) successfully controls populations of insects with piercing-sucking mouthparts in Damask rose plantations and can be effectively used in organic farming (B2).

**7. Critical remarks and questions**. I have no critical remarks or questions for the candidate.

**8. Personal impressions and the reviewer's assessment.** I have known Rumyana Georgieva since 2016, when she joined the department as a full-time doctoral student. Over the years, she has distinguished herself through her diligence, inquisitiveness, and ambition. She works well within a team and maintains professional, respectful relationships with her colleagues.

**CONCLUSION**

Based on the analysis of the candidate`s teaching, scientific and scientific-applied work, I believe that Chief Assistant Professor, PhD, Rumyana Georgieva Georgieva, meets the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria, The Regulations for its application, as well as the Regulations of the Agricultural University – Plovdiv for its implementation.

Chief Assistant Professor Georgieva has participated in the competition with a substantial body of scientific work, published in both domestic and international specialized journals. The provided citation data indicate that her scientific work has gained recognition within the international scientific community. She possesses an excellent command of German and English. She conducts lectures and practical exercises for students under the Erasmus program. She has participated in the development of four research projects. Six students have successfully completed their diploma theses under her supervision. She has been elected as a member of ENOAT and serves on the Board of Directors of ENTER as Director General.

All this gives me grounds to evaluate **POSITIVELY** the candidate`s overall work.

I allow myself to propose to the honorable scientific jury to also vote positively, and the Faculty Council of the Faculty of Agronomy at the Agricultural University – Plovdiv to elect Chief Assistant Professor, PhD, Rumyana Georgieva Georgieva for the academic position of "Associate Professor" in the scientific specialty: "Crop Science".

25.10. 2026
Plovdiv

REVIEWER:
/Prof. Dr. Radka Ivanova/