АГРАРЕН УНИВЕРСИТЕТ
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REVIEW

regarding the competition for the academic position of "Professor" in the scientific specialty "Forage Production, Grasslands", announced in State Gazette, Issue 65 of 17 July 2026, with candidate Assoc. Prof. Atanas Veselinov Sevov, PhD, from the Agricultural University – Plovdiv.

Reviewer: Prof. Tatyana Ivanova Bozhanska, PhD, Research Institute of Mountain Stockbreeding and Agriculture – Troyan; Field of Higher Education 6. Agricultural Sciences and Veterinary Medicine, Professional Field 6.1 Crop Production, Scientific Specialty "Forage Production, Grasslands", appointed as a member of the Scientific Jury pursuant to Order No. RD-16-901/17.09.2026 of the Rector of the Agricultural University – Plovdiv.

There is one candidate participating in the competition for the academic position of "Professor", announced for the needs of the Department of Crop Science at the Agricultural University – Plovdiv, namely Assoc. Prof. Atanas Veselinov Sevov, PhD.

1. General data on the candidate's career and thematic development

Assoc. Prof. Atanas Sevov, PhD, was born on 21 April 1976 in Sofia. During the period 1994–2002, he completed his higher agricultural education at the Agricultural University – Plovdiv, obtaining the qualification of Agricultural Engineer, majoring in Agroengineering – Field Crop Production. His education included fundamental and specialized courses in the field of agricultural sciences. In 2011, he obtained the Educational and Scientific Degree "Doctor" (PhD) at the Agricultural University – Plovdiv. His doctoral dissertation was entitled "Investigation of the Influence of Certain Agronomic Factors on the Productivity and Quality of Multifoliate Alfalfa".

From 2011 to 2017, he held the academic position of Chief Assistant Professor at the Agricultural University – Plovdiv. His principal responsibilities and activities included teaching and research, conducting lectures and practical classes, developing teaching materials, participating in research projects, scientific forums and academic committees, and publishing the results of scientific experiments.

In 2017, he was appointed to the academic position of Associate Professor. In this professional capacity, he has developed active teaching and research activities, including the development and updating of teaching materials and curricula, participation in and management of research projects, supervision of undergraduate and doctoral students, participation in scientific forums, scientific juries, committees and academic governance bodies.

The candidate's teaching and research activities include delivering lectures, practical classes and seminars to Bulgarian and international students enrolled in Bachelor's and Master's degree programmes at the Agricultural University – Plovdiv; supervising doctoral students and graduates; and leading and participating in national and international scientific forums and projects.

His participation in the management of the academic structures of the Agricultural University – Plovdiv is evidence of the high esteem in which his research, teaching, organizational and managerial competencies are held. Since 2020, Assoc. Prof. Atanas Sevov,

PhD, has served as Dean of the Faculty of Agronomy. In this capacity, he actively participates in the organization and coordination of the educational, research and administrative activities of the Faculty, the management of its academic staff, and the development of its educational and research fields. He is also a member of the General Assembly of the Agricultural University, which further confirms his active involvement in the academic governance of the institution.

Assoc. Prof. Atanas Sevov, PhD, has an excellent command of written and spoken English and Russian.

The candidate's career development is characterized by purposeful progression, systematic upgrading of his professional qualifications and gradual advancement within the academic hierarchy. His research and professional activities demonstrate a clearly defined thematic profile focused on current and strategically important issues in the field of forage production and grassland.

2. General description of the materials presented

The documents for the competition have been prepared in accordance with the requirements of the Development of Academic Staff in the Republic of Bulgaria Act (DASRBA) and the Rules for its Implementation at the Agricultural University – Plovdiv.

- **Scientific publications in the nomenclature specialty – a total of 30, of which:**
  - Publications with an impact factor (IF) / SCIimpact Journal Rank (SJR) – 27;
  - Publications in peer-reviewed and refereed scientific journals – 29;
  - Publications in conference proceedings – 17.
- **Textbooks – 1.**

Scientific publications subject to analysis for the preparation of the review in the competition:

- Articles published in Scopus with impact factor (IF) and impact rank (SJR) – 9 publications, distributed among quartiles as follows: Q1 (1), Q3 (6), Q4 (2) (*Applied Sciences* – SJR 0.521; *Environment. Technology. Resources. Proceedings of the 15th International Scientific and Practical Conference* – SJR 0.167; *International Journal of Advanced Computer Science and Applications* – SJR 0.278; *Bulgarian Journal of Agricultural Science* – SJR 0.250; *Journal of Hygienic Engineering and Design* – SJR 0.168, IF – 0.3).
- Articles published in Scopus indexed sources without an assigned (SJR) – 5 publications (*International Conference on Energy Efficiency and Agricultural Engineering – EE&AE*).
- Articles published in the Web of Science Core Collection – 9 publications in Q4 (*Scientific Papers. Series A. Agronomy* – JIF – 0.7; *Scientific Papers-Series Management Economic Engineering in Agriculture and Rural Development* – JIF – 0.34; *Scientific Papers-Series B-Horticulture*).
- Articles published in Web of Science CABI – 4 publications (*Agriculture; Journal of Mountain Agriculture on the Balkans; Agricultural Sciences*).
- Articles published in non-indexed peer-reviewed journals or edited collective volumes – 2 publications (*Zemedelie +; Scientific Works of the Union of Scientists in Bulgaria – Plovdiv*).

The personal contribution of Assoc. Prof. Atanas Sevov, PhD, to the above publications is demonstrated by the fact that he is the sole author of 1 publication (3.33%), the first/lead author of 8 publications (26.67%), the second author of 9 publications (30.00%), and the third or subsequent author in the remaining publications.

An additional part of the presented materials includes 17 syllabi for acquiring the educational and qualification degrees "Bachelor" and "Master" in the professional fields: 6.1. Crop Production, 6.3. Animal Science, and 3.9. Tourism.

Assoc. Prof. Atanas Sevov, PhD, is registered in the National Center for Information and Documentation (NACID) as an "Associate Professor" in the group of habilitated persons with scientometric indicators (https://ras.nacid.bg/dissertation-preview/38408). In the competition for the academic position of "Professor", the candidate declares 649.28 points (distributed by groups and indicators), which is approximately 30% more than required under the Development of Academic Staff in the Republic of Bulgaria Act and the Rules for its Implementation at the Agricultural University – Plovdiv.

Summary reference from Assoc. Prof. Atanas Veselinov Sevov, PhD on the fulfillment of the minimum national requirements (points by groups of indicators) according to the criteria for Professor in the Development of Academic Staff in the Republic of Bulgaria Act (DASRBA), the Rules for its Implementation (Art. 1a, Para. 1), and the Rules for its Implementation at the Agricultural University – Plovdiv in Higher Education Area 6. Agricultural Sciences and Veterinary Medicine, Professional Field 6.1 Crop Production

Group of Indicators	Content	Minimum Requirements for the Academic Position of "Professor"	Result of Assoc. Prof. Atanas Sevov, PhD
A	1. Dissertation for awarding the Educational and Scientific Degree "PhD"	50	**50**
B	3. Habilitation thesis – scientific publications in editions that are refereed and indexed in world-renowned databases of scientific information.	100	**120,28**
C	7. Articles and reports published in scientific editions, refereed and indexed in world-renowned databases of scientific information. 8. Articles and reports published in non-refereed peer-reviewed scientific journals or published in edited collective volumes.	200	**215**
D	13. Citations or reviews in scientific editions, refereed and indexed in world-renowned databases of scientific information, or in monographs and collective volumes.	100	**150**
E	17. Supervision of a successfully defended PhD student. 18. Participation in a national scientific or educational project. 22. Published university textbook or textbook used in the school network.	100	**114**
Общ брой точки		*500*	***649,28***

3. Main directions in the candidate's research work. Demonstrated skills or aptitude for managing scientific research (project management, attracted external funding, etc.).

Main areas of the candidate's research activity

The research activity of Assoc. Prof. Atanas Sevov, PhD, focuses on current and strategically important areas of contemporary crop production, with particular emphasis on forage production, pasture and meadow management, sustainable agriculture, organic production, and the implementation of innovative technologies.

The principal areas of his research encompass studies in the following fields:

- smart management and digitalization of pasture and grassland phytocenoses;
- assessment and sustainable management of pastures and meadows in Bulgaria;
- agrotechnologies and efficient utilization of natural resources;
- soil fertility, biotechnology and the quality of plant biomass under conditions of climate change;
- plant protection;
- productivity, genetics and breeding of agricultural crops;
- engineering and robotic information technologies in agriculture.

The candidate's research is characterized by a pronounced interdisciplinary nature, integrating classical agronomic and experimental methods with remote sensing, Geographic Information Systems (GIS), mathematical and statistical methods, machine learning, sensor systems and precision agriculture technologies. A major focus is placed on improving the productivity and quality of plant biomass while maintaining ecological balance.

Of particular significance is the close relationship between the fundamental and applied aspects of his research. The results obtained from experimental studies are transformed into practically applicable technologies and tools for monitoring, assessment and management of agroecosystems, thus creating a basis for the development of contemporary models of precision and resource-efficient agriculture.

All of this demonstrates a broad range of scientific competencies and an ability to apply contemporary methodological approaches to the solution of complex problems in crop production and sustainable agriculture.

Demonstrated skills and aptitude for leading scientific research

Assoc. Prof. Atanas Sevov, PhD, has participated in and led national and international research projects, as well as projects related to educational and research activities. Within his project-related activities, he has worked on initiatives funded by the National Science Fund, the European Commission and other sources, including internal funding from the Agricultural University – Plovdiv. The available evidence demonstrates substantial experience both in collaborative research teams and in the management and coordination of project activities.

In the competition for the academic position of "Professor", the candidate has reported participation in the following national scientific programmes:

- *National Scientific Program "Intelligent Crop Production"* – participation in work packages related to comparative analysis of IoT, unmanned aerial vehicles, robotic and advanced technologies for monitoring, and the development of intelligent systems for managing crop cultivation technologies.
- *National Scientific Program "Intelligent Livestock Production"* – leader of a work package aimed at developing intelligent systems for monitoring and analyzing the productivity of pastures and meadows using stationary and mobile sensor complexes, computer vision, and remote methods.

These activities demonstrate the candidate's ability to work effectively in research teams, formulate and coordinate complex research tasks, organize research activities and integrate results from different scientific and technological fields. Of particular importance is his involvement in the development of smart technologies for monitoring and managing pastures and meadows, which is directly related to the scientific field of the competition and to the practical applicability of research results.

4. Evaluation of the pedagogical preparation and activity of the candidate. His role in the training of young researchers.

Assoc. Prof. Atanas Sevov, PhD, is an established university lecturer with more than 18 years of teaching experience at the Agricultural University – Plovdiv (Certificate No. LS-92/20.07.2026).

For the period 2021–2026, his teaching workload amounted to 2,875.3 hours, including lectures, practical classes and extracurricular academic activities (Certificate No. NOF 5-22/17.07.2026). His average annual teaching workload is approximately 479 hours, including an average of 220 lecture hours, 60 practical hours and 200 hours of extracurricular academic activities.

An important contribution to the candidate's educational and methodological activity is his participation in the author team of the university textbook "Plant Science" (2019), as well as in two university study guides – *"Manual for Practical Exercises in Tropical and Subtropical Crop Science"* (2011) and *"Manual for Practical Exercises in Crop Science"* (2019). Assoc. Prof. Sevov, PhD, has also participated in the development of 17 curricula for Bachelor's and Master's degree programmes in the professional fields of 6.1. Plant Science, 6.3. Animal Science and 3.9. Tourism, covering topics such as forage crops and pasture management, grass mixtures, plant diversity, establishment and maintenance of grassed areas, and agricultural education.

An important aspect of the candidate's teaching activity is the education and academic supervision of students and doctoral candidates at the Agricultural University – Plovdiv. Assoc. Prof. Atanas Sevov, PhD, has supervised 24 students who successfully completed and defended their graduation theses by 2025, as well as four students whose defenses are scheduled for 2026 (Certificate No. 84/20.07.2026). He has also been the academic supervisor of two successfully defended PhD students in the doctoral programme "Forage Production, Grassland", professional field 6.1 Crop Production.

Assoc. Prof. Atanas Sevov, PhD, has participated as a member of scientific juries in procedures for the acquisition of the Educational and Scientific Degree "Doctor" and for appointment to the academic positions of "Chief Assistant Professor", "Associate Professor" and "Professor", as well as in examination committees for admission to doctoral programmes. This activity is indicative of his recognized professional and scientific expertise and his active contribution to the assessment and development of academic and research capacity.

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

The significance and scientific applicability of the results reported in the scientific publications of Assoc. Prof. Atanas Veselinov Sevov, PhD, have received a positive response in the international scientific community.

In connection with the competition for the academic position of "Professor", 10 citations of five scientific articles have been reported. The citations are in international scientific editions with high visibility and scientific influence, classified in Q1 and Q2, refereed and indexed in world-renowned databases of scientific information, including Scopus and Web of Science (*ISPRS International Journal of Geo-Information* SJR = 0.721, *Sustainability* SJR = 0.612, *Theoretical and Applied Genetics* SJR = 1.256, *Agronomy* SJR = 0.744, and *Industrial Crops and Products* SJR = 0.974), as well as in editions with a high global rank SJR and JIF (*Emirates Journal of Food and Agriculture* JIF = 1.031, *EDP Sciences* SJR = 0.138, *Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development"* JIF = 0.9, *Scientific Papers. Series A. Agronomy* JIF = 0.6). The citations selected by the candidate are fully sufficient and even exceed the required total number of points according to the requirements for this criterion.

The quality of Assoc. Prof. Sevov, PhD, scientific publications demonstrates very good theoretical preparation in the field of forage production and grassland science, an in-depth knowledge and analytical interpretation of the scientific literature (from established classical studies to contemporary research) as well as precise application of appropriate research methods and experimental technologies.

The publications are characterized by a logical structure, a pronounced scientific style, coherent presentation and interpretation of the results obtained. His excellent command of scientific terminology facilitates the effective use and critical analysis of international scientific literature.

The interest in the candidate's research results, their citation in international scientific literature, as well as their publication in reputable scientific journals subject to high quality standards and independent peer review, are indicators of the scientific significance and international recognition of his research activity. These circumstances support the assessment that the candidate has established scientific authority in the field of forage production and grassland science.

6. Significance of the contributions to science and practice. A motivated response to the extent to which the candidate has a clearly outlined research profile

The scientific and applied-scientific contributions presented by the candidate are characterized by relevance, thematic consistency and a clear orientation towards addressing contemporary problems in the fields of agroecology, crop production and sustainable management of agroecosystems.

I. ORIGINAL CONTRIBUTIONS

Original results have been obtained concerning the seasonal dynamics of carbon exchange in natural grassland communities, establishing relationships between the intensity of CO_2 uptake, photosynthetic activity, plant and soil respiration under changing climatic conditions and at different elevations.

A long-term comprehensive assessment of the condition of permanent grasslands in Bulgaria has been carried out, identifying trends in the dynamics of swards, their productivity, botanical composition and forage quality, including regional differentiation and changes in species composition under increasing climatic risk.

Relationships have also been established between botanical composition, productivity and the quality of grass biomass, as well as between climatic factors, productivity and phytosanitary risk in agricultural crops.

II. METHODOLOGICAL CONTRIBUTIONS

An approach for operational monitoring and quantitative assessment of the condition and degradation of semi-natural grasslands has been developed and validated using unmanned aerial vehicles (UAVs), visible-spectrum imagery and machine-learning algorithms.

The applicability of object-based classification using the Random Trees and Support Vector Machine algorithms has been substantiated and validated, achieving Cohen's kappa coefficients of 0.86 and 0.82, respectively.

An approach for operational biomass assessment using the MGRVI (Modified Green Red Vegetation Index) derived from ground-based images acquired with mobile devices has also been tested.

A conceptual and probabilistic framework has been developed for integrating scientific knowledge, empirical data, IoT measurements, machine learning and Bayesian networks into grassland management.

III. SCIENTIFIC CONTRIBUTIONS

An integrated approach to agroecosystem management has been substantiated, in which climatic factors, soil processes, vegetation responses and technological solutions are considered interconnected components of a unified system aimed at increasing the sustainability and efficiency of crop production.

The need to adapt management and technological practices through the use of resilient grass mixtures and differentiation of utilization regimes and technological solutions according to specific soil-climatic and ecological conditions has been substantiated.

A scientific basis for smart and adaptive grassland management has been developed through the integration of expert knowledge, remote-sensing data, machine-learning methods and probabilistic modelling. The proposed approach creates opportunities for comprehensive assessment of grassland condition, prediction of its dynamics and support for management decision-making under variable environmental conditions.

IV. APPLIED CONTRIBUTIONS

Opportunities have been created for operational monitoring of the condition, degradation and productivity of grasslands through UAV technologies, machine learning and MGRVI, including the use of readily accessible imagery acquired with mobile devices.

A practical framework for smart grassland management has been developed, within which a pilot application demonstrated the possibility of reducing irrigation requirements by 14.9%, while maintaining a 98% probability of acceptable quality, together with a 25% reduction in nitrogen inputs.

The potential application of UAV and robotic technologies in the precision management of agroecosystems has been substantiated, as well as the use of biological approaches, including microalgae and biofertilizers, for improving the sustainability and efficiency of crop production systems.

Guidelines have been developed for applying the principles of TRIZ in the design and improvement of agricultural robotic systems.

7. Critical remarks and recommendations

I have no critical comments or recommendations regarding the scientific, teaching and professional activities of Assoc. Prof. Atanas Sevov, PhD.

8. Personal impressions and opinion of the reviewer

The scientific output presented by the candidate gives me grounds to conclude that Assoc. Prof. Atanas Sevov, PhD, possesses profound scientific knowledge, a high level of analytical competence, and strong skills in applying contemporary research approaches and methods.

His scientific work demonstrates the ability to identify and analyse current scientific and applied problems and to formulate well-founded solutions in the field of forage production and grassland science.

His overall research activity is characterized by consistency, precision, academic integrity and a sustained interest in the development of both the scientific and applied aspects of the problems under investigation.

CONCLUSION

Based on the analysis of the pedagogical, scientific, and applied scientific activity of the candidate, I consider that Assoc. Prof. Atanas Veselinov Sevov, PhD, meets the requirements of the Development of Academic Staff in the Republic of Bulgaria Act (DASRBA), the Rules for its Implementation, and the Rules of the Agricultural University for

its implementation in Higher Education Area 6. Agricultural Sciences and Veterinary Medicine, Professional Field 6.1 Crop Production, Scientific Specialty "Forage Production, Grasslands", for the competition of the Agricultural University – Plovdiv, announced in the State Gazette, Issue No. 65 of 17 July 2026.

All of this gives me grounds to give a **POSITIVE** evaluation of his overall activity.

I take the liberty of proposing that the esteemed Scientific Jury also vote positively, and that the Faculty Council of the Faculty of Agronomy at the Agricultural University – Plovdiv elect **Assoc. Prof. Atanas Veselinov Sevov, PhD,** as "**Professor**" in the scientific specialty "Forage production, Grasslands".

Date: 22 October 2026 REVIEWER: .....

Plovdiv (Prof. Tatyana Bozhanska, PhD)