



OPINION

on the materials for participation in the competition for the academic position of Professor at the Department of Forestry in the field of higher education 6. Agrarian Sciences and Veterinary Medicine, professional field 6.1. Plant Production, scientific specialty "Soil Science", in the discipline "Soil Science" for the needs of the Faculty of Forestry, and the deadline for submission of documents is 2 months from the publication of the announcement in the State Gazette. Procedure code: FOR-P-0624-144.

Candidates for participation in the contest are:

In the contest for professor, announced in the Official State Gazette No. 60 of July 16, 2024 and on the website of the University of Forestry for the needs of the Department of Soil Science at the Faculty of Forestry, the only candidate is Assoc. Prof. Dr. Biser Emilov Hristov from the University of Forestry - Sofia.

Who prepared the opinion:

The review was prepared by Prof. Doctor of Science Lyudmila Dimitrova Malinova from the University of Forestry – pensioner, PN 4.4. "Earth Sciences" on the basis of Order No. ZPS 503/12.09.2024 of the Rector of the University of Forestry.

1. Brief biographical data about the candidate(s)

Assoc. Prof. Dr. Biser Emilov Hristov was born on 20.01.1977 and graduated from the University of Forestry in 2000. In the period 2009 he defended his doctoral dissertation at the Institute of Medicinal Products "N. Pushkarov". From 2011 to 2017 he was a Chief Assistant, and from 2018 until now he has been an Associate Professor on a second employment contract at the Institute of Occupational Safety and Health "N. Pushkarov". From 2020 until now, he has held the academic position of associate professor at the University of Forestry. Ass. Biser Hristov is the coordinator of relations between IUSS, EISSS and the Bulgarian Soil Science Society, chairman of the FUNIS trade union (LTU), editor-in-chief of the Bulgarian Journal of Soil Science and editor of the Journal of Balkan Ecology. He participates in numerous international and national scientific forums, conferences, congresses, seminars, etc. He has participated in more than 20 scientific and applied scientific projects and has over 100 scientific and applied scientific publications. He is a member of the Scientific Council of General Agriculture, Soil Science, Agrochemistry and Land Reclamation at the SAA, the Faculty Councils of the Faculty Council of the Faculty of Forestry and Forestry of the University of Forestry. He is the supervisor of a full-time PhD student.

2. Compliance of the submitted documents and materials of the applicant with those required under the RAS Regulations at the University of Forestry.

The basis for evaluating the publication activity of the applicant is the submitted reference for the activities of the applicant according to the requirements of the University of Forestry. Full compliance and coverage of the indicators are reported.

3. Evaluation of the teaching activity of the candidate

B. Hristov has published a textbook "Erosion and Soil Protection", ed. "Avangard Prima" - Sofia, 2022, 206 p., ISBN 978-619-239-729-6.

3. Evaluation of the scientific, applied and publication activities of the candidate

4.1. Participation in scientific, applied and educational projects

Management of a national scientific or educational project - 1 pc.

Participation in a national scientific or educational project – 12 pcs.

Project management at Scientific Research Centre-LTU – 2 pcs.

Participation of Biser Hristov in projects at the Scientific Research Centre – 1 pc.

Participation of Biser Hristov in projects at the ISSAPP “N. POUSHKAROV” – 12 pcs.

4.2. Characteristics of the published scientific results

Published monograph on the basis of a dissertation – 1 pc.

Publications in scientific journals: – 31 pcs.

Publications and reports published in scientific journals, refereed and indexed in world-famous databases with scientific information – 23 pcs.

Publications in Web of Science journals with IF – 1 pc.

Publications in journals in Scopus with SJR – 10 pcs.

Publications in Web of Science journals without IF – 12 pcs.

Unreferenced in Web of Science or Scopus, with scientific peer review – 8 pcs.

In foreign editions 11 pcs., Bulgarian – 20 pcs.

Conference reports – 7, national – 2, international – 5 pcs.

Language of publication: Bulgarian – 7 pcs, foreign (English) – 25 pcs.

Management of a national scientific or educational project - 1 pc.

Participation in a national scientific or educational project – 12 pcs.

Project management at NIS-LTU – 2 pcs.

Participation of Biser Hristov in projects at the NIS – 1 pc.

Participation of Biser Hristov in projects at the Institute for the Prevention of Torture and Torture – 12 pcs.

4.3. Reflection of the candidate's scientific activity in the literature (citation)

The candidate submits 46 pcs. citations from a total of 14 pcs. scientific papers, including in refereed and indexed in world databases, with scientific information, monographs and collective volumes.

4.4. Contributions to the candidate's works - scientific, applied and applied.

The scientific works of the candidate contain important scientific contributions aimed at the assessment and characterization of primitive soils, highly eroded chernozems, characteristics of regosoles, soil organic matter. Of these, the most significant are the following:

Scientific contributions

The diagnostics and characteristics of Regozems in Bulgaria have been updated, new classifiers have been given and the soil properties of Saturated and Carbonate

Regozems have been summarized. A credit assessment of the Regozems has been made. (G6_1).

The main properties of Forested Soils, Resinous Soils and the physicochemical properties of Fayozemi have been studied. It has been found that they have a high sorption capacity and high saturation with bases. New data have been obtained on their distribution, properties and composition. (G7_1; G7_4; G7_7).

The properties and fertility of the soils from the Botevgrad valley have been determined, which shows a comparative variation in the values. Geostatistical interpolation of soil properties was made using distance backweighted maps (IDW maps). The risk of water erosion has been identified. A basic bonitet characteristic of the region and the possibilities for growing main crops have been made. (G7_3; G7_8; G7_12; G7_13).

Correlations between physical, chemical and microbiological indicators of Forested soils (Luvisols). The possibility of applying microbiological analyses is indicated and proven, as a very sensitive indicator of changes in the soil resulting from degradation processes (water erosion and loss of soil organic matter) and the way of land use. (G7_5; G7_4).

Scientific and applied contributions

Nine soil indicators have been identified for characterizing the objective biophysical criteria: insufficient drainage, unfavorable texture and stoniness, shallow root layer and unsatisfactory chemical properties. Areas with natural constraints in Bulgaria have been identified according to the criteria for unfavourable mechanical composition necessary for the harmonization of data in relation to the implementation of the European Directive (G7).

It has been established how soils can be affected by salinity in different ways.

Strategies to counteract soils affected by salinization are divided into preventive, mitigating and adaptive. Opportunities are proposed to identify strategies to deal with Saline soils in Europe, according to the types of production systems and the level of exposure to salt imbalances. The level of salinization, its effect in Europe and in Bulgaria (G7_10; G8_1; G8_3; G8_4) was evaluated in a summarized form.

A characteristic of favourable ways of utilization of waste products accompanying the functioning of various activities has been established. The optimal quantities for the beneficial impact of the sludge from production and economic activity, physical and agrochemical properties of Technogenic soils (G7_11) have been established.

An assessment of the soils in the municipality of Dulovo for the cultivation of fast-growing tree species has been made. It is indicated that Forest belts of the genus Paulownia can be effective against wind erosion (G8_5).

5. Assessment of the candidate's personal contribution

The candidate, Assoc. Prof. Biser Hristov has a prominent place in the presented scientific papers:

Number of co-authors: independent – 7 pcs., with one co-author – 8 pcs., with two co-authors – 7 pcs., with three or more co-authors – 10 pcs.

Order of authors:

First author/co-author – 15 pcs., second co-author – 8 pcs., third co-author or later – 9 pcs.

6. Critical remarks and recommendations

I accept the recommendations developed by Assoc. Dr. Biser Hristov scientific works as topical. Some of the materials correctly find a place in reputable publications with an impact factor.

7. Personal impressions

I know Assoc. B. Hristov as an extremely diligent and meticulous scientist in conducting experimental and teaching work. His participation in various projects with national and international funding has helped to establish him as a highly erudite specialist in the field of soil science.

8. The conclusion

With the above, I consider that the documentation and evidence submitted for review meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (respectively of the Regulations for the Development of the Academic Staff at the University of Forestry) so that the candidate Assoc. Prof. Biser Emilov Hristov, PhD can successfully occupy the academic position of "Professor" in the professional field 6.1. Plant Production, scientific specialty "Soil Science", in the discipline "Soil Science", for the needs of the Faculty of Forestry.

Prepared the opinion:

Prof. DSc Lyudmila Dimitrova Malinova

The opinion has been transmitted to: 09.11.2024r.