

REVIEW

by Assoc. Prof. Dr. Sonya Georgieva Ivanova,
Department of Animal Sciences, Agricultural Institute – Shumen,
Field of Higher Education 6. Agricultural Sciences and Veterinary Medicine,
Professional Field 6.3. Animal Husbandry,
Scientific Specialty “Pig Breeding”

Regarding:

Competition for the academic position of “Associate Professor” in Field of Higher Education: 6. Agricultural Sciences and Veterinary Medicine, Professional Field 6.3. Animal Husbandry, Scientific Specialty “Pig Breeding”, announced in *State Gazette*, Issue No. 65 of 08.08.2025.

Grounds for preparing the review:

Order No. RD 16-1037/10.10.2025 of the Rector of the Agricultural University – Plovdiv.

Candidate in the competition:

Chief Assistant Professor, Dr. Ivelina Asenova Zapryanova,
Department of Animal Sciences, Agricultural University – Plovdiv.

In the announced competition for the academic position of **Associate Professor**, for the needs of the Department of Animal Science at the Agricultural University – Plovdiv, one candidate is participating – Chief Assistant Professor Dr. Ivelina Asenova Zapryanova. The documents submitted by Dr. Zapryanova for participation in the competition demonstrate that the procedure for opening and announcing the competition has been duly observed and that they comply with the requirements of the Act for the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for its Implementation.

I. General Information on the Candidate's Career Development

Ivelina Asenova Zapryanova was born in 1974. She studied at the Faculty of Agriculture of Trakia University – Stara Zagora during the period 1992–1997, where she obtained a Master's degree in Zooengineering. In the period 1997–2000, she worked as a zooengineer at the Department of Animal Husbandry at the Agricultural University – Plovdiv. In 2000, after winning a competition, she was appointed as an Assistant Professor in the same department. In 2003, she was promoted to the position of Senior Assistant Professor, and in 2007 – to Chief Assistant Professor. In 2012, she obtained the Educational and Scientific Degree “Doctor” (PhD) in the scientific specialty “Pig Breeding” after successfully defending a doctoral dissertation entitled: “Effect of the Use of Plant Extracts on Productive Performance in Pigs.” During her studies, Dr.

Zapryanova completed training programs in Pedagogy and in Genetics and Breeding, which are directly related to her teaching activities.

II. Scientometric Indicators and Fulfillment of the Requirements for Holding the Academic Position

For the present competition, Chief Assistant Professor Dr. Ivelina Asenova Zapryanova has submitted a list of **25 scientific publications**, preceded by a list of five additional scientific publications related to meeting all required scientometric indicators. The aforementioned five publications do not contribute points toward fulfilling the criteria for awarding the academic position of Associate Professor and are not subject to evaluation. Two additional publications have also been submitted, which are not included in the present competition.

The twenty-five publications included in the competition yield points for the candidate. Ten of **them** fall under **Group B** – scientific publications indexed and abstracted in internationally recognized scientific databases (Scopus and Web of Science), submitted pursuant to Art. 29, para. 1, item 3 of the Act for the Development of the Academic Staff in the Republic of Bulgaria or Art. 24, para. 1, item 3 of the Regulations for its Implementation. These publications amount to **240.6 points**, with a required minimum of 100 points for this group.

In **Group C**, ten publications in journals indexed and abstracted in internationally recognized scientific databases contribute 210 points, and five publications in non-indexed peer-reviewed journals contribute 28.3 points, making a total of **238.3 points**, with a required minimum of 200 points.

Four of the submitted papers have been published in journals with an SJR indicator – *Ecologia Balkanica* – two publications (SJR 0.167, Q4) and *Bulgarian Journal of Agricultural Science* – two publications (SJR 0.191 and 0.261, Q3). The remaining sixteen articles were published in peer-reviewed and indexed scientific journals, while five of the submitted works are conference proceedings publications.

Dr. Zapryanova is the sole author of five (20%) of the submitted works, first author on ten (40%) of them, and second author on nine articles (36%). These facts clearly demonstrate the candidate's independence in the development of her academic career and her establishment as a researcher.

Under the indicators in **Group D**, the candidate has declared eight citations derived from five scientific publications, amounting to **120 points**, with a required minimum of 50 points. All citations are in scientific journals indexed in the internationally recognized databases Scopus and Web of Science.

The evaluation of the additional indicators required in **Group E** according to the Regulations for the Development of the Academic Staff includes the following activities:

- Participation as **project leader** in a project funded by the University Research Fund of the Agricultural University – Plovdiv: "*Opportunities for the Use of Unmanned Aerial Vehicles in the Assessment of Pig Behavior*" (2023–2024);

- Eleven participations with posters and one oral presentation at scientific forums with international participation in Bulgaria and abroad;
- Participation with two oral presentations and five posters at scientific conferences held in Bulgaria by the Agricultural University – Plovdiv and other scientific organizations.

The submitted report demonstrates that Dr. Zapryanova meets the minimum national requirements for holding the academic position of Associate Professor in Professional Field 6.3. Animal Husbandry, Field of Higher Education 6. Agricultural Sciences and Veterinary Medicine, and even exceeds the mandatory required criteria.

III. Main Directions of the Candidate's Research Activity and the Most Important Scientific Contributions

The scientific and applied contributions resulting from the candidate's research activity, highlighted in the publications from Groups B and C, are entirely within the field of the scientific specialty of the competition – pig breeding. They are expressed in several main directions, appropriately outlined in the report prepared by the candidate. The order of their importance in the present review is arranged in accordance with the directions supported by well-formulated conclusions.

1. Study of the Possibilities for the Use of Alternative Sources of Biologically Active Substances in Pig Nutrition

One of the key directions in modern pig production, in view of the ban on the use of antibiotics and society's growing concern for the welfare of animals and humans, is the application of phytogenic feed additives. A scientific and practical contribution of the candidate's research work is the use of the plant-based feed additive Sangrovit® (B10). It possesses properties that support intestinal health, improve appetite, and help animals overcome stress (such as weaning, feed changes, and heat stress), ensuring stable results and efficiency throughout the entire rearing period.

The studies conducted by the candidate demonstrate that the inclusion of Sangrovit® at a dose of 30 g/t of feed in starter and grower pigs leads to a statistically significant increase in growth intensity by 18% and 20% ($P < 0.05$) and improves feed conversion efficiency by 21% and 16% ($P < 0.05$). Compared with pigs receiving the growth promoter Flavophospholipol at a dose of 5 g/t of feed, the product Sangrovit® increases pig growth by 8.9% and 11.4% and improves feed efficiency by 9% and 9.5%, respectively, for the starter and grower periods. Both findings represent contributions of both scientific and practical significance.

In another study (B14), conducted using a biologically active plant additive in the form of the extract VemoHerb in growing pigs, it was found that the application of the proposed concentration of 150 g/t of feed leads to optimization of average daily gain and feed intake, as well as to a reduction in production costs and an increase in conditional profit per 1 kg of weight gain. The possibilities for using VemoHerb as a growth stimulator in suckling piglets were also investigated, and its beneficial effect on average daily gain and the number of undesirable microorganisms in the digestive tract of the animals was established (B15).

2. An undoubtedly original contribution in the second research direction, related to **The study of the possibilities for the use of primitive, highly resilient breeds in the context of sustainable pig production**, is represented by publications in which original data have been obtained on the behavior of pigs of the Mangalitsa breed in dynamics and its role in ecosystem conservation (B1, B2). Under the conditions of the research project led by the candidate, *"Opportunities for the Use of Unmanned Aerial Vehicles in the Assessment of Pig Behavior,"* for the first time in Bulgaria, ethological studies have been conducted, albeit on farms with very small capacity. The possibilities of using drones in support of environmentally friendly pig production were tested. The conclusion, which is consistent with most studies on pig behavior, is that a better understanding of their ethological characteristics would contribute to improving their welfare and health, as well as to reducing the harmful emissions from pig production, through the use of new technologies for remote monitoring.

With regard to the publications related to the population size of the unique East Balkan pig in Bulgaria, its structure, and its role as a source of income (B3, B4), it must be acknowledged that these studies were highly relevant at the time of their publication and of significant importance for the preservation of the breed as a valuable genetic resource for the country. These are contributions of an entirely applied nature.

3. The third main direction in the work of Dr. Ivelina Zapryanova is **the study of the possibilities for optimizing pig housing conditions**. A detailed study of the microclimate was carried out, and a hygienic and energy assessment of the facilities was made with the aim of optimizing the rearing conditions of boars (B5, B6). Original data were obtained on the values of certain biochemical parameters of blood serum in terminal boars, as well as data on morpho-biochemical and immunological indicators in hybrid boars, serving as indicators of their immune protection and resistance to production environment factors (B8). The conclusion was drawn that hybrid boars possess high overall immune protection, ensuring good adaptability. Data were also obtained on the levels of blood indicators characterizing liver and kidney function in boars (B9). Here, in my personal opinion, the practical contribution of these studies on boars in terms of optimizing pig production results is not sufficiently highlighted.

4. The fourth main direction in the activity of Dr. Ivelina Zapryanova is **research on the reproductive performance of purebred and hybrid sows and boars**. Issues related to boar semen production (B11, B12, B13, B21, B22, B23), reproductive abilities of sows (B24), growth performance of suckling piglets (C16), and the factors affecting these indicators, such as breed, age, season, parity, etc. (B19, B20), are addressed. Most of the results established in these scientific publications have a confirmatory applied character, and in some of them well-structured conclusions based on the performed analyses are lacking.

Among all of these, I would particularly highlight the study aimed at assessing the effect of age on ejaculate production and their grouping based on the main indicators of semen production in terminal boars (B22). Through the application of cluster analysis, the similarity and proximity of

individuals and their obtained lines were determined, which allows for increased objectivity in the evaluation of ejaculate quality, as well as enhanced reliability regarding their use in artificial insemination. The resulting conclusion has an entirely practical contribution of significant importance for modern pig producers.

5. The final prominent direction in the scientific works submitted for evaluation by the candidate is **"State and Concept for the Development of the Pig Production Sector in Bulgaria,"** represented by three publications (B17, B18, B25). An in-depth analysis of the current state and development trends of pig production and pig production output is provided. Emphasis is placed on the population of pigs under breeding control in Bulgaria. These publications demonstrate the candidate's ability to perform high-quality analyses based on large databases and to draw the respective conclusions regarding trends in the sector, conclusions that have direct practical application.

IV. Assessment of the Candidate's Pedagogical Training and Teaching Activity

Dr. Ivelina Zapryanova received her pedagogical training as early as 1997 upon completion of her studies, obtaining a Certificate of Teaching Qualification for Agricultural Disciplines and a Certificate of Successful Completion of an Extended Training Program in Genetics and Breeding. Since 2000, she has been actively teaching at the Agricultural University – Plovdiv, and is the author of seven lecture syllabi for the acquisition of the Bachelor's degree in the specialties Zooengineering, Agronomy and Field Crop Production, and Ecology and Environmental Protection. For the purposes of the Master's degree programs, Dr. Zapryanova has developed six curricula, including:

- *Fundamentals of Pig Breeding*
- *Genetic Resources in Pig Breeding*
- *Breeding Programs in Pig Breeding*
- *Reproductive Biotechnology in Pig Breeding*
- *Digitalization in Pig Breeding*

All these programs, which are directly related to the present competition, as well as her active teaching activity in the form of lectures and practical classes, clearly confirm the candidate's unquestionable teaching competence.

V. Significance of the Obtained Results

Part of Dr. Zapryanova's scientific output has been published in journals with a **Scientific Journal Ranking (SJR)** – *Ecologia Balkanica* – two publications (SJR 0.167, Q4) and *Bulgarian Journal of Agricultural Science* – two publications (SJR 0.191 and 0.261, Q3). From the submitted report on the impact factor of the citations, it is evident that the candidate has a **total SJR of 1.974** from her citations, distributed by quartiles as follows: **Q1 – 1, Q2 – 1, Q3 – 3, and Q4 – 1**. The fact that

some of the prestigious scientific journals in the field, such as *Animal Bioscience* (SJR 2021: 0.665, Q1) and *Journal of Applied Animal Research* (SJR 2018: 0.470, Q2), have cited publications authored by the candidate demonstrates the significance of her scientific results.

VI. Critical Remarks, Questions, and Recommendations to the Candidate


Alongside the above-mentioned contributions from the candidate's research activity, attention should be paid to the quality of the scientific publications with a view to improving the writing style and presentation of scientific results, their processing, discussion, summarization of the obtained results, and their comparison with the existing achievements in the scientific literature.

I recommend that the candidate become involved in a greater number of research, innovation, and other types of projects. Another recommendation is that, in her future scientific work, the candidate should strive to publish in well-recognized, prestigious scientific journals with a higher ranking.

CONCLUSION

The materials submitted for the competition for the academic position of Associate Professor in the Field of Higher Education 6. Agricultural Sciences and Veterinary Medicine, Professional Field 6.3. Animal Husbandry, Scientific Specialty "Pig Breeding", for the needs of the Department of Animal Sciences at the Agricultural University – Plovdiv, by Chief Assistant Professor Dr. Ivelina Asenova Zapryanova, comply with the requirements of the Act for the Development of the Academic Staff in the Republic of Bulgaria, its Implementing Regulations, and the Regulations of the Agricultural University – Plovdiv. This gives me grounds to express a positive opinion regarding the candidacy and to propose to the other members of the Scientific Jury to vote in favor of the candidate's election to the academic position of Associate Professor.

Date: 05.12.2025

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