

OPINION

on the materials for participation in the competition for occupation of the academic position "Associate Professor", field of higher education 6. Agrarian Sciences and Veterinary Medicine, Professional field 6.3. Livestock Breeding, scientific specialty "Special sectors (Bees, Silkworm)", in the discipline "Beekeeping", announced by the University of Forestry, SG. 102/ 08.12.2023, procedure code AGR – AsP – 1123 – 120.

Applicant to the competition is:

I. Ch. Assist. Prof. Tsvetelina Alipieva Nikolova, PhD

Prepared by: Rumen Ignatov Tomov, PhD, Professor in professional field 6.2 Plant protection from the University of Forestry

1. Brief biographical data of the applicant

Ch. assistant professor Dr. Tsvetelina Nikolova graduated from the University of forestry in 2005 and became a Master of Agronomy. In 2017, she obtained an educational and scientific degree "Doctor", at the University of Forestry, scientific specialty "Special sectors" (Bees, Silkworm), professional field 6.3 "Livestock breeding" defending a PhD Thesis on the topic: "Change of biological characters in the Mulberry silkworm under the influence of fodder harvested from areas with high heavy metal content in the soil".

She began his work experience in 2008 as an assistant in the Faculty of Agronomy of the University of forestry. Since 2019 she is a ch. assistant professor at the same Faculty where she has 16 years of work experience.

During the period 2015-2024, she increased her qualification through participation in 16 trainings as follows: Summer Language School (2015), Working with SPSS (2015), Working with free open source/R software (2015), Environmental Protection (2015), Biostatistics (2015), Computer Skills (2015), Operation and maintenance of e-learning platform "Blackboard Learn" (2014), State and prospects for urban gardening (2022). She has participated in a specialization at the Livestock Breeding and Agriculture Experimental Station - Vratsa, as well as in a two-week specialization at the University of Agronomic Sciences and Veterinary Medicine of Bucharest (USAMV), during which she gave 8 hours of lectures to foreign students.

Ch. assistant professor Dr. Tsvetelina Nikolova has participated in 12 research and educational projects. She is the author of 23 scientific publications, and 2 handbooks. She has participated in 8 scientific forums. The scientific results, published in 2 of her publications are reflected in the scientific literature with 4 citations.

2. Compliance of the submitted documents and materials of the applicant with the required ones in accordance with the Rules for RDAS at the University of Forestry (UF).

The submitted documents and materials by ch. assistant professor Dr. Tsvetelina Nikolova are in compliance with the requirements of the RDAS Rules of the University of Forestry. The submitted materials exceed by 75 points the minimum required points by groups of indicators for occupying the academic position of "associate professor" for PF 6.3. Livestock Breeding from groups A, B, D and D. In addition to this ch. assistant professor Nikolova has also completed 180 points from group E indicators, with which the total number of completed points is 655 out of the required 400, distributed by groups of indicators as follows: A50+B100+G265+D60+E180.

3. Assessment of the applicant's educational activity

Since 2008 ch. assistant professor Dr. Tsvetelina Nikolova has been teaching students in the field of special branches at the University of Forestry. She is a holder of the disciplines "Beekeeping" and "Sericulture", from the curricula of the specialties "Agronomy" and "Plant Protection" from the Bachelor, where she gives lectures and conducts exercises with students. In addition to this, she conducts exercises of the disciplines "Fundamentals of Animal Husbandry" and "Private Animal Husbandry". She is the holder of the disciplines of master programs "Pollination of Agricultural Crops", " Bee foraging plants and Bee Pasture" and "Soil health"

Ch. assistant professor Dr. Tsvetelina Nikolova is the author of she "Guide to beekeeping" and co-author of the "Guide to beekeeping exercises", which are valuable teaching aids for both students and practitioners.

She has been the supervisor of 8 graduates who have successfully defended their diploma theses. She has participated in the projects "Student internships - phase 1 and 2" as an academic mentor, as well as in two projects funded by the Operational Programs, as a member of the target group.

4. Assessment of the applicant's scientific, applied and publication activities

4.1. Participation in scientific, applied and educational projects

Ch. assistant professor Dr. Tsvetelina Nikolova has participated in 5 scientific projects funded by the Scientific sector of the University of Forestry, as a member of the project teams. In addition, she participated in three projects funded by the Operational Programs, as well as one international educational project funded by the Erasmus+ program.

4.2. Characteristics of published scientific results

Ch. assistant professor Dr. Tsvetelina Nikolova participated in the competition with 15 works published after the acquisition of AD Ch. assistant, as follows: Habilitation thesis - monograph - 1; Articles and reports published in scientific journals, referenced and indexed in world-famous databases with scientific information - 11; Articles and reports published in non-refereed peer-reviewed journals or published in edited collective volumes - 1; Published university textbook or textbook that is used in the school network - 2.

Twelve of the works are 12 publications, published in 4 scientific journals (Animal Sciences, Journal of Mountain Agriculture on the Balkans, Scientific Papers. Series D. Animal Science, Bulgarian Journal of Agricultural Sciences), one of which is foreign. Ten publications are in a foreign language.

4.3. Reflection of the applicant's scientific activity in the scientific literature (Citation)

The scientific results of ch. assistant professor Dr. Tsvetelina Nikolova have received a response in Bulgaria and abroad with 4 citations to 2 of her publications.

4.4. Contributions to the applicant's work (scientific, scientific-applied, applied)

The scientific contributions of Ch. assistant professor Dr. Tsvetelina Nikolova are indisputable. They are focused in the following directions: (1) Studies of the bee forage plants, (2) Study of the possibilities for the development of beekeeping in different regions (3) Study of the factors affecting the feeding of silkworm. The main part of the contributions of ch. assistant professor Dr. Tsvetelina Nikolova is original.

1. Studies of the bee forage plants

Morphological and biological features, nectar and pollen release, sugar content, honey productivity, and the influence of climatic changes on honey plants have been studied (B 3.1). The effect of biochar on the honey potential of *Cucurbita pepo* var *giromontia*, *Vicia faba* and *Phacelia tanacetifolia* Benth has been studied (B 3.1).

An assessment of the honey resources in the area of the Vrazdebna study field and Sofia (C 3.1) has been carried out. It has been proven that the saffron crocus is a good plant as a source of food and honey in the conditions in the region of Sofia (D 7.6). In the conditions of the towns Ihtiman and Koinare, it has been proven that the honey-bearing vegetation around the apiaries is sufficient for the development of bee families throughout the entire beekeeping season (D 7.7).

The honey productivity of cherry varieties in the region of Kyustendil (G 7.3) as well as of apple trees (G 7.4) has been studied. It was found that the trees grafted on the M 9 rootstock were lower in sugar content of the nectar, compared to those grafted on the MM 106. The published by Dr. Nikolova monograph presents summarized information on the morphological and biological features of bee forage plants, which is a useful basis for future scientific research (B 3.1).

2. Analysis of the possibilities for the development of beekeeping in different regions

The possibility of development of the beekeeping in the Yundola Training and Experimental Forest Range and Petrohan - Training and Experimental Forest Range has been studied.

The honey-bearing potential of species from the family Fabaceae (B 3.1) and the genus *Tilia* (G.7.12) in urban conditions has been evaluated. It was found that bee colonies kept in a Langstroth Rut hive system proved to have the highest annual egg-laying activity for the three beekeeping seasons compared to Dadan Blatt 12-frame, Dadan Blatt 10-frame hives, Roger Delon (RD) and Farrar (G.14).

3. Study of factors influencing silkworm nutrition.

It has been proven that the climatic factors (temperature and humidity) are favorable for the cultivation of mulberry in the Sofia valley for the production of mulberry leaf (D.13). The positive effect of artificial food with an added extract of *Origanum vulgare* L. on *Bombyx mori* L. hybrid 11xVB1xH2xHB2 by showing better growth and development has been confirmed (D 7.8). It has been confirmed that caterpillars of *Bombyx mori* L. perceive well artificial food, with an added extract of *Tribulus terrestris* L. and have an effect on the rate of growth and pupation (D 7.9). The active substances in the plant, even in minimal quantities, have a positive effect on the body of the examined larvae (D 7.10). A high content of the heavy metals lead and zinc in the feed has been

shown to result in reduced cocoon weight, cocoon weight, length and thread weight of silkworms from the hybrids Super 1 × Shessa 2, Baksa 1 × Silk 2 and from the Kom breed 1 (D 8.2). A high content of heavy metals has been found to suppress vitality, extend the length of the larval period, and reduce cocoon yield (D 8.5).

Contributions from the scientific research of ch. assistant professor Dr. Tsvetelina Nikolova with **applied character** are as follows:

The presented monograph includes general information about honey plants with a view to the successful planning and organization of beekeeping activities, which makes it a valuable source of information for beekeeping (C 3.1).

The analysis of the state, trends and prospects of beekeeping in our country and in the European Union during the period 2012-2021 is the basis for strategic planning of the development of beekeeping in Bulgaria (D 7.2).

It has been established that urban conditions are suitable for the development of bee families, their strength, and honey productivity (D 8.1), which contributes to the development and diversification of urban agriculture.

It has been proven that the conditions in the Sofia region are favorable for growing saffron crocus as a honey crop (D 7.5; D 7.6), which is a prerequisite for its cultivation in the Sofia region.

5. Assessment of the applicant's personal contribution

The personal contribution of Ch. assistant professor Dr. Tsvetelina Nikolova in the conducted research and published materials is indisputable. She is the only author of a monograph and even of the publications (B 3.1, D 7.1, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11), and first author of the remaining 5 of the published materials (. D 7.2, 7.3, 7.4, 7.5, 8.1).

6. Critical notes and recommendations

Publications that have been published before the date of acquisition of the Academic position "Ch. assistant" should not be taken into account in calculating the total number of minimum required points.

7. Personal impressions

Based on my professional contacts with Ch. assistant professor Dr. Tsvetelina Nikolova, I would describe her as an extremely motivated and goal-oriented teacher, researcher and expert in the field of beekeeping.

8. Conclusion

In connection with the above mentioned, I SUGGEST the candidate ch. assistant professor Dr. Tsvetelina Nikolova, to occupy the academic position of "Associate Professor" in the discipline "Beekeeping" of Professional field 6.3. Livestock Breeding.

Prepared by:


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