



## O P I N I O N

**Regarding:** About the contest for occupying the academic position "Professor" in the Higher Education Department 6. Agricultural Sciences and Veterinary Medicine, in the professional direction 6.3. Animal husbandry and scientific specialty "Aquaculture, fish farming, fisheries and industrial fishing " announced in "State Gazette", no. 62 of 21.07.2023 with candidate Lyudmila Nikolaevna Nikolova PhD, associate professor at the Agricultural University - Plovdiv, Department of "Animal Sciences".

**Member of the Scientific Jury:** Prof. Magdalena Georgieva Oblakova, PhD, Scientific Department "Breeding and Technologies in Poultry and Rabbit Breeding", Agricultural Institute, Stara Zagora, Higher Education Region 6. "Agrarian Sciences and Veterinary Medicine", professional direction 6.3. "Livestock breeding", scientific specialty "Breeding of agricultural animals, biology and biotechnology of reproduction" determined according to Order No. RD 16-897 of 25.09.2023 of the Rector of the Agricultural University - Plovdiv as a member of the scientific jury.

### 1. Brief introduction of the candidate.

To participate in the contest has presented documents Associate Professor Lyudmila Nikolaevna Nikolova, Ph.D. She was born on November 5, 1965 in Ukraine. She is a Zoo Engineer, Master from the Zoo Veterinary Institute. Borisenko/ Zoo Veterinary Academy Kharkiv, Ukraine. Owns Pedagogical qualification, Master's degree from Sofia University "St. Kliment Ohridski", Faculty of Biology, specialty "Biology and Chemistry". She ended successful PhD degree, in specialty 04.02.12. "Aquaculture, fish farming, fisheries and industrial fishing " in 2003 at Thrace University. Associate Professor Nikolova has 34 years of work experience, of which 24 years as a researcher and 13 years as a teacher. Since 1995 until 1998 is a Zoo Engineer at the Department of Animal Husbandry at the Agricultural University - Plovdiv. It starts her scientific career in the field of aquaculture and fish farming, as a research assistant in 1998. at the Institute of Fisheries and Aquaculture - Plovdiv, Agricultural Academy by participating in development and management of scientific and scientific-applied projects in the Aquatic Ecosystems and Aquaculture department. She is being habilitated and acquires the academic position associate professor in the same scientific specialty in 2012. Scientific interests and are expanding during this period until 2014 is also a part- time associate professor to the Department of Animal Science, Faculty of Agronomy at AU-Plovdiv. She mainly leads lectures and exercises of disciplines such as aquaculture, fish farming and

fisheries in various majors of undergraduate and graduate courses. Since 2014 Occupation Associate Professor, at the Agricultural University - Plovdiv, Department of "Animal Sciences" where it continues in the same scientific specialty to give lectures and exercises of disciplines in aquaculture, fish farming, Maritime and fisheries in various specialties in undergraduate and master courses, as well as "Livestock" disciplines in specialty "Agricultural Economics"; "Organic Animal Husbandry" in an undergraduate major course "Organic Farming" and Master's courses in Animal Engineering. Associate Professor PhD, Lyudmila Nikolova has administrative and organizational experience - she was the Director of the Institute on fisheries and aquaculture - Plovdiv; Agricultural Academy and at the present moment is the Head Department of Animal Science of Agricultural University - Plovdiv. Is a member of Member of the Faculty council, Committee Secretary on teacher certification of the Faculty of Agronomy, Member of the Committee of Quality on the Faculty of Agronomy. Ruled and uses foreign languages. Uses in their computer work packages and statistical programs.

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

The requirements of LDASRB and its rules have been met according to indicators from group A - with a successfully defended dissertation and for acquiring the Doctor's degree - 50 points. For scientific and academic position "Professor" 100 points in group B are required. Docent Lyudmila Nikolova, PhD, covers them with presented in B4- 12 pcs. Publications in referenced and indexed in the world databases with scientific information with a total number of 267 items. In section D7- the candidate has presented 17 pcs. Publications in referenced and indexed in the world database of publications in co-authorship with a total number of 197.6 items In G8, respectively, 10 scientific works with a total number of 52.37 items. Thus, according to group D indicators, the total number is 249.97 items with the required 200 items. The presented materials according to the procedure exceed minimum requirements to the publication activity for occupying the academic position "Professor" with a total number of points 516.97t. On 48.72% of publications are lead author. Ten publications stand out from the reference list in journals with SJR factor - 2.127 and IF - 0.671. To the indicator from group D /13,14,15/ a total of 50 pcs. citations of 23 scientific publications, articles with a total number of 550 items with a minimum requirement of 100t. distributed as follows- D13- 12 publications cited in 24 refereed and indexed in world-famous database publications with 360 t; D14- 3 publications cited 12 times with 120 items; D 15- 8 publications cited in 14 editions with 70 items. According to criteria E, it exceeds the minimum requirements

of 100 items for the academic position "Professor" with a total of 416.93 items with 33.3t. by trained PhD students; 370 items from project activities and 13.63 items from manuals and textbooks.

### **3. Teaching activity.**

Associate Professor Lyudmila Nikolova has submitted a certificate of classroom teaching employment of 3321.1 hours for the last five years as an associate professor in the department "Animal Sciences". The teaching activity complete with manual of 20 successfully defended graduates - 10 bachelor's and 10 master's degrees for the period from 2017-2023. She is a co-leader of two PhD students defended in 2022 and 2023. In the reference there is also one charged with the right of defense. Associate Professor Nikolova is a co-author in the textbook "Biological animal husbandry" and "Guide for laboratory- practical classes on reproduction of farm animals". The teaching activity complements her with the multitude of curricula developed for educational and qualification degree Bachelor students in disciplines such as: Aquaculture, Biological foundations of aquaculture, Aquaculture Technology, Fisheries and fisheries, fish farming, Maritime and fisheries, organic aquaculture, Recreational aquaculture and fisheries trained in regular stool form of different specialties. For educational and qualification degree Master develops: Production of safe and quality foods of hydrobionts, Good aquaculture practices, Fundamentals of Aquaculture, Genetic resources and selection features in fish farming, Fish reproduction, Biotechnology of reproduction in fish farming, Management of genetic resources in fish farming, etc.

### **4. Scientific research activity**

Scientific interests of Associate Professor, PhD Lyudmila Nikolova are in the field of sustainable aquaculture, as a special emphasis is placed on ecological and biocompatible technologies in warm water fish farming. Through the years are the goals in development of innovative solutions for ecological and biocompatible warm water fish farming. In scientific experiments possibilities have been explored for the application of ecological and biocompatible technologies in polyculture and monoculture cultivation of fish and established capabilities to enter the organic production. One part of the posts the author's object is sturgeon fish, cultivated under conditions of super-intensive industrial cage technologies. An approach has been developed for integrated cultivation of fish and ducks – an innovative approach to increase the ecological and biocompatibility of carp farming. Participates in collectives for strategic planning in Bulgarian aquaculture. They are of scientific interest and innovative approaches when feeding cultured fish and attempts to

diversify of species in the aquaculture of Bulgaria. Associate Professor Nikolova experiments and new approaches in establishing genetic variability in local, spatially distant natural fish populations and innovative approaches in processing fish into healthy quality products.

Based on the results obtained from the overall research activity, for the period from 2012 to 2023, some more important original contributions with scientific-applied stand out character for growth of the individual species, forming the polyculture, on the influence of individual factors of the aquatic ecosystem on fish productivity. A number of questions are answered, related to the complex interaction of individual factors among themselves in warm water basins in our country; with the cultivation and propagation of major carp species in warm water reservoirs in Kazakhstan.

The published data in particular: technological qualities of meat and dynamics of gonadal development in male and female individuals; the features of morphometric indicators in male and female individuals; characteristic of sperm are with an original character. For the first time in Bulgaria, at the Institute of Fisheries and Aquaculture - Plovdiv, is done complex scientific study for integrated cultivation of fish and ducks in carp pools. By assessment and analysis of the results, the optimal ones have been established parameters of a number of technological elements (area of pools, vegetation, number and genotype of birds, etc.), in different variants and technological schemes (structure of landing, age of fish, number of revolutions, etc.) of integrated production.

With an original character are the results from complex research of fish farming in polyculture and monoculture namely, growth data of the fish forming the polyculture and the influence of individual factors of the aquatic ecosystem on fish productivity, as a number have also been clarified issues related to the complex interaction of individual factors between them.

Scientifically applied nature are the suggested results from studies of prospective for aquaculture species – whitefish and paddlefish. Both types are suitable to apply of innovative approaches when forming a polyculture, but to the white fish there is interest and in development of super-intensive technologies.

The study has a scientific contribution of the genetic structure and genetic variability in spatially distant, isolated populations, which informs us about the ana- and cladogenesis of species, which is an important part of studies in modern ichthyology. The establishment of genetic variability in local, spatially distant natural populations of white fish is also of scientific and applied value. With an attached contribution the possibility for applying edible coatings, which are used to reduce moisture loss and to inhibit oxidative processes in muscle tissue, and in combination with antioxidants - to extend the shelf life of the meat.

Scholarly contribution with originality character is the analysis of a 1141 bp stretch of mtDNA, containing sequence, encoding cytochrome b at white fish from the Caspian and the Aegean basins. Substantial scientific contribution are the ones discovered new haplotypes of haplotype group A and previously undescribed transitional between haplogroups A and B.

The use of alginate coating with 2% dry distilled extract from rose petals (*Rosa damascene* Mill.) DDRPE solution which preserves the freshness of the meat of the paddlefish up to 7 days at 0 - 4°C is a contribution of an applied nature.

Associate Professor Nikolova is promoting its scientific activity through participation in 35 international scientific forums, of which those in Moscow, Nitra, Brno, Odessa, Belgrade, etc. stand out. A total of 72 performances have been presented in the country and abroad.

She Participates in 10 pcs. national scientific and educational projects and 3 international, which are directly related to her scientific field and scientific interests. Stand out:

- "Development of freshwater aquaculture in Bulgaria in accordance with "National Program for Fisheries and Aquaculture".
- "Improving technology for cultivation of stocking material from carp." Head of task: "Study of the productive qualities of juvenile carp when reared in conditions of a low degree of production intensification."
- Head of Scientific Task "Generation and accumulation of critical mass of results, methods used and know-how for effective and systemic application of molecular markers, genotyping and modern molecular genetic methods to characterize the population structure and effective management of genetic processes in parent herds Russian and Siberian Sturgeon, industrially farmed in aquaculture. "
- "Possibilities to limit the impact of mercury on the environment and human health"
- COST Action FA1301 2014-2017 - "A network for improvement of cephalopod welfare and husbandry in research, aquaculture and fisheries"

In parallel with the teaching activity he leads 5 national and international scientific and educational projects such as:

- "Study of the possibilities of introducing biological production in warm water fish farming under the conditions of Bulgaria."

"Productive characteristics of two-year-old carp from a local population." SSA, IRA-Plovdiv, Order No. 14 / 17.04.2013. 30 item 3 2014 - "Determination of quality

- "Productive and functional qualities of species and hybrids of the family Acipenseridae when grown for meat under the conditions of super-intensive technology in Bulgaria."

- Erasmus + KA 107 2020-1-BG01-KA107- 078357 2021-2022 - Project management and coordination - AU-Plovdiv, Bulgaria and Bilotserk National University, Ukraine.

According to the criteria It exceeds the minimum requirements of 100t. for the academic position "Professor" by 416.93t.

## 6. Conclusion.

After analysis of the pedagogical, the scientific publication, project and scientific- applied activity of the candidate, I believe that Associate Professor PhD, Lyudmila Nikolaevna Nikolova responds the requirements of the criteria of Development of the Academic Staff in the Republic of Bulgaria (LDASRB) and the Regulations of the Agrarian University for its application regarding the terms and conditions for occupying the academic position "Professor". The presented materials by Associate Professor PhD, Lyudmila Nikolaevna Nikolova prove methodical and consistent professional growth in research, which offers results with original and applied contributions. As a teacher has all the qualities to be elected to the academic position "Professor" in the professional direction 6.3. "Livestock breeding", scientific specialty "Aquaculture, fish farming, fisheries and industrial fishing". All this gives me reason to appreciate POSITIVELY her overall activity. Allow myself to propose of the honorable Scientific Jury with also to vote positively, and the Faculty Council of the Faculty of Agronomy at AU- Plovdiv to elect associate professor PhD, Lyudmila Nikolaevna Nikolova for "Professor" in science specialty "Aquaculture, fish farming, fishery and industrial fishing".

Stara Zagora  
25.10.2023

Prof. PhD, Magdalena Oblakova

