REFEREE STATEMENT

on the materials for participation in a competition for occupying the academic position "professor", field of higher education "6. Agricultural sciences and veterinary medicine", professional direction "6.4. Veterinary medicine", scientific specialty "Animal Pathology", in the discipline "Pathology / Special Pathological Anatomy /", announced by the University of Forestry in the State Gazette issue 32 / 03.04.2020

procedure code VM-P-0320-35

Candidate for participation in the competition: In the competition for occupying the academic position "Professor" participated one candidate Dr. Vassil Kostadinov Manov, Associate Professor of General Pathological Morphology and Special Pathological Anatomy in department "Internal non-communicable diseases, pathology and pharmacology" at the Faculty of Veterinary Medicine, University of Forestry, Sofia.

Reviewer: Stoycho Dimitrov Stoev, PhD, DSc, professor in professional direction "6.4. Veterinary medicine", scientific specialty "Animal Pathology" from department "General and Clinical Pathology", Section "Pathological Anatomy" in Faculty of Veterinary Medicine, Trakia University, Stara Zagora

1. Brief biographical data about the candidate

Assoc. Prof. Vassil Manov was born on December 5, 1962. He graduated his secondary school from the Veterinary College in Lovech town from 1977 to 1981 and acquired the professional qualification Veterinary Technician. From 1983 to 1989 he graduated from Faculty of Veterinary Medicine in Higher Institute of Zootechnics and Veterinary Medicine, Stara Zagora with a very good grade of 5.33 and acquired the Educational Qualification "Veterinarian". In 1989 he practiced as a veterinarian in Byala Slatina. From 1989 to 1993 he was appointed as an assistant professor in department "Pathological Anatomy" of Higher Institute of Zootechnics and Veterinary Medicine in Stara Zagora, and from 1993 to 1996 as a senior assistant professor in the same department, teaching with students of "Veterinary Medicine" and conducting exercises, seminars, practical and semester exams in the disciplines of General pathological. morphology and Special pathological anatomy. In 1996 he moved to work at the Faculty of Veterinary Medicine of the University of Forestry - Sofia, where from 1996 to 2010 he was appointed as a senior assistant professor, and from 2010 until now as an associate professor in department "Internal non-communicable diseases, pathology and pharmacology", carrying out teaching activities with students of "Veterinary Medicine", incl. lectures, exercises, seminars, practical and theoretical exams in the disciplines "General Pathological Morphology" and "Special Pathological Anatomy". In 2009 Assoc. Prof. V.

Manov defended the Educational and Scientific Degree "Doctor" (PhD) in the scientific specialty "Pathological anatomy and Cytopathology" with code 03.01.03 and a dissertation topic: "Comparative pathomorphological studies in animals infected with Bulgarian isolates of the virus of Aujeszky "at the University of Forestry - Sofia.

Assoc. Prof. V. Manov has participated in faculty and academic councils, in commissions at the University of Forestry, the Ministry of Agriculture and the Bulgarian Food Safety Agency, as well as in the establishment and management of the University Clinic for Small Animals. He is a member of: the Medicines Commission of the Bulgarian Food Safety Agency; the Ethics Commission of Bulgarian Veterinary Union; the Legislative Committee of the Ministry of Agriculture and Forestry; the Bulgarian Association of Veterinarians for Small Animals and the Union of Veterinarians in Bulgaria. Assoc. Prof. V. Manov has a high theoretical and practical level of competence in the field of veterinary pathological anatomy, acquired in the course of his main practical work.

The candidate has good computer literacy and experience with the office packages for word processing, table processing and presentations (including Microsoft Word, Microsoft Excel, Microsoft PowerPoint, etc.). In addition to his mother language, he is fluent in written and spoken English and Russian.

2. Conformity of the submitted documents and materials of the candidate with the required ones according to the Regulations for Development of the Academic Staff at the University of Forestry

The candidate for professor Assoc. Prof. Vassil Kostadinov Manov has presented all the required documents and materials according to the Regulations for Development of the Academic Staff at the University of Forestry, which I do not consider necessary to list here.

3. Assessment of the teaching activity of the candidate

Assoc. Prof. Vassil Manov has 23 years and 7 months of teaching activities at the University of Forestry with students of "Veterinary Medicine", delivering lectures, exercises and seminars in the disciplines "General Pathological Morphology" and "Special Pathological Anatomy". In addition to this activity, he conducted practical and theoretical exams in the same disciplines and participated in a state exam for students in Veterinary Medicine. Also, Assoc. Prof. V. Manov has nearly 7 years teaching experience with students as an assistant professor and a senior assistant professor at the Faculty of Veterinary Medicine of Higher Institute of Zootechnics and Veterinary

Medicine (now Trakia University) in Stara Zagora town, where he has delivered exercises and seminars in the same disciplines. Currently, the candidate for professor is in charge of the disciplines "General Pathological Morphology" and "Special Pathological Anatomy" and is the author of a total of 4 curricula in the same 2 disciplines. He is involved in the creation and equipment of a total of 4 training laboratories and centers, 3 of which were created after his appointment as an associate professor in Faculty of Veterinary medicine. He is also the head of the Training Laboratory in Pathohistology and the University Clinic for Small Animals "Academica" until 2016. Assoc. Prof. V. Manov has published a total of 7 textbooks, among which 2 independent textbooks for students of Veterinary Medicine. The candidate for professor also has 2 published monographs, which can be successfully used by students of Veterinary Medicine and by practicing veterinarians. The candidate has also a successfully defended PhD student, as well as over 15 expert consultation services given to some state organizations or private companies, which show that he is a very famous and sought after specialist in the field of veterinary pathology and diagnostics.

4. Evaluation of the scientific, scientific-applied and publishing activity of the candidate

The candidate for professor Assoc. Prof. Vassil Kostadinov Manov applied with a total of 37 scientific papers and 5 publications in proceedings from scientific forums, as 12 of his scientific papers were published in journals with impact factor, and 3 were only referenced in Scopus or Web of Science. In addition, he has participated in 23 national and 1 international scientific forums since taking up the academic position of associate professor and has participated in the management of a total of 7 international scientific forums.

He also participates in the editorial board of a scientific journal in his field, having 3 participations in editions of proceedings from scientific forums and 4 participations in editions of scientific journals. Assoc. Prof. V. Manov has made 39 reviews, of which 5 are on textbooks and manuals, 15 reviews of scientific articles, 3 reviews of projects, 16 reviews or opinions on scientific titles and degrees.

As a result of his scientific and publishing activity, he was awarded 2 prizes and was nominated by the University Research Committee for the annual award 2018 of the Rector of University of Forestry for his contribution to the development of research.

4.1. Participation in scientific, scientific-applied and educational projects

Assoc. Prof. V. Manov has participated in a total of 5 national research projects, 2 of which are after his appointment as an associate professor, and has also participated in one national

educational project.

4.2. Characteristics of the published scientific results

The main part of the research conducted by the candidate is in the field of pathology caused by infectious agents, neoplasms and toxic agents. The studies are related to the utilising of some modern and routine diagnostic and / or morphological methods with the aim of clarifying the etiology, pathogenesis and morphogenesis of some new- and / or problematic diseases for the country.

Another part of the research is related to actual research to establish or confirm the pharmacological activity of medicinal plants using some pathomorphological methods. A number of extracts, saponin fractions and secondary metabolites have been studied for their hepatoprotective, antioxidant, antidiabetic and neuroprotective activity using a number of experimental and laboratory animals.

Other studies are mainly of a scientific-applied nature and are related to the creation of various experimental models for cancer research and prediction of pharmacological activity of medicinal or herbal fractions with possible protective action, as well as the creation of a differential diagnostic scheme for some diseases related to reproductive disorders in pigs. The obtained results have application in the development of some phytoproducts with possible application in the field of veterinary and human medicine.

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

The candidate has presented a total of 86 citations, of which 54 are in peer-reviewed journals referred in Scopus and Web of Science, and 32 are in non-peer-reviewed journals and proceedings from scientific forums, which shows that he is a well-read and cited author not only in Bulgaria, but also world wide.

4.4. Contributions in the scientific reports of the candidate (scientific, scientific-applied, applied)

The candidate for professor has presented many solid scientific, scientific-applied and applied contributions in various fields, of which an important area is "Clinical, pathological and differential diagnostic evaluation of some important for veterinary practice infectious diseases and neoplasms", where he has some important original contributions, such as: (a) molecular biological studies to prove parvovirus infection in samples obtained from carnivores in Bulgaria, in which canine

parvovirus was first detected in samples from wild animals and domestic cats; (b) atypical pneumonia has been proved in cows imported from Austria, with the bacteria *Serratia marcescens*, small amounts of *Staphylococcus xylosus, Streptococcus pneumoniae, Enterococcus faecalis* and *Candida albicans* isolated from the lungs; (c) the etiological role of porcine circovirus 2 (PCV2) in the induction of new circovirus associated diseases for the country has been proven, incl. Post-weaning multisystemic wasting syndrome (PMWS), Porcine Dermatitis and Nephropathy Syndrome (PDNS), certain respiratory diseases and reproductive disorders; (d) comparative pathomorphological studies were performed in neonates pigs, which didn't receive colostrum, after infection with vaccine strain and two uterotropic strains of *Psevdorabies virus*; (e) the clinical manifestations and pathomorphological changes caused by a vaccine strain and two field uterotropic strains of *Suid herpes virus 1* in young dogs and cats were studied; (f) liver and pancreatic neoplasms were detected by pathomorphological examination during the early embryonic development of turkeys, chickens and guinea fowl treated with the chemical carcinogens N-nitrosodimethylamine (NDMA) and N-nitrosodiethylamine (NDEA).

Another important area is "Pathological and pharmacological studies of samples of plant origin", where we can report the following more important contributions: (a) for the first time a series of *in vitro / in vivo* studies for the protective effect of purified extracts, saponins mixtures and biologically active substances obtained from *Gypsophila trichotoma Wend*, three species of the genus *Astragalus L.* and *Ruscus aculeatus L* were carried out, with hepatoprotective and neuroprotective effects established in the pathomorphological study of experimental animals; (b) the *in vitro / in vivo* hepatoprotective potential of the flavonoid saponarin isolated from *Gypsophila trichotoma* has been demonstrated in models of hepatotoxicity with paracetamol and carbon tetrachloride (CCl4); (c) hepatoprotective and antioxidant effects *in vitro / in vivo* have been established for butanol extract of *A. monspessulanus* in CCl4-induced liver damage; (d) the *in vitro / in vivo* protective effects of alcesefoliside isolated from the aerial part of *Astragalus monspessulanus* have been established, demonstrating its neuroprotective, hepatoprotective and antioxidant activity in a CCl4-induced brain and liver toxicity model; (e) hepatoprotective and neuroprotective activity have been established for certain flavoalkaloids and flavonoids isolated from *A. monspesulanus*; (f) it has been shown that in an *in vivo* model of experimentally induced type 2 diabetes on spontaneously hypertensive rats, a purified saponin mixture of *A. glycyphylloides* improves the glycemic, hepatic and antioxidant status of the animals; (g) hepatoprotective and neuroprotective effects *in vitro* of a purified saponin mixture of *A. glycyphylloides* have been established; (h) the antioxidant potential of defatted *Astragalus spruneri* extract in spontaneously hypertensive rats was assessed; (i) The purified *Ruscus aculeatus* extract containing 20% steroidal

saponins was found to have positive effects on the bone structure of rats with estrogen deficiency induced by bilateral ovariectomy.

A third important area is "Pathological characteristics in poisoning with toxic substances and others", where we can also report some more important contributions, e.g. (a) the incidence of contact sensitization to formaldehyde at exposures in medical practice was assessed, and the incidence of contact sensitization to formaldehyde was found to be highest among veterinary students (94.4%) and veterinarians (85%); and therefore, working in a formaldehyde environment during the training of veterinary students can be an important risk factor for the occurrence of contact sensitization, and it is recommended to introduce more strict preventive measures to reduce the exposure of veterinary students and their teachers.

The fourth important area is the "Contributions of an applied nature", where we can report the following more important contributions: (a) a differential diagnostic scheme of clinical signs and macroscopic changes in infectious abortions and still-births in pigs has been developed, facilitating and directing the actions of the veterinarian, and the scheme includes viral diseases such as classical plague, Aujeszky's disease, reproductive and respiratory syndrome in pigs, parvovirosis and following bacterial diseases: brucellosis, leptospirosis, listeriosis and chlamydiosis; (b) it has been established that the conducted pharmacological and pathological studies with biologically active substances of plant origin, which proved their well-defined protective activity, are a prerequisite for the development of phytoproducts in the future and their application in human and veterinary practice.

A fifth important area is his published "Monographs, textbooks, manuals and reviews", where the monograph "Special Veterinary Pathology" reflects significant for veterinary practice pathological processes and morphological changes in some organs and systems in animals. The monograph "Morphological characteristics of some neoplasms in animals" summarizes data on the morphology of common cancers in animals. The textbook on "General Veterinary Pathology" deals with the general pathomorphological processes, and the textbook "Pathologoanatomical characteristics of diseases in domestic animals" deals with important diseases for veterinary practice. The manuals on "Veterinary necropsy technicks and incineration affairs" acquaint the students of veterinary medicine with the purpose of performing the pathological examination, its order and sequence, used tools and safety measures, and the manuals (in Bulgarian and English) on "Veterinary histopathology" are used in the training of students of veterinary medicine in the study of microscopic changes occurring in the animal body in various pathological conditions.

5. Assessment of the personal contribution of the candidate

Assoc. Prof. V. Manov participated in the competition for professor with a total of 46 scientific papers (7 textbooks, 2 monographs and 37 scientific articles), of which 7 are independent scientific papers, of which 2 monographs, 2 textbooks and 3 scientific publications. In addition to the independent textbooks, he has 5 other textbooks co-authored with other colleagues. Among the 37 scientific articles presented, 29 are in English (28 scientific publications and 1 manual). In the presented scientific articles, Assoc. Prof. Vassil Kostadinov Manov is the first author in 6 of them and the second author in 8 scientific articles, which shows his active participation in the elaboration and writing of these articles. In addition, after dividing the number of points towards the number of the participants in the respective articles and their subsequent summation, it can be clearly seen that he collects a total of 245,6 points with a required minimum of 200 points on Group "Г" indicators. Similarly, he significantly exceeds the required number of points for the academic position "professor" on the indicators of group "Д" (1030 points, instead of the required minimum of 100 points) and group "Е" (144.8 points, instead of the required minimum of 100 points), which unequivocally shows that his personal contribution to the indicators in question, incl. scientific articles, citations, textbooks, monographs, participation in research projects, guidance of successfully defended doctoral students, etc., is significantly higher than the required one.

6. Critical remarks and recommendations

I have no critical remarks on the candidate, as I have only one recommendation in regards to the the contributions in relation to the various spontaneous cases of infectious diseases, neoplasms and intoxications, which could be given a little more briefly and synthesized.

7. Personal impressions

I have known Associate Professor Vassil Manov since the time when he was an assistant professor in the Faculty of Veterinary Medicine at the Trakia University in Stara Zagora. I can state categorically that even then he was and continues to be an extremely good, modest, helpful and educated colleague who is fully committed to his work, teaching, science and especially veterinary practice and diagnostics, where he has now reached a high level of professionalism and expertise and is therefore a much sought after specialist, expert and diagnostician not only by the owners of various animals and farms, but also by practicing veterinarians.

8. Conclusion

In conclusion, I can declare that Assoc. Prof. Vassil Kostadinov Manov not only fulfills, but also significantly exceeds the recommended criteria for holding the academic position "Professor" according to the minimum national requirements. Having in mind the presented materials and the implementation, and in many cases the overfulfillment of all scientometric indicators (from A to E), as well as the implementation of all teaching criteria, I can confidently declare that Assoc. Prof. Vassil Manov is a respected lecturer as well as cited researcher and prominent diagnostician. **That is why I can confidently recommend the Scientific Jury to vote in favor of the ranking and PROPOSE the candidate Assoc. Prof. Dr. VASSIL KOSTADINOV MANOV to take the academic position "professor"** in the discipline "Pathology / Special Pathological Anatomy /" from Professional Direction 6.4. Veterinary Medicine.

Reviewer's signature: 

(Prof. Stoycho Dimitrov Stoev, PhD, DSc)

26/06/2020

Stara Zagora

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