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Evaluation Report of the Doctoral School: VETERINARY MEDICINE (IOSUD – USAMV Bucharest)

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I. Introduction

IOSUD is legally represented by the University of Agronomic Sciences and Veterinary Medicine in Bucharest (USAMVB). The institutional co-ordinator (USAMVB) that legally represents IOSUD is the Rector of USAMVB (GD 621/2011). USAMVB is the result of an academic, scientific and administrative journey supported by big names in education and agronomic science in Romania, which began with the first Agricultural School in Romania (Pantelimon School), founded over 168 years ago. **IOSUD** is managed by the **Council of doctoral studies (CSUD)** and operates according to the law, based on the provisions of the code of doctoral studies and the institutional regulation of organization and development of doctoral programs, developed by CSUD and approved by the bodies of the USAMVB ([Annex I.10](#)). The CSUD consists of 11 members, of which eight PhD supervisors from IOSUD and three PhD students ([Annex I.11](#)) elected in accordance with the provisions of the code of doctoral studies ([Annex I.12](#)). CSUD is led by the **CSUD Director** ([Annex I.13](#)), appointed following a public competition, organized by USAMV B ([Annex I.14](#)), according to the Competition Methodology for the selection of Deans and the **CSUD Director** ([Annex I.8](#)). CSUD and the CSUD director have a four-year term. Within IOSUD, the doctoral university study programs are organized and carried out through two Doctoral Schools: the **Doctoral School of Engineering and Management of Plant and Animal Resources (DS IMRVA)** and the **Doctoral School of Veterinary Medicine (DSMV)**. The doctoral schools are run by the **Directors of the Doctoral Schools** ([Annex I.15](#)) and the **Doctoral Schools Council (DSC)**. The DSC includes doctoral supervisors from the Doctoral Schools, students and members from outside the doctoral school

(IMRVA), elected according to GD 681/2011 art. 14 (2) ([Annex I.16](#)). **The directors of the Doctoral Schools and the members of the DSC** have a mandate of five years ([Annex I.17](#)). The general framework for the organization and functioning of the Doctoral Schools is established according to GD 621/2011 art. 12 (4) ([Annex I.18](#)). The organization and functioning of the management system of USAMV in Bucharest and the entire activity are regulated by the Regulation of Organization and Functioning of the University ([Annex I.19](#)) and by the Internal Regulation ([Annex I.20](#)). The governing bodies at the level of USAMV B, as well as at the level of all Romanian universities, are the *University Senate* and the *Management Board*.

The Doctoral School of Veterinary Medicine (DSVM) was established in accordance with art. 158 paragraphs (1), (2), (4), of the National Education Law no. 1/2011 and Government Decision no. 681/2011, on the approval of the Code of Doctoral Studies (with subsequent amendments and completions), by the approval of the Senate university from 03.08.2011 ([Annex II.2](#)) and operates according to the norms in force.

The *Doctoral School of Veterinary Medicine* organizes and conducts doctoral studies in the field of Veterinary Medicine. The doctoral university program within DSVM is of the scientific doctoral type, having as finality the production of original scientific knowledge, relevant on national and international level, based on recognized scientific methods. Currently in DSVM there are 13 doctoral supervisors. The total number of Romanian doctoral students in the academic year 2019-2020 was 118, of which 103 were funded from the state budget and 15 studied for a fee. Also, there are currently 2 foreign students enrolled in the academic year 2019-2020 (one for the budget and one for the fee), and in the period 2015-2020 a total number of 8 foreign students were enrolled (Annex II.7 a, b, c).

II. Methodology used during evaluation

Carrying out the external evaluation report of DSVM, a series of activities were carried out, which included:

- Analysis of the Internal Evaluation Report (with the relevant annexes)
- Analysis of documents provided by IOSUD during the evaluation
- Analysis of documents, data and information available on the IOSUD / School / Doctoral School website, in electronic format;
- Analysis of sent and available online video materials presenting DSVM
- Meeting and discussions with DSVM doctoral students
- Meeting and discussions with graduates of DSVM
- Meeting with the employers of the graduates of DSVM
- Meeting and discussions with the management of DSVM
- Meeting and discussions with doctoral supervisors of DSVM
- Meeting and discussions with representatives of the various structures of IOSUD/DSVM

III. Analysis of ARACIS performance indicators

CRITERION A. INSTITUTIONAL CAPACITY

CRITERION A.1. Institutional administrative, managerial structures and financial resources

STANDARD A.1.1. The institution organizing doctoral studies (IOSUD) has implemented the efficient functioning mechanisms provided in the specific legislation on the organization of doctoral studies

A.1.1.1. Existence of specific regulations and their application at the level of the doctoral school of which the field of doctoral studies is part

(a) Doctoral School Regulations - indicator is fulfilled

(b) The methodology for conducting the elections for the position of Director of the DSC, as well as the election by the students of the representative in the DSC and evidence of their development - indicator is fulfilled

(c) Methodologies for organizing and conducting doctoral studies (admission of doctoral students, completion of doctoral studies) - indicator is fulfilled

(d) Existence of mechanisms for the recognition of the status of doctoral supervisor and for the equivalence of doctorates obtained in other states - indicator is fulfilled

(e) Functional management structures (Doctoral School Council), proving including the regularity of convening meetings. - indicator is fulfilled

(f) PhD doctoral studies Contract - indicator is fulfilled

(g) internal procedures for analysis and approval of proposals on the subject of the training program based on advanced university studies- indicator is fulfilled

A.1.1.2. The Regulations of the Doctoral School include criteria, procedures and mandatory standards for the aspects specified in art. 17, par. 5 of the code of doctoral studies, approved by GD 681/2011, with subsequent amendments and additions.

(a) the acceptance of new doctoral supervisor members, as well as regulations regarding the manner in which a doctoral supervisor may be revoked as a member of the doctoral school - indicator is fulfilled

(b) the decision-making mechanisms regarding the appropriateness, structure and content of the training program based on advanced university studies - indicator is fulfilled

(c) procedures for changing the doctoral supervisor of a particular doctoral student and conflict mediation procedures - indicator is fulfilled

(d) the conditions under which the doctoral program may be interrupted- indicator is fulfilled

(e) ways to prevent fraud in scientific research, including plagiarism - indicator is fulfilled

(f) ensuring access to research resources - indicator is fulfilled

(g) the attendance obligations of doctoral students, according to a methodology developed by the Ministry of National Education - indicator is fulfilled

STANDARD A.1.2. IOSUD has the logistical resources necessary to fulfill the mission of doctoral studies

A.1.2.1. Existence and effectiveness of an adequate computer system for the record of doctoral students and their academic background - indicator is fulfilled

A.1.2.2. Existence and use of a computer program and evidence of its use to verify the percentage of similarity in all doctoral theses - indicator is fulfilled

STANDARD A.1.3. IOSUD ensures that the financial resources are used optimally, and the revenues obtained from doctoral studies are supplemented by additional funding to that provided by the Government.

A.1.3.1. The existence of at least one research or institutional development / human resources grant in implementation at the time of submitting the internal evaluation file, for the field of doctoral studies analyzed, or the existence at the level of the field, of at least 2 research or institutional development / human resources grants obtained by doctoral supervisors in the field evaluated in the last 5 years. Grants address topics relevant to the field and are usually carried out with the involvement of doctoral students. - indicator is fulfilled

**A.1.3.2. The ratio of doctoral students existing at the time of the evaluation, who benefit for a minimum of six months from sources other than government funding, through scholarships granted by individuals or legal entities or are financially supported by research or institutional development / human resources grants, is at least 20%. - indicator is fulfilled*

Recommendation: It is recommended to increase the number of applications for external funds both among students and students together with their supervisors. It may be helpful to be more open to international cooperation in order to apply for grants in such teams. There are also many institutions that offer courses and help in the preparation of various grant applications. Encouraging students to participate in such courses and assisting in the preparation of such an application should result in increased interest among students in applying for grants.

**A.1.3.3. At least 10% of the total amounts related to doctoral grants obtained by the university through institutional contract and tuition fees collected from doctoral students in the form of paid education are used to reimburse the training costs of doctoral students (participation in conferences, summer, courses, internships abroad, publication of specialized articles or other specific forms of dissemination, etc.). - indicator is fulfilled*

From the analysis of the information presented in Annex II.A.1.3.3 - Situation regarding the professional training expenses of PhD students from DSVM, it appears that the university and the faculty support financially the doctoral activity. Also, USAMVB provides financial support for the publication and processing fees of articles from journals indexed in international databases, after receiving acceptance for publication.

Recommendation: It is recommended to increase the involvement of PhD students in the implementation of research projects financed both from internal and external funds. An important element will be also to increase the funds invested in doctoral students, in the form of financing or

supporting participation in the international congresses, summer schools or different courses. It is equally important to support the participation of doctoral students in short and long-term internships abroad.

CRITERION A.2. Research infrastructure

A.2.1.1. The spaces and material endowment of the Doctoral School allow the realization of research activities, in the evaluated field, in accordance with the mission and objectives assumed (computers, specific software, equipment, laboratory equipment, library, access to international databases, etc.). - **indicator is fulfilled**

CRITERION A.3. Human Resources Quality

STANDARD A.3.1. At the level of each field there are qualified academic staff, with the necessary experience to carry out the doctoral studies program

A.3.1.1. *Within the doctoral field, at least three doctoral supervisors work and at least 50% of them (but not less than three) meet the minimum standards of CNATDCU in force at the time of evaluation, necessary and mandatory to obtain the certificate of qualification.* - **indicator is fulfilled**

A.3.1.2. At least 50% of the doctoral supervisors in the evaluated doctoral field are tenured within IOSUD employed with the conclusion of an employment contract for an indefinite period.* - **indicator is fulfilled

A.3.1.3. *The disciplines in the training program based on advanced university studies related to the field are supported by teachers or researchers who have the quality of doctoral / qualified supervisor, professor / CS I or associate professor / CS II with proven expertise in the field of taught subjects or other specialists in field that meet the standards established by the institution for the didactic and research functions mentioned above, in accordance with the law.* - **indicator is fulfilled**

A.3.1.4. The share of doctoral supervisors who coordinate more than 8 doctoral students at the same time, but not more than 12, during their doctoral studies¹, does not exceed 20%.* - **indicator is fulfilled

The number of doctoral students for doctoral supervisors within SDMV varies between 4 and 15, of which 6 doctoral supervisors have between 9-15 doctoral students. Two supervisors have more than 12 doctoral students (prof. Lucian Ionita - 14 and prof. Mario Codreanu - 15), which is related to the fact that they took over the doctoral students remaining after the death of Prof.univ.Dr. Alin Birțoiu.

At the meeting with the supervisors, it was found out that there are 5 teachers who defended their habilitation thesis and intend to enter the SDMV from the academic year 2021-2022. Documents proving the inclusion of recently authorized cedars in the SDMV were requested and were uploaded as additional annexes to the file.

Taking into account the tragic random event that forced the supervisors to take more doctoral students and the fact that the teaching/research staff has already grown, the problem can be considered solved.

Recommendation: It is recommended to take all necessary steps to avoid the situation when more than 20% of supervisors coordinate at the same time more than 8 (but not more than 12), doctoral studies.

One of such undertakings will be limiting the admission of new doctoral students and transferring the care of current doctoral students to new supervisors within the next three academic years.

STANDARD A.3.2. Doctoral supervisors in the field carry out an internationally visible scientific activity

A.3.2.1. At least 50% of the doctoral supervisors in the field subject to evaluation present at least 5 publications indexed Web of Science or ERIH in journals with impact factor or other achievements, with relevant relevance for the respective field, in which there are international contributions that reveal a progress in scientific research - development - innovation for the evaluated field. The mentioned doctoral supervisors have international visibility in the last five years, consisting in: the quality of member in the scientific committees of the international publications and conferences; membership in the boards of international professional associations; the quality of guest at conferences or groups of experts held abroad or the quality of a member of commissions for the defense of doctoral theses at foreign universities or in co-supervision with a foreign university. - indicator is fulfilled

The PhD supervisors in the field of Veterinary Medicine are recognized national and international specialists in various research areas.

Recommendation: However, it is recommended to constantly improve the quality of scientific work. An important element here may be the constant increase in the pool of supervisors by young staff with significant scientific achievements. Also, the expansion and development of close international cooperation with leading centers in Europe and in the world will translate into an increase in the quality of scientific publications. Therefore, it is recommended to increase the number of scientific publications resulting from international cooperation.

**A.3.2.2. At least 50% of the doctoral supervisors assigned to a field of doctoral studies continue to be scientifically active, obtaining at least 25% of the score required by the minimum standards CNATDCU in force at the date of evaluation, necessary and mandatory to obtain the certificate of qualification, on based on scientific results from the last five years. - indicator is fulfilled*

CRITERION B. EDUCATIONAL EFFICIENCY

CRITERION B.1: Number, quality and diversity of candidates applying to the admission process

STANDARD B.1.1. *The institution organizing doctoral studies has the capacity to attract candidates from outside the higher education institution or in greater numbers than the number of places financed from the state budget.*

**B.1.1.1. The ratio between the number of master's degree graduates of other higher education institutions in the country or abroad who have entered the competition for admission to doctoral studies in the last five years and the number of places financed from the state budget put up for*

competition in the field of doctoral studies is at least 0.2, or the ratio between the number of candidates in the last 5 years and the number of places financed from the state budget put up for competition in the field of doctoral studies is at least 1.2. - indicator is fulfilled

Graduates of the Faculties of Veterinary Medicine do not require a master's degree to pursue doctoral studies, because undergraduate studies have an integrated master's degree program (6 years). Fulfilling this indicator is quite difficult for the profile of Veterinary Medicine, whose undergraduate study program has the master's degree program included, but in the case of SDMV Bucharest this indicator is met.

Recommendation: The improvement of the aforementioned indicators can be achieved by proposing to graduates to conduct interdisciplinary research in the field of broadly understood natural sciences which will allow graduates of various faculties to apply.

**B.1.2.1. Admission to doctoral study programs is based on selection criteria that include: the academic, research and professional performance of candidates, their interest in scientific research, field research and a research topic proposal; an interview with the applicant is a mandatory part of the admission procedure - indicator is fulfilled*

CRITERION B.2: The content of PhD study programs

STANDARD B.2.1. *The training program based on advanced university studies is appropriate to improve the research skills of doctoral students and to strengthen ethical behavior in science*

B.2.1.1. The training program based on advanced university studies includes at least 3 disciplines relevant for the training in scientific research of doctoral students, of which at least one discipline is intended for the in-depth study of the research methodology and / or statistical data processing. - indicator is fulfilled

B.2.1.2. There is at least one discipline dedicated to ethics in scientific research and well-defined intellectual or thematic property on these topics within a discipline taught in the training program. - indicator is fulfilled

Recommendation: Interviews with doctoral students, graduates and entrepreneurs employing future PhDs showed the legitimacy of including more hours in the field of statistics in the curriculum. All parties emphasized that such classes should be of a highly practical nature and be conducted by people who not only have knowledge of statistics, but also work in the fields in which graduates will work. Other useful competences indicated by the interviewees include the ability to self-present, present research and scientific ideas, and prepare grant applications. Classes in this field could be optional, conducted in interdisciplinary teams or by entrepreneurs.

B.2.1.3. IOSUD has created mechanisms to ensure that the training program based on advanced university studies, related to the evaluated field, aims at "learning outcomes", specifying the knowledge, skills and responsibility and autonomy that PhD students should acquire after completing each discipline or through research activities³ - indicator is fulfilled

B.2.1.4. Throughout the doctoral training period, doctoral students in the field benefit from the counseling / guidance of some functional guidance commissions, aspect reflected by guidance and points of view expressed in writing or regular meetings. - indicator is fulfilled

B.2.1.5. For a doctoral field of study, the ratio between the number of doctoral students and the total number of teachers / researchers providing guidance must not exceed 3:1. - indicator is fulfilled

CRITERION B.3. The results of doctoral studies and their evaluation procedures

STANDARD B.3.1. The research is capitalized by doctoral students through presentations at scientific conferences, scientific publications, through technology transfer, patents, products, service orders

B.3.1.1. For the evaluated field there is at least one article or other relevant contribution per doctoral student who has obtained the title of doctor in the last 5 years. The members of the evaluation commission select for analysis, at random, 5 such relevant articles / contributions per field of doctoral studies. At least three of the selected articles present significant original contributions to the field concerned. - indicator is fulfilled

The following scientific papers were randomly selected for analysis by the commission:

1. Liviu Gaiță, Claudiu Gal, Diana Pârvan, Manuella Militaru. Fractal Analysis and Neural Networks Used for Survival Time Estimation in Cancer Patients, 2014, Romanian Biotechnological Letters, vol. 19, no.5, ISSN: 1224-5984, 9742-9754, [https://e-repository.org/rbl/vol.19/iss.5/12.pdf; [WOS:000345064900012] ;[IF=0.351]

2. Mitrea I.L., Ionita M, Costin I.I., Predoi G., Avram E., Rinaldi L., Maurelli M.P., Cringoli G., Genchi C, Occurrence and genetic characterization of Echinococcus granulosus in naturally infected adult sheep and cattle in Romania. Veterinary Parasitology, 2014, 206: 159-166 ,(https://doi.org/10.1016/j.vetpar.2014.10.028) ; [IF=2,545]

3. Enache A.E., Şonea A., Ionaşcu I., Cucuş A.C. 2016. Retrospective study of uveitis in 181 dogs diagnosed at the Faculty of Veterinary Medicine Bucharest. 2016, Journal of Biotechnology, vol.231, pg. S98, ISSN:0168-1656. https://doi.org/10.1016/j.jbiotec.2016.05.347 ; [IF=2.851]

4. Tucureanu MM, Rebleanu D, Constantinescu CA, Deleanu M, Voicu G, Butoi E, Calin M, Manduteanu I, 2017. Lipopolysaccharideinduced inflammation in monocytes/macrophages is blocked by liposomal delivery of Gi-protein inhibitor. Int J Nanomedicine. 13:63-76. (doi:10.2147/IJN.S150918) [IF= 4.370]

5. Ovidiu Roşu, Iulia Melega, Alina L Evans, Jon M Arnemo, Susanne Küker : Evaluation of Medetomidine-Ketamine for Immobilization of Feral Horses in Romania. 2021. Frontiers in Veterinary Science, section Zoological Medicine. (Manuscript ID: 655217) [doi: 10.3389/fvets.2021.655217]; [IF=2.245]

Recommendation: The indicator is met, but it is recommended to both increase the number of scientific articles resulting from the doctorate and their quality. Only in two cases, out of the 5 selected articles, the doctoral student was the first author of the work, which should also be corrected. None of the articles were written as a result of international cooperation, which proves the low level of internationalization of the University and the Doctoral School. Conducting research and preparing

publications with experts from around the world would increase the visibility of the University in the international arena and influence the position of doctoral students in the world of science.

**B.3.1.2. The ratio between the number of presentations of doctoral students who completed their doctoral studies in the evaluated period (last 5 years), including posters, exhibitions, made at prestigious international events (held in the country or abroad) and the number of doctoral students who have completed their doctoral studies in the evaluated period (last 5 years) is at least equal to 1. - indicator is fulfilled*

Recommendation: If the situation allows it, it is recommended to increase the participation of doctoral students in prestigious international scientific conferences, especially in countries with highly developed science (Western Europe, USA). It is recommended to increase the financial resources for this method of disseminating the results of research conducted by doctoral students.

STANDARD B.3.2. The Doctoral School appeals to a significant number of external scientific references in the commissions for public defense of doctoral theses for the analyzed field

**B.3.2.1. The number of doctoral theses assigned to a specific referent from a higher education institution, other than the evaluated IOSUD, must not exceed two (2) for theses coordinated by the same doctoral supervisor, in a year. - indicator is fulfilled*

**B.3.2.2. The ratio between the number of doctoral theses assigned to a certain scientific referent from another higher education institution than the one in which the doctoral thesis is organized and the number of doctoral theses defended in the same doctoral field within the doctoral school must not be higher. high of 0.3, compared to the situation recorded in the last five. Only those doctoral fields in which at least ten doctoral theses have been defended in the last five years are analyzed. - indicator is fulfilled*

CRITERION C. QUALITY MANAGEMENT

STANDARD C.1.1. The institutional framework exists and policies and procedures are applied for relevant internal quality assurance

C.1.1.1. The Doctoral School of the Doctoral University Studies proves the constant development of the process of evaluation and internal quality assurance in accordance with a procedure developed and applied at IOSUD level, among the evaluated criteria being mandatory:

- (a) the scientific activity of doctoral supervisors;
- (b) the infrastructure and logistics necessary for carrying out the research activity;
- (c) the regulations and procedures on which doctoral studies are organized.
- (d) the scientific activity of doctoral students;
- (e) the training program based on advanced university studies of doctoral students
- f) social and academic support services (including participation in various events, publication of articles, etc.) and counseling provided to doctoral students.

indicator is fulfilled

**C.1.1.2. During the doctoral training internship, evaluation mechanisms are implemented aimed at identifying the needs, as well as the general level of satisfaction with the doctoral studies program of doctoral students, in order to continuously improve the academic and administrative processes. Following the analysis of the obtained results, the elaboration and implementation of a plan of measures is proved. - indicator is fulfilled*

CRITERION C.2.: Transparency of information and accessibility to learning resources

STANDARD C.2.1. The information of interest for doctoral students, future candidates, respectively the information of public interest are available for consultation in electronic format.

C.2.1.1. IOSUD publishes on the website of the higher education institution in compliance with the general regulations on data protection, information such as:

- (a) the doctoral school regulations;
- (b) the rules of admission;
- (c) the study contract;
- (d) the regulation for the completion of the studies, including the procedure for the public defense of the thesis;
- (e) the content of training programs based on doctoral studies;
- (f) the academic and scientific profile, thematic areas / research topics of the PhD supervisors in the field, as well as their institutional contact details;
- (g) list of doctoral students in the field with basic information (year of enrollment; leader);
- (h) information on the standards for the elaboration of the doctoral thesis;
- (i) links to abstracts of doctoral theses to be defended publicly, as well as the date, time, place where they will be defended, at least 20 days before the defense.

indicator is fulfilled

Recommendation: Taking into account the direction of the doctoral school's development, including its internationalization, it is recommended to prepare in the future full information on the rules of admitting and educating doctoral students in English and to place it in a visible place on the university website.

STANDARD C.2.2. IOSUD / Doctoral School provides doctoral students access to the resources needed to conduct doctoral studies

C.2.2.1. All PhD students have free access to a platform with academic databases relevant to the field of doctoral studies analyzed. - indicator is fulfilled

C.2.2.2. Each doctoral student has access, upon request, to an electronic system for verifying the degree of similarity with other existing scientific or artistic creations. - indicator is fulfilled

C.2.2.3. All doctoral students have access to scientific research laboratories or other facilities depending on the specifics of the field / fields within the doctoral school, according to internal regulations. - indicator is fulfilled

CRITERION C.3. Degree of internationalization

STANDARD C.3.1. There is a strategy and it is applied to increase the degree of internationalization of doctoral studies

**C.3.1.1. IOSUD, for the evaluated field of studies, has concluded Mobility Agreements with foreign universities, with research institutes, with companies that carry out activities in the studied field, aiming at the mobility of doctoral students and teachers (for example ERASMUS agreements for the study cycle doctoral degree). At least 35% of doctoral students have completed an internship abroad or another form of mobility such as participating in international scientific conferences.*

IOSUD develops and implements policies and action plans aimed at increasing the number of doctoral students participating in training courses abroad to at least 20%, which is the target at the level of the European Higher Education Area. - indicator is fulfilled

Recommendation: Despite the fact that the indicator has been met, it is recommended to increase the number of internships and exchanges of doctoral students as a part of international cooperation.

C.3.1.2. Within the evaluated field of studies, it is supported, including financially, the organization of doctorates in international co-supervision, respectively the invitation of first-rate experts to give courses / lectures for doctoral students. - indicator is fulfilled

There are no numerical guidelines for this indicator, which, based on the description of the doctoral school's activities, allows it to be classified as fulfilled. Nevertheless, in the scope assessed, significant improvements are necessary.

Recommendation: It is recommended to introduce all forms of support (including financial ones) to improve the rates of international cooperation from the DSVM.

It is strongly recommended to:

- introduce clear rules and enabling PhD theses with foreign co-supervisors as well as searching for the possibility of co-conducting doctoral students from other foreign universities
- invite foreign lecturers to co-conduct classes for PhD students
- increase the recognition of supervisors from DSVM on the international arena by supporting the mobility of employees and their visits at foreign universities
- encourage supervisors to enter into partnership programs with prestigious international research centers in order to implement the mobility of Erasmus + doctoral students

C.3.1.3. The internationalization of doctoral studies activities is also supported by other concrete measures (for example, participation in educational fairs to attract international doctoral students; inclusion of international experts in committees to guide or defend doctoral theses, etc.). - indicator is fulfilled

Recommendation: It is recommended to increase the internationalization activities in doctoral studies by involving international experts in the committees for the management or defense of doctoral dissertations and by attracting international doctoral students. In order to be able to obtain doctoral students from abroad, it is necessary to prepare all information regarding the recruitment and realization of doctoral studies in English and place them on the DSVM website. It is also necessary to prepare complete

documentation and administrative staff for working with foreign students. An equally important aspect is to provide such students with appropriate financial conditions by acquiring appropriate internal and external projects.

IV. SWOT analysis

<p>Strengths:</p> <ul style="list-style-type: none"> - IOSUD – USAMV Bucharest has a history and reputation - extensive research facilities (University Center for Experimental Medicine) - excellent conditions for conducting clinical trials (University Emergency Hospital “Prof. univ. Dr. Alin Bîrțoiu”) - an excellent staff of renowned scientists with international achievements - IOSUD USAMVB library and FMV library offers free access for doctoral students to international databases 	<p>Weaknesses:</p> <ul style="list-style-type: none"> - insufficient funds for salaries for PhD students - insufficient support for the mobility of students and supervisors - a slight degree of internationalization of the doctoral school - large number of PhD students coordinated by some PhD supervisors - the bureaucratic system regarding the flow of documents between doctoral students and IOSUD
<p>Opportunities:</p> <ul style="list-style-type: none"> - excellent location of the university and doctoral school (the capital) - favorable economic environment in the vicinity of the evaluated university - development of DSVM by new members starting from the academic year 2021-2022 (5) - the possibility of conducting interdisciplinary research between different departments and research laboratories within SDMV. 	<p>Threats:</p> <ul style="list-style-type: none"> - a pandemic that hinders research and international cooperation - unattractive salary, which may discourage new candidates and make it difficult to recruit doctoral students from abroad - reduced funding of doctoral studies at national level; - dramatic reduction at national level of research grant competitions

V. Summary of ratings and recommendations

Crit No	Indicator type (*, IPC)	Performance indicator	Qualification	Recommendation
1	IPC	Indicator A.1.1.1.	fulfilled	
2	IPC	Indicator A.1.1.2	fulfilled	
3	IPC	Indicator A.1.2.1	fulfilled	
4	IPC	Indicator A.1.2.2	fulfilled	
5	IPC	Indicator A.1.3.1	fulfilled	
6	IPC	Indicator A.1.3.2	fulfilled	It is recommended to increase the number of applications for external funds both among students and students together with their

				supervisors. It may be helpful to be more open to international cooperation in order to apply for grants in such teams. There are also many institutions that offer courses and help in the preparation of various grant applications. Encouraging students to participate in such courses and assisting in the preparation of such an application should result in increased interest among students in applying for grants.
7	*	Indicator *A.1.3.3	fulfilled	It is recommended to increase the involvement of PhD students in the implementation of research projects financed both from internal and external funds. An important element will be also to increase the funds invested in doctoral students, in the form of financing or supporting participation in the international congresses, summer schools or different courses. It is equally important to support the participation of doctoral students in short and long-term internships abroad.
8	IPC	Indicator A.2.1.1	fulfilled	
9	IPC	Indicator A.3.1.1	fulfilled	
10	*	Indicator *A.3.1.2	fulfilled	However, it is recommended to constantly improve the quality of scientific work. An important element here may be the constant increase in the pool of supervisors by young staff with significant scientific achievements. Also, the expansion and development of close international cooperation with leading centers in Europe and in the world will translate into an increase in the quality of scientific publications. Therefore, it is recommended to increase the number of scientific publications resulting from international cooperation.
11	IPC	Indicator A.3.1.3	fulfilled	
12	*	Indicator *A.3.1.4	fulfilled	: It is recommended to take all necessary steps to avoid the situation when more than 20% of supervisors coordinate at the same time more than 8 (but not more than 12), doctoral studies. One of such undertakings will be limiting the admission of new doctoral students and transferring the care of current doctoral students to new supervisors within the next two academic years.
13	IPC	Indicator A.3.2.1	fulfilled	It is recommended to constantly improve the quality of scientific work. An important element here may be

				the constant increase in the pool of supervisors by young staff with significant scientific achievements. Also, the expansion and development of close international cooperation with leading centers in Europe and in the world will translate into an increase in the quality of scientific publications. Therefore, it is recommended to increase the number of scientific publications resulting from international cooperation.
14	*	Indicator *A.3.2.2	fulfilled	
15	IPC	Indicator B.1.1.1	fulfilled	The improvement of the aforementioned indicators can be achieved by proposing to graduates to conduct interdisciplinary research in the field of broadly understood natural sciences which will allow graduates of various faculties to apply.
16	*	Indicator *B.1.2.1	fulfilled	
17	IPC	Indicator B.1.2.2	fulfilled	
18	IPC	Indicator B.2.1.1	fulfilled	Interviews with doctoral students, graduates and entrepreneurs employing future PhDs showed the legitimacy of including more hours in the field of statistics in the curriculum. All parties emphasized that such classes should be of a highly practical nature and be conducted by people who not only have knowledge of statistics, but also work in the fields in which graduates will work. Other useful competences indicated by the interviewees include the ability to self-present, present research and scientific ideas, and prepare grant applications. Classes in this field could be optional, conducted in interdisciplinary teams or by entrepreneurs.
19	IPC	Indicator B.2.1.2	fulfilled	
20	IPC	Indicator B.2.1.3	fulfilled	
21	IPC	Indicator B.2.1.4	fulfilled	
22	IPC	Indicator B.2.1.5	fulfilled	
23	IPC	Indicator B.3.1.1	fulfilled	The indicator is met, but it is recommended to both increase the number of scientific articles resulting from the doctorate and their quality. Only in two cases, out of the 5 selected articles, the doctoral student was the first author of the work, which should also be corrected. None of the articles were written as a result of international cooperation, which proves the low level of internationalization of the University and the Doctoral School. Conducting research and preparing publications

				with experts from around the world would increase the visibility of the University in the international arena and influence the position of doctoral students in the world of science.
24	*	Indicator *B.3.1.2	fulfilled	If the situation allows it, it is recommended to increase the participation of doctoral students in prestigious international scientific conferences, especially in countries with highly developed science (Western Europe, USA). It is recommended to increase the financial resources for this method of disseminating the results of research conducted by doctoral students.
25	*	Indicator *B.3.2.1	fulfilled	
26	*	Indicator *B.3.2.2	fulfilled	
27	IPC	Indicator C.1.1.1	fulfilled	
28	IPC	Indicator C.1.1.2	fulfilled	
29	IPC	Indicator C.2.1.1	fulfilled	Taking into account the direction of the doctoral school's development, including its internationalization, it is recommended to prepare in the future full information on the rules of admitting and educating doctoral students in English and to place it in a visible place on the university website.
30	IPC	Indicator C.2.2.1	fulfilled	
31	IPC	Indicator C.2.2.2	fulfilled	
32	IPC	Indicator C.2.2.3	fulfilled	
33	*	Indicator *C.3.1.1	fulfilled	Despite the fact that the indicator has been met, it is recommended to increase the number of internships and exchanges of doctoral students as a part of international cooperation.
34	IPC	Indicator C.3.1.2	fulfilled	It is recommended to introduce all forms of support (including financial ones) to improve the rates of international cooperation from the DSVM. It is strongly recommended to: <ul style="list-style-type: none"> • introduce clear rules and enabling PhD theses with foreign co-supervisors as well as searching for the possibility of co-conducting doctoral students from other foreign universities • invite foreign lecturers to co-conduct classes for PhD students • increase the recognition of supervisors from DSVM on the international arena by supporting the mobility of employees and their visits at foreign universities • encourage supervisors to enter into partnership programs with prestigious international research centers in order to implement the

				mobility of Erasmus + doctoral students
35	IPC	Indicator C.3.1.3	fulfilled	It is recommended to increase the internationalization activities in doctoral studies by involving international experts in the committees for the management or defense of doctoral dissertations and by attracting international doctoral students. In order to be able to obtain doctoral students from abroad, it is necessary to prepare all information regarding the recruitment and realization of doctoral studies in English and place them on the DSVM website. It is also necessary to prepare complete documentation and administrative staff for working with foreign students. An equally important aspect is to provide such students with appropriate financial conditions by acquiring appropriate internal and external projects.

VI. General conclusions and recommendations

This report represents the international expert evaluation report of the Doctoral School of Veterinary Medicine, IOSUD USAMV Bucharest. Within this evaluation, the description and analysis of the main performance indicators aimed at the three important parameters of institutional development were made, namely: institutional capacity (A), institutional effectiveness (B) and quality management (C).

The objectives and the scientific mission proposed by DSVM are very clear and objective and consist in ensuring and developing the necessary framework to increase the quality of doctoral study programs, giving a major importance to the role of advanced scientific research in training young people.

The topic of scientific research approached by the research teams within DSVM is an integral part of the Strategic Plan of the Faculty of Veterinary Medicine Bucharest, addressing topics of great relevance both in the area of fundamental and applied research, in the three major directions: basic sciences; clinical sciences and public health and food safety.

Following the description and analysis of these main indicators, the commission reached the following general assessments regarding DSVM:

- The degree of involvement of the leading PhD teachers in supporting the research activity of doctoral students, both in the inter-disciplinary laboratories within Faculty of Veterinary Medicine (FVM), and in public and private international laboratories and research centers
- The doctoral study program of DSVM is an attractive program for veterinary medicine graduates, but also for graduates of some faculties within the "One Health" concept.
- The quality of the young doctors, who were selected to continue the didactic and research activity within FVM will ensure a continuous increase in the quality of the conducted research

- The new research and study opportunities appeared with the opening of the University Emergency Hospital „Prof. dr. Alin Birtoiu” and of the Center of Experimental Medicine
- IOSUD USAMVB and FVM library that offer free access for doctoral students to international databases

Development directions

- Implementation of the results obtained in doctoral research in medical practice (One Health)
- Involvement of the teachers from FVM, the faculty management and the members of the CSD council for the development of DSVM by acquiring new members within the doctoral school.
- The possibility of conducting interdisciplinary research between different departments and research laboratories within DSVM.

Besides the recommendations that the commission made, specific to each indicator analyzed and that were presented previously, following the discussions with the doctoral students, of the onsite visit, we also recommend the following:

- Simplifying the bureaucracy regarding the circuit of documents necessary for carrying out the activity within IOSUD and DSVM and maintaining the flow of these documents online;
- Increasing the degree of internationalization of doctoral research by stimulating doctoral students on accessing international grants and participation in research activities in international teams.
- Stimulating doctoral students for the development of research projects with the private environment to increase research funding.
- Development at IOSUD and DSVM level of courses to develop the mentoring skills of doctoral teachers.
- Financial motivation for doctoral students and high-performing teachers
- The introduction in the curriculum of DSVM some optional disciplines regarding: writing a research grant, writing a research article, making a poster for a conference, how to present a speech, biostatistics for veterinarians.

Doctoral School: VETERINARY MEDICINE (IOSUD – USAMV Bucharest) met (fulfilled) all indicators, which allows for a positive evaluation result.