

The External Evaluation Report of a Doctoral Study Domain

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I. Introduction¹

External evaluation report was drafted for evaluation of doctoral university studies, study domain Horticulture at " Banat's University of Agricultural Sciences and Veterinary Medicine „King Michael I of Romania" from Timișoara (USAMVBT), Faculty of Horticulture and Forestry, in order to comply with the legal provision of the Emergency Ordinance no. 75/2005, approved with amendments and additions by Law no. 87/2006 and Ministerial Order no. 3651/2021. Evaluation was performed during October 11th-15th, 2021. Due to the ongoing pandemic situation, evaluation in person was not possible and my participation was online via ZOOM platform.

Members of the Expert Panel for domain Horticulture:

- Prof.univ.dr. Lucia Drăghia, coordinator
- Prof.univ.dr. Mato Drenjančević, international expert
- Maria Maruni Codrea, PhD student

Since 2012 USAMVBT is structured into 2 doctoral schools: Doctoral School in Veterinary Medicine (SD-MV) and Doctoral School of Engineering of Plant and Animal Resources (SD-IRVA) with the following fields: Agronomy, Horticulture, Engineering of Food Products and Animal Husbandry. The institutional regulation for organizing and conducting doctoral programs is based on the provisions of the Education Law National Law no.1 / 2011 (Law 1/2011), Government Decision 681/2011 on the Code of Doctoral Studies (HG 681/2011), with subsequent amendments and completions, of the University Charter approved by the Senate, as well as other normative acts targeting the regulated area. The Doctoral School – Engineering of Plant and Animal Resources was established according to the Senate Decision no. 3210 of 18.05.2012. In the field of Horticulture, during evaluation period 2016-2020, the doctoral training was carried out under the guidance of 6 doctoral supervisors. During the evaluation period, 28 PhD students were enrolled in the Horticulture PhD field.

¹ Each time when applicable the information shall be presented gender-wise.



II. Methods used

Methods and tools used in the external evaluation process:

- Internal evaluation report of the doctoral study domain Horticulture and its Annexes;
- analysis of documents, data and information available on the USAMVBT /Faculty of Horticulture and Forestry website, in electronic format;
- meeting with representatives of the institution and the Council for Academic Doctoral Studies
- meeting with the contact person for the doctoral study domain under review and the team who drafted the internal evaluation report;
- meeting with the persons in charge of the research centres and laboratories within the doctoral study domain;
- meeting with the academic staff corresponding to the doctoral study domain;
- meeting with the members of Ethics Commission;
- meeting with employers of the graduates in the doctoral study domain Horticulture;
- meeting with the Doctoral School Council;
- meeting with doctoral students in the doctoral study domain Horticulture;
- meeting with the graduates of the doctoral study domain Horticulture;
- information about research infrastructure delivered by coordinator.

III. Analysis of ARACIS's performance indicators

Domain A. INSTITUTIONAL CAPACITY

Criterion A.1. The administrative, managerial institutional structures and the financial resources

Performance Indicator A.1.1.1. *The existence of specific regulations and their application at the level of the Doctoral School of the respective university doctoral study domain.*

The doctoral study field Horticulture operates in an adequate institutional, administrative and managerial framework, having adequate financial resources to fulfil the undertaken mission and objectives. Specific regulations exist and are applied.

I have not noticed anything that indicated the lack of regularities.

The indicator is fulfilled.

Performance Indicator A.1.1.2. *The doctoral school' Regulation includes mandatory criteria, procedures and standards binding on the aspects specified in Article 17, paragraph (5) of the Government Decision No. 681/2011 on the approval of the Code of Doctoral Studies with subsequent amendments and additions.*



The regulations of the Doctoral School include criteria, procedures and mandatory standards for the aspects specified in art. 17, paragraph (5) of the Government Decision no. 681/2011 on the approval of the Code of Doctoral Studies, with subsequent amendments and completions.

Doctoral School regulations and graduation regulations establish mandatory criteria, procedures and standards for the acceptance of new doctoral supervisors, as well as regulations regarding the way in which a doctoral supervisor can be withdrawn as a member of the doctoral school, the mechanisms by which decisions are taken regarding the appropriateness, structure and content of the training program based on advanced university studies, the procedures for changing the doctoral supervisor of a certain doctoral student and the procedures for mediating conflicts, the conditions under which the doctoral program may be interrupted and ways to prevent fraud in scientific research, including plagiarism. There is a procedure related to access to University research infrastructure same as methodology which describes obligations of doctoral students.

I have not noticed anything that indicated the lack of regularities.

The indicator is fulfilled.

Standard A.1.2. The IOSUD has the logistical resources necessary to carry out the doctoral studies' mission.

Performance Indicator A.1.2.1. *The existence and effectiveness of an appropriate IT system to keep track of doctoral students and their academic background.*

IOSUD USAMVBT has a digital system for the record of doctoral students and the course of doctoral studies. The secretariat of the doctoral school uploads documents with access only in the local network. These documents can be accessed only by secretary staff or doctoral students.

At the level of Doctoral School – Engineering of Plant and Animal Resources, field Horticulture, there is an adequate computer system for the record of doctoral students from the admission to the doctoral studies up until their completion of the study. This system includes individualized data for each doctoral student: personal data, data on schooling, form of study, field, doctoral supervisor, method of funding, previously completed studies, photo, etc. Each doctoral student has access to personal data with their own password.

The indicator is fulfilled.

Performance Indicator A.1.2.2. *The existence and use of an appropriate software program and evidence of its use to verify the percentage of similarity in all doctoral theses.*

IOSUD USAMVBT uses the computer program “Sistemantiplagiat.ro” from 2016. This software is recognised by the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU), according to the provisions of art. 2 of the MEN Order no. 3485 of 4.04.2016. The procedure by which the authenticity of a PhD thesis is verified exists and it is well organized.



The indicator is fulfilled.

Standard A.1.3. The IOSUD makes sure that financial resources are used optimally, and the revenues obtained from doctoral studies are supplemented through additional funding besides governmental funding.

Performance Indicator A.1.3.1. *Existence of at least one research or institutional / human resources development grant under implementation at the time of submission of the internal evaluation file, per doctoral study domain under evaluation, or existence of at least 2 research or institutional development / human resources grant for the doctoral study domain, obtained by doctoral thesis advisors operating in the evaluated domain within the past 5 years. The grants address relevant themes for the respective domain and, as a rule, are engaging doctoral students.*

During evaluation period within the doctoral field Horticulture one international research project won and 6 projects were financed from structural funds. Also, doctoral supervisors were members in 13 research or consultancy projects established with the business sector.

The indicator is fulfilled.

Performance Indicator *A.1.3.2. *The percentage of doctoral students active at the time of the evaluation, who for at least six months receive additional funding sources besides government funding, through scholarships awarded by individual persons or by legal entities, or who are financially supported through research or institutional / human resources development grants is not less than 20%.*

According to Internal evaluation report during evaluation period there were 6 students who benefited from other sources of funding. The total number of students is 28 and the percentage is 21.4 %.

These numbers are small according to Romanian standards and much more concerns should be dedicated to attracting and ensuring extra-budgetary funding.

The indicator is fulfilled.

Performance Indicator *A.1.3.3.2 *At least 10% of the total amount of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system is used to reimburse professional training expenses of doctoral students (attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination etc.).*

According to Internal evaluation report and Annex A 1.3.3. the PhD, students have been supported for different types of their professional activities (publication of scientific papers, participation in international

² The indicators marked with an asterisk (*) hold a special status, referring exclusively to the evaluation of doctoral studies domains, as per Article 12 from the annex No.1 of the Order of the minister of education No. 3651/12.04.2021 approving the Methodology for evaluating university doctoral studies and the system of criteria, standards and performance indicators used in the evaluation. In case they are not met, the Agency extends a period of maximum 3 years to IOSUD to correct the respective deficiencies.



mobilities, involvement in internal research projects, etc.). The amount exceeding 10% of the total budget allocation per doctoral student during the evaluation period.

The indicator is fulfilled.

Criterion A.2. Research infrastructure

**general description of the criterion analysis.*

Standard A.2.1. The IOSUD has a modern research infrastructure to support the conduct of doctoral studies' specific activities.

Performance Indicator A.2.1.1. *The venues and the material equipment available to the doctoral school enable the research activities in the evaluated domain to be carried out, in line with the assumed mission and objectives (computers, specific software, equipment, laboratory equipment, library, access to international databases etc.). The research infrastructure and the provision of research services are presented to the public through a specific platform. The research infrastructure described above, which was purchased and developed within the past 5 years will be presented distinctly.*

The Faculty of Horticulture and Forestry has research units with modern infrastructure for advanced, frontier, fundamental and applied research. During evaluation period, research laboratories have been modernized, both through the acquisition of high-performance equipment and specialisation of human resources and, thanks to that, PhD students have at their disposal good material basis. On several locations there are well organized experimental fields.

According to students and graduates' statements, the research infrastructure is very well and available to students.

The indicator is fulfilled.

Criterion A.3. Quality of Human Resources

**general description of the criterion analysis.*

Standard A.3.1. At the level of each domain there are sufficient qualified staff to ensure the conduct of doctoral study program.

Performance Indicator A.3.1.1. *Minimum three doctoral thesis advisors within that doctoral domain, and at least 50% of them (but no less than three) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in force at the time when the evaluation is carried out, which standards are required and mandatory for obtaining the enabling certification.*

Within the field of Horticulture there are 6 doctoral supervisors and five of them meet the CNATDCU minimum standards at the time of evaluation (83.33%) based on the activity of the last 5 years.

The indicator is fulfilled.



Performance Indicator *A.3.1.2. *At least 50% of all doctoral advisors have a full-time employment contract for an indefinite period with the IOSUD.*

All PhD supervisors in the field of Horticulture are full-time teachers with permanent contract.

The indicator is fulfilled.

Performance Indicator A.3.1.3. *The study subjects in the education program based on advanced higher education studies pertaining to the doctoral domain are taught by teaching staff or researchers who are doctoral thesis advisors / certified doctoral thesis advisors, professors / CS I or lecturer / CS II, with proved expertise in the field of the study subjects they teach, or other specialists in the field who meet the standards established by the institution in relation with the aforementioned teaching and research functions, as provided by the law.*

The disciplines in the training program are generally supported by the doctoral supervisor or other specialized teachers within the USAMVBT. Doctoral supervisors have competence in the specialization in which they coordinate doctoral students according to their CVs. According to the PhD students and graduates' statements, supervisors are excellent experts and researchers in their field and they collaborate very well. It is visible that some supervisors supervise and PhD students prepare doctoral thesis in areas that do not belong to horticulture but to the forestry and industrial plants. Such situations should be avoided in the future.

The indicator is fulfilled.

Performance Indicator *A.3.1.4. *The percentage of doctoral thesis advisors who concomitantly coordinate more than 8 doctoral students, but no more than 12, who are themselves studying in doctoral programs³ does not exceed 20%.*

From Annex A3.1.4. of Internal evaluation report, field Horticulture, it can be seen that out of six supervisors, none exceeds eight PhD students. It is visible that some individual supervisors are overloaded with PhD students in comparison with others (Prof.dr. Botău Dorica 1 PhD student compared to Prof.dr. Iordănescu Olimpia Alina and Prof.dr. Șumălan Radu with 7 PhD students), but if the distribution of students per supervisor was equal, the number of students per supervisor would be 4.6. According to PhD students and graduates' statements, supervisors are available for all kinds of questions and help.

The indicator is fulfilled.

Standard A.3.2. *The Doctoral advisors within the domain are carrying out a scientific activity visible at international level.*

³ 3 years for the doctoral university studies with the duration stipulated at Article 159, paragraph (3), respectively 4 years for the doctoral university studies with the duration stipulated at Article 174, paragraph (3) of the Law of national education No.1/2011 with subsequent amendments and additions, with additional extension periods approved as per Article 39, paragraph (3) of the Code of doctoral studies approved by the GD No. 681/2011 with subsequent amendments and additions.



Performance Indicator A.3.2.1. *At least 50% of the doctoral thesis advisors in the evaluated domain have at least 5 Web of Science- or ERIH-indexed publications in magazines of impact, or other achievements of relevant significance for that domain, including international-level contributions that indicate progress in scientific research - development - innovation for the evaluated domain. The aforementioned doctoral thesis advisors enjoy international awareness within the past five years, consisting of: membership on scientific boards of international publications and conferences; membership on boards of international professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad. For Arts and Sports and Physical Education Sciences, doctoral thesis advisors shall prove their international visibility within the past five years by their membership on the boards of professional associations, membership in organizing committees of arts events and international competitions, membership on juries or umpire teams in artistic events or international competitions.*

According to Internal evaluation report, Annex A.3.2.1a and data available on the Internet, all PhD supervisors in the field of Horticulture present at least 5 publications in journals indexed in Web of Science. They are members in various professional associations, participate as reviewers or in the scientific committees of international symposiums and international journal's editorial boards. It is important to highlight patents of some supervisors and their participation in various salons of invention and innovation at national and international level.

The indicator is fulfilled.

Performance Indicator *A.3.2.2. *At least 50% of the doctoral thesis advisors in a specific doctoral study domain continue to be active in their scientific field, and acquire at least 25% of the score requested by the minimal CNATDCU standards in force at the time of the evaluation, which are required and mandatory for acquiring their enabling certificate, based on their scientific results within the past five years.*

Summarizing the score from the report for the last five years, the research activity of doctoral supervisors is constant over the time and the minimum score is satisfied by five supervisors in the Horticulture field. The only supervisors who do not meet minimal CNATDCU standards is really close to that. In spite of that, the quality of research and the publications is reflected in the number of citations and these numbers are fairly low compared to general European standard, and there is a way to go before excellence is reached.

The indicator is fulfilled.



Domain B. EDUCATIONAL EFFECTIVENESS

Criterion B.1. The number, quality and diversity of candidates enrolled for the admission contest

Standard B.1.1. The institution organizing doctoral studies has the capacity to attract candidates from outside the higher education institution or a number of candidates exceeding the number of seats available.

Performance Indicator *B.1.1.1. *The ratio between the number of graduates of masters' programs of other higher education institutions, national or foreign, who have enrolled for the doctoral admission contest within the past five years and the number of seats funded by the state budget, put out through contest within the doctoral domain is at least 0.2 or the ratio between the number of candidates within the past five years and the number of seats funded by the state budget put out through contest within the doctoral studies domain is at least 1,2.*

According to Annex B.1.1.1., it can be seen that during evaluation period there were students who graduated at other educational institutions and entered the competition for admission to doctoral studies in the field of Horticulture. Out of 28 doctoral students admitted to the competition for admission (26 budgeted - with scholarship and without scholarship and 2 with fee), 8 come from other universities and the ratio between the number of master's graduates of other higher education institutions and the number of funded places from the state budget put up for competition to the admission to doctoral study being 0.30. According to the statements of the teaching staff, there is a need and space for more places but before that, it is necessary to improve financial construction in a way to establish a better connection with the industry and business sector.

The indicator is fulfilled.

Standard B.1.2 Candidates admitted to doctoral studies demonstrate academic, research and professional performance.

Performance Indicator *B.1.2.1. *Admission to doctoral study programs is based on selection criteria including: previous academic, research and professional performance, their interest for scientific or arts/sports research, publications in the domain and a proposal for a research subject. Interviewing the candidate is compulsory, as part of the admission procedure.*

Selection process is public and selection criteria was found to be clear and open.

The indicator is fulfilled.



Performance Indicator B.1.2.2. *The expelling rate, including renouncement / dropping out of doctoral students 3, respectively 4, years after admission⁴ does not exceed 30%.*

Dropout rate for field Horticulture is 7.14%. Doctoral School collects the drop-out numbers and analyses them.

The indicator is fulfilled.

Criterion B.2. The content of doctoral programs

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

Performance Indicator B.2.1.1. *The training program based on advanced academic studies includes at least 3 disciplines relevant to the scientific research training of doctoral students; at least one of these disciplines is intended to study in-depth the research methodology and/or the statistical data processing.*

The curriculum includes disciplines at the level of Doctoral School, which provides general research skills and the ethical attitude, and there is also a special discipline, appropriate to the research topics addressed by the doctoral candidate. Discipline "Scientific Author" and "Research ethics" trains students' skills on how to research and write in accordance with the observance of professional ethic. Since the academic year 2019/2020 the discipline „Statistical interpretation of research results“ was introduced to familiarize doctoral students with the methodology of processing and statistical interpretation of the results obtained.

The indicator is fulfilled.

Performance Indicator B.2.1.2. *At least one discipline is dedicated to Ethics and Intellectual Property in scientific research or there are well-defined topics on these subjects within a discipline taught in the doctoral program.*

Since 2016 there is a subject "Research ethics" dedicated to ethics in scientific research and intellectual property with well-defined topics. From the academic year 2020/2021 there is a subject "Ethic and academic integrity" in the curriculum.

The indicator is fulfilled.

Performance Indicator B.2.1.3. *The IOSUD has mechanisms to ensure that the academic training program based on advanced university studies addresses „the learning outcomes“, specifying the*

⁴ 3 years for the doctoral university studies with the duration stipulated at Article 159, paragraph (3), respectively 4 years for the doctoral university studies with the duration stipulated at Article 174, paragraph (3) of the Law of national education No. 1/2011 with subsequent amendments and additions.



knowledge, skills, responsibility and autonomy that doctoral students should acquire after completing each discipline or through the research activities⁵.

Each discipline in the curriculum has foreseen competences that doctoral students should acquire after completing the discipline and the expected outcomes. The mechanism is well established and functional.

The indicator is fulfilled.

Performance Indicator B.2.1.4. All along the duration of the doctoral training, doctoral students in the domain receive counselling/guidance from functional guidance commissions, which is reflected in written guidance and feedback or regular meeting.

The activity of each doctoral student is monitored through the Annual Activity Report of the doctoral student. According to PhD students and graduates' statements throughout the doctoral training programme, PhD students in the field of Horticulture benefit from the guidance of functional steering committees. They also receive advice on the organizing the experiments or on carrying out laboratory analyses according to the specificity of each topic.

The indicator is fulfilled.

Performance Indicator B.2.1.5. For a doctoral study domain, the ratio between the number of doctoral students and the number of teaching staff/researchers providing doctoral guidance must not exceed 3:1.

According to data presented in Internal evaluation report, the ratio between the number of doctoral students in the field of Horticulture, during evaluation period, and number of teaching staff does not exceed 3:1.

The indicator is fulfilled.

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

**general description of the criterion analysis.*

Standard B.3.1. Doctoral students capitalize on the research through presentations at scientific conferences, scientific publications, technological transfer, patents, products and service orders.

Performance Indicator B.3.1.1. For the evaluated domain, the evaluation commission will be provided with at least one paper or some other relevant contribution per doctoral student who has obtained a doctor's title within the past 5 years. From this list, the members of the evaluation commission shall randomly select 5 such papers / relevant contributions per doctoral study domain for review. At least 3 selected papers must contain significant original contributions in the respective domain.

⁵ Or by what the graduate should know, understand and to be able to do, according to the provisions of the Methodology of 17 March 2017 regarding inscription and registration of higher education qualifications in the National Register of Qualifications in Higher Education (RNCIS) approved by the Order No.3475/2017 with subsequent amendments and additions.

*Doctoral students participate in conferences and symposiums with scientific papers during their doctoral studies and publish their research results partially or entirely. After review of five papers (Bozac Petru: Distribution of Fusarium species in Timis County (Western Romania) in relation with environmental conditions; Carp C. Natalia Iulia: The assessment of variability for some morphological and quality traits of fruits in different cultivars of strawberry; Bodnărescu Florin Valentin: The influence of parental lines on lycopene and β -carotene content in tomato F1 hybrids (*Solanum lycopersicum* L.); Soameș Icoana: Analysis of heterosis and heterobeltiosis for fruit weight in hot pepper; Călin Cristian Constantin: Research concerning the quality of fruits of some ancient apple tree varieties in conditions of western part of Romania) it is evident that all of them have relevant contribution per doctoral study domain Horticulture. PhD students not being the first or corresponding author when publishing the results of their investigation should be avoided. If a PhD student is submitting their own work, they should be the first author in the paper and that should make them the corresponding author by default. From the Annex B 3.1.1.1.b it is noticeable that some graduates (Bere-Semeredi A.Ș. Adian-Amedeo, Moldovan Iulia-Adriana, Nan (Crăciun) Cristina-Elena) published their results only in one journal (Journal of Horticulture, Forestry and Biotechnology) published by Faculty of Horticulture and Forestry from Timisoara. I'd like to point out that students should be encouraged to publish papers in different journals published by other publishers to achieve better international visibility.*

The indicator is fulfilled.

Performance Indicator *B.3.1.2. *The ratio between the number of presentations of doctoral students who completed their doctoral studies within the evaluated period (past 5 years), including posters, exhibitions made at prestigious international events (organized in the country or abroad) and the number of doctoral students who have completed their doctoral studies within the evaluated period (past 5 years) is at least 1.*

Research results were presented by PhD students at international scientific events and each of them participated with at least one paper in national/international scientific events. The number of papers presented is 46, to which 5 patents obtained are added. According to these data presented in Internal evaluation report and Annex B1.1.1.b, the ratio between the number of scientific symposiums and other relevant events participation and PhD graduates during evaluation period is 3.53.

The indicator is fulfilled.

Standard B.3.2. *The Doctoral School engages a significant number of external scientific specialists in the commissions for public defense of doctoral theses in the analyzed domain.*

Performance Indicator *B.3.2.1. *The number of doctoral theses allocated to one specialist coming from a higher education institution, other than the evaluated IOSUD should not exceed two (2) in a year for the theses coordinated by the same doctoral thesis advisor.*

During evaluation period, in the field of Horticulture, 13 doctoral theses were defended, involving 19 external members, professors and prestigious scientific researchers with expertise in the thematic area of the research undertaken in their analysis commissions. In 2016 in the thematic area Floriculture, two



external specialists analyzed all three defended theses. Later this situation did not happen. In the future supervisors should include as many experts from different institutions as possible to avoid this situation.

The indicator is fulfilled.

Performance Indicator *B.3.2.2. *The ratio between the doctoral theses allocated to one scientific specialist coming from a higher education institution, other than the institution where the defense on the doctoral thesis is organized, and the number of doctoral theses presented in the same doctoral study domain in the doctoral school should not exceed 0.3, considering the past five years. Only those doctoral study domains in which minimum ten doctoral theses have been presented within the past five years should be analyzed.*

According to Internal evaluation report and Annex B.3.2.2 for doctoral field Horticulture, during the evaluation period, the ratio between the number of PhD theses assigned to a certain scientific reviewer from another higher education institution than the one in which the PhD thesis is defended and the number of PhD theses defended in the same doctoral field within the doctoral school was between 0.07 and 0.30.

The indicator is fulfilled.

Domain C. QUALITY MANAGEMENT

Criterion C.1. Existence and periodic implementation of the internal quality assurance system

Standard C.1.1. There are an institutional framework and procedures in place and relevant internal quality assurance policies, applied for monitoring the internal quality assurance.

Performance Indicator C.1.1.1. *The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation process and its internal quality assurance following a procedure developed and applied at the level of the IOSUD.*

In USAMVBT and doctoral school Engineering of Plant and Animal Resources quality management system was implemented according to ISO 9001: 2015 and quality assurance activities were promoted for all processes and activities organized at the level of university, in accordance with the requirements of Law no. 87/2006 on quality assurance in education. The scientific activity of the PhD supervisors in the field of Horticulture is evaluated periodically, as well as the infrastructure and facilities necessary to carry out the research activity, the procedures and norms on the basis of which the doctoral studies are organized. At Doctoral School level there is a standard form for monitoring the scientific activity of the doctoral student. The scientific activity of each doctoral student is monitored by the Annual Activity Report of the doctoral student.

The indicator is fulfilled.

Performance Indicator *C.1.1.2. *Mechanisms are implemented during the stage of the doctoral study program to enable feedback from doctoral students allowing to identify their needs, as well as their overall*



level of satisfaction with the doctoral study program in order to ensure continuous improvement of the academic and administrative processes. Following the analysis of the results, there is evidence that an action plan was drafted and implemented.

At the level of IOSUD and the level of Doctoral School mechanisms for collecting feedback from doctoral students are implemented in order to identify the PhD students' needs, as well as their level of satisfaction with the doctoral study. According to the statements of PhD students and graduates, they have the possibility and obligation to fill surveys to IOUSD to identify their needs and level of satisfaction and ensure continuous improvement of academic and administrative processes.

The indicator is fulfilled.

Criterion C.2. Transparency of information and accessibility of learning resources

Standard C.2.1. Information of interest to doctoral students, future candidates and public interest information is available for electronic format consultation.

Performance Indicator C.2.1.1. *The IOSUD publishes on the website of the organizing institution, in compliance with the general regulations on data protection, information such as:*

The Doctoral School ensures transparency of all public interest information through IOSUD web site, where data of interest are presented to doctoral students, professors and others. On this website you can find all the necessary information about admission, organization and functioning of Doctoral School.

The indicator is fulfilled.

Standard C.2.2. The IOSUD/The Doctoral School provides doctoral students with access to the resources needed for conducting doctoral studies.

Performance Indicator C.2.2.1. *All doctoral students have free access to one platform providing academic databases relevant to the doctoral studies domain of their thesis.*

According to the Internal evaluation report and the statements of PhD students and graduates, all doctoral students have the possibility for free access to a platform with international academic databases related to the field of Horticulture.

The indicator is fulfilled.

Performance Indicator C.2.2.2. *Each doctoral student shall have access, upon request, to an electronic system for verifying the degree of similarity with other existing scientific or artistic works.*

According to the statements of PhD students and graduates, doctoral students have the possibility to check the scientific papers that they are preparing through the plagiarism detector software www.sistemantiplagiat.ro. Plagiarism detector software is managed by vice dean responsible for scientific research and he verifies scientific papers and doctoral thesis for which a procedure has been established.



The indicator is fulfilled.

Performance Indicator C.2.2.3. All doctoral students have access to scientific research laboratories or other facilities depending on the specific domain/domains within the Doctoral School, according to internal order procedures.

For access to the laboratories and the use of the research infrastructure there is a specific procedure as shown in Annex C2.2.3. 01. All PhD students have free access to scientific research laboratories and experimental fields according to their statements.

The indicator is fulfilled.

Criterion C.3. Internationalization

Standard C.3.1. There is a strategy in place and it is applied to enhance the internationalization of doctoral studies.

Performance Indicator *C.3.1.1. IOSUD, for every evaluated domain, has concluded mobility agreements with universities abroad, with research institutes, with companies working in the field of study, aimed at the mobility of doctoral students and academic staff (e.g., ERASMUS agreements for the doctoral studies). At least 35% of the doctoral students have completed a training course abroad or other mobility forms such as attending international scientific conferences. IOSUD drafts and applies policies and measures aiming at increasing the number of doctoral students participating at mobility periods abroad, up to at least 20%, which is the target at the level of the European Higher Education Area.

There were 9 mobilities to scientific congresses and symposiums and 2 external mobilities carried out during the evaluation period. Based on this fact, it is clear that 39.3 % of the PhD students have completed a training period abroad or participated at international scientific symposiums. Despite the fact that at the level of IOSUD-USAMVBT there are mobility agreements signed with many universities, only two mobilities were recorded and that is far below the level of some other Romanian universities. Also, one of these mobilities was carried out in a company engaged in primary agricultural production, and the focus of doctoral students should be related to science. It seems that strategy on how to stimulate doctoral students to undertake internships in the form of various external mobilities for their professional development is not good enough. Some graduates stated that they were not informed well enough about mobility opportunities. It will be necessary to improve ways of informing students about international mobilities and all the benefits for their future professional development. This can be enhanced so that the teaching staff encourages students to participate in mobilities and helps finding persons who will accept them at another institutions. According to statements of some PhD students, despite the signed contracts between universities, they could not find a person on another university which could arrange mobility in the field of their scientific interest.

The indicator is fulfilled.



Performance Indicator C.3.1.2. *In the evaluated doctoral study domain, support is granted, including financial support, to the organization of doctoral studies in international co-tutelage or invitation of leading experts to deliver courses/lectures for doctoral students.*

IOSUD - USAMVB “King Michael I of Romania” from Timișoara had several guests (Dr. Mark Russell, Dr. David Knauft, Athanasios Salifoglou) who gave lectures for doctoral students. There was no co-tutelage during evaluation period. In my dialogue with the professors and PhD students during the evaluation, I experienced resistance towards using English and this, for obvious reasons, cannot facilitate the establishment of international collaborations.

The indicator fulfilled

Performance Indicator C.3.1.3. *The internationalization of activities carried out during the doctoral studies is supported by IOSUD through concrete measures (e.g., by participating in educational fairs to attract international doctoral students; by including international experts in guidance committees or doctoral committees etc.).*

Teaching staff and PhD students participated in various exhibitions and international education fairs. Materials in English or any other world language were not presented so they could help attracting international PhD students and present University. Integration of international experts to thesis defence committees should be one of the goals and therefore, English language should be used more generally.

The indicator is partially fulfilled.

IV. SWOT Analysis

<p><u>Strengths:</u></p> <ul style="list-style-type: none"> - tradition - research infrastructure - compliance with studies abroad 	<p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> - resistance towards using English - lack of courses in English - poor international mobility
<p><u>Opportunities:</u></p> <ul style="list-style-type: none"> - international cooperation and participation in international consortiums - better cooperation with former students 	<p><u>Threats:</u></p> <ul style="list-style-type: none"> - a number of similar studies inside the country and in the surrounding countries - new trends in the labour market

V. Overview of judgments awarded and of the recommendations

No.	Type of indicator (*, C)	Performance indicator	Judgment	Recommendations
1.	A	1.1.1.	<i>fulfilled</i>	
2.	A	1.1.2.	<i>fulfilled</i>	
3.	A	1.2.1.	<i>fulfilled</i>	
4.	A	1.2.2.	<i>fulfilled</i>	
5.	A	1.3.1.	<i>fulfilled</i>	
6.	A	1.3.2.	<i>fulfilled</i>	
7.	A	1.3.3.	<i>fulfilled</i>	
8.	A	2.1.1.	<i>fulfilled</i>	
9.	A	3.1.1.	<i>fulfilled</i>	
10.	A	3.1.2.	<i>fulfilled</i>	
11.	A	3.1.3.	<i>fulfilled</i>	
12.	A	3.1.4.	<i>fulfilled</i>	
13.	A	3.2.1.	<i>fulfilled</i>	
14.	A	3.2.2.	<i>fulfilled</i>	
15.	B	1.1.1.	<i>fulfilled</i>	
16.	B	1.2.1.	<i>fulfilled</i>	
17.	B	1.2.2.	<i>fulfilled</i>	
18.	B	2.1.1.	<i>fulfilled</i>	
19.	B	2.1.2.	<i>fulfilled</i>	
20.	B	2.1.3.	<i>fulfilled</i>	
21.	B	2.1.4.	<i>fulfilled</i>	
22.	B	2.1.5.	<i>fulfilled</i>	
23.	B	3.1.1.	<i>fulfilled</i>	
24.	B	3.1.2.	<i>fulfilled</i>	
25.	B	3.2.1.	<i>fulfilled</i>	
26.	B	3.2.2.	<i>fulfilled</i>	
27.	C	1.1.1.	<i>fulfilled</i>	
28.	C	1.1.2.	<i>fulfilled</i>	
29.	C	2.1.1.	<i>fulfilled</i>	
30.	C	2.2.2.	<i>fulfilled</i>	
31.	C	2.2.3.	<i>fulfilled</i>	
32.	C	3.1.1.	<i>fulfilled</i>	
33.	C	3.1.2.	<i>fulfilled</i>	
34.	C	3.1.3.	<i>fulfilled</i>	<i>Integration of international experts to thesis defence</i>



				<i>committees should be one of the goals and therefore, English language should be used more generally.</i>
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VI. Conclusions and general recommendations

- *There is a noticeable high level of satisfaction and harmony between PhD students and their supervisors.*
- *The supervisors are very flexible and they adapt to each PhD candidate as much as time allows them and the PhD students are satisfied with their availability.*
- *Research infrastructure is very good and available to students, but lack of funds is visible.*
- *To achieve research excellence at an international level and attract foreign students, English should be used more generally.*
- *Quality of research and the publications is reflected in the number of citations and these numbers are fairly low compared to general European standard, therefore these indicators should be improved during the following period.*
- *It is necessary to increase the number of international mobilities, as well as its duration to improve connections with scientists from other countries and visibility in European Research Area.*
- *Teaching staff should encourage students to participate in mobilities much more and help them find persons who will accept them at another institution.*
- *Some PhD students prepare doctoral thesis in areas that do not belong to horticulture and such situations should be avoided in the future.*
- *PhD students should be encouraged to publish papers in different international journals published by different publishers to achieve better international visibility.*
- *If a PhD student is submitting their own work then they should be the first author in the paper and that should make them the corresponding author by default.*

In Osijek, Croatia, 24/10/2021