Appendix No. 6

to the minutes of the 6th meeting of the Scientific Council

held on March 14, 2024

Resolution No. 6 of the Scientific Council of the IRZiBŻ PAN in Olsztyn

of March 14, 2024

regarding the education program of the Interdisciplinary Doctoral School of Agricultural Sciences

Pursuant to Article 201(3) and (4) in conjunction with Article 198(3) and (5) of the Act of July 20, 2018 – Law on Higher Education and Science (Journal of Laws of 2021, item 478, consolidated text of March 16, 2021), Article 290(3) of the Act of July 3, 2018 – Introductory Provisions for the Act – Law on Higher Education and Science (Journal of Laws of 2018, item 1669; of 2019, items 39, 534), Article 2(3)(1) of the Act of April 30, 2010 on Research Institutes (Journal of Laws of 2018, item 736, as amended), Article 50(3)(1) of the Act of April 30, 2010 on the Polish Academy of Sciences (Journal of Laws of 2019, item 1183, as amended), §18(2)(6) of the Statute of IRZiBŻ PAN in Olsztyn, consolidated text of December 8, 2016, approved by the President of the Polish Academy of Sciences on January 16, 2017, as amended, and §3(6) of the Rules of Procedure of the Scientific Council of IRZiBŻ PAN for the 2023–2026 term of March 16, 2023, the Scientific Council of IRZiBŻ PAN hereby resolves as follows:

§ 1

1. The Scientific Council of the Institute of Animal Reproduction and Food Research of the Polish Academy of Sciences in Olsztyn hereby approves the education program of the Interdisciplinary Doctoral School of Agricultural Sciences, as set out in Appendix No. 1 to this Resolution.
2. The education program referred to in paragraph 1 shall enter into force starting from the academic year 2024/2025.

§ 2

The Resolution shall enter into force on the date of its adoption.

Appendix No. 1

to Resolution No. 6

of the Scientific Council of IRZiBŻ PAN

of March 14, 2024

Programme of studies at the Interdisciplinary Doctoral School of Agricultural Sciences

§ 1

1. Education at the Doctoral School (hereinafter: the "School") is conducted within the following disciplines:
    - **Animal science and fisheries** – run by the Institute of Animal Reproduction and Food Research of the Polish Academy of Sciences in Olsztyn (IRZiBŻ PAN),
    - **Food technology and nutrition** – run by the Institute of Animal Reproduction and Food Research of the Polish Academy of Sciences in Olsztyn (IRZiBŻ PAN),
    - **Veterinary medicine** – run by the National Veterinary Research Institute in Puławy (PIWET-PIB),
    - **Agriculture and horticulture** – run by the Bohdan Dobrzański Institute of Agrophysics of the Polish Academy of Sciences in Lublin (IA PAN).

§ 2

1. Education at the School lasts 4 years and provides conditions for:
    - conducting scientific research and preparing a doctoral dissertation in an interdisciplinary scientific environment,
    - consolidating and expanding knowledge in the field of agricultural sciences,
    - acquiring practical skills useful in scientific and implementation work,
    - presenting the results of scientific research

within the framework of individual research plans of doctoral students, adjusted to the varied specificities of the disciplines listed in § 1, at Level 8 of the Polish Qualifications Framework (pursuant to Article 7(3) of the Act of December 22, 2015 on the Integrated Qualifications System).

§ 3

1. The education program of the Doctoral School includes courses that prepare the doctoral student for scientific and research work. It does not encompass the total time intended for the realization of the doctoral dissertation. The time framework of research and scientific work required to complete the doctoral dissertation is determined by the doctoral student in agreement with the dissertation supervisor.

2. Education at the School is implemented through:
    - **Mandatory courses** related to the disciplines of the School.
    - **Elective courses (specialization workshops)** – practical training in skills, research methods, or tools and procedures related to individual disciplines of the School.
    - **Seminars** – scientific seminars related to the disciplines of the School.
    - **Non-specialized courses** – activities developing the researcher's workshop/skills, independent of the chosen discipline.
    - **Professional placements (practicums)** – activities developing the research workshop.
3. Courses are conducted in Polish or English. In the absence of English-speaking participants, courses may be conducted in Polish. Classes may take place in a hybrid form utilizing ICT networks and platforms.

§ 4

1. The basic list of courses organized by the School and the ECTS Passing allocation is contained in Appendix No. 1 to this education program.
2. Periodic extensions to the list referred to in paragraph 1 are published on the School's website no later than 7 days before the beginning of the respective semester.
3. Passing a course requires the doctoral student's participation in a minimum of 80% of the classes.
4. Part of the courses may be realized during summer/winter schools.
5. The Doctoral School Board may specify a minimum number of registered students necessary to conduct a given course.

§ 5

1. Over the course of 4 years of study at the Doctoral School, a doctoral student is obliged to accumulate at least 34 ECTS Passings, including at least 6 ECTS Passings obtained in total from passing elective courses and at least 10 ECTS Passings obtained in total from passing non-specialized courses and professional placements offered by the School.
2. Detailed requirements regarding the choice of courses referred to in paragraph 1 are specified in Appendix No. 2.

§ 6

Upon the request of the doctoral student, supported by the dissertation supervisor (*promotor*), the Director/Head of the Doctoral School may approve ECTS Passings previously earned by the doctoral student, as well as ECTS Passings awarded for the completion of courses relevant to their research topic and/or participation in summer schools organized by other scientific entities.

§ 7

In specific cases, doctoral students carrying out research work within European Union projects (e.g., MSCA Doctoral Networks or MSCA Joint Doctorates, etc.) may follow an individual education program (IPR) aligned with the objectives of the respective project and the regulations of the doctoral school. The individual education program must be submitted/presented to the Director/Head of the leading unit no later than 30 days from the commencement of education and approved by the Scientific Council of the leading unit no later than 6 months after education has started.

§ 8

Any interpretive doubts arising from this education program or issues unregulated herein shall be resolved by the Doctoral School Board.

§ 9

This education program shall enter into force on October 1, 2024.

Appendix No. 1

to the education program of the

Interdisciplinary Doctoral School of Agricultural Sciences

1. Mandatory Courses:

1.1. Major subject/subjects related to the scientific discipline(s) – 30 hours / 2 ECTS

1.2. Statistical methods in scientific research – 30 hours / 2 ECTS

1.3. Ethical and legal aspects in scientific research – 5 hours / 1 ECTS

1.4. Specialized workshops in a chosen foreign language – 30 hours / 2 ECTS

1.5. Fundraising for research and project preparation – 15 hours / 2 ECTS

1.6. Preparation and editing of scientific text – 15 hours / 2 ECTS

1.7. Copyright and intellectual property – 5 hours / 1 ECTS

1.8. Occupational Health and Safety (OHS) – 5 hours / 1 ECTS

2. Elective Courses (Workshops)*

2.1. Molecular biology techniques – 15 hours / 2 ECTS

2.2. Food chain safety – 15 hours / 2 ECTS

2.3. Microbiology – 15 hours / 2 ECTS

2.4. Advanced methods of proteome analysis – 10 hours / 2 ECTS

2.5. Advanced methods of metabolome analysis – 10 hours / 2 ECTS

2.6. Sensory food analysis – 12 hours / 2 ECTS

2.7. In vitro techniques – 15 hours / 2 ECTS

2.8. Cell and tissue imaging – 15 hours / 2 ECTS

2.9. Physical methods in food research – 15 hours / 2 ECTS

2.10. Food safety and quality – 10 hours / 2 ECTS

2.11. Selected topics in bioeconomy – 10 hours / 2 ECTS

2.12. Plant adaptation to climate change – 10 hours / 2 ECTS

2.13. Knowledge and technology transfer – 5 hours / 2 ECTS

**The doctoral student may choose classes at any scientific center.*

3. Doctoral Seminar – 60 hours / 4 ECTS

4. Non-specialized Skills

4.1. Managing one's own research project/grant – 2 ECTS per project; max. 4 ECTS within 4 years

4.2. Foreign research internship – 2 ECTS per internship; max. 4 ECTS within 4 years

4.3. Participation in a research/commercialization/implementation project – 2 ECTS

4.4. Participation in a scientific conference – 3 ECTS (1 ECTS per conference)

4.5. Authorship of a scientific publication – 4 ECTS per publication; max. 8 ECTS within 4 years

4.6. Science dissemination activities – 3 ECTS (1 ECTS per activity; no more than 1 ECTS per year)

5. Professional Placements (Practicums) – 10 hours / 1 ECTS

Appendix No. 2

to the education program of the

Interdisciplinary Doctoral School of Agricultural Sciences

Detailed requirements regarding the courses referred to in § 5(2) of the education program

The list of subjects for individual disciplines is located in Appendices No. 3, 4, 5 to the education program.

A. Mandatory Lectures

Detailed Requirements:

A minimum of 13 ECTS Passings must be obtained during the first two years of study at the School by passing exams/assessments for the following lectures:

1. Major subject related to the scientific discipline (30 hours / 2 ECTS).
2. Statistical methods in scientific research (30 hours / 2 ECTS).
3. Ethical and legal aspects in scientific research (5 hours / 1 ECTS).
4. Specialized workshops in a chosen foreign language (30 hours / 2 ECTS).
5. Fundraising for research and project preparation (15 hours / 2 ECTS).
6. Preparation and editing of scientific text (15 hours / 2 ECTS).
7. Copyright and intellectual property (5 hours / 1 ECTS).
8. Occupational Health and Safety (5 hours / 1 ECTS).

B. Elective Courses

A minimum of 6 ECTS Passings must be obtained during three years of study at the Doctoral School by passing selected subjects from the elective courses group offered in a given discipline. Classes may be organized by individual leading Units or during summer/winter schools. An updated list of available training courses, along with ECTS points and the entity responsible for the class, is available on the School's website.

C. Seminars

Active and passive participation in Seminars organized by the Leading Units and in seminars within summer/winter schools is mandatory. Each doctoral student is obliged to present the results of their work to the School's doctoral students' forum during summer/winter schools (8 semesters, 4 ECTS Passings in total).

D. Non-specialized Skills

A minimum of 10 ECTS Passings must be obtained by demonstrating activity in selected actions:

1. Managing one's own research project/grant (2 ECTS per project; maximum 4 ECTS within 4 years).

2. Foreign research internship (2 ECTS per internship – minimum duration of the internship is 1 month; a maximum of 4 ECTS can be obtained within 4 years).
3. Participation in a research/commercialization/implementation project (2 ECTS/project, points awarded once during the entire period of education).
4. Participation in a scientific conference (3 ECTS points, 1 ECTS point per conference).
5. Authorship of a scientific publication (4 ECTS points per publication; maximum 8 ECTS points within 4 years).
6. Science dissemination activities (1 ECTS point per documented activity; no more than 1 ECTS per year and 3 ECTS within 4 years).

E. Professional Placements (Practicums)

Placements in the laboratories of the institutes comprising the School. Classes during which the doctoral student expands their knowledge and skills required to plan and conduct research work. In special cases, with the approval of the director/head of the school, placements may take place at another scientific or research institution (1 ECTS for a minimum of 10 hours over 4 years).

Appendix No. 3

to the education program of the

Interdisciplinary Doctoral School of Agricultural Sciences

Institute of Animal Reproduction and Food Research of the PAS in Olsztyn

Disciplines: 1) animal science and fisheries; 2) food technology and nutrition

Subject	Number of hours	ECTS Passings	Year	Form of assessment	Learning outcomes[1]
Mandatory subjects					
1.1. Major subject					
1.1.1. Major subject related to the discipline of animal science and fisheries	30	2	I/III	Examination	W01, W02, W03, W04, U03
1.1.2. Major subject related to the discipline of food technology and nutrition	30	2	I/II	Examination	W01, W02, W03, W04, U03
1.2. Statistical methods in scientific research	30	2	I/II	Examination	W06, U06, K02, K03, K04, K05
1.3. Ethical and legal aspects in scientific research	5	1	I/II	Passing	W08, U06, K05, K06, K07
1.4. Specialized workshops in a chosen foreign language	30	2	Year I/II	Examination	W05, U04, U05, K03, K02, K04
1.5. Fundraising for research and project preparation	15	2	Year I/II	Passing	W07, U01, U05, K02, K03, K05, K06
1.6. Preparation and editing of scientific text	15	2	I/II	Passing	W04, W05, U01, U04, U06, K02, K03, K04, K05
1.7. Copyright and intellectual property	5	1	I/II	Passing	W08, U01, K01, K02, K03, K04, K05, K06
1.8. Occupational Health and Safety	5	1	I	Passing	W09, U02, K08
Elective Subjects					
2.1. Molecular biology techniques	15	2	I/III	Passing	W02, W03, U01, U02, U03, K02,

					K03, K04, K05, K08
2.2. Microbiology	15	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K08
2.3. Advanced methods of proteome analysis	10	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K08
2.4. Advanced methods of metabolome analysis	10	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K08
2.5. Sensory food analysis	12	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K08
2.6. In vitro techniques	15	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K08
2.7. Cell and tissue imaging	15	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K08
2.8. Knowledge and technology transfer	5	2	II/III	Passing	W08, U01, K03, K04, K05, K07
3. Seminar	60	4	I/IV	Passing	W01, W02, W03, U01, U03, U04, U06
4. Non-specialized Skills					
4.1. Managing one's own research project/grant	2 ECTS / project	4	I/IV	Passing	W01, W02, W03, W04, W05, W06, W07, W08,

					U01, U02, U03, U04, U05, K01, K02, K03, K04, K05, K06, K07, K08, K09
4.2. Foreign research internship	2 ECTS / intern.	4	I/IV	Passing	W01, W02, W03, W05, U01, U02, U03, U04, K01, K02, K03, K04, K05, K06, K07
4.3. Participation in a research/commercialization/implementation project	project	2	I/IV	Passing	W01, W02, W03, W05, W06, W07, W08, U01, U02, U03, U04, U05, K01, K02, K03, K04, K05, K06, K07, K08
4.4. Participation in a scientific conference	30 hours / 1 ECTS per conf.	3	I/IV	Passing	W01, W02, W03, W05, U01, U02, U03, U04, K01, K02, K03, K05
4.5. Authorship of a scientific publication	4 ECTS / publ.	8	I/IV	Passing	W01, W02, W03, W04, W05, W06, W07, W08, U01, U02, U03, U04, U05, K01, K02, K03, K04, K05, K06, K07, K08, K09
4.6. Science dissemination activities		3	I/IV	Passing	W01, W02, W04, W05,

					W08, U01, U04, K01, K02, K05, K06, K08
5. Professional Placements	10	1	I/IV	Passing	W01, W02, W03, W05, W08, W09, U01, U02, U03, K01, K03, K06, K07, K09

[1] Learning outcomes achieved as a result of completing a given subject. A detailed description of the outcomes designated by symbols is in Appendix No. 6 to the Education program.

Appendix No. 4

to the education program of the

Interdisciplinary Doctoral School of Agricultural Sciences

National Veterinary Research Institute in Puławy

Discipline: veterinary medicine

Subject	Number of hours	ECTS Passings	Year	Form of assessment	Learning outcomes[1]
Mandatory subjects					
1.1. Major subject					
1.1.1. Major subject related to the discipline of veterinary medicine	30	2	I/II	Examination	W01, W02, W03, W04, U03
1.1.2. Food and feed safety in terms of microbiological and chemical hazards	30	2	I/II	Examination	W01, W02, W03, W04, U03
1.2. Statistical methods in scientific research	30	2	I/II	Examination	W06, U06, K02, K03, K04, K05
1.3. Ethical and legal aspects in scientific research	5	1	I/II	Passing	W08, U06, K05, K06, K07, K08
1.4. Specialized workshops in a chosen foreign language	30	2	Year I/II	Examination	W05, U04, U05, K03, K02, K04
1.5. Fundraising for research and project preparation	15	2	Year I/II	Passing	W07, U01, U05, K02, K03, K05, K06
1.6. Preparation and editing of scientific text	15	2	I/II	Passing	W04, W05, U01, U04, U06, K02, K03, K04, K05
1.7. Copyright and intellectual property	5	1	I/II	Passing	W08, U01, K01, K02, K03, K04, K05, K06, K07
1.8. Occupational Health and Safety	5	1	I	Passing	W09, U02, K09
Elective Subjects					
2.1. Molecular biology techniques	15	2	I/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K09
2.2. Food safety	15	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K08
2.3. Advanced methods of proteome analysis	10	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K09
2.4. In vitro techniques	15	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K09

2.5. Alternative methods to animal testing used in toxicology	10	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K09
2.6. Knowledge and technology transfer	5	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K09
3. Seminar	60	4	I/IV	Passing	W08, U01, K03, K04, K05, K08
4. Non-specialized Skills					
4.1. Managing one's own research project/grant	2 ECTS / project	4	I/IV	Passing	W01, W02, W03, W04, W05, W06, W07, W08, U01, U02, U03, U04, U05, K01, K02, K03, K04, K05, K06, K07, K08, K09
4.2. Foreign research internship	2 ECTS / intern.	4	I/IV	Passing	W01, W02, W03, W05, U01, U02, U03, U04, K01, K02, K03, K04, K05, K06, K07
4.3. Participation in a research/commercialization/implementation project	project	2	I/IV	Passing	W01, W02, W03, W05, W06, W07, W08, U01, U02, U03, U04, U05, K01, K02, K03, K04, K05, K06, K07, K08
4.4. Participation in a scientific conference	30 hours / 1 ECTS per conf.	3	I/IV	Passing	W01, W02, W03, W05, U01, U02, U03, U04, K01, K02, K03, K05
4.5. Authorship of a scientific publication	4 ECTS / publ.	8	I/IV	Passing	W01, W02, W03, W04, W05, W06, U02, U03, U04, U05, K01, K02, K03, K04, K05, K06, K07, K08, K09
4.6. Science dissemination activities		3	I/IV	Passing	W01, W02, W04, W05, W08, U01, U04, K01, K02, K05, K06, K08
5. Professional Placements	10	1	I/IV	Passing	W01, W02, W03, W05, W08, W09, U01, U02, U03, K01,

					K03, K06, K07, K09

[1] Learning outcomes achieved as a result of completing a given subject. A detailed description of the outcomes designated by symbols is in Appendix No. 6 to the Education program.

Appendix No. 5

to the education program of the

Interdisciplinary Doctoral School of Agricultural Sciences

Bohdan Dobrzański Institute of Agrophysics of the Polish Academy of Sciences in Lublin

Discipline: agriculture and horticulture

Subject	Number of hours	ECTS Passings	Year	Form of assessment	Learning outcomes[1]
Mandatory subjects					
1.1. Major subject: Current problems of agriculture	30	2	I/III	Examination	W01, W02, W03, W04, U03
1.2. Statistical methods in scientific research	30	2	I/II	Examination	W06, U06, K02, K03, K04, K05
1.3. Ethical and legal aspects in scientific research	5	1	I/II	Passing	W08, U06, K05, K06, K07, K08
1.4. Specialized workshops in a chosen foreign language	30	2	Year I/II	Examination	W05, U04, U05, K03, K02, K04
1.5. Fundraising for research and project preparation	15	2	Year I/II	Passing	W07, U01, U05, K02, K03, K05, K06
1.6. Preparation and editing of scientific text	15	2	I/II	Passing	W04, W05, U01, U04, U06, K02, K03, K04, K05
1.7. Copyright and intellectual property	5	1	I/II	Passing	W08, U01, K01, K02, K03, K04, K05, K06, K07
1.8. Occupational Health and Safety	5	1	I	Passing	W09, U02, K09
Elective Subjects					
2.1. Physical methods in food research	15	2	I/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K09
2.2. Cell and tissue imaging	15	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K08
2.3. Molecular techniques in food research	15	2	II/III	Passing	W02, W03, U01, U02, U03, K02,

					K03, K04, K05, K09
2.4. Food safety and quality	10	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K09
2.5. Selected topics in bioeconomy	10	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K09
2.6. Plant adaptation to climate change	10	2	II/III	Passing	W02, W03, U01, U02, U03, K02, K03, K04, K05, K09
2.7. Knowledge and technology transfer	5	2	II/III	Passing	W08, U01, K03, K04, K05, K08
3. Seminar	60	4	I/IV	Passing	W01, W02, W03, U01, U03, U04, U06
4. Non-specialized Skills					
4.1. Managing one's own research project/grant	2 ECTS / project	4	I/IV	Passing	W01, W02, W03, W04, W05, W06, W07, W08, U01, U02, U03, U04, U05, K01, K02, K03, K04, K05, K06, K07, K08, K09
4.2. Foreign research internship	2 ECTS / intern.	4	I/IV	Passing	W01, W02, W03, W05, U01, U02, U03, U04, K01, K02, K03, K04, K05, K06, K07
4.3. Participation in a research/commercialization/implementation project	project	2	I/IV	Passing	W01, W02, W03, W05, W06, W07, W08, U01, U02, U03, U04, U05, K01, K02, K03, K04, K05, K06, K07, K08

4.4. Participation in a scientific conference	30 hours / 1 ECTS per conf.	3	I/IV	Passing	W01, W02, W03, W05, U01, U02, U03, U04, K01, K02, K03, K05
4.5. Authorship of a scientific publication	4 ECTS / publ.	8	I/IV	Passing	W01, W02, W03, W04, W05, W06, W07, W08, U01, U02, U03, U04, U05, K01, K02, K03, K04, K05, K06, K07, K08, K09
4.6. Science dissemination activities		3	I/IV	Passing	W01, W02, W04, W05, W08, U01, U04, K01, K02, K05, K06, K08
5. Professional Placements	10	1	I/IV	Passing	W01, W02, W03, W05, W08, W09, U01, U02, U03, K01, K03, K06, K07, K09

[1] Learning outcomes achieved as a result of completing a given subject. A detailed description of the outcomes designated by symbols is in Appendix No. 6 to the Education program.

Appendix No. 6

to the education program and learning outcomes in the

Interdisciplinary Doctoral School of Agricultural Sciences

Learning Outcomes in the Interdisciplinary Doctoral School of Agricultural Sciences

The implementation of the education program of the Interdisciplinary Doctoral School of Agricultural Sciences prepares for scientific and research work in the disciplines of animal science and fisheries, food technology and nutrition, veterinary medicine, as well as agriculture and horticulture, by achieving the learning outcomes assigned to Level 8 of the Polish Qualifications Framework (pursuant to Article 7(3) of the Act of December 22, 2015 on the Integrated Qualifications System) in the scope of:

1. General knowledge in the disciplines of animal science and fisheries, food technology and nutrition, veterinary medicine, and agriculture and horticulture;
2. Knowledge at an advanced level, of a detailed nature, corresponding to the area of conducted scientific research in a given discipline or interdisciplinary research;
3. Skills related to the methodology of conducting scientific research in a given scientific discipline;
4. Social competences relating to scientific and research activities and the social role of a scientist.

Table of expected learning outcomes in the Interdisciplinary Doctoral School of Agricultural Sciences in terms of knowledge (W), skills (U), and social competences (K)

Outcome Symbol	Description of the learning outcome at Level 8 of the Polish Qualifications Framework
KNOWLEDGE (W)	
W01	Has extensive knowledge regarding the discipline/disciplines in which the doctoral dissertation is being implemented.
W02	Knows the global scientific achievements associated with the discipline/disciplines in which the doctoral dissertation is being implemented.
W03	Has detailed knowledge regarding research techniques and research methodology applied in the scientific discipline/disciplines in which the doctoral dissertation is being implemented.
W04	Has knowledge about the possibilities of searching for and obtaining reliable scientific information.
W05	Has a detailed knowledge of specialized vocabulary in the scope of the conducted research topic in the native language and in English.
W06	Has an in-depth knowledge regarding methods of statistical data analysis and statistical tools used in the analysis of one's own research results.

W07	Has knowledge about fundraising for conducting scientific research and knows the rules of implementing research projects.
W08	Knows the rules of ethics regarding integrity in conducting scientific research, publishing research results, and knowledge transfer to the economy.
W09	Has knowledge regarding safety regulations in the workplace.
	SKILLS (U)
U01	Is able to formulate research problems and specify research methods enabling their solution.
U02	Mastered the research workshop perfectly as used in the scope of the conducted research topic.
U03	Is able to acquire reliable scientific information and evaluate the significance of the latest scientific reports in the field of agricultural sciences, particularly in the scientific discipline/disciplines in which the doctoral dissertation is being implemented.
U04	Is able to present the results of research work in the form of a scientific publication or scientific report, and subject them to critical analysis and discussion in Polish and English.
U05	Is able to correctly prepare an application for scientific research funding from internal and external sources.
U06	Is able, under the guidance of a dissertation supervisor (promotor) or a supervisor and an auxiliary supervisor (promotor pomocniczy), to prepare a doctoral dissertation and present its main assumptions during a public defense.
	SOCIAL COMPETENCES (K)
K01	Is ready to take on the role of a scientist and researcher in the field of agricultural sciences, serving the good of society and improving the quality of life.
K02	Is able to think and act in a creative and entrepreneurial manner, create new ideas and search for innovative solutions, and is aware of the responsibility for the consequences of one's actions and decisions.
K03	Understands the obligation to constantly expand knowledge and improve one's research workshop; is ready to critically evaluate the scientific achievements in the area of one's own scientific research and one's own contribution to the development of the discipline/disciplines in which the doctoral dissertation is implemented. Is ready to critically evaluate one's own limitations and understands the need for consultation and exchange of experiences in the scientific community.
K04	Understands the principles of creative work in a research team in the process of conducting scientific research, processing results, and creating scientific publications.
K05	Understands and complies with the principles of scientific ethics and research and publication integrity.
K06	Applies the principles of ethics in scientific research and respects the principles of data confidentiality.
K07	Complies with the principles of humane treatment of laboratory animals in scientific research and strictly complies with the recommendations of the bodies supervising these studies.

K08	Is ready to take on ethical, legal, and economic responsibility for spending funds acquired for scientific research in accordance with their purpose.
K09	Is responsible and able to ensure the safety of oneself and colleagues in the workplace, and shapes patterns of proper conduct in the workplace.