

REVIEW

of the official reviewer for the dissertation submitted by Elmira Ismagulova Sovetovna, entitled «Phytopathological assessment of introduced walnut varieties and the development of protective measures against major diseases for the southern fruit growing zone of Kazakhstan», for the degree of Doctor of Philosophy (PhD) in the educational program 8D08104 – Plant Protection and Quarantine.

№ п/п	Criteria	Eligibility (one of the options must be checked)	Justification of the official reviewer's position (comments should be italicized)
1.	The dissertation topic (as of the date of its approval) aligns with the priority areas of scientific development and/or government programs.	1.1 Compliance with priority areas of scientific development or government programs: 1. the dissertation was carried out within the framework of a project or targeted program funded from the state budget (specify the title and number of the project or program); 2. the dissertation was carried out within the framework of another government program (specify the title of the program); 3. the dissertation corresponds to a priority area of scientific development approved by the Higher Scientific and Technical Commission under the Government of the Republic of Kazakhstan (specify the area).	The dissertation topic, «Phytopathological assessment of introduced walnut varieties and development of protective measures against major diseases», clearly aligns with the priority areas of scientific development and national agricultural programs of the Republic of Kazakhstan. The work fits well within government-supported initiatives aimed at improving crop productivity, plant health, and agricultural sustainability, particularly under the program on innovative biological research for enhancing plant resilience.
2.	Significance for science	The work makes/does not make a significant contribution to science, and its importance is well articulated / not articulated.	The dissertation work addresses an important gap in walnut disease research in Kazakhstan. The integration of classical phytopathology with modern molecular techniques (PCR, SNP genotyping) and field-level validation strengthens its applied and scientific value. The work contributes to plant protection science by identifying key pathogens, evaluating varietal resistance, and proposing practical disease management strategies, which are directly relevant to improving yield and reducing economic losses.
3.	Principle of independence	Level of independence: 1. high; 2. medium; 3. low; 4. no independence.	As through study of thesis shows a high level of independence in conducting the research which is evident from the comprehensive execution of field surveys, laboratory experiments, molecular analyses, and data interpretation, as well as the preparation of scientific publications and practical recommendations. The candidate's active involvement in all major stages of the research, including experimental design and implementation is worth appreciating.

4.	Principle of internal unity	4.1 Justification of the relevance of the dissertation: 1. justified; 2. partially justified; 3. not justified.	The relevance of work is clearly justified, addressing critical gaps in walnut disease research and its importance for agricultural development and productivity.
		4.2 The content of the dissertation reflects the dissertation topic: 1. reflects; 2. partially reflects; 3. does not reflect.	A study of the thesis shows that contents of the thesis reflect stated topic and covers phytopathological assessment, pathogen identification, and development of protection strategies.
		4.3 The goal and objectives correspond to the dissertation topic: 1. correspond; 2. partially correspond; 3. do not correspond.	The defined aim and objectives are coherent and directly support the overall research theme.
		4.4 All sections and provisions of the dissertation are: 1. fully interconnected; 2. partially interconnected; 3. not interconnected.	The structure demonstrates logical flow, with methodology, results, and discussion well linked to the research objectives
		4.5 The new solutions (principles, methods) proposed by the author are reasoned and evaluated in comparison with known solutions: 1. a critical analysis is provided; 2. the analysis is partial; 3. the analysis consists not of the author's own opinions, but of quotations from other authors; 4. the analysis is absent.	While the study presents useful practical recommendations and modern approaches, the comparative critical analysis with existing global solutions could be further strengthened.
5.	Principle of scientific novelty	5.1 Are the scientific results and statements new? 1. completely new; 2. partially new (25–75% are new); 3. not new (less than 25% are new).	The scientific results and statements are partially new (25-75%). The study provides new regional data on walnut diseases, pathogen identification, and varietal responses under local conditions. However, many approaches and findings build upon already established phytopathological principles
		5.2 Are the conclusions of the dissertation new? 1. completely new; 2. partially new (25–75% are new); 3. not new (less than 25% are new).	Partially new (25–75% are new) The conclusions are meaningful and context-specific, particularly for Kazakhstan, but they largely extend existing knowledge rather than introducing entirely novel concepts.
		5.3 Are the technical, technological, economic, or managerial solutions new and justified? 1. completely new; 2. partially new (25–75% are new); 3. not new (less than 25% are new).	Partially new (25–75% are new) The proposed disease management strategies and recommendations are practical and justified, but they mainly represent adaptation and optimization of known methods rather than fundamentally new innovations.
6.	Validity of the main conclusions	All main conclusions are / are not based on scientifically sound	The main conclusions of the dissertation are generally valid and

		evidence, or are sufficiently well substantiated (for qualitative research and study programs in the arts and humanities).	supported by the experimental data and analyses presented. The study is based on a combination of field observations, laboratory experiments, and molecular techniques, which together provide a reliable foundation for the findings. However, while the conclusions are consistent with the obtained data, in some cases their broader generalization could be further supported by expanded datasets (e.g., multi-year or multi-location validation).
7.	Main provisions submitted for defense	<p>It is necessary to answer the following questions for each provision separately:</p> <p>7.1 Has the provision been proven?</p> <p>1. proven; 2. rather proven; 3. rather not proven; 4. not proven; 5. in its current wording, it is impossible to verify whether the provision has been proven.</p> <p>7.2 Is it trivial?</p> <p>1. yes; 2. no; 3. in its current wording, it is impossible to verify whether the provision is trivial.</p> <p>7.3 Is it new?</p> <p>1. yes; 2. no; 3. in its current wording, it is impossible to verify whether the provision is novel.</p> <p>7.4 Scope of application:</p> <p>1. narrow; 2. medium; 3. broad; 4. in its current wording, it is impossible to verify the scope of application of the provision.</p> <p>7.5 Has it been proven in the article?</p> <p>1. yes; 2. no; 3. in its current wording, it is impossible to verify whether the provision has been proven in the article.</p>	<p>Provision 1: Identification and characterization of major walnut pathogens</p> <p>7.1 Proven 7.2 No 7.3 Yes (in regional context) 7.4 Medium 7.5 Yes</p> <p>Provision 2: Assessment of resistance of introduced walnut varieties to major diseases</p> <p>7.1 Proven 7.2 No 7.3 Yes (in regional context) 7.4 Broad 7.5 Yes</p> <p>Provision 3: Development of disease management and protection strategies</p> <p>7.1 Rather proven 7.2 No 7.3 No 7.4 Broad 7.5 Yes</p> <p>Provision 4: Application of molecular methods (PCR/SNP) for pathogen detection and diversity analysis</p> <p>7.1 Proven 7.2 No 7.3 No 7.4 Broad 7.5 Yes</p>
8.	Principle of reliability (Reliability of sources and the information provided)	<p>8.1 The choice of methodology is justified, or the methodology is described in sufficient detail:</p> <p>1. yes; 2. no.</p> <p>8.2 The results of the dissertation</p>	<p>Yes, the methodology is clearly described and appropriate for achieving the research objectives</p> <p>Yes, modern tools, including molecular</p>


		are obtained using modern methods of scientific research and techniques for data processing and interpretation with the use of computer technologies: 1. yes; 2. no.	techniques and statistical/data analysis methods, have been applied.
		8.3 Theoretical conclusions, models, identified relationships and patterns are proven and confirmed by experimental research (for programs in pedagogical sciences, results are confirmed based on pedagogical experiments): 1. yes; 2. no.	Yes , the conclusions are supported by experimental evidence from both field and laboratory studies.
		8.4 Important statements are confirmed / partially confirmed / not confirmed by references to relevant and reliable scientific literature.	Partially confirmed , most statements are supported by appropriate references, though some areas require from more recent or high-impact citations.
		8.5 The literature sources used are sufficient / insufficient for the literature review.	Sufficient , the literature review covers the key areas relevant to the study, with minor scope for inclusion of more recent global research.
9.	Principle of practical value	9.1 The dissertation has theoretical significance: 1. yes; 2. no.	Yes , the study contributes to phytopathology by enhancing understanding of pathogen diversity, host–pathogen interactions, and varietal responses under local conditions.
		9.2 The dissertation has practical significance and there is a high probability of applying the obtained results in practice: 1. yes; 2. no.	Yes , the findings, particularly on disease identification and management strategies, have clear applicability for farmers, breeders, and plant protection programs.
		9.3 The proposed practical recommendations are new: 1. completely new; 2. partially new (25–75% are new); 3. not new (less than 25% are new).	Partially new (25–75% are new) The recommendations are useful and region specific but largely represent adaptation and refinement of existing practices rather than entirely novel solutions.
10.	Quality of writing and presentation	Quality of academic writing: 1. high; 2. average; 3. below average; 4. low.	Average , the dissertation is generally clear and understandable, with a logical structure and appropriate use of scientific terminology. However, there are minor issues related to language clarity, grammar, and stylistic consistency.
11.	Comments on the dissertation	The dissertation presents a well-structured and relevant study addressing an important problem in plant pathology, particularly focusing on walnut diseases and their management. The work demonstrates a good combination of field investigations, laboratory experiments, and modern molecular techniques, which strengthens the overall scientific rigor. The topic is timely and aligned with current agricultural priorities, and the results have both	

		scientific and practical significance. The candidate has shown the ability to conduct independent research and produce publishable results in the journal.
12.	Scientific level of the doctoral candidate's articles on the research topic (in the case of a dissertation defense in the form of a series of articles, the official reviewers comment on the scientific level of each article published by the doctoral candidate on the research topic)	The doctoral candidate has demonstrated a good scientific level through publications, including articles in international journals as well as dissemination of work in conference proceedings. This indicates that the research findings are of acceptable quality, visibility, and relevance to the broader scientific community.
13.	Decision of the official reviewer (in accordance with paragraph 28 of these Standard Regulations)	After going through the dissertation work and the outcome of thesis in the form of research publications, dissemination of results in conference proceedings and practical recommendation for farming community, it is believed that the candidate deserves the award of doctoral degree.

Official Reviewer:

Position, place of work,
academic degree, academic title
Date: 17th April 2026

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