

## OPINION

By: Assoc. Prof. Anton Georgiev Rusenov, Ph.D.



### Department of Internal Medicine

Faculty of Veterinary Medicine, Trakia University, Stara Zagora

Scientific specialty: "Animal Pathology," Professional field: 6.4. Veterinary Medicine

Regarding: Doctoral dissertation for the award of an educational and scientific degree "Doctor" in the scientific specialty "Animal Pathology," professional field: 6.4. Veterinary Medicine

Author of the dissertation: Majd Ibrahim Abi Haidar

Title of the dissertation: "Prevalence and Identification of Aflatoxin Types in Raw Milk from Cows Raised under Different Technologies, Feeding Practices, and Seasons in the Bekaa Valley"

Scientific Supervisors: Assoc. Prof. Toni Todorov; Prof. Mona Abbud

Grounds for issuing this opinion: Participation as a member of the scientific jury for the defense of the doctoral dissertation in accordance with Order No. 646/08.11.2024 of the Rector of LTU.

#### 1. Information about the Doctoral Candidate

Majd Ibrahim Abi Haidar is enrolled as a doctoral candidate in the part-time program under Order No. ZSD-103/23.04.2020 of the Rector of LTU- Sofia, in the doctoral program "Animal Pathology." The appointed supervisors are Assoc. Prof. Toni Todorov and Prof. Mona Abbud. Upon successful completion of all activities outlined in the individual study plan and passing the relevant examinations, he is granted the right to defend his dissertation under Order No. ZSD-147/21.05.2024 of the Rector of LTU-Sofia. Following the decision of the extended council of the Department of "Internal Non-infectious Diseases, Pathology, and Pharmacology" at the Faculty of Veterinary Medicine (Protocol No. 176/24.10.2024), the dissertation is forwarded for defense in front of the scientific jury.

#### 2. General Characteristics of the Dissertation

##### *Relevance of the Topic:*

The submitted dissertation addresses the detection and prevalence of aflatoxin types in raw milk from dairy cows raised under various technologies, feeding regimes, and seasons. The identification of aflatoxin M1 (AFM1) in dairy products is a global issue threatening public health worldwide. Aflatoxins are highly toxic to humans and animals, with potential to cause acute toxic hepatitis, liver cirrhosis, hepatocellular carcinoma, and other severe conditions. Hence, the dissertation's topic is highly relevant, with promising practical applications demonstrated through the proposed research models.

##### *Structure and Volume:*

The dissertation titled "Prevalence and Identification of Aflatoxin Types in Raw Milk from Cows Raised under Different Technologies, Feeding Practices, and Seasons in the Bekaa Valley" consists of

156 pages, illustrated with 20 tables and 24 figures. While the overall structure adheres to the standard format for a dissertation, the balance between the individual sections is disproportionate. The work is divided into the following sections: Table of Contents (3 pages), List of Abbreviations (4 pages), Introduction (2 pages), Literature Review (59 pages), Materials and Methods (12 pages), Results (10 pages), Discussion (11 pages), Conclusions (2 pages), Contributions (1 page), Practical Recommendations (2 pages), Publications Related to the Dissertation and Participation in Scientific Forums (1 page), References (37 pages).

A total of 382 references in Latin script are used, most of which are contemporary and relevant, dating from the last decade (post 2014).

#### ***Literature Review:***

This section is exceptionally detailed, well-organized, comprehensive, and written in a clear scientific style. It reflects the doctoral candidate's in-depth knowledge and familiarity with the subject. The review concludes with a summary of the described literature data.

#### ***Original Research:***

The research objectives are succinctly and clearly defined. To achieve these, five main tasks are outlined. The "Materials and Methods" section provides a step-by-step description of the characteristics of the farms involved in the study, the methods of data collection, laboratory tests, and statistical analysis techniques employed.

### **3. Assessment of the Results**

The research findings are presented across 10 pages and adhere to the outlined tasks and methodologies. The results are illustrated with 8 tables and 6 figures, presented in a concise, competent, and scientifically robust manner. Based on these results, it is evident that the doctoral candidate successfully addressed the research objectives and achieved commendable outcomes.

### **4. Evaluation of the Discussion, Scientific, and Applied Contributions**

This section, spanning 11 pages, provides an in-depth scientific analysis of the results. The doctoral candidate competently interprets both his findings and those from other authors. He effectively defends his thesis with a well-founded scientific approach, demonstrating comprehensive knowledge in the field. The dissertation includes 16 conclusions, 5 contributions, and 13 practical recommendations, all of which are accepted as presented.

### **5. Assessment of the Publications Related to the Dissertation**

Two scientific articles in English, related to the dissertation, have been published in the journal "Tradition and Modernity in Veterinary Medicine." The first is authored solely by the doctoral candidate, while the second lists him as the leading author, confirming his active participation in the research. The journal is recognized by NACID and indexed in international scientific databases. A compliance report with the minimum national requirements has been provided.

### **6. Evaluation of the Summary**

The summary, comprising 36 pages, accurately reflects the objectives, tasks, methods, results, discussions, conclusions, contributions, and practical recommendations of the dissertation.

### **7. Critical Notes and Recommendations**

As a member of the extended departmental council, I had the opportunity to review and provide feedback during the preliminary discussion of the dissertation. In its current form, the dissertation is complete.

I recommend that future publications by the doctoral candidate increase in number and target higher-impact scientific journals.

## 8. Conclusion

I accept the submitted dissertation titled "Prevalence and Identification of Aflatoxin Types in Raw Milk from Cows Raised under Different Technologies, Feeding Practices, and Seasons in the Bekaa Valley" as a comprehensive scientific work that positions the doctoral candidate, Majd Ibrahim Abi Haidar, as a researcher with solid expertise and a distinctive approach in the field of internal medicine. I consider the dissertation to be relevant, sufficiently extensive, and well-structured, fully meeting the requirements of the Academic Staff Development Act of the Republic of Bulgaria, its implementing regulations, and the Rules for Academic Staff Development at LTU-Sofia. These considerations provide a solid basis for my **positive** evaluation.

I propose that the esteemed scientific jury duly assess the presented dissertation and cast a positive vote for awarding Majd Ibrahim Abi Haidar the educational and scientific degree "Doctor" in the scientific specialty "Animal Pathology," within the field of higher education 6.0 Agrarian Sciences and Veterinary Medicine, professional field 6.4 Veterinary Medicine.

Date: 01.12.2024

Location: Stara Zagora

Prepared by: .....

/Assoc. Prof. Anton Rusevov, Ph.D./