

We, the authors, appreciate all the time spent by the reviewers and all the ideas, suggestions, and comments presented. We addressed all the ideas, suggestions, and comments below in our revised manuscripts.

Comments and Suggestions for Authors:

1. Some abbreviations which are used in the manuscript text do not introduce anywhere. One example is in the first line of introduction *Fusarium* ssp. or HSI in line 39.
Response to reviewer: The authors thank the Reviewer for the careful reading of the manuscript. Comments corrected. The transcripts of all abbreviations used are given.
2. In the introduction you do a good literature review but none of them is about detection of fusarium infection by optical method. It is good to add some references about it.
Response to reviewer: Detection of fusarium infection by the HSI method refers to optical, including in the infrared region. There are links to articles about this [2-10]. There is very little information about the method of luminescent spectroscopy for the diagnosis of fusarium. Added a link to the authors' article [26].
3. It is good also to compare your results (for example your sensitivity) with some reported results in measuring the degree of fusarium infection and write about the preferences of your work than others.
Response to reviewer: Many thanks to the Reviewer for this recommendation. Unfortunately, calculations of the sensitivity of fusarium detection methods are not presented in any of the articles we found. Other authors do not pay due attention to the definition of sensitivity. The advantages of the methodology developed by us are added to the Conclusion section.
4. In the second paragraph of section 2 (Materials and methods) line #2 you mentioned the mass of the sample is 2 kg and after that you tell the weight is not less than 25g. How it is possible? Furthermore, it is good to change the word weight here with mass because the unit for measuring the weight is not g it is N.
Response to reviewer: The authors thank the Reviewer for the careful reading of the manuscript. In the manuscript, we are talking about the mass of a 2 kg sample from which 25 g "weights" are selected for a specific analysis. Corrections have been made to the manuscript.
5. The citation to reference #24 in text (third paragraph of section 2 line#2) is different with other citation inside the text.

Response to reviewer: The link has been corrected. The authors thank the reviewer for pointing out the inaccuracy.

6. Fig.1 in the result section is plotted just for oat seed and the results for wheat and barley just mentioned in the text without bringing the curves. I think you should add the wheat and barley curves. The same situation is for Fig.2.

Response to reviewer: The excitation and photoluminescence characteristics of oat, wheat and barley seeds are similar to each other and when presented in the same figure, the seed graphs of all three crops will be located very close to each other and visually difficult to distinguish. The presentation of graphs for oats, barley and wheat on separate graphs will lead to a sharp increase in the volume of the article due to the appearance of four more similar drawings. Therefore, the authors used a compromise option with the publication of Figures 1 and 2 for oats as an example and a description of the type of similar graphs in the text part of the article. For wheat, the excitation and photoluminescence graphs are given and described in more detail in the article [26], a reference to which is introduced in this article.

7. In Result section (section 3) under the figure 1 line #4 you mentioned there is a clear shift to the left where is this shift. I can not see this shift in fig.1.

Response to reviewer: In Figure 1, the curve shift to the left is small for oat seeds. It is much more noticeable for wheat and barley, which is what is written in the text. More detailed information is available in another article by the authors [26], a link to which is added to the text of the manuscript.

8. In Fig.1 and 2 you compare the uninfected and infected oat seed but the degree of infection is not mentioned anywhere.

Response to reviewer: The degree of infection of oat seeds in Figures 1 and 2 is 82.4%.

9. Same as comment number 6, in Fig.3 you bring the result just for barley. In all of your inspection you should bring all your result for all seeds. But I cannot understand why you plot the curves for just one of your seeds and why this seed is changed in different figures.

Response to reviewer: Qualitatively, the characteristics of oat, barley and wheat seeds vary the same way. The representation of seed plots of all three crops in one figure leads to an overload of the figure with dependency curves. The presentation of graphs for oats, barley and wheat on separate graphs will lead to a sharp increase in the volume of the article due to the appearance of several similar drawings. Therefore, the authors used a compromise option with the publication of drawings for oats as an example and a description of the type of similar graphs in the text part of the article. Formulas are given

in full for all types of seeds. For wheat, the excitation and photoluminescence graphs are given and described in more detail in the article [26], a reference to which is introduced in this article.

10. The result in Table 1 shows that you analyze the oat seed just for two degrees of infection. Therefore, your result can not be reliable for oats. Why did you not increase the number of samples with different degree of infection in oat like other seeds?

Response to reviewer: The authors thank the Reviewer for the comment.

Table 1 contains additional data for other degrees of infection of oat seeds.

11. The final block diagram which you proposed which is very good diagram is based on the result of barley and wheat and can not be applied for oat. I think it is good to change some part of the paper so that some ambiguity is removed.

Response to reviewer: The authors thank the Reviewer for the comment.

The article has been amended and supplemented related to the diagnosis of oats.