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OPEN PEER REVIEW

The Effect of Extraction Method on Physicochemical Properties of Mucilage Extracted from Yellow and Brown Flaxseeds

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1 Original submission

1 comment · 27 Apr 2022

Editor-in-Chief

MAJOR REVISION 27 Apr 2022

Dear authors,

The three independent reviewers have scrutinized your manuscript, and they believe significant changes are required. Please revise your manuscript according to the provided comments and upload it with the point-by-point answers; remember to highlight the changes in the revised manuscript. Last but not least, have a native speaker edit your manuscript.

Yours Truly,
JJNPP EIC

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Reply to reviewers

Reviewer 1:
1. In the uploaded version, the "Results" section appears before the "Methods", which does not conform to the journal format.

Dear Reviewer, The "Results" section was placed in correct space according to the journal format.

2. Many references are incompletely written and, for example, the name of the article is missed (8, 10, 11, ...).

Thank you for your attention. The references was completed and formatted according to the journal rules.

3. Before starting the operation, plant samples should be identified by an academic center and their scientific name should be determined.

Answer: Plant samples have certifications from manufacturer/provider company (Isfahan Pakan Bazr Company. As mentioned in the text, Flax is belonging to **specices:** Linum usitassimum, ***genus:*** *Linum and* ***family:*** *Lineaceae.*

4. In spite of using water as vehicle for mucilage in determining antioxidant activity, why ethanol has been used as control?

Answer: that is a typing mistake. Distilled Water (DW) has been used as control.

5. In Equation 5, the calculated parameter is actually the relative volume of the foam and is not foam stability. Of course, the amount of change over time shows the stability of the foam.

Answer: You are right. Equation 5 was related to "foam capacity" that was not studied in this work. So, the corrected equation was included.

6. In determining the solubility of mucilage, the temperature used is reported to be 70 °C while the corresponding diagrams show the temperature of 100 °C.

Answer: thanks a lot for your attention. It was corrected.

7. It is suggested that in the discussion section, in addition to the differences in extraction methods, the differences obtained from the type of flaxseed be further investigated.

Answer: that is good suggestion. Your comment was implemented. The difference between the flaxseeds was further discussed.

Reviewer 2:
Dear editor,
The present article investigates the effect of different extraction methods on mucilage properties extracted from yellow and brown flaxseeds. The scientific method used in this research is appropriate and purposeful. The results well cover the purpose of the article. Although the overall result of this research is useful for readers, no particular innovation can be seen throughout it, and only a comparison of existing methods has been done, and the end result is an "ultrasonic extraction method is powerful" that we already know! Below I will mention some of the problems seen in the MS text.

1. minor:
-Please check writing problems throughout the article, especially in the abstract. For example in the first sentence: (Mucilage "is" an important polysaccharide with "a broad" range "of physicochemical" properties and antioxidant activity is widely used for various applications in "the medicine" and food industries)

Answer: you are right. The manuscript was revised totally and writing problems were resolved as much as possible.

-Check the numbers in Equation 3

Answer: The equation 3 was edited and explained according to a reference.

-Please add the specifications of the ultrasonic bath device

Answer: The specification of the bath ultrasonic device was added.

2. Major:
-In addition to ultrasonic, the temperature and time parameters are different in the three extraction methods mentioned. Do these differences have no effect on efficiency and the only difference is the presence or absence of ultrasonic waves?

Answer: you are right, but these methods are known (or conventioanl) methods that have themselves specifications (time, temperature, etc.). We only compare their efficiency on extraction of mucilage from flaxseed.

-As you said, mucilage is full of lignin, phenolic, and flavonoid compounds. Does not the heating method, which gives the sample a temperature of 80 degrees for 120 minutes, cause the destruction and removal of the mentioned volatile compounds from the solution? In my opinion, the heating time in the extraction methods can be the reason for some of your observations.

Answer: You are correct. The heating method is a traditional method with lowest extraction yield due to its destructive effect on mucilage quality and quantity.

-At the end, which method do you suggest? Ultrasonic bath or sonotrode?

Answer: generally, the sonotrode method is more appropriate method for extraction of mucilage, because the physicochemical properties of mucilage are maintained.

Reviewer 3:
Dear Editor,
This MS is described " Effect of extraction method on physicochemical properties of mucilage extracted from yellow and brown flaxseeds. This is an interesting study. However, some points need to be addressed before publication.

• All abbreviations have to be defined upon the first use (for example:DPPH)

Answer: DPPH (2,2-diphenyl-1- picrylhydrazyl) is the only abbreviation in the manuscript. It was explained in the text.

• Characteristics of the instruments should be noted.

Answer: the specification and Characterization of the instruments were included.

• Results are very short. Please expand the results.
• In discussion, the differences between the present results and other studies are not compared systemically.

Answer: the results and discussion were further expanded as much as possible.

No file

2 Revision 1

1 comment · 22 May 2022

Editor-in-Chief

ACCEPT 22 May 2022

Dear Authors,

I am pleased to inform you that your manuscript has been accepted for publication in JJNPP in its current form. We will send it to the publisher for further processing.
Thank you for considering JJNPP as a venue for sharing your scientific finding, and we are looking forward to receiving your future valuable scientific findings.

Truly yours,
JJNPP EIC