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| Book Name: | [**Food Science and Agriculture: Research Highlights**](https://www.bookpi.org/bookstore/product/food-science-and-agriculture-research-highlights-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4536** |
| Title of the Manuscript: | **Ultrasound in Food Science** |
| Type of the Article | **BOOK CHAPTER** |

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| PART 1: Comments | | |
|  | Reviewer’s comment **Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | **The work demonstrates the potential of ultrasonic technology in food processing, concentrating on its function in preservation, quality enhancement, and microbiological inactivation. It contributes to the scientific community by proposing ultrasound as a sustainable, non-thermal alternative for food preparation. The study also consolidates recent achievements, providing as a helpful resource for researchers and industry personnel.** |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | **The title, "Ultrasound in Food Science," is broad and lacks specificity regarding the manuscript’s focus on applications and benefits. A more suitable alternative could be:**  **"Applications and Advances of Ultrasound in Food Processing"** |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | **The abstract is generally well-structured but could be clearer and more precise. Here are the key improvements:**  **Suggested Improvements:**   1. **Correct the frequency range (should be above 20 kHz instead of 18 MHz).** 2. **Briefly mention additional applications like extraction and homogenization to provide a fuller picture.** 3. **Refine the conclusion to better reflect both potential and current limitations of ultrasound in food processing.** |  |
| **Is the manuscript scientifically, correct? Please write here.** | **The manuscript is generally scientifically sound but contains some inaccuracies and areas that need clarification:**   1. **Incorrect Frequency Range: The abstract states that ultrasound operates above 18 MHz, but conventional power ultrasound typically starts at 20 kHz. This should be corrected.** 2. **Inconsistent Terminology: Some sections use MHz instead of kHz when referring to power ultrasound. It should be consistently stated that food processing applications mainly use frequencies in the kHz range (20 kHz – 2 MHz).** 3. **Mechanisms of Ultrasound: The explanation of cavitation effects is mostly accurate but lacks details on mechanical shear forces and oxidative effects. A clearer differentiation between stable and transient cavitation would improve scientific accuracy.** 4. **Microbial Inactivation Section: The historical reference to Harvey and Loomis (1929) is useful, but recent studies should be emphasized to reflect the latest advancements in ultrasound-assisted microbial reduction.** 5. **Spore Inactivation: The discussion on endospore resistance is valid, but it could benefit from more details on how ultrasound interacts with hurdle technologies (e.g., pressure, heat, or antimicrobials) for enhanced inactivation.** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  **-** | **I suggest that the authors expand their reference list by including more recent and relevant studies. The current citations are limited and outdated, despite the availability of numerous recent publications in this field.** |  |
| Is the language/English quality of the article suitable for scholarly communications? | The language quality of the article is generally suitable for scholarly communication; however, some grammatical errors and awkward sentence structures should be revised to improve clarity and readability. A thorough proofreading or professional language editing is recommended to enhance the overall quality |  |
| Optional/General comments |  |  |

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| **PART 2:** | | |
|  | **Reviewer’s comment** | **Author’s comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* |  |

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| **Reviewer Details:** | |
| Name: | **Nisserine El Hammadi** |
| Department, University & Country | **Abdelmalek Essaadi University, Morocco** |