

## External examiner's review of a Master's thesis

**Student's name and surname:** Akhilesh Kumar  
**Degree programme:** Food Technology  
**Department:** Department of Food Technology  
**Supervisor of the Master's thesis:** Lazárková Zuzana, doc. Ing. Ph.D.  
**External examiner of the Master's thesis:** Salek Richardos Nikolaos, doc. Ing. Ph.D.  
**Academic year:** 2024/2025

**Title of the Master's thesis:**

Processed Dairy Products with the Addition of a Fruit Component

**Assessment of the Master's thesis using the ECTS grading scale:**

| Assessment criteria                                                                                | Assessment according to the ECTS |
|----------------------------------------------------------------------------------------------------|----------------------------------|
| 1. Fulfilment of the assignment criteria                                                           | <b>A – Excellent</b>             |
| 2. Level of quality of the formal aspects of the thesis, including the level of linguistic quality | <b>B – Very good</b>             |
| 3. Amount, topicality and relevance of the literature sources consulted                            | <b>A – Excellent</b>             |
| 4. Description of experiments and implementation methods                                           | <b>B – Very good</b>             |
| 5. Level of quality of processing of the results                                                   | <b>B – Very good</b>             |
| 6. Interpretation of the results achieved and discussion thereof                                   | <b>A – Excellent</b>             |
| 7. Formulation of the conclusion of the thesis                                                     | <b>A – Excellent</b>             |

**Select the option** the submitted thesis for defence and propose the following assessment:

**A – Excellent**

**Comments on the Master's thesis:**

The thesis by Akhilesh Kumar presents a detailed and well-performed work on the incorporation of mango puree into processed dairy products. The work combines solid theoretical grounding with practical experimental work and applies relevant methods to evaluate the effects of fruit addition on various physical, textural, rheological, and sensory characteristics of the final products. In general, the topic is original, relevant, and reflects specific consumer trends favoring natural and functional ingredients in dairy innovations. The research objectives are clearly articulated and effectively addressed.

The thesis addresses a novel combination; processed cheese with fruit, which is underexplored in European markets. This introduces potential new avenues for product development. The experimental design is logical and robust, involving multiple concentrations of mango puree and two dry matter levels. The analytical techniques used (e.g., rheological analysis, sensory evaluation, texture profile analysis) are appropriate and well explained. Furthermore, the thesis presents detailed discussions on color, pH, water activity, texture, and sensory attributes, supported by data and relevant references. The findings are well compared to existing literature, showing critical thinking and an understanding of the broader context.

However, I have to mention that the omission of specific raw materials due to confidentiality is understandable but slightly limits reproducibility. In addition, there are several formatting issues and minor typographical inconsistencies that detract from professionalism. While the obtained data are well presented, the statistical methods could be more explicitly detailed. It would be beneficial to include confidence intervals or significance testing in comparative discussions. In conclusion the thesis meets the academic standards for a Master's degree, demonstrating the candidate's ability to conduct independent research, analyze and interpret data critically, and contribute meaningfully to the field of food science and technology.

I recommend that the thesis to be awarded the grade of A – Excellent, despite of the minor mistakes mentioned above

**Questions to be asked by the external examiner of the Master's thesis:**

1. What inspired you to choose mango puree specifically as the fruit additive in your study, and did you consider other fruits during your research planning?
2. You observed a decrease in hardness and viscoelastic moduli with increasing mango puree. What do these changes suggest about the product's shelf stability and consumer usability?
3. What would you consider the main limitations of your study, and how would you address them in future research?
4. You recommended testing alternative fruits or plant-based versions. Which fruit would you prioritize next, and why?

In Zlín on 23. 05. 2025

Signature of the external examiner of the Master's thesis