



Confidential

Supervisor's Review of USB RIFCH PhD Thesis

Surname of the PhD student: Hao Ruoyi	Name of supervisor: doc. Jan Mráz, Ph.D.
Title of PhD thesis: Freshness and shelf-life of fish products	

OVERALL COMMENTARY ON THE PhD THESIS

Ruoyi Hao's thesis deals with an important issue of the freshness and shelf-life of fish products. Globally, app. 30% of fish are wasted due to freshness loss and microbial spoilage during post-harvest handling, processing, storage, and distribution. In addition, the quality of fish quickly deteriorates during storage leading to texture deterioration, off-odor, and shelf-life reduction. These cause significant quality decline, economic loss and even threaten the health and safety of consumers. Thus, it is necessary to comprehensively understand the quality deterioration of chilled stored fish and develop effective preservative methods to maintain fish freshness and shelf-life. Ruoyi Hao well addressed these issues in her thesis and five articles published in prestigious journals.

Post-mortem quality changes of common carp during chilled storage from two culture systems were assessed in the paper I (published in Journal of the Science of Food and Agriculture; IF 2020 = 3.639; Q1). A critical review on the use of essential oils against spoilage in chilled stored fish was prepared in paper II (published in Trends in Food Science & Technology; IF 2020 = 12.563; top 1). Coating based on essential oil-emulsion was developed and successfully applied on common carp fillets as preservation. Its effectivity to prolong shelf life was assessed in paper III (published in LWT - Food Science and Technology; IF 2020 = 4.952; Q1). Possibilities to use fish processing byproducts for preparation of gel food and methods for improvements of the gelling properties were assessed in paper IV (published in LWT - Food Science and Technology; IF 2020 = 4.952; Q1) and paper V (published in Food Chemistry; IF 2020 = 7.514; top 5 %).

The thesis is thus composed of 5 published articles in excellent journals. In addition to these included papers, Ruoyi has authored 1 article and co-authored two other articles published in journals with impact factor. Overall, she has published eight papers in scientific journals, out of them 7 in Q1 journals. In conclusion, I strongly recommend her thesis for defense.

FINAL RECOMMENDATION

- ☒ can be recommended for defence of PhD Thesis
☐ can be recommended with reservations for defence of PhD Thesis
☐ can not be recommended for defence of PhD Thesis

29th December 2021, České Budějovice
Date and place

MRÁZ 
surname and signature