



Confidential

Review of USB FFPW PhD Thesis

First name(s), surname, titles of the PhD student: Václav Nebeský, Ph.D.	First name(s), surname, titles of supervisor: Prof. Dipl.-Ing. Pavel Kozák, Ph.D.
Title of PhD thesis: Products from aquaculture: Market, quality and new product development	

REVIEWER:

Surname: Afonso	Institution: Faculty of Veterinary Medicine – University of Lisbon
Name: Fernando	
Titles: prof.	E-mail: fafonso@fmv.ulisboa.pt fafonsof@gmail.com
Please describe your professional relationship to the PhD student: I first met Václav Nebeský, some years ago, in an international conference in Czech Republic where we discussed important aspects related to aquaculture, namely, about new species. Ever since then, we met several times in international conferences related to aquaculture. Also, we made field trips to aquaculture facilities and we visited public institutions. In summary, we have a professional relationship, and aquaculture has always dominated our interests and discussions.	Please describe your field of expertise: Aquaculture and Pathology

QUESTIONNAIRE

Originality, scientific importance, perspectives and impacts of results presented in the PhD thesis for basic and/or applied research

Evaluate competitiveness of the PhD thesis in the international context and compare its level with the current state of the art in the field (extent ¼ – ½ page):

A large amount of work was carried out, the results are correctly presented and scientifically sound.



The futures perspectives that result from this work are properly well presented in a very objective, concise and scientific manner, which is highly recommended in a PhD thesis.

The topic of the PhD thesis presented by Václav Nebeský is highly innovative, and therefore adequate for the development of a PhD project.

This thesis shows the important work of Václav Nebeský, including the development of new products from aquaculture. This work obtains results with consequences for the regional and also national economy. The new products, with high quality, contribute to increase the economy that results from aquaculture products. Also the results that were obtained, will have an extraordinary positive impact, namely, for the research of new products and for the success of aquaculture.

Elaboration of the PhD thesis, objectives of the work and deliverables

Evaluate the overall level of elaboration of the PhD thesis (structuring of the main text, comprehensibility, logicity of the chapters and their ordering) and the originality of the selected approaches to solve the objectives; evaluate publications and whether the results described correspond to objectives of the PhD thesis (**extent ¼ – ½ page**):

The doctoral thesis is extremely well presented, was very well planned and very well structured. Also, it is correctly written, and it is very coherent along the papers and throughout each of the chapters that are included in this work.

The proposed aims of the studies developed under the scope of this PhD thesis were reached. The original strategy and approach catch the attention of those that want to develop and to acquire knowledge.

The excellent scientific level of the research work developed under the scope of this thesis is also demonstrated by the preparation of several important publications as a novelty in the area of aquaculture.



OVERALL COMMENTARY ON THE PhD THESIS

Please write comments in extent of 1-2 pages:

The Doctoral Thesis presented by Dipl.-Ing. Václav Nebeský for admission to the degree of Doctor of Philosophy (Ph.D.) at the University of South Bohemia in České Budějovice, Faculty of Fisheries and Protection of Waters, is extremely well presented, very well structured, written, and very coherent. This PhD thesis includes extremely relevant information regarding the evaluation of market and quality of products from aquaculture as well as the way of new product development. It comprises a general introduction chapter that consists of an updated literature review on the most important aspects related to seafood, including the quality and new product development, and where the aims of this PhD thesis are presented. The summary of the PhD project describes very clearly the main findings of this study. Afterwards, all the work developed as part of this PhD project is presented in a list of publications, namely, peer-reviewed journals with IF and presentations in international conferences that resulted from it, and published in important scientific journals in the area. As referred in chapter 2 (paper I), Václav Nebeský has shown the changes in market, volume and value of fish imported and exported in a period of six years in the Czech Republic. In the second part of the work (paper II), metal and microelement concentrations, are compared in fishery products produced in Czech Republic and from foreign sources, with the objective to assess their suitability as human food. The third and the fourth papers (chapters four and five), include one of the goals of this doctoral thesis that were the applied results in the form of newly developed products using fish meat, less valuable parts of fish and wastes from fish processing. Due to the nature of these applied results, their registration was done in the form of utility models with the Industrial Property Office of the Czech Republic. In paper five and in paper six (chapters six and seven), within the framework of doctoral studies, certified methods were created for the taxidermy of fish using waste unsuitable for human consumption. These documents are very thorough and include pictures of an excellent quality that provide an exceptional pedagogic tool. These monographies dealing with this way of fish taxidermy and of fish head taxidermy have not been published in the Czech Republic so far. In paper six (chapter 7), the methodology of the fish head taxidermy is a follow-up to the already published methodology titled Whole Fish Taxidermy (Nebeský and Bláha, 2012) which was supplemented with new procedures. A large amount of experimental work was carried out, the results are correctly presented and scientifically sound and a stimulating discussion is presented along the papers and in the General Discussion. Václav Nebeský summarizes futures perspectives resulting from this work and presented the general conclusions in a very objective, concise and scientific manner, which is highly desirable in a PhD thesis.

The topic of the PhD thesis presented by Václav Nebeský is highly innovative, and therefore adequate for the development of a PhD project. Furthermore, the proposed aims of those studies were reached.

A large amount of experimental work was carried out. Also, besides this work, the PhD candidate was also involved in other team work that resulted in the publication of a number of articles and other works referred in chapter eight. This shows the extraordinary involvement of Václav Nebeský, namely, in the development of new products from aquaculture and his outstanding innovative and scientific skills connected with research and development within this area of



knowledge. This thesis shows that Václav Nebeský acquired solid theoretical concepts in different and complimentary fields and has developed sound and cutting edge experience. Also, the way the results are presented, the rigorous approach, the explanation of results, and the stimulating discussions show the scientific maturity of the candidate.

In conclusion, this doctoral thesis is worth for Václav Nebeský to be awarded the PhD degree.

FINAL RECOMMENDATION

- PhD Thesis can be recommended for defence
 PhD Thesis can be recommended with reservations for defence
 PhD Thesis can not be recommended for defence

University of Lisbon, Faculty of Veterinary Medicine

Lisbon, the 6th June, 2017

Fernando Afonso
(Professor)



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Review of USB FFPW PhD Thesis

First name(s), surname, titles of the PhD student: Václav Nebeský, Dipl.-Ing.	First name(s), surname, titles of supervisor: Prof. Dipl.-Ing. Pavel Kozák, Ph.D.
Title of PhD thesis: Products from aquaculture: Market, quality and new product development	
REVIEWER:	
Surname: Navrátil	Institution: University of Veterinary and Pharmaceutical Sciences Brno, Czech Republic
Name: Stanislav	
Titles: Prof. MVDr. CSc.	E-mail: NavratilS@VFU.cz
Please describe your professional relationship to the PhD student: I do not know The student	Please describe your field of expertise: Diseases of fish and bees

QUESTIONNAIRE

Originality, scientific importance, perspectives and impacts of results presented in the PhD thesis for basic and/or applied research

Evaluate competitiveness of the PhD thesis in the international context and compare its level with the current state of the art in the field (**extent ¼ – ½ page**):

The increasing consumption of aquaculture products need new information of their market, quality and new products. The knowledge about it is very important. Very important is also development of new products for increase of the attractiveness these products. Very beneficial is also the manual for fish taxidermy. From these points of view, the item of the submitted thesis is well-taken and very topical.

Elaboration of the PhD thesis, objectives of the work and deliverables

Evaluate the overall level of elaboration of the PhD thesis (structuring of the main text, comprehensibility, logicity of the chapters and their ordering) and the originality of the selected approaches to solve the objectives; evaluate publications and whether the results described correspond to objectives of the PhD thesis (**extent ¼ – ½ page**):



The submitted study is written as a collection of one published paper in scientific journal with impact factor, one manuscript, two utility models and two published methods. The review of references corresponds with the needs of the study and contains all necessary data for the orientation in problems. Methods of the investigation are well-taken and standard. The used methods are mostly well described and make repetition possible. Results are valuable and extend the current knowledge.

OVERALL COMMENTARY ON THE PhD THESIS

Please write comments in extent of 1-2 pages:

Aquaculture is a very important branch of agriculture. The knowledge about trends in the market with aquaculture products is very important for producers, dealers and development of new products. Information about concentrations of metals and microelements in domestically produced and imported fishery products sold in the Czech Republic is very important from the view of health safety of these products. Submitted utility models enable the development of new products. Published methods of fish taxidermy represent very good manual.

The submitted study is written as a collection of one published paper in scientific journal with impact factor, one manuscript, two utility models and two published methods. The study is completed with special subchapters of general introduction, general discussion, English and Czech summaries, acknowledgements, list of publications, training and supervisors plan during study and curriculum vitae. It has 148 pages. The whole study is carefully written with minimum of formal imperfections.

The general introduction is the first part of chapter one and makes the reason of investigation clear and presents aims of the study. The aims are summarised in four points. Fish taxidermy is not present as aim of the study. On the basis of the evaluation of the results it is possible to state that all the above-mentioned points were realised.

The review of references corresponds with needs of the study and contains all necessary data for the orientation in problems.

Methods of the investigation were well-taken and standard. All used methods are very well described.

Results of all investigations are very valuable and extend the current knowledge on the development in market with aquaculture products, development of new products and methods of fish taxidermy.

The obtained results are discussed with appropriate literature sources.

The summary briefly repeats the results and presents future perspectives.

I have the following note or question:

1. What explications and recommendations for the practice result from the study?

The submitted study is carefully made and witnesses the high professional and scientific level of the aspirant and brings new knowledge.

The presented study fulfils requirements for Ph.D. thesis and therefore I **recommend** it for the defence and after it I **agree** with the conferment of the degree "Doctor".




Fakulta rybnářství
a ochrany vod
Faculty of Fisheries
and Protection
of Waters

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice
Czech Republic

FINAL RECOMMENDATION

- PhD Thesis can be recommended for defence
 PhD Thesis can be recommended with reservations for defence
 PhD Thesis can not be recommended for defence

Brno, 26. 6. 2017
Date and place


Prof. MVDr. Stanislav Navrátil, CSc.
Name and signature