“Assessment of potential value of sea scallop viscera hydrolysate as specialty aquaculture feed and marine nutraceutical ingredients.”

Lead PI: Dr. Chong Lee—University of Rhode Island

1. How closely did the research team follow the original planned scope of work?

The original plan was followed with minor changes, mainly due to findings or additional work to support objectives. Objective 1 was carried out as described. In objective 2, saxitoxins were determined and found to be well below the FDA limits. In objective 3 the authors added a feeding trial with European sea bass and a comparison between wet and dry hydrolisates for feeding performance. The other objectives were followed as planned.

2. If there were differences between scheduled and completed tasks, did the project team address these and explain why there were differences?

The team explained the addition of feeding trials and explained the lack of toxins because of the clean state of the waters where the scallop was harvested.

3. In the results, analysis, and discussion sections of the report, did the team answer their original research question(s)?

The team answered the original questions: Whether it would be technically and economically feasible to produce scallop hydrolisates with nutraceutical properties that could have good feed conversion and thus could be used effectively in aquaculture and other products. The only part that lacked more analysis was the market potential. This is understandable since this would encompass a lot of work and maybe more long term.

4. Were analytical techniques appropriately used? Was the experimental methodology statistically sound and supportive of the conclusions drawn?

The statistical design and analysis of each of the experiments, when needed was sound and the results supported the conclusions of the scientists.
5. Was the raw data included in the appendix complete?

The raw data was not included in the report I got.

6. Was the information clearly presented? Were figures and tables appropriately used?

The information presented was clear and concise. The data (tables, figures, etc) were complete, and agreed with what was presented in the discussion and conclusions.

7. In the discussion section, did the team offer comments on results including observations made while conducting the research; explanations of why a particular gear, sampling strategy, or laboratory technique may or may not have worked as anticipated; how project research results may have advanced the knowledge base about the research topic area; and ideas about follow up research?

The discussion and the methods explained very well any observations that the researchers found. The researchers summarized the major findings and a list of possible future work activities.

This is a well done project; the researchers did an excellent job of following their objectives and determining the best approach. This was to a large extent because of the completeness of the proposal.
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1. How closely did the research team follow the original planned scope of work?

The research team followed the original plan of work except where noted, principally with the market analysis. This would be very important given the positive results of the work and the importance of finding alternative protein ingredients for aquaculture feeds.

2. If there were differences between scheduled and completed tasks, did the project team address these and explain why there were differences?

Yes

3. In the results, analysis, and discussion sections of the report, did the team answer their original research question(s)?

Yes they did.

4. Were analytical techniques appropriately used? Was the experimental methodology statistically sound and supportive of the conclusions drawn?

Yes, appropriate experimental design, statistics and methods were used. Feeding trials were run for an acceptable period of time to provide enough growth for interpreting variance of diet/nutritional performance.

5. Was the raw data included in the appendix complete?

I did not see any raw data in an Appendix – nor would I think it necessary unless this was a program requirement.

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6. Was the information clearly presented? Were figures and tables appropriately used?

Yes

7. In the discussion section, did the team offer comments on results including observations made while conducting the research; explanations of why a particular gear, sampling strategy, or laboratory technique may or may not have worked as anticipated; how project research results may have advanced the knowledge base about the research topic area; and ideas about follow up research?

Yes they did, however it was not in a traditional “discussion section” more of this was found in the summary of results section and then in the document under assessment of results. They also laid a detailed plan for follow up research. Overall I think this was a good project with good data that would form the foundation for further work. It is incumbent on the seafood industry (wild capture and aquaculture) to use us much of the protein and by-products as possible for their highest and best use.
“Assessment of potential value of sea scallop viscera hydrolysate as specialty aquaculture feed and marine nutrceutical ingredients.”

Lead PI: Dr. Chong Lee—University of Rhode Island

1. How closely did the research team follow the original planned scope of work?

   This project was well done and provides a platform for adding value and increasing the utilization of scallop viscera. This project encompasses a lot of work and follows the initial research proposal fairly well.

2. If there were differences between scheduled and completed tasks, did the project team address these and explain why there were differences?

   No major variation from what was initially outlined except as noted on page 3.
   The analysis of the product(s) market potential is difficult to determine in the time frame of this project.
   The rational given appear adequate.

3. In the results, analysis, and discussion sections of the report, did the team answer their original research question(s)?

   Overall these investigators did a nice job from the collection and characterization of scallop viscera to making hydrolysates, to assessment of a safety concern and biological activities of the hydrolysates, to aquaculture feeding studies, and finally some economic estimate of the cost to produce scallop viscera hydrolysate (II-6-8).

4. Were analytical techniques appropriately used? Was the experimental methodology statistically sound and supportive of the conclusions drawn?

   The chemical analysis appears to meet the standards used in this type of research.
   The statistical analysis, when presented, appears sound.

5. Was the raw data included in the appendix complete?

   The raw numbers for the data were not included in the report as downloaded.
   This reviewer does not expect to see raw numbers, but does expect to see analyzed data as was presented in
6. Was the information clearly presented? Were figures and tables appropriately used?

The information is clearly presented. There are 10 figures and 9 tables and a number of illustrative pictures in the report. Table 4 is an example of a useful table and includes statistical analysis. It would have been useful to include estimates of variation on many of the figures. This is a data dense final research report.

7. In the discussion section, did the team offer comments on results including observations made while conducting the research; explanations of why a particular gear, sampling strategy, or laboratory technique may or may not have worked as anticipated; how project research results may have advanced the knowledge base about the research topic area; and ideas about follow up research?

The overall report is very satisfactory; the write up is logical and easy to understand. The project advances the knowledge of the composition of viscera and some aspects of the scallop viscera utilization. In the view of this reviewer is this project is an example of funds well spent.