

**GENE EXPRESSION PROFILING BETWEEN POND and CAGE
CULTURED SIAKAP (*Lates calcarifer*)**

Syahirah Binti Mohd Ariff

**This project report is submitted in partial fulfillment of the requirement of the
degree of Bachelor of Applied Science (Fisheries)**

**FACULTY OF AGROTECHNOLOGY AND FOOD SCIENCE
UNIVERSITI MALAYSIA TERENGGANU**

2007

This project report should be cited as:

Syahirah, M. A. 2007. Gene expression profiling between pond and cage cultured siakap (*Lates calcarifer*). Undergraduate thesis, Bachelor of Applied Science in Fisheries, Faculty of Agrotechnology and Food Science, Universiti Malaysia Terengganu, Terengganu. 41p.

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ACKNOWLEDGEMENTS

Assalamualaikum w.b.t. First of all, I would like to thank Allah s.w.t for giving me the strength and faithfulness on focusing and finishing my final year project. Also to my restless supervisor, En. Shahreza Md. Sheriff, thank you for the supervision, assistance, comments, supports and guidance to me to complete this project eventhough many problem occured.

Unforgettable to Puan Nur Asma Ariffin, lecturer of Biotechnology from Faculty of Agrotechnolgy and Food Science, Universiti Malaysia Terengganu for her motivation, guidance an advice even help me a lot to faced my personal problems. Thanks also to En. Shahrul Ali, Laboratory Assistant of Anatomy and Physiology Laboratory for his permission to use the lab

I would like to send my gratitude to all my friends, for giving me moral support during all this session. To all friends who helped me, thank you. Your kindness would not be forgotten.

And the last but not least, to my parent En. Mohd Ariff Hassan and Pn. Rahimah Abu Hanifah and also to my siblings, you are the one who make me push myself until this level. Without all of you I wouldn't be here, studying here. Thank for the patience, moral support, financial, education, and the love that you give to me. I love you all.

ABSTRACT

Siakap or *Lates calcarifer* is one of the important cultured fish in Malaysia. Because of the significant value, a study was done to determine the gene expression profiling of cage cultured and pond cultured Siakap, *Lates calcarifer* and to identify the differentially expressed genes between cage and pond cultured Siakap, *Lates calcarifer*. Sample of fish ranged from 300 to 800 gram was obtained from two different cultured conditions. Several steps have been taken starting from the RNA extraction, followed by reverse transcription. Then, the cDNA obtained were subjected to PCR amplification by using five arbitrary primers, which are arbitrary primer 3, 6, 9, 12, and 15. Results shows differentiation in gene profile between pond and cage cultured siakap after PCR amplification by using arbitrary primer 3, 6, and 9. The amplification by using arbitrary primer ACP 3 produced two and four fragments for cage and pond cultured siakap cDNA respectively. The difference can be seen at the size of 450bp, 330bp and 250bp. On the other hand, the amplification by using arbitrary primer ACP 6 produced seven cDNA fragments. The difference can be seen at the size of 400bp, 300bp and 150bp. Meanwhile, by using primer ACP 9, there were five cDNA fragments produced and the difference can be found at the size of 400bp, 270bp and 100bp. However, no difference was seen when amplified using arbitrary primer ACP 12 and 15. Overall, the genes of pond cultured siakap were more up-regulated compared to the cage cultured. It is predicted that some water treatment that have been done to pond body water might affect and influenced the fish performance in pond.