



STAC

SEPANG TODAY AQUACULTURE CENTRE

(NS0031400-X)

Marine Fish Farming Course



Marine Fish **Farming**

And **Hatchery Operation** Course

Course Contents:

1. Biology and ecology of fishes
 - a. Reproduction of fishes (Sea-Bass, Tiger Grouper [[sample video clip](#)]*, Red Snapper)
 - b. Sexual reversal in fish and gonad development in fish
2. Farm design and floating cage design
 - a. Pond tank and Hapa net
 - b. Bio-filter design
 - c. Floating cage
 - d. Green House HDPE Liner Pond
3. Nursery for fish fries.
4. Pond and ecosystem
 - a. Balanced ecosystem and pond dynamics
 - Chemical factors
 - Biological factors ,and
 - Physical factors.
 - b. Water sources and treatment

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5. Chemicals used in fish farming and dosage of application
 - a. ppm, mg/l, ppt and etc.
 - b. Lime and liming, insecticide application, and etc
 - c. Fertilizers: organic and inorganic
6. Water test kits ,microscope and instrument application
 - a. pH meter ,pH universal solution, pH soil tester.
 - b. Alkalinity tester, iron tester, chlorine tester, Ammonia tester and dissolved oxygen
7. Feed and feeding
 - a. Live feed culture – rotifer (L-rotifer, S-rotifer, SS-rotifer - [sample video clip01](#), [sample video clip02](#))*, copepod culture and algae culture, artemia and Chironomid larvae
8. Harvest and packing for sale.
9. Production cost and analysis
10. Disease, pests and control
 - Virus, bacteria, fungus, protozoa fluke - worm lice and anchor worm and etc.
11. Assessment test and Q&A

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12. Practical works at farm for water analysis

- pH ,D.O. ,iron test and etc.
- Use of microscope for plankton identification - red tide dinoflagellate
- Anatomical study for marine fish :red snapper or grouper or sea bass
- Hatchery breeding and induced spawning of marine fish.



Cage culture at Pulau Ketam – Malaysia biggest marine cage culture area



Sea bass larva during transferring from indoor tank



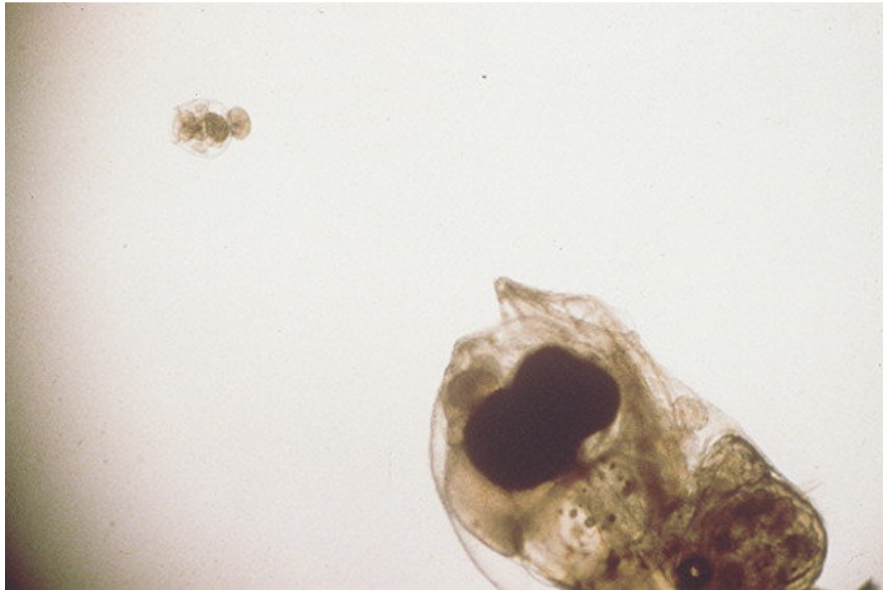
Harvesting of tiger grouper for packing and delivery



Brooder stock of sea bass



5 day old tiger grouper larvae under microscope



5 day old tiger grouper under microscope – Feeding with SS-rotifer



Tiger Grouper - A high valued species very popular in Malaysia

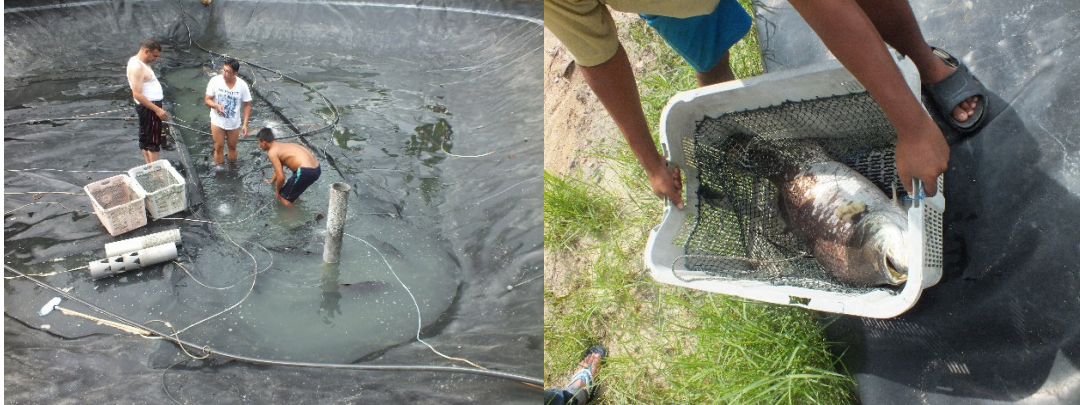


Tiger grouper - A high valued marine fish



Marine floating cage farming – A good investment in Malaysia

Biology, farming and breeding of Grouper. Cannulation of Seabass, Snapper and Grouper



Practical works for study the diseases and with treatment of Marine Fishes. Packing and counting of fish fries of hybrid grouper.





A modern Indoor RAS Hatchery



Green House Hatchery Production of Hybrid Grouper Fries

A JV Indoor RAS Nursery of Marine Fish Fries with Indoor RAS and Biofloc Technology



Hands on practical works for the participants at floating cages. Field trips at Sepang River of Bagan Lalang as a study tour for the participants



Indoor RAS Grouper Farming at STAC used for hands on practical works for the participants



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