Spawning and nursing of sea cucumber *Holothuria scabra* (sandfish) in Vietnam

Rayner Pitt

Spawning of sea cucumber *Holothuria scabra* (sandfish)- Broodstock acquisition

wild-collected broodstock generally small

difficult to spawn although often seem ripe

ongrown in ponds or seabed pens they become much easier to induce

Rayner Pitt- UK

Spawning of sea cucumber *Holothuria scabra* (sandfish)- Spawning induction

induction methods include temperature changes, drying, water jetting, UV, dried algae, etc

spawn all round the year (latitude 12°N)

Rayner Pitt- UK

Hatchery, larval rearing, small juveniles

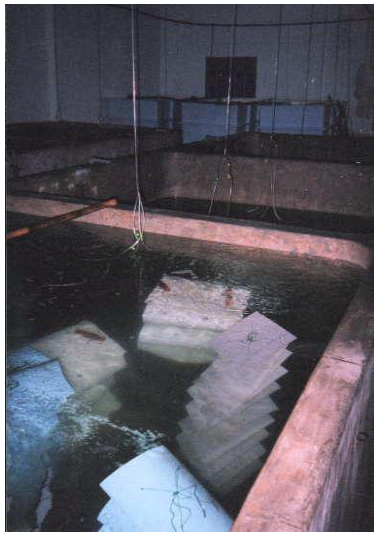
- stock up to 1egg /ml indoors in large tanks
- carry out only partial exchanges, 1μ filters, EDTA
- feed mixture of phytoplankton species as available
- put in pre-conditioned plates at metamorphosis
- add dry algae added after settlement
- control copepods in later stages

Rayner Pitt- UK

Outdoor algae culture to feed auricularia larvae

Settlement plates

stacks of plates are conditioned outdoors for a few days in benthic diatom culture, or painted with a paste of dry spirulina and water, and then dried.'



Rayner Pitt- UK

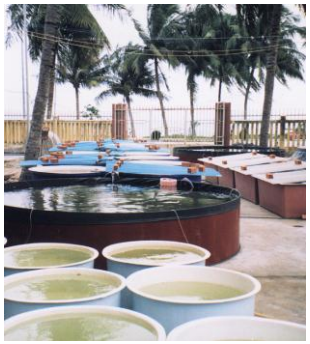
Small juveniles go out to first nursery

After 1-3 months indoors (depending on space) small juveniles are transferred outdoors for first nursery. They are about 1-2mm long (sesame seed size).

- removed on plate stacks *or*
- siphoned/washed off tank floor and walls and caught on 250µ screen

They are put outdoors in bare shaded tanks (filled 3-5 days earlier with unfiltered seawater), with as much water flow as possible. The shading is gradually reduced.

Rayner Pitt- UK



First nursery tanks

good 1st-nursery results were achieved using fine-mesh hapas in earthen ponds

Harvest juveniles after first nursery

Not usually more than 200-300 nursed juveniles/m^2

Survival variable

Wide size range from tanks (100mg - 5g)

Rayner Pitt- UK

Second nursery

Type of tanks used in second nursery

Sandfish juveniles after second nursery

Rayner Pitt- UK