

# Spat collection

By MB Surtida

The culture cycle of oyster and mussel is a year from spat collection to harvest. Its culture is divided into two stages: (1) spat collection and (2) growing or culture. Spat collection is the most critical part of the operation.

## Spat collectors

Substrate materials for oyster and mussel may be used as spat collectors. Generally, spat occurrence is associated with salinity. Fluctuation of temperature during rainy season also triggers spat occurrence. It has been observed that *Crassostrea iredalei* and *S. tuberculata* (both tropical oysters) spawn 15 hours after lowering of temperature from 28 to 24°C, implying that temperature drop may be a stimulus for spat occurrence. Direct effect of salinity alone is not very clear but experts reported that tropical bivalves have been induced to spawn in 3 to 5 days by lowering salinity from 34 to 24 ppt.

In the Philippines, oyster and mussel farmers already know the months of spat occurrence through experience. For oyster for instance, they correlate spat occurrence with some environmental factors such as presence of barnacles on the spat collectors, yellowish and itchy water, mixing of sea and freshwater, and presence of water bubbles. For mussel, spat occurrence is more pronounced. Presence of barnacles on the collectors seems to precede mussel spatfall. Barnacles is a good and practical indicator. Mussel spat is confirmed by visual inspection of the spat collectors that become rough with the presence of green, grain size spots.

But spat collectors may also be deployed to monitor the amount of spats. This will serve as spat prediction tool. Fifty spat attachments on each shell collector signals the correct time to deploy spat collectors.



### Identification of oyster spat.

*Oyster spats are greenish brown attachments on the oyster shell that are nearly flat compared with barnacles that protrude.*

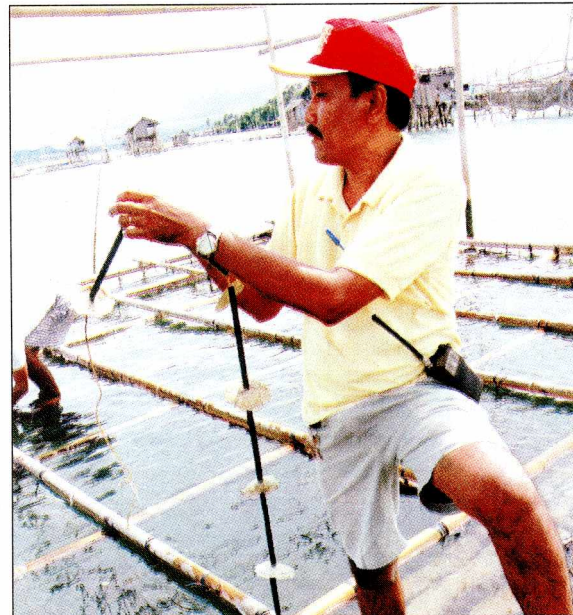
This will avoid deployment of spat collectors that will only gather barnacles.

### Oyster spat collectors

For bottom culture, use empty oyster shells and stones

For stake culture, use bamboo poles and branches, nipa petioles, palm wood, mangrove tree branches

For rack culture, use bamboo poles, strung shells, old tires, straps (plastic, nylon, rubber)



### Mussel spat collectors

For bottom culture, collect spat from bays using bamboo poles and transport to the farm site after 1-2 months. Remove spat from bamboo poles and lay them on the bottom.

For stake culture, use abaca ropes, coco wood, nipa petioles

For raft culture, use *cabo negro* or black natural fiber, coconut husk



LIST OF REFERENCES WILL BE PROVIDED UPON REQUEST



*Mr. Ruben Rabe, Department of Agriculture Municipal Agricultural Officer handles a spat collector.*

*Spat collectors for prediction purposes are made of ten empty oyster shells placed 10 cm apart by PVC pipes 0.25 in diameter on nylon cords.*