

CMFRI

*W. K. S. S.*

WORKSHOP ON

# MUSSEL FARMING

25 - 27 SEPTEMBER, 1980

MADRAS



CENTRE OF ADVANCED STUDIES IN MARICULTURE

**CENTRAL MARINE FISHERIES RESEARCH INSTITUTE**

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TECHNICAL SESSION III MUSSEL CULTURE ; CMFRI-CAS/MF/80/BP-9  
TECHNOLOGY ;

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MUSSEL SEED COLLECTION AND PRODUCTION

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PRESENT STATUS

All leading mussel farming countries in the world producing annually 330000 tons (weight in the shell) of mussels depend on natural seed resources to meet their requirement of seed, whether it is for bottom culture (Netherlands), bauchot culture (France), raft culture (Spain), rack culture (Italy) or submerged pole culture (Phillippines). Hatchery system of mass seed production, therefore, has not become necessary unlike in the culture of other edible molluscs like oysters, clams and abalones wherein suitable techniques are employed by the industry. While the above systems confer specific advantages like production of fast growing and disease resistant strains through cross breeding and immunisation, mussel culture industry goes on without any need for such developments, since none of the mussel farming countries has experienced shortage of natural seed supply so far. The mussel spat settle down and colonise the intertidal rocky areas as well as hard substrata of the subtidal zone.

Myriads of seed thus available are easily collected by simple inexpensive methods like picking or scraping.

From table 1 below it may be noticed that in many countries spat collection by employing collectors, mainly synthetic ropes is also being done.

TABLE 1. MUSSEL SPAT COLLECTION METHODS EMPLOYED IN DIFFERENT COUNTRIES

Country	Seed collection methods
1. Australia	Spat collection by suspending ropes
2. France	Horizontally stretching coco fibre ropes under sea water; erecting Pine-poles in shallow flats
3. Germany	Suspending ropes of different diameters
4. India	Natural beds; suspending frilled ropes (nylon and coir); employing roofing tiles; laying concrete blocks
5. Italy	Natural beds; employing artificial spat collectors.
6. Ireland	Spat transported from Scotland
7. Netherlands	Natural beds
8. Newzealand	Suspending 'Sisal' ropes; twigs.
9. Norway	Suspending 'Polypropylene' ropes
10. Philippines Thailand	Deploying bamboo structures erected over shallow flats
11. Scotland	Suspending 'Coir' ropes
12. Spain	Natural grounds; suspending synthetic fibre ropes from mussel Parks.
13. Venezuela	Natural grounds; suspending synthetic fibre ropes from mussel Parks.

## GENERAL CONSIDERATIONS

Mussels which settle down on natural beds often do not grow there satisfactorily from a variety of causes. Prolonged exposure of such intertidal beds during low water neap tide destroys the seed stock. Silting of such areas due to sand and mud thrown in by wave action engulfing and destroying colonies of mussel spat season after season is another adverse factor. With increasing industrialisation of coastal belts the danger of coastal pollution upsets the ecosystem thus creating problems for seed settlement and survival. This problem is particularly relevant to advanced countries where the coast line is restricted. In India this problem has not become acute so far. The above considerations would naturally imply that in the distant future hatchery seed production may have to be restored to for an assured seed supply. Apart from reports of efforts in mass production of mussel spat in Polynesia (Aquacop, 1980) and laboratory experiments summarised by Bayne (1976) there appears to be no other attempts for controlled mussel seed production. This gap in our knowledge needs to be adequately filled.

Another aspect demanding attention is the development of standardised technique for the transport of mussel seed from areas of availability to distant farm sites. For a country like India with a long coast line and two distinct monsoon periods for the west and east coast the above technique may become invaluable especially because of the paucity of green mussel resources along the east coast. There is an element of uncertainty of seed availability

along east coast since the breeding stock is thin and restricted to certain strips. The spawning season of east coast mussel happens to be just 3 months prior to the outbreak of north east monsoon and the seeded stock may be destroyed by the active monsoon winds and choppy sea. The seed settlement in west coast is in October-November when mussels of size 25-30 mm can be collected and safely transported to farming sites in east coast. This would enable seeding in December-January period which happens to coincide with the abatement of North east monsoon. The rafts can also be safely floated and mussels grown to market size in a period of 4-5 months. The abundant, unutilized seed resources of west coast area from Cochin-Malabar-South Kanara zone can be purposefully utilized. In the intensive development programme of mussel culture management of seed resources is one of the priority areas for attention.

#### REFERENCES

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