



# Fish technology

## NEWSLETTER

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# Sea Urchins—The Spiny Attractions from Sea

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Sea urchins are a large group of tiny marine invertebrates which have numerous spiny projections giving them an awesome look. These distinctly coloured projections function as defence weapons and also aid in the animal's movement.

The quest of man in exploring the sea for identifying new products to satisfy his stomach has led to the utilization of this spiny animal as food. Sea urchins are generally found in shallow sea waters with rocky bottoms. The heart or disc shaped sea urchin has its mouth on the ventral side and the internal organs are enclosed in

a rigid shell called 'test'. The other important part called 'Aristotle's lantern' located close to the mouth helps the animal in feeding. The numerous tubular 'legs' help the animal not only in locomotion, but also in respiration and transportation of food and waste.

The commercially important part of the animal is the highly coloured mature gonads (otherwise called as roe) which are attached to the top of the 'test'. Good sized gonads sometimes weigh upto 1/4 the weight of the whole body. The roe is scooped out after opening the 'test' and is eaten as such (in

Japan) or with one or two drops of lemon juice. Harvesting & processing the sea urchins at the appropriate stage of cycle are the most important steps in getting good return from this resource. After harvesting the sea urchins, the shell has to be removed within 4-6 hours and kept under refrigeration or indirect icing. The roe is graded by its colour, with bright orange roe considered as the best grade. The colour changes to a pale tinge depending on its fat content.

Japan and Korea are the two largest consumers of sea urchin roe. Because of the heavy demand and better returns, many other countries have started exporting this valuable product. Though frozen roe is acceptable, the preference is for fresh roe, which is airlifted in refrigerated containers, a practice which is practised by most exporters.

through Backward Castes Corporation. Adopters of Kerala and Karnataka, on the other hand, had to borrow for initial deposits at money lender's rates. This element added to the capital cost.

Input subsidy in the form of supply of fuel at ration rates contributes to the economic viability of the adoption. It is found that significant regional variation exists in providing this much needed item of state support. In Karnataka and Kerala kerosene run motors are eligible for ration rates. The diesel-run catamaran do not come under the purview of input subsidy. In Tamil Nadu, most motorised craft depend entirely upon open market supply of fuel at market rates. Fishermen in Andhra

who have mostly diesel-run motor get the fuel at reduced rates on the basis of permits. The difference in practice of input subsidy result in differences in cost of fishing. In product market where prices of fish is entirely decided by market functionaries, the added cost of operation affects the competitive strength of one region against the other.

The state support to adoption is sometimes criticised as less efficient technologies of doubtful credit worthiness. Without totally disputing the critics, it can be asserted that the state support minimises the time loss between the release of technology and its adoption. Here critically, the state support enables

the less endowed of fishermen to benefit from improved technology. In the absence of state support, it would be the better endowed who would take the lead in adoption, aggravating already existing disparities.

While the state support is an undeniable component of technology adoption, regional variation can create, (a) discriminating capital cost & (b) comparative disadvantage of operational cost without adequate compensating price variation. It is not difficult to evolve a uniform structure of state support to fisheries, if adequate communication is maintained between different state administrations.