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Training Programme on Histamine and Indole in Seafoods

A two-day training programme was conducted on the "determination of histamine and indole in seafoods" at Veraval Research Centre of CIFT during November 18-19, 1996. Mr. R. Ramanandan, Director, (Retd.) Fisheries Terminal Division, Govt. of Gujarat, inaugurated the programme.

This programme was aimed for quality managers and technologists from the fish processing industry. The purpose of the training was to train the personnel in the methodologies of estimation of histamine and indole and to highlight the importance of qual-



Mr. R. Ramanandan, Director (Retd.), Fisheries Terminal Division, inaugurating the training programme

ity in view of HACCP and EC regulations.

Histamine is a break-down product of amino acids present in fish proteins through enzymes of bacteria (*Morgenella moroanii*). Mostly scombroid fishes such as tuna, seer fish, mackerel, sardine, anchovies, herring etc are associated with histamine poisoning.

Indole is an important decomposition product of shrimps. Indole production in shrimps is supposed to be the action of bacteria like *Proteus morganii* and *E. coli* on shrimp protein. Many bacteria contain the enzyme tryptophanase, which acts on the amino acid tryptophan to produce Alanine and Indole. Though the bac-

teria could be destroyed by freezing, the indole formed due to bacterial action cannot be removed. Hence it is considered that the amount of indole present is proportional to the extent of decomposition and also an indication for presence of faecal bacteria like *E.Coli*. Its maximum limit is 25 microgram/100g. Production of histamine and indole can be minimised with proper icing and handling of fish and prawn.

Estimation of histamine and indole was done by using calorimetric method. Samples of tuna and prawns were analysed by the trainees. The scientists of processing section were the faculty members for the training

programme. Twenty one participants from various fish processing plants of Veraval, Mangrol, Dwaraka and Porbandar participated in it. Detailed hand out on the theoretical aspects, reagents required, methodology, calculations, etc was given to the trainees. The feed back on the programme showed that the programme was very useful for the better quality assurance of sea foods. The participants also suggested some useful future training programmes.

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