



Canning and smoking operations

29.3.4 Smoking

In this method, landed fish is cleaned and brined. It is then exposed to cold or hot smoke treatment. In cold smoking, first a temperature of 38°C is raised from a smokeless fire. After this heating, cold smoke at a temperature below 28°C is allowed to circulate past the fish. In case of hot smoking, first a strong fire produces a temperature around 130°C. This is followed by smoking at a temperature of 40°C. The smoke has to be wet and dense. Good controls are necessary over density, temperature, humidity, speed of circulation, pattern of circulation and time of contact with fish of the smoke. The phenol content of the smoke acts as an antiseptic and it also imparts a characteristic colour and flavour. For making fire and smoke, only hard wood (Conifer wood, Saw dust etc.) are used.

29.3.5 Canning

Canning is a method of preservation in which spoilage can be averted by killing micro-organisms through heat. Oily fish are the most suitable for canning. Salmon, tuna, sardine, herring, lobster, shrimp, etc. are canned. The raw material should be processed properly since it contains most dangerous *Clostridium botulinum* which should be destroyed. There are some other heat resistant bacteria like *Clostridium sporogenes* which can be eliminated at a temperature of 5 - 6 times more than *Clostridium botulinum*. It needs a temperature of 120°C for 4 minutes or at 115°C for 10 minutes to kill them in large numbers.

Canning is done by putting cleaned dressed and cut fish into a saline solution. The cans holding the fish and the saline are then double seamed under vacuum. Thereafter, sterilization of cans takes place at 121°C for 90min under steam pressure. Sterilization is followed by cooling of the cans under room temperature by running water.