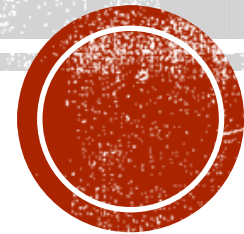


# CANNED PRODUCT TECHNOLOGY



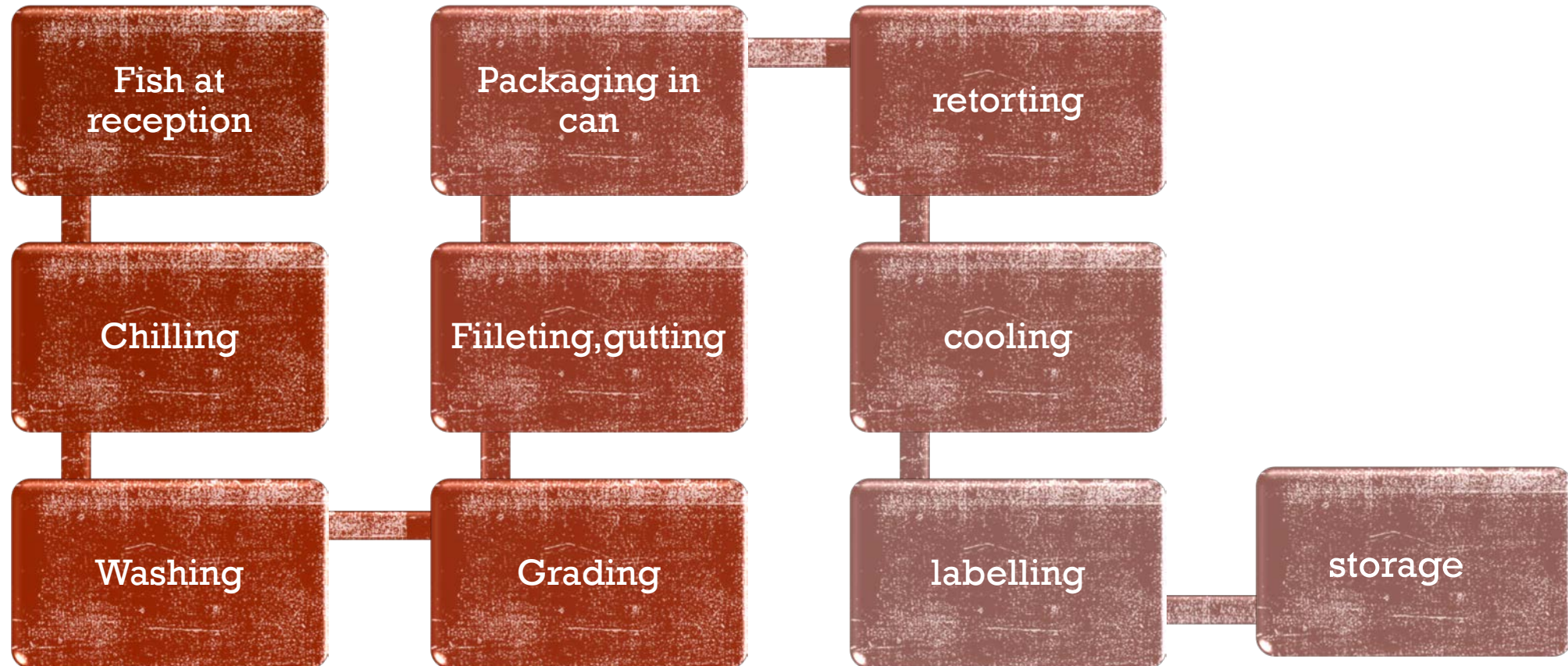
# Canned Product Tehnology

The preservative action of most canning and similar processes depends upon the heat inactivation of intrinsic and microbiological enzymes and the protection of the product from subsequent attack by micro-organisms and atmospheric oxygen. Preservation is achieved not through the application of heat but by the caution of high concentrations of salt or acid.

The hermetically sealed containers used also protects against damage and contamination with dirt. Fatty, pelagic species are by far the most commonly canned and their fat content often determines the quality of the end product.

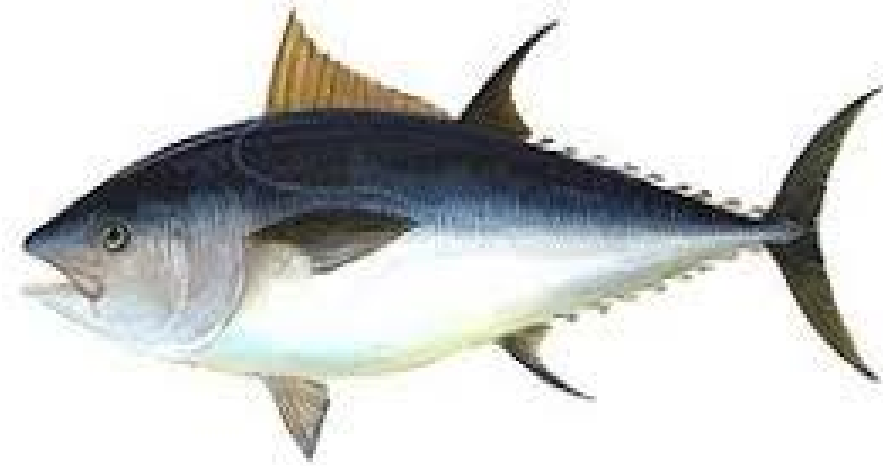


# Canning-flow chart





**Skipjack tuna**



**Yellow fin tuna**

### ***Packing in can and the quality of ingredients***

To meet the requirements, close control of the weight of fish and the proportion of fluid packing medium is very necessary. Care should be taken that the numbers or proportion of small or marginally inferior pieces of fish are not excessive. The quality of non-fish ingredients, salt, flavouring agents, additives, oil ,all require checking by the processor or guaranteeing by the ingredient supplier.



## *Exhausting*

Exhausting , as the process of creating a partial vacuum and is critical to the success of the canning process and it is essential to carry out the methodology strictly according to the procedure worked out beforehand for the product and type of can.

After filling it is essential to form a partial vacuum in all but the smallest cans. If this is not done the gas in the spaces between product and internal surface will expand and may cause the can to bulge during heat processing and subsequent cooling, removing oxygen also helps to prevent oxidative rancidity developing during



## *Exhausting methods*

- Termic method
- Mechanical method
- Steam injection to the top of the seal

## *Retorting*

The primary objective in retorting is to ensure that the most heat resistant microorganisms in the pack are killed.

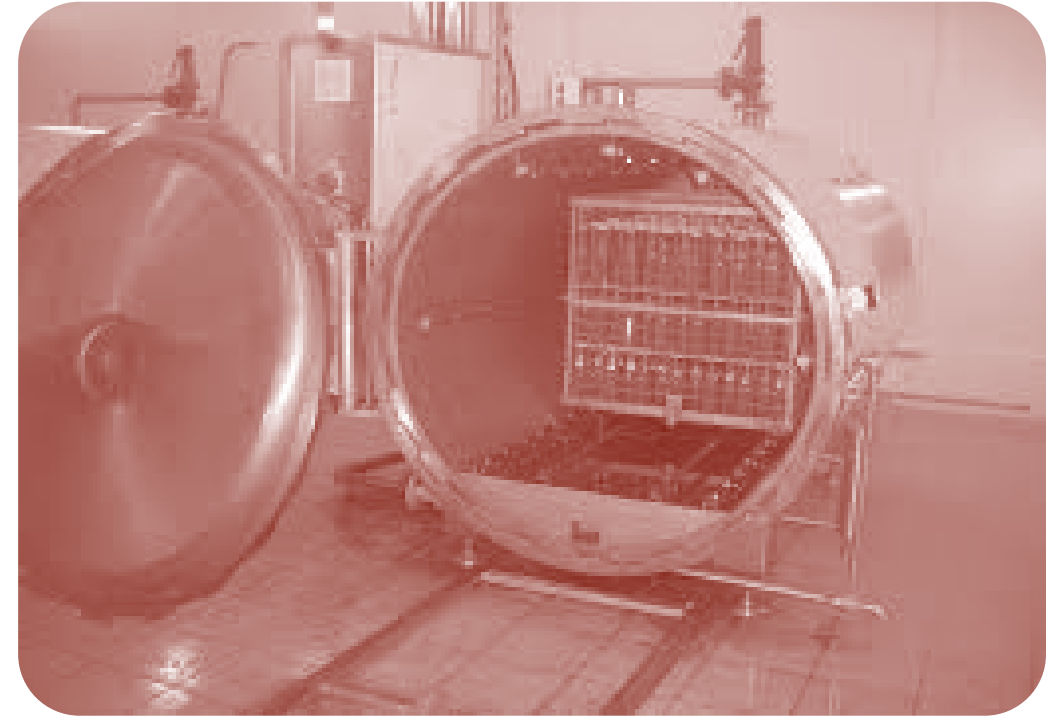
A variety of such organisms may be present, one of the most important being the spore of *Clostridium botulinum*, it has a risk of lethal food poisoning.



# *Deterioration of canned products*

There are two kinds, one is microbiological and the other one is chemical. Microbiological spoilage arises either from insufficient heat processing during retorting or from contamination through seals at any stage up to detection. Chemical one arises typically from the gradual attack of substances in the product on the metal of the can.

- The most resistant bacteria to heat is the spores of *Clostridium botulinum* and they can be eliminated in case of at 110°C for 32 min. and at 115°C for 8,7 min.



## *Labelling and packing*

- It is a good practice to emboss cans or mark containers with a code showing a few essential details of production so that defective batches may be readily identified, isolated and if necessary removed from sale. Coding also makes it possible in principle to trace back the cause of defectiveness.

