

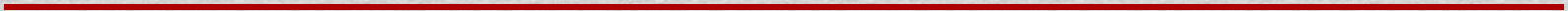
FISHERIES SCIENCE III

PROCESSING OF SHRIMPS

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PROCESSING OF SHRIMPS

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LIST OF COMMERCIALY IMPORTANT SPECIES OF INDIA- PEAK SEASON & DISTRIBUTION

1	White Prawn	<i>Penaeus indicus</i>	Through out the year except monsoon season	Entire West Coast and South-East Coasts of India	Kerala & Karnataka Coasts
2	Tiger Prawn	<i>Penaeus Mondon</i>	November to May	East Coast and South-West Coasts of India	West Bengal and Odisha Coasts
3	Flower Prawn	<i>Penaeus semisulcatus</i>	October to February	East & West Coast of India	Karnataka, Goa, Maharashtra, Tamil Nadu & Gujarat
4	Pink Shrimp	<i>Metapenaeus dobsoni</i>	July to October	West & East Coast of India	Kerala & Karnataka Coasts
5	Brown Shrimp	<i>Metapenaeus monoceros</i>	November to May	West & East Coast of India	Coasts of Andhra Pradesh & Odisha
6	King Prawn	<i>Metapenaeus affinis</i>	November to May	Throughout the West Coast and certain parts of East Coast	Maharashtra & Kerala Coasts
7	Marine Shrimp (Karikadi)	<i>Paraenaeopsis stylifera</i>	May to September	Both the Coasts but more in South-West Coast	Kerala & Karnataka Coasts

Penaeus indicus (White prawn)



Penaeus monodon (Tiger prawn)



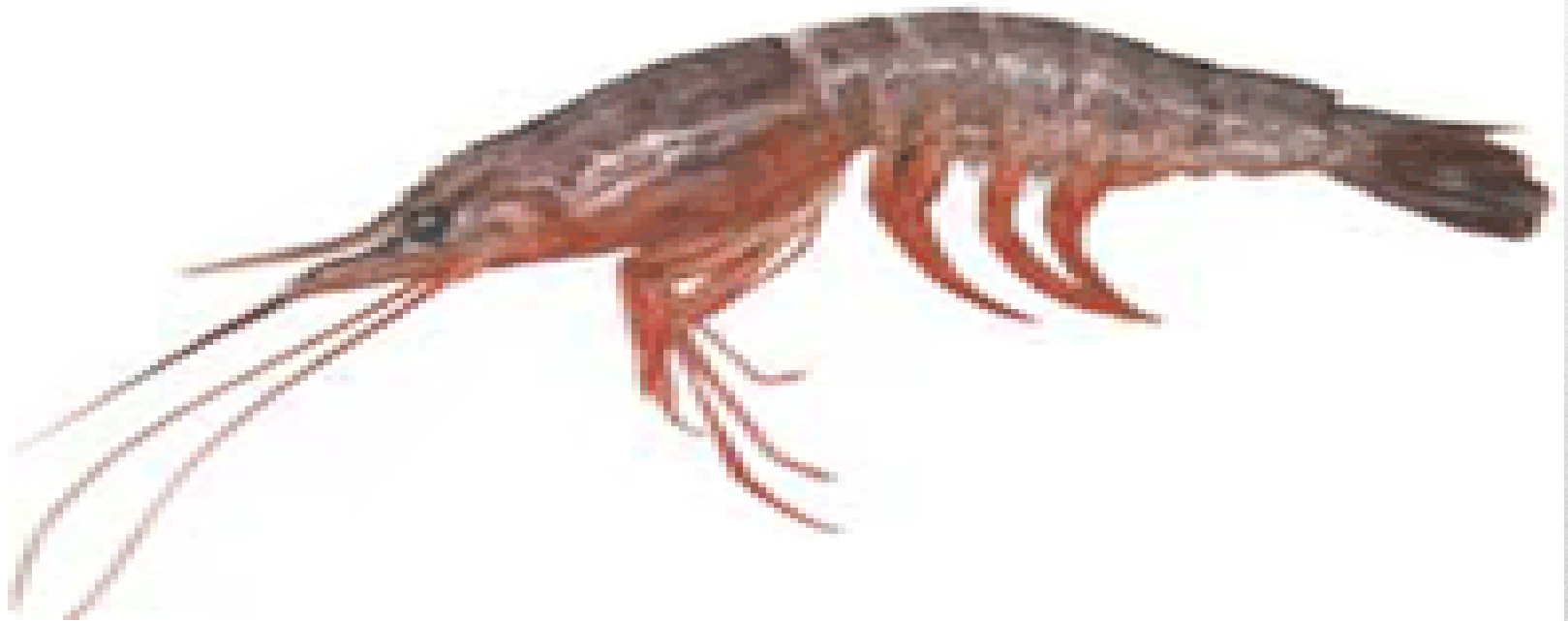
Metapenaeus affinis



Metapenaeus dobsoni



Parapenaeopsis stylifera



Marine Shrimp (Karikadi)

Metapenaeus monoceros



Penaeus semisulcatus





PRE-PROCESSING OF PRAWNS & SHRIMPS INTO DIFFERENT VARIETIES

Pre- process handling

- The shrimps are separated from other fishes
 - Sort the shrimps species wise and size wise ; wash well with potable water
 - Ice immediately & stock in boxes
 - Height of ice pack should not exceed 50 cm
 - Then they carryout the pre-processing depending upon the size & requirements
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DIFFERENT TYPES OF PACK

1. Whole shrimp (WL)

- Whole shrimps are washed & packed
- Best quality shrimps are used for this kind of packing



2 . Headless shrimps(HL)

- Head is removed ;shell & tail are intact
- Only larger grades of fresh shrimps are used for this type of pack
- The vein s pulled out from the severed head portion
- Maximum price in international markets ; flavour & nutrients are maximum due to the protection offered by the shell



3. Peeled & undeveined (PUD)

- Head , shell & tail is removed ; vein is retained
- Small shrimps are used



4. Peeled & deveined (PD)

- Head shell tail & vein (intestine) are completely removed



5. Fantail round (FR)

- Head & shell removed except last segment & tail on
 - When shrimps are slightly stale as indicated by black spot formation & the size is comparatively smaller they are used in this type of pack
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6. Fantail deveined (FD)

- Head & shell removed except on last segment & tail on
- The vein is removed



7.Butterfly (BF)

As in FD; but split open the meat from the dorsal side & arrange in the required pattern



Cooked shrimps

8. Cooked & peeled

- Immerse the shrimps in 7% - 10% (W/V) boiling brine for 5-7 minutes
- Take out from brine & cool immediately in ice cold water containing 3-5% salt :peeled& deveined

9. Peeled & cooked (PC)

- PUD shrimps are washed thoroughly in potable water ; immerse the meat in 3-5 % (W/V) boiling brine for 2-3 minutes
 - Take out from brine & cool immediately in ice cold water
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10. Peeled , deveined & cooked (PDC)

- PD shrimps are cooked as above

11. Whole cooked

- Absolutely good quality shrimps are used for this type of packing
 - The whole shrimps are washed thoroughly in potable water
 - Then cook in 10 % (W/V) boiling brine for 7 minutes
 - Take out from brine and cool immediately in ice cold water
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PROCESSING

- In the processing centre, the pre-processed shrimps are kept in iced condition in soluble containers / boxes
 - The shrimps are graded according to the size . Bruised & discoloured pieces are discarded
 - Similarly those with soft shell in the case of H-on & HL shrimps are removed
 - The drooping head in the case of H-on shrimps are also discarded
 - Shrimps as per the declared size / grade is packed in polythene lined, waxed duplex carton
 - Pack or arrange the shrimps in parallel style
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- Do not allow cross packing ,keep the code slip . Add a little ice cold water to the pack for glazing
 - Conventionally, 2kg shrimps are packed for block frozen shrimps . Nowadays 1kg block is also common
 - In the case of IQF products, the frozen item are glazed & again freeze & packed appropriately
 - Then the block /IQF packs may put into corrugated & waxed master cartons
 - The block frozen shrimps are usually packed in 20 kg master cartons
 - IQF shrimps are packed in 10 kg master cartons or based on the requirement of the buyer
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Grades of shrimps

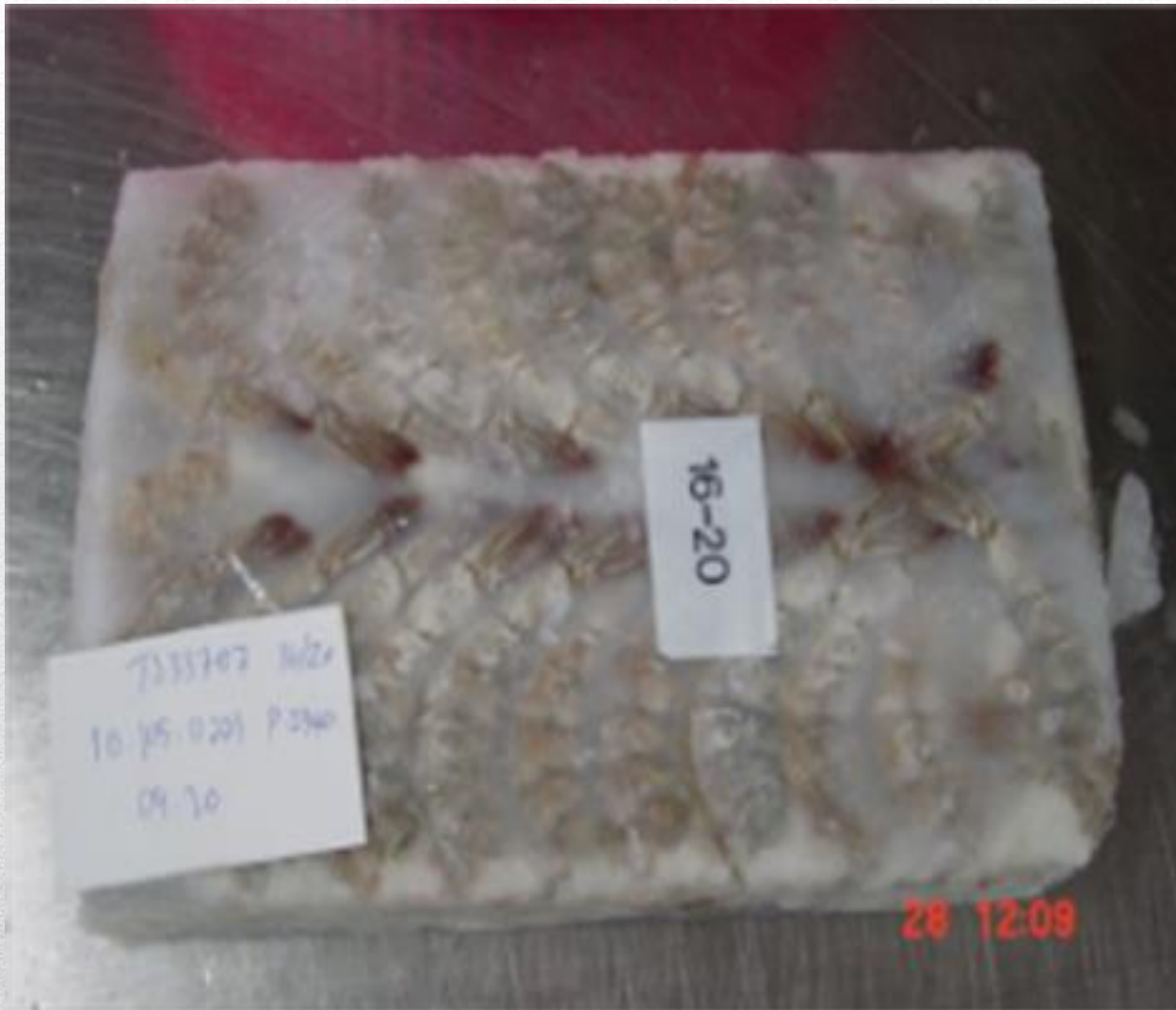
- Shrimp are graded according to their count per weight.
 - HOSO shrimps are graded in units per kilogram (30/40, 40/50, 50/60, etc. pcs/kg).
 - The standard pack is in a 2 kg box, 10 boxes into a master carton.
 - The remaining presentations are graded in units per pound (U15, 16/20, 21/25, 26/30, 31/35, 36/40, 41/50, etc. pcs/lb).
 - The standard pack is in a 5 lb box, 10 boxes into a master carton.
 - The numbers in the grading code indicate maximum and minimum quantity of pieces per unit weight, with U standing for "under".
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1. PD Shrimps :- 36/40, 41/50, 51/60, 61/70, 71/90, 91/110, 111/130, 130/200, 200/300, 300/500, 500/ up per pound
 2. PUD Shrimps:- U/20 , 20/40, 40/60, 60/80, 80/120, 100/200, 200/300, 300/500, 500/ up per pound &/ broken
 3. HLT Shrimps (headless tiger):- U/8, 8/12, 11/15 , 16/20, 21/25, 26/30, 31/35, 36/40, 41/50, 51/60, 61/70, 71/90 per lb
 4. HLB Shrimps(headless brown) :- 16/20, 21/25, 26/30, 31/35, 36/40, 41/50, 51/60, 61/70, 71/90 , 91/110 per lb
 5. HLW Shrimps (headless white):-8/12, 11/15 , 16/20, 21/25, 26/30, 31/35, 36/40, 41/50, 51/60, 61/70, 71/90 , 91/110 per lb
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Coding of the packing

- The code slip bearing the marking of the numerical code of the processor , abbreviation of the name & type of the product , year, month, & date of production shall be embedded on the frozen block
 - In the case of IQF packs the code slip shall be placed in the primary container
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Abbreviations of the months

January-A

March-C

May-E

July-G

September-J

November –L

February –B

April-D

June-F

August-H

October –K

December- M



IQF SHRIMP

INDIVIDUALLY QUICK FREEZING SHRIMP

- IQF meats of deep water shrimp require a freezing time of about 10 minutes at -30°C in air moving at 5 m/second,
 - For individual quick freezing (IQF), the blanched or graded shrimps are individually loaded into the conveyer of the IQF machine and frozen rapidly in the freezing tunnel.
 - In IQF shrimps are spread on the conveyer belt individually & frozen at -40°C for 15-20 minutes depending on the size of the product
 - The end result is separately frozen shrimp with a natural appearance preserved.
 - The IQF technologies are a significantly better solutions for freezing shrimp and there is a number of benefits they provide.
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- IQF freezing technologies quickly freeze the product to the core in a considerable shorter amount of time and provides the highest freezing capacity per square foot. IQF avoid the development of bacteria and the contamination between different batches of product
 - IQF TECH . offer good looking shrimp, with intact antennas and natural colour
 - IQF is the optimal choice when processing shrimp.
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THANK YOU