



SAVOR *the* PRIDE *of the* FLEET

# Albacore Vessel Quality Standards

## Oregon Albacore Commission

This packet contains general quality standards for handling Albacore Tuna, as well as specific standards for Blast, Brine, and Ice.

Also included is a form accepted by many seafood safety entities for use when you sell each load of tuna. Some buyers have their own time/temperature sheets and as long as they contain at least the same information, then seafood safety inspectors should be satisfied.

This form, labeled “Harvest Vessel Monitoring Record Form for Scombrototoxin Control from Troll Operation” in this packet, was developed by Christina DeWitt, OSU Seafood Research & Education Center, in conjunction with the FDA, Office of Seafood Safety in WA, D.C. It was reviewed by the Chief Quality Office in the Seafood Inspection Program in D.C. and NOAA. The FDA has shared the form with regional people in Washington, Oregon, and California. Dr. DeWitt submitted the form to the local Oregon Department of Agriculture inspector who shared it with her ODA colleagues.

Albacore have tremendous potential for a variety of markets. Producing albacore of consistent high quality and free of histamine is the most critical step for maintaining markets and building new ones.

Retrieve fish as quickly as possible after they strike and stun or kill the fish immediately to preserve quality and to eliminate bruising and scale loss. Bleed fish to improve the flesh appearance. The most important step in delivering high quality albacore is to chill or freeze the catch to 40°F or below to prevent decomposition and the formation of histamine. Measure the chill, freezing and holding temperature of your fish throughout each trip to identify weak points in the system.

#### Preparation:

- Prepare the deck to minimize the time fish is on the deck thus reducing the risk of contamination and the time temperature quality degradation of fish.
- Have the slush ice tank, brine chilling tank or blast freezer ready to receive fish.
- Chilling/freezing systems should be at the recommended temperatures when the first fish is landed.
- Have all handling equipment at hand and clean.
- Use a landing mat to reduce scale loss and bruising.

#### Landing:

- Land the fish as quickly as possible after it is hooked. Prolonged struggle will result in higher body temperature and reduced quality.
- If you use a gaff, gaff the fish in the head or through the lower jaw, never in the body or the edible flesh may be destroyed or contaminated.

#### Stunning (optional):

Stun the fish immediately after it comes on board to eliminate scale loss and bruising.

#### Brain Spiking (optional – except required for sashimi grade):

Instead of stunning, another method is to immobilize the fish by destroying the brain. Spiking the brain is a required procedure for production of sashimi grade tuna worldwide. Brain destruction also helps to stop the production of heat and acid, and the loss of energy rich compounds.

#### Bleeding (optional – except essential for sashimi grade):

Improves the appearance of uncooked tuna loins and may help initially to reduce fish temperature on deck. Fish should be bled for 10-15 minutes after brain spiking and then immediately chilled. Bleeding is most efficient when done immediately after the fish is landed and when the hearts is left intact to take advantage of its pumping action.

#### Cutting the Throat Latch

- This cut involves cutting the blood vessel between the heart and the gills.
- Take care not to sever the heart or you will lose the pumping action the heart provides.
- Rinse the fish to assist in bleeding and to remove any blood residue improving the visual appearance of the fish.

## **Blast Frozen at Sea (Sashimi Grade Freezing)**

- Match capture rate with your refrigeration capacity so you don't exceed your freezing system's capacity.
- Ensure your freezer system has adequate space and can hold constant temperature.
- Air systems should preferably be maintained at -15°F or colder.
- Fish must be bled immediately upon capture.
- Albacore should be placed into the freezing system within 15-30 minutes of capture to ensure the delivery of high quality product without histamine.
- Fish that are unable to be loaded into the freezer in less than 1 hour should be chilled by putting them into ice slurry tanks to reduce body temperature. Ideally chilled seawater or slush ice should be used.
- Albacore should be straight and single layered during the freezing process.
- The air blowing over the albacore in a blast freezer should be -20°F to -40°F and should have good unrestricted air flow over the fish.
- Do not stow fish until it is properly frozen.
- Fish must be delivered at a core temperature of -15°F or lower.
- Monitor the freezer temperature at least each morning and evening, if not every four hours.

## **Brine Frozen at Sea**

- Brine temperatures should run at -5°F to 10°F.
- As salt absorption is linked directly to increased temperature, spray brine systems should maintain a temperature of 10°F or below to prevent excessive absorption of salt and produce a high quality product.
- Fluctuations in temperature must be minimized. They are the biggest cause of salt uptake in brine and oil leaching to the surface and must therefore be minimized.
- Some vessels may consider a deck brine box to pre-chill the catch before introducing fish into the hold thus maintaining the hold temperature and minimizing fluctuations.
- Albacore should be straight and single layered during the freezing process.
- Monitor the freezer temperature at least each morning and evening, if not every four hours.

## **Icing Fish**

- Only land as many fish as you have ice to keep them cold. Suggested ratio: 1 lb. of ice to 1 lb. of Albacore.
- Land, bleed and put the fish on ice within 30 minutes of capture to ensure the delivery of a high quality product.
- The fish should be chilled to 40°F or below
- Monitor the hold temperature at least each morning and evening to ensure that the temperature is not fluctuating.

Harvest Vessel Monitoring Record Form for Scombrototoxin control from Troll Operation (all fish landed live)

Vessel Name: \_\_\_\_\_

Trip start date: \_\_\_\_\_

Identify Storage condition (circle): **BLAST FROZEN\***

**BRINE FROZEN\***

**ICE**

Fishing Day	Time <b>First</b> fish in Fishing interval landed	Time <b>Last</b> fish in interval Placed in frozen or ice Storage (<6 hrs)	Initials of recorder	Daily Storage Check (date/time/initial) for all fish in hold completely and continuously surrounded by ice

Instructions: Fish are to be placed into chilling medium within 30 min or as soon as possible. Segregate all fish not placed in frozen or ice storage within 6 h to avoid having entire load rejected for histamine. Fish not stored frozen should be checked in morning and evening (about 12 hr. intervals) for complete and continuous surrounding by ice. Record time storage is checked.

**\*Fish placed into frozen storage within a 6 hr. time interval do not need to have Daily Storage Checks.**

Additional Comment on problems (include day):

Vessel Record Received by: Initial \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Vessel Record Acceptable and Critical Limits Met: Yes No Comment:

Record Review and Verification: Name: \_\_\_\_\_ Date: \_\_\_\_\_