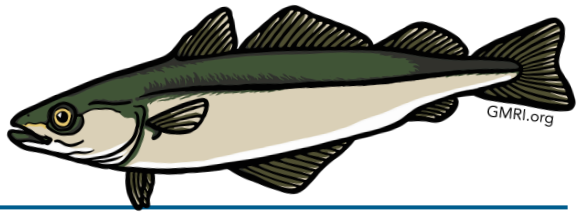
Measuring Quality: Atlantic Pollock



Handling Strategies

Vessel 1: Automatic jig gear
- 1-2 day trips
- Fish stored in slurry ice in vats
- Ike jime method used to kill fish quickly

Vessel 2: Gillnet gear
- 3-4 day trips
- Fish stored on ice in the hold

Total fish measured: 896 pollock across the 2 vessels (representing an estimated ~4,000-5,000 lbs)

Methods of Measuring Quality

Certified Quality Reader (CQR) – handheld device that runs a small electrical current through fish tissue to measure resistance; higher numbers indicate higher quality.

Quality Index Method (QIM) – visual/physical assessment of fish characteristics (e.g. color, firmness, smell, etc); demerit point system, lower number means higher quality.

Temperature data – tracked fish temperature with digital loggers on the vessels through offload.

Key Results

For jig-caught fish killed with ike jime method:
- Consistently high quality and 16-17% higher quality than gillnet-caught fish.
- Near perfect QIM score of zero, with one demerit point for cloudiness of cornea – attributed to rapid cooling and almost freezing the eye.
- Shelf life 2-3x longer than gillnet or trawl caught fish.
- Temperature immediately decreased to 30-31°F upon placement in the xactic, and maintained for ~40 hours.
- The captain shared data with buyers to provide evidence and market the quality of the product.

For gillnet-caught fish:
- Significant variability in quality overall
- Clear pattern of decreasing quality of fish caught early in the trip.
  - Fish from the bottom of the hold had a wider quality range.
  - Fish on top of the hold (most recently caught) were 2-5x better quality.
- Temperature in the hold was maintained at ~31°F for four days on each of two trips. On a third trip, the temperature increased slightly and steadily throughout the four-day trip, rising to 36 degrees; a slight decrease in quality was observed.

Takeaways

- **CQR is a fast method for measuring a large volume of fish** (up to 25% of a trip's catch during offload) if there are staff available to do it.
- **Chilling first may have quality benefits.** Jigging trips chilled in slurry ice first and gutted later.
- **Careful handling and icing of hook-caught fish leads to extremely high quality and longer shelf life** and data can help prove the benefits to buyers.
- **More carefully packing fish in the hold could improve quality** by avoiding crushing/bruising and keeping fish cold longer.

For more details on this experiment with this species and results on quality experiments with a range of other species, visit gmri.org/quality.

Maine Coast Fishermen's Assoc.

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