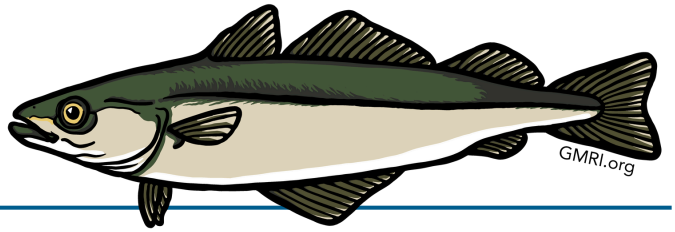
Measuring Quality: Pollock Shelf Life



Experimental Design

Vessel 1:

- Gear: Gillnet, 3-4 day trips
- Handling: Whole (6 fish)
- Stored on ice in hold
- Experiment Duration: 10 days

Vessel 2:

- Gear: Jig, 1-2 day trips
- Handling: Ike Jime (3 fish) and Whole (3 Fish)
- Chilled with slurry ice
- Experiment Duration: 16 days

After landing, all fish were held in a tote on ice in a cold storage facility (38 F) and measured for quality once a day. Data collection using the CQR and QIM methods (see below) continued in each trial until fish either reached a minimum quality score or reached a state of degradation that impeded analysis.

As fish were not filleted or consumed at any point, the duration of the trial does not represent the shelf life of marketable product, but when fish reached their lowest recorded quality.

Methods of Measuring Quality

Certified Quality Reader (CQR): Hand held device that runs a small electrical current through fish tissue to measure resistance and signs of good/bad quality; *higher numbers indicate higher quality.*

Quality Index Method (QIM): Visual/physical assessment of fish characteristic categories (e.g. color, firmness, smell, etc.), based on a demerit point system. *A lower total number indicates higher quality.* Characteristics and possible points vary for different species.

Takeaways

- The combination of using ike jime and slurry ice techniques with jig-caught fish can significantly extend shelf life (by 60-70% more days in this example).
- More research is needed to determine which factors might have the greatest influence on quality (using jig gear, using ike jime methods to kill live fish, and/or using slurry ice).

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

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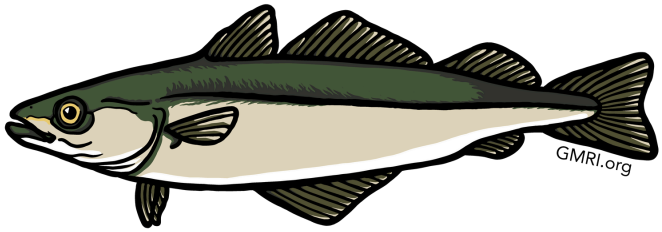
Key Results



- On day 1 of measuring fish at an offload facility, Vessel 2 fish (slurry/ike jime) started with higher quality than fish from Vessel 1 (stored on ice in the hold).
- Vessel 1 fish reached the minimum quality after 10 days, and Vessel 2 fish reached near the minimum quality after 16 days.
- CQR and QIM data both showed similar rates of degradation.

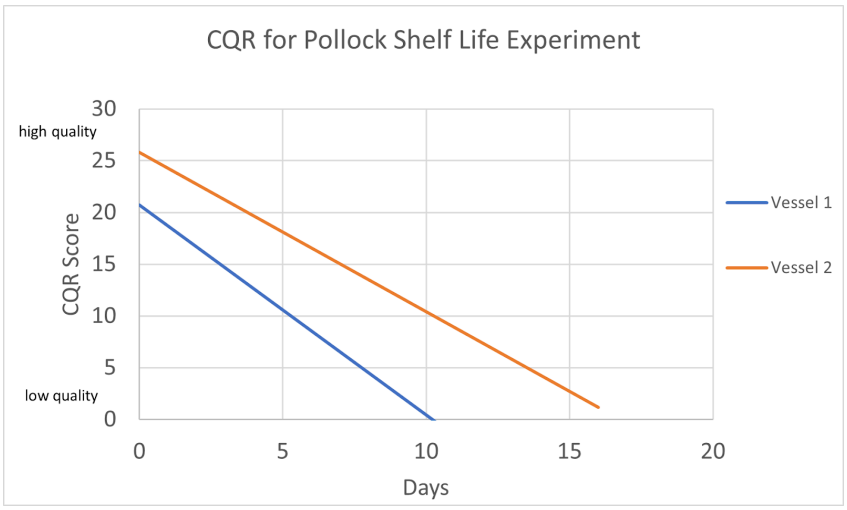
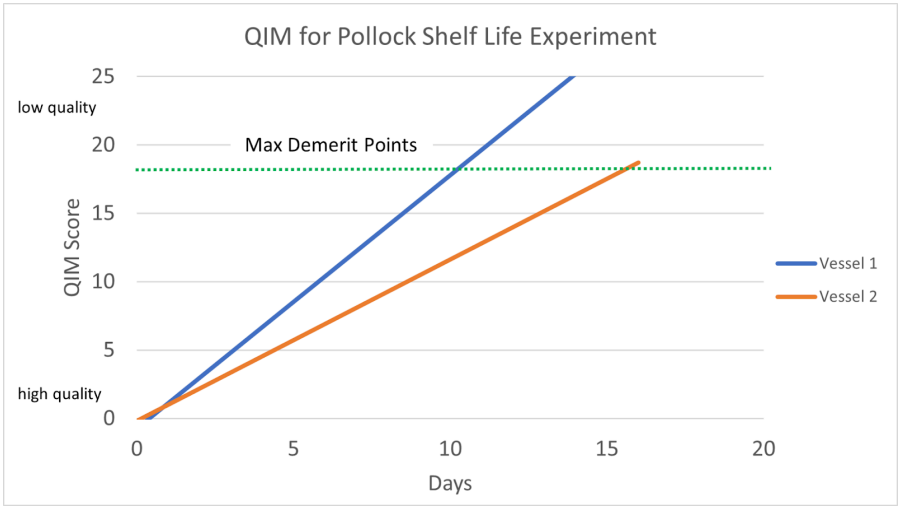


Figure 1. Certified Quality Reader (CQR) data for pollock from Vessel 1 and Vessel 2.

Figure 2. Quality Index Method (QIM) results for pollock from Vessel 1 and Vessel 2.



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