

# SUB-CHILLING™ salmon

 SKAGINN 3X

- No ice - Up to 20% less transport weight.
- Extended shelf life up to 7 days.
- Better processing yield.
- Stronger fillets - Reduced gapping.
- Controlled flow (FIFO).
- High ROI - Low CO<sub>2</sub>.



# Low core temperature throughout the process = firmer flesh, less gaping and higher inelasticity



The SUB-CHILLING™ method preserves quality of fresh salmon products.

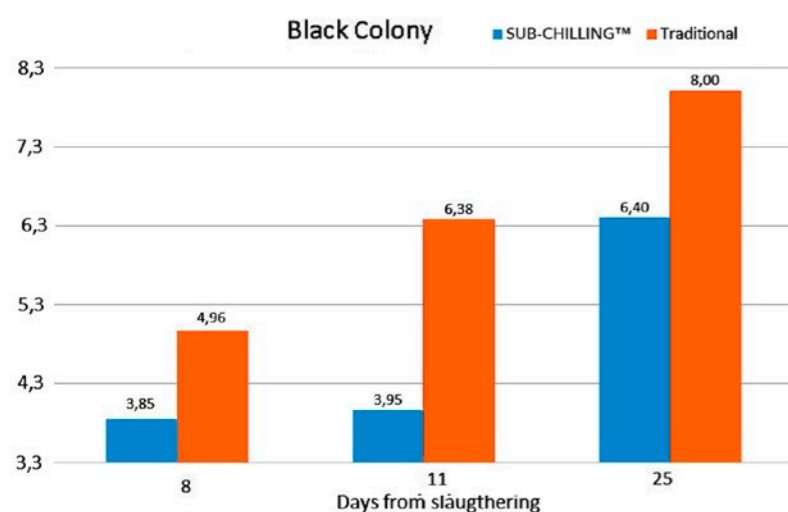
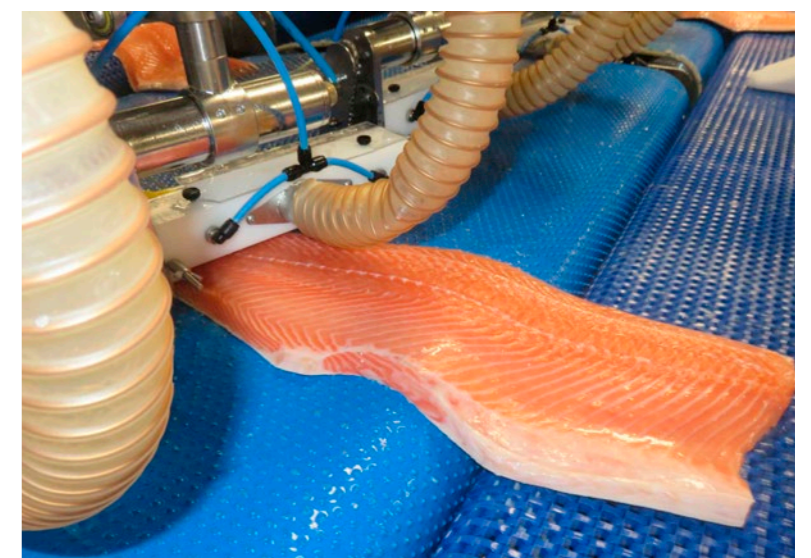
No ice is needed during slaughtering and logistics, saving enormous transport cost and reducing carbon footprints.

By SUB-CHILLING™ the cooling is moved into the fish itself without freezing it.

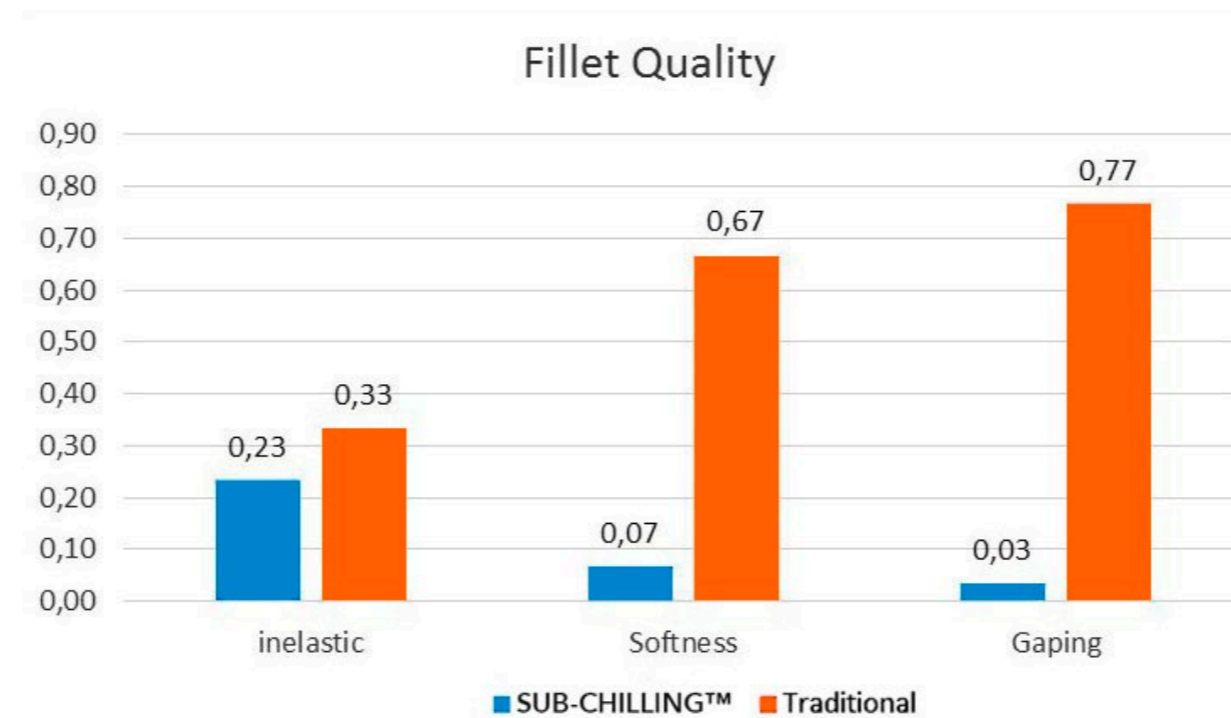
Bringing the salmon into a sub-zero stage at slaughtering site extends its shelf-life by 4-6 days.

SUB-CHILLING™ salmon gives great advantages to further processing, resulting in higher yield, less gaping and more valuable products.

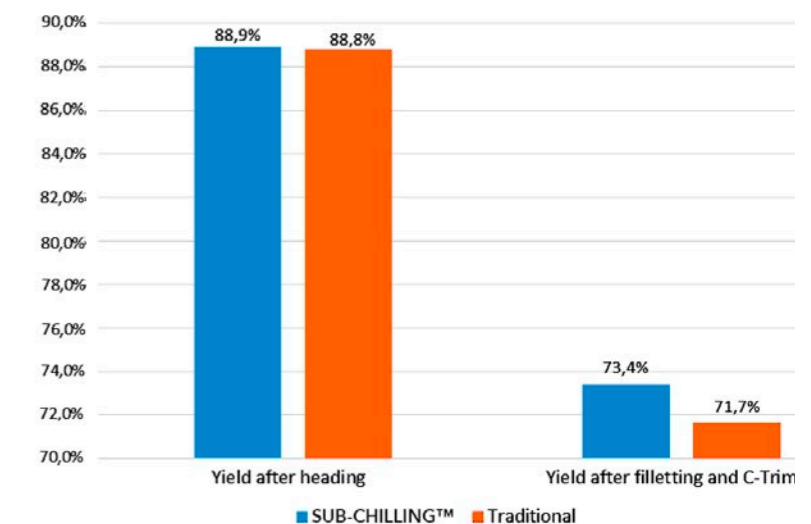
- SUB-CHILLING™ requires no ice during transport
- Possible to use tubs instead of styrofoam boxes
- Extended rigor period and slow bacteria growth
- Increased shelf life by 4-6 days
- SUB-CHILLING™ salmon is excellent to fillet and trim
- Easy pin bone removal
- Firm and strong final product

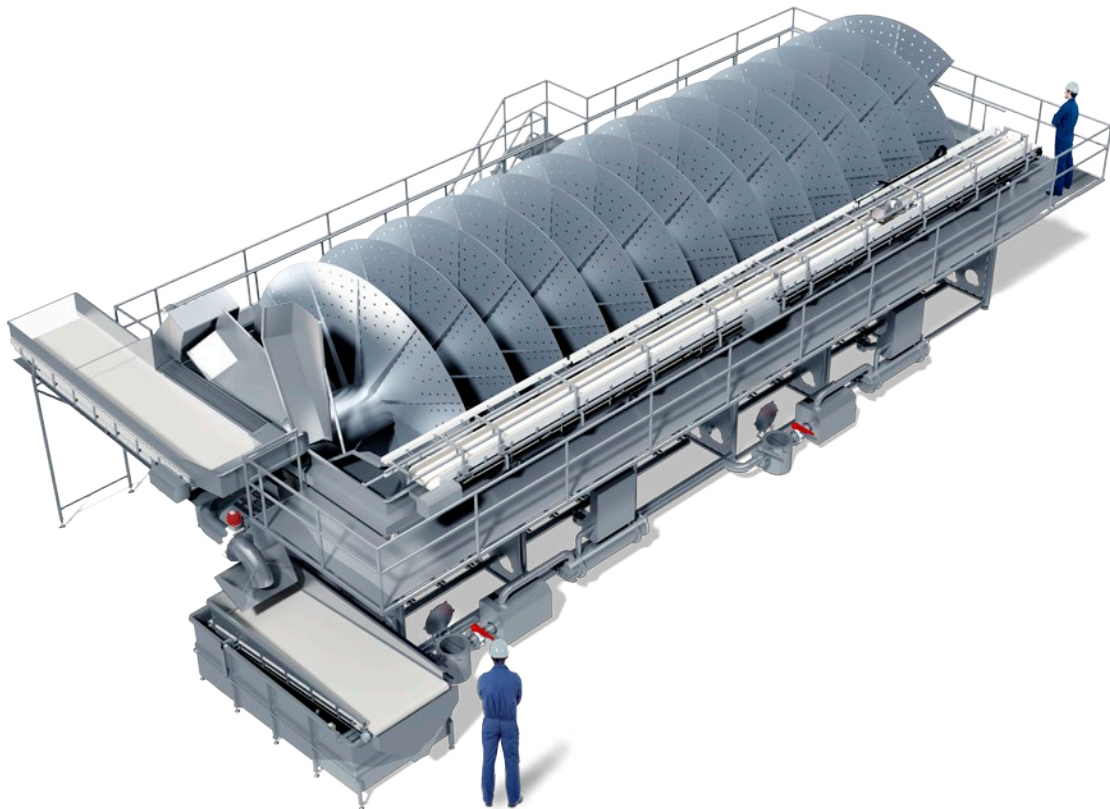


Colonies black  
Extended shelf life 4-6 days.  
Based on bacterial and quality test



Quality test  
Best possible score is 0, worst score is 2 for inelastic and softness and 5 for gaping





“ Matis has been involved in a project with Nordic companies to develop a new technique, Sub-Chilling, which is used to preserve the freshness and quality by cooling the fish into a sub-zero stage.

Research proves no cellular damage and the quality of fillets is superb. Higher water holding capacity (WHC) in Sub-Chilled fillets indicates firmer and more wholesome structure in the final product.

Our research demonstrates that quality of Sub-Chilled salmon fillets is higher than traditional fillets, both firmer and with less gaping. Sub-Chilled fish resists better all further processing, such as heading, filleting, trimming, cutting and packing and the shelf life can be extended substantially. ”

**Gunnar Thordarson M.Sc.**  
Regional Manager

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Chief Engineer



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