



GUIDE FOR EVALUATING FILLET TEXTURE IN ATLANTIC SALMON

REFERENCES:

Ulf Erikson, Iciar Martinez, Emil Veliyulin and Gudmund Bye, "Fastere laksefilet", SINTEF Fisheries and Aquaculture, report SFH80 A09037, 2009.06.03

Ulf Erikson, Gudmund Bye and Kurt Oppedal, "Industritest og opplæring", SINTEF Fisheries and Aquaculture, report SFH80 A095028. 2009.06.24

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Introduction

The purpose of this guide is to develop a standardised method to evaluate firmness in salmon that may be used to characterise texture. It is important to stress that the **industry test** is not designed for general assessment of the fillet texture during storage and transport (such as, for instance, the equivalent Quality Index Method). The industry test is rougher and is designed to detect significant texture-related quality defects resulting from the farming phase.

This guide is one of the results from the project *Industry test and training*, which was financed by the Fishery and Aquaculture Industry Research Fund (FHF).

Description of method

The industry test is designed to be as self explanatory as possible, so few additional comments are provided here. The industry test comprises three separate tests, which can be added up to provide a total score. The three tests shall be carried out in the following order (score stated in brackets):

1. Inelasticity (0 - 2)
2. Softness during finger test (0 - 2)
3. Gaping in loin, belly and tail (0 - 5)

Two of the three tests have a score from 0 to 2, whereby 0 is best and 2 worst, while the gaping score is from 0 to 5, whereby 0 is best and 5 worst. The evaluation is carried out jointly for the loin, belly and tail.

The method shall simulate filleting of salmon post-rigor. This may seem like a somewhat brutal way of handling the fillet, but it has been shown that the method reflects the differences that can be traced back to characteristics in the fish prior to filleting.

In order to provide an accurate evaluation, the fish must be post-rigor, so the test is carried out on fish that has been stored for three days or more.

This guide does not discuss where the line is drawn for commercial acceptance or for good quality. It is therefore up to the trade to agree upon the limits for acceptable quality.

Performing the industry test

Gutted salmon is chilled on ice for three days or more before the left fillet is cut out and trimmed to C-trim (pin-bone in) prior to evaluation.

Evaluate inelasticity by folding the fillet over on the table, releasing it and observing:

The elasticity in the fish muscle expresses whether the fish muscle can be folded over and then return to its original form. The longer the fish is stored; the fillet will lose elasticity and become more inelastic.

Score	Description
0	– Elastic: The fillet straightens out quickly
1	– Somewhat elastic: The fillet straightens out slowly
2	– Inelastic: The fillet remains folded over



Softness during finger test:

This method expresses softness in the fillet and shall be carried out on a point just under the dorsal fin, as shown in the photos. Press your finger at a 45° angle towards the fillet, with a pressure of approx. 1 kg – preferably with the fillet on balance to apply the correct pressure for two seconds.



Place your finger as such when testing softness.



Score 0 – Firm fillet: The surface is restored a short time after the finger pressure ends.



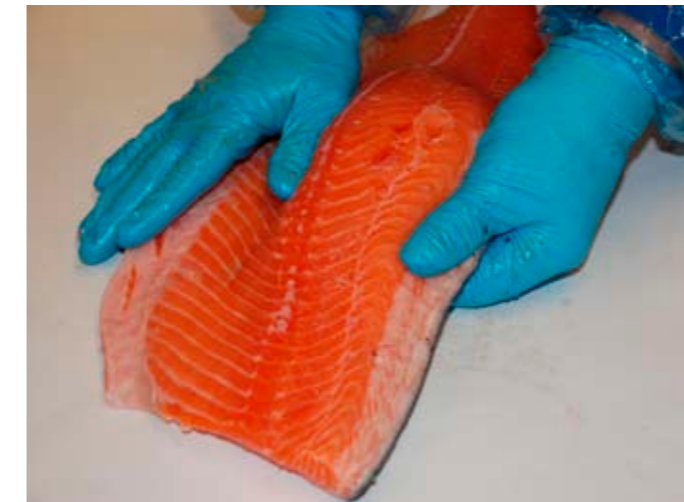
Score 1 – Reduced firmness: The finger pressure leaves a lasting imprint that is not restored.



Score 2 – Soft fillet: The finger goes right through the fillet and causes a clear rupture between the segments.

Gaping

Gaping is evaluated in three zones on the fillet: loin, belly and tail. To provoke gaping, the fillet shall be exerted by breaking it with a certain force. Start in the neck region and fold the loin sideways, as shown on the photo, and then continue along the fillet backwards until you reach the tail. Repeat in the same manner for the belly then evaluate the degree of gaping by comparing the fillet with the photos.



Score table for evaluation of gaping:



Score 0



Score 1



Score 2



Score 3



Score 4



Score 5