



**Supply Great Tasting Fish
for the Marketplace
(Cont.)**

Musleh Uddin
Albion Farms & Fisheries

Optimum quantity and harvest intervals

- 1. Optimum harvest maintain freshest product in market place**
- 2. Utilize within prime shelflife**
- 3. Maintain organoleptic attractions**





Factors affecting shelflife

- 1. Composition of fish**
- 2. Method of harvest**
- 3. Post-harvest care**
- 4. Processing and storage**
- 5. Distribution**



Post-harvest treatments

1. Handling on harvest site

(stunning, bleeding, cleaning etc.)

1. Chilling system for quick cooling

2. Gilling and gutting

3. GMP, hygiene, SOP, SSOP



Processing salmon

- 1. Rigor index** (uninterrupted in-rigor stage)
- 2. Ozone washing** (reduce bacterial load)
- 3. Scaling** (optional)
- 4. Filleting, Trimming, Pin-boning**
- 5. Grading**



Uninterrupted in-rigor stage



Processing steps (Cont...)



Processing steps (Cont...)



Processing steps (Cont...)



Processing steps (Cont...)



Processing steps (Cont...)



Flavor testing protocols

1. Geosmin
2. MIB (2-methylisoborneol)



**One of the
biggest
challenges**



Flavor testing panel members





Packaging/Storage /Distribution

1. Packaging

2. Storage conditions

3. Distribution / Transportation



Purpose designed packaging fits on to standard
4'x4' pallets that prevent physical damages!!



Processing, Storage and Distribution- under Albion CoC





Quality evaluation attributes

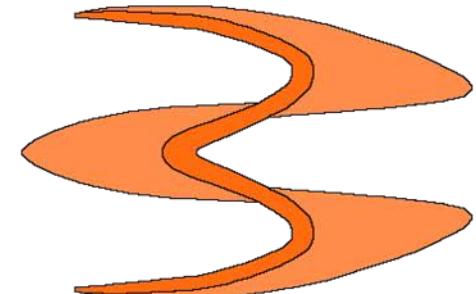
- 1. Organoleptic assessment (QIM)**
- 2. Color index**
- 3. Textural profile analysis (TPA)**
- 4. Microbiological analysis**
- 5. Nutritional Value**

Sensory analysis

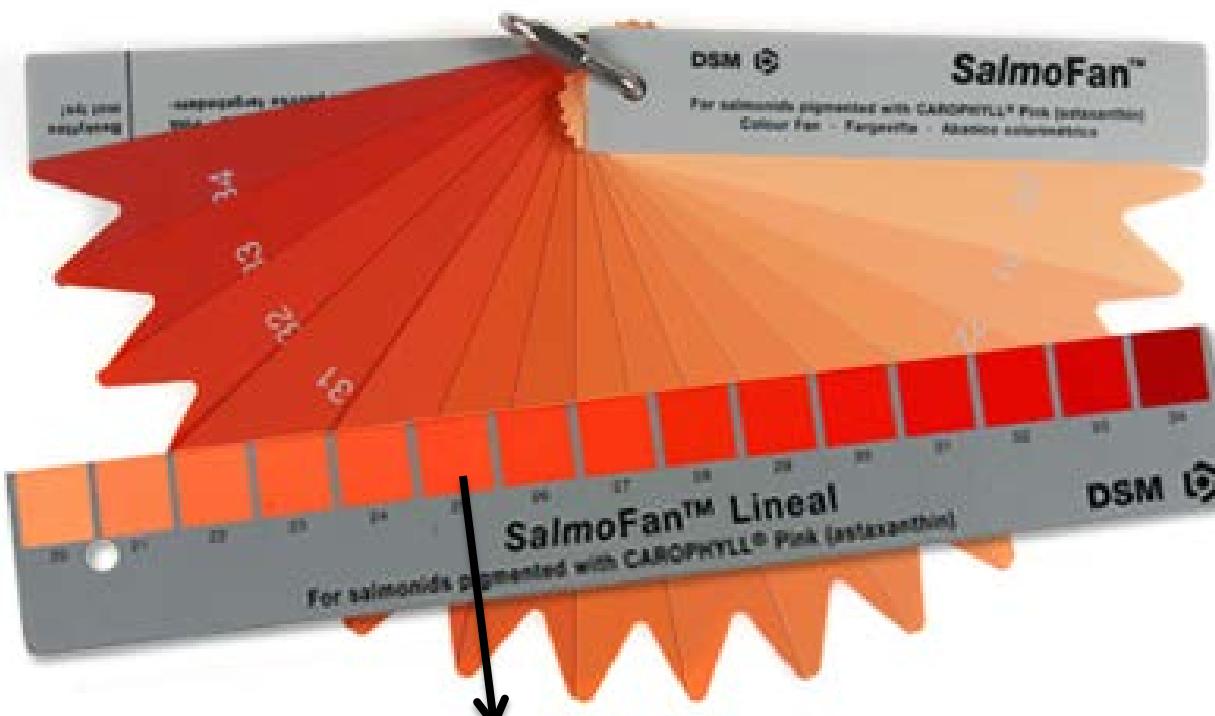
1. Appearance (skin, scale, belly, eyes, gills)
2. Clarity (e.g. Flesh)
3. Textural Profile Index (TPI)



A Single Fish Muscle Myotome (Salmon)
Showing how the myotome is folded.



Color Index



Minimum acceptable score : ≥ 25



Microbiology

FoodAssure Laboratory Ltd.

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Certificate of Analysis

Number: 15-AU-78

Date of Report: August 18, 2015

To: Albion Fisheries Ltd.
1900 Number 6 Road
Richmond, BC
V6V 1W3

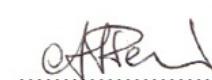
Sample: Salmon

Submitted: August 11, 2015

Tested: August 11, 2015

Results of analysis:

TPC (cfu/g)	300
<i>Escherichia coli</i> (MPN/g)	<0.18
Coagulase-Positive <i>Staphylococcus aureus</i> (cfu/g)	<20
Yeast (cfu/g)	40
Mold (cfu/g)	<20
<i>Listeria monocytogenes</i> per 25 g	Negative
<i>Salmonella</i> spp. per 25 g	Negative


Anna Piesik, Lab Manager



Microbiology (cont.)

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Chemicals and Therapeutants

Mercury in Fish by CVAA



0.02 ug/g

Acid Extractable Cadmium (Cd)



(25 to 50 times lower
than permitted)

Amphenicols in Fish & Seafood

Endectocides in Fish & Seafood

Fluoroquinolones in Fish & Seafood

Macrolides in Fish & Seafood

Triphenylmethane Dyes in Fish & Seafood

Nitrofuran Metabolites in Fish & Seafood

Nitroimidazoles in Fish and Seafood

Pesticides & PCB in Tissue

Stilbenes in Fish

Sulfonamides in Fish & Seafood

Tetracyclines in Seafood by LC/MS/MS

ND = Not detected





Nutrition Facts

Serving Size 100 g

Amount Per Serving**Calories** 230 Calories from Fat 150

% Daily Value*

Total Fat 16g **25%**Saturated Fat 3.5g **18%**

Trans Fat 0g

Polyunsaturated Fat 5g

Monounsaturated Fat 7g

Cholesterol 65mg **22%****Sodium** 25mg **1%****Potassium** 390mg **11%****Total Carbohydrate** 0g **0%**Dietary Fiber 0g **0%**

Sugars 0g

Protein 20g

Vitamin A 0% • Vitamin C 4%

Calcium 0% • Iron 2%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.





Conclusions

- **KUTERRA salmon are sustainable premium quality fish with no traceable therapeutants!!**
- **They are perishable like other oil-rich species**
- **Proper handling and Cool Chain must be maintained to ensure premium quality**



Thank You

