

## **Effect of salting process on the histological structure of salmon flesh**

**Olivier Loison<sup>1</sup>, Weijunlang Jiang<sup>1</sup>, Annie Vénien<sup>1</sup>, Oulyana Gaubain<sup>1</sup>, Chantal Cazevieille<sup>2</sup>, Thierry Astruc<sup>1\*</sup>**

<sup>1</sup>INRA de Theix, UR370 QuaPA, F-63122 St-Genès-Champanelle (France)

<sup>2</sup>MRI-COMET, Hôpital Saint Eloi F-34091 Montpellier (France)

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**Abstract:**

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Atlantic Salmon , *Salmo Salar*, is composed of approximately 70% water, 19% protein, 10% lipid and 1% small nutrients (vitamins, glycogen, pigments ...). Smoked salmon comes from the processing of fresh salmon: the fillets are removed from the fish, salted and then smoked. Salting can be carried out with dry salt or by brine injection. The objective of the study was to compare the evolution of the cell structure and ultrastructure of the salmon muscle subjected to salting with dry salt and salting by brine injection.

The experiment was carried out on 6 salmons. For each salmon, 1 fillet was salted with dry salt and the other fillet was additionally injected with brine. The fillets were smoked at low temperature (20-22 ° C). Samples were taken for histological analyzes (cryofixation, preparation of 10 µm thick histological sections, staining and observation by optical microscopy) and ultrastructural analyzes (chemical fixation, dehydration, resin inclusion, ultrathin sections, staining and observation by electron microscopy).

The results show a decrease in the size of the extracellular spaces after injection of brine, which is probably related to a swelling of the muscle cells that accumulate water. Dry salt salting, on the other hand, shows no difference in the extracellular size compared to the unsalted muscle.

The salting substantially degrades the ultrastructure of the muscle with in particular a significant solubilization of the Z-lines. Salting by injection of brine leads to swelling of the myofibrils and almost complete solubilization of the Z lines.

Note: Please send abstract to the referred email address ([nercsf@163.com](mailto:nercsf@163.com)) before April 23, 2017.