

IRTA offers to assist companies in optimizing dry-cured ham elaboration processes, particularly in salt reduced products, in order to obtain a final product not only with a reduced salt content but also of good quality and with no safety hazards.

Computed Tomography (CT) is one of the emerging technologies of interest to food industries as it permits non-destructive control of the product during the elaboration process.

CT BASIS:

Application of CT in food science is based on the different X-ray attenuations that tissues of different density or added salt produce.

When using CT, images in various grey tones are obtained, in which lean meat, salt content, fat and bone tissues can be distinguished .

APPLICATIONS:

CT has been found to be especially helpful when studying salting and drying process of dry-cured ham.

CT adaptation:

Salt and water content as well as a_w can be predicted in dry-cured ham during the elaboration process using developed predictive models.

Salt, water or a_w distribution images can be obtained, which are useful for studying elaboration processes.

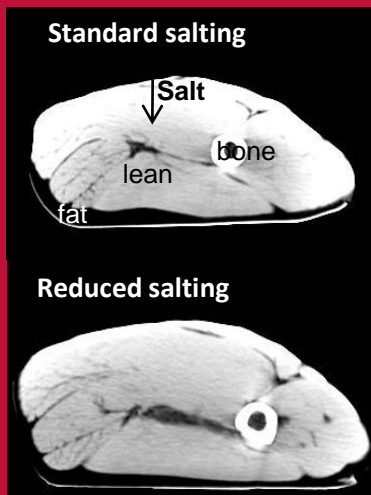
Prediction of these parameters enables the establishment of the minimal threshold values of these parameters in critical areas, which can be used as criteria to avoid either sensory defects or microbiological hazards.

CT is especially helpful when optimizing elaboration processes when salt content is reduced .

SERVICES:

IRTA offers advice and innovation to the dry-cured ham industry:

- Improvement of productivity and automation
- Quality management of salt-reduced products
- Food safety of salt-reduced products



Predictive models:

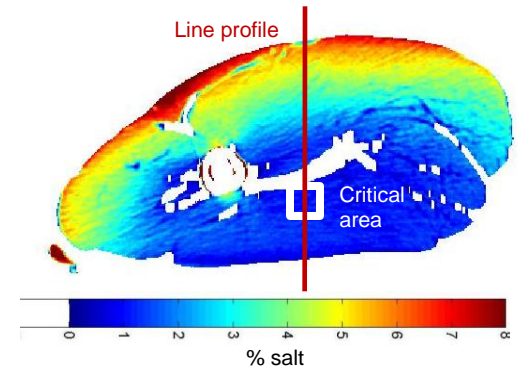
$$\text{Water (\%)} = 84.52 + 0.243 \times \text{HU}_{80} - 0.424 \times \text{HU}_{120}$$

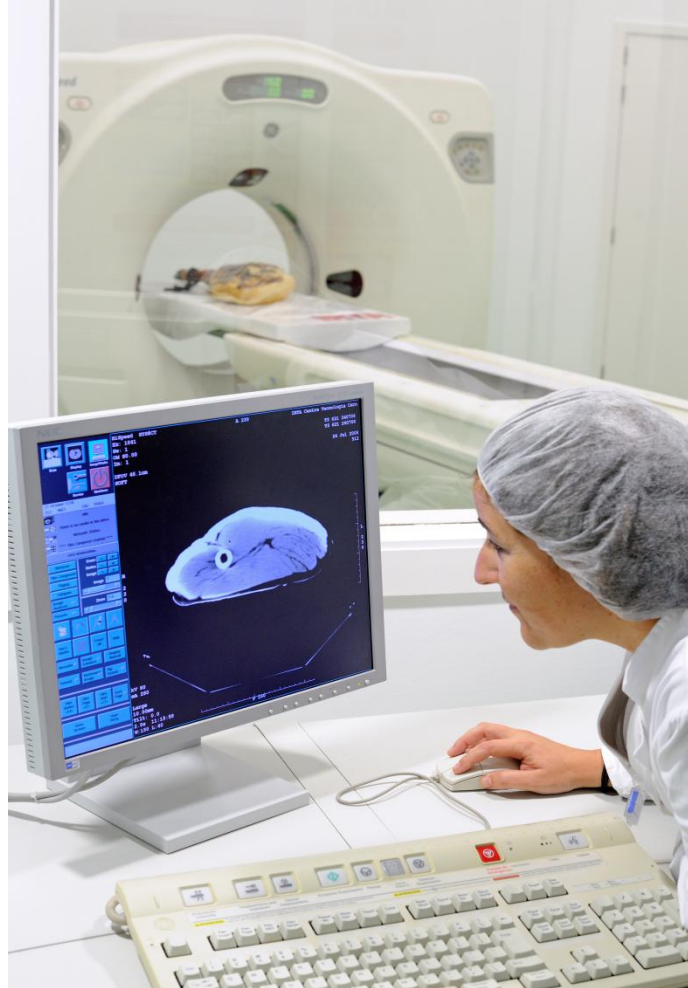
Error = 1.46%

$$\text{Salt (\%)} = -2.15 + 0.041 \times \text{HU}_{80}$$

Error = 0.29%

Image of salt distribution





CT applications in dry-cured ham elaboration processes



For more information contact:

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Applications:

Studying factors affecting salting procedure
Controlling safety and quality of salt reduced
products
Optimizing the resting/drying process
Quality evaluation of the final product