

FOOD TECHNICAL SERVICES – PROJECT: LISTERIA ISSUE ON SUPERMARKET BRANDED SMOKED SALMON

The Issue

A representative of a multisite Seafood business called for assistance after losing the business from a UK supermarket at one of its sites. Issues of “lost confidence in the business” arose following incidents of *Listeria monocytogenes* being detected in the supermarket branded of cold smoked salmon.

Investigations took place:

- The site had top BRC audit grades, they had decent controls to reduce the risks of *Listeria* ingress and product contamination; the site had good segregation of the high care room.
- Action plans were in place to resolve fabric/hygiene/*Listeria* presence issues.
- It was noted that this wasn't just *Listeria* presence but a growth issue too, thus more critical.
- The site had been advised to cut the processing times which had reduced the curing time and resulted in products with inadequate smoke/moisture/salt balances.
- At the same time “Water-activity” sampling methods were inadequate (they avoided the deeper lesser cured wetter parts of the fillet thus gave an artificially dry result).
- Thus, moist (low salt/high water-activity) product was being sliced too early, such that any *Listeria* (or *Clostridium*) contaminated slices wouldn't be resilient to growth.
- The “post smoking” and “post pack” cooling stages weren't rapid enough to suppress microbe growth. Final packs despatched and held within the deeper parts of a pallet could be too warm.
- Technical staff required additional depth of knowledge in processing/curing/food safety.
- The broader site needed some direction on processing and safety issues.

Listeria is often in raw products like these but at low levels, the curing and cold smoking processes cannot eliminate it. A well processed smoked salmon designed to prevent *Clostridium botulinum* growth will also restrict *Listeria* growth. UK/EU Government guidelines accepts low level *L.monocytogenes* in products which are proven not to support its growth.



Solutions and actions taken:

- A more thorough plan of action was developed/negotiated with supermarket food safety team.
- Produced more consistent smoker-drier loading plans to reduce variability in fish drying rates.
- Drew up Production schedules so as to allow: a) fresher raw material, b) more time for curing.
- Improved the water-activity methodology which included sampling across the full fillet depth.
- Set up system for daily calibration of the water-activity testing equipment.
- Created a test-release system so that failed/slow cures could be left for longer until they pass.
- Improved product presentation to the cooling airflow, ie reduced cooling rates to safer levels
- Redeveloped Food safety management systems (HACCP) with focus on these critical steps.
- Revalidated all shelf lives from an organoleptic and microbiological perspective.
- Helped the business recruit a skilled Technical Manager and assisted with team development.
- Encouraged “team buy-in”; & developed/training packs specific to the site procedures/needs:
 - o Making good quality safe smoked salmon - how curing and smoking can be controlled.
 - o Meaningful Water activity sampling, with positive release of fillets before slicing.
 - o Importance of blast chilling after warm stages in the process.
 - o Production scheduling and colour coding to identify stocks of each days production.
 - o Site HACCP and critical control points (curing and rapid cooling)
- With the team/Technical manager
 - o Developed a staff training programme for the future.
 - o Presented the upgraded site: new systems/practices/better trained staff/microbe results

Final outcome: Regained both the supermarket contract and business confidence