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

The Issue
A representative of a Multinational Seafood business called for assistance after losing the business of a UK supermarket at one of its processing sites. Issues of "lost confidence in management" had arose following incidents of Listeria monocytogenes presence in the supermarket brand cold smoked salmon.

Listeria can occur in fish, usually at low levels. Curing & cold smoking can't kill it; however, smoked salmon developed to restrict Clostridium botulinum growth usually restricts Listeria growth too. UK/EU guidelines accept low level L.monocytogenes in products if the product is resilient to its growth.

Initial investigations took place:
- The site had top grade BRC certification and good controls to reduce risks of Listeria ingress.
- Action plans were already in place to reduce fabric/hygiene/listeria presence issues.
- Significantly more critical than the "Listeria presence", was the unreported Listeria growth.
- The brand owner had reportedly advised a cut in total processing times which in-turn reduced the curing time which in-turn resulted in product with poor smoke/moisture/salt balances.
- Inadequate "Water-activity" sampling methods resulted in the deep muscle lesser cured parts going untested and management mistakenly assuming product to be OK (dry/robust to growth).
- Product sliced too early (ie before having adequate salt/moisture distribution) wouldn't all be resilient to growth of Listeria (or worse still, to Clostridium botulinum should it ever be present).
- The "post pack" cooling stages weren't rapid enough, thus packs despatched & held within the deeper parts of a pallet would easily remain warm enough for cold tolerant Listeria to grow).
- The site team needed some support/direction on salmon process/curing/microbe-control/safety.

Solutions and actions taken:
- More thorough action plans were negotiated with the supermarket food safety team.
- Better "smoker-drier loading plans" were implemented to reduce variability in fish drying rates.
- Harvest-process-despatch-Usebydate schedules were created to a) let each dept plan daily throughput & control their processes, b) allow for better curing & blast chilling times (ie safety)
- Upgraded the Water-activity methodology to include for eg: samplings across the fillet depth.
- Set up system for daily calibration of the water-activity testing equipment.
- Created a test & release system so that slow cures could be left for longer - ie until fully cured.
- Improved pack presentation to & time under the cooling airblast - enabling full cooling to <4C.
- Redeveloped the HACCP Food safety management system - more focus on these critical steps.
- Revalidated all product shelf lifes (with organoleptic chemical & microbiological assesments).
- Helped the business recruit a skilled Technical Manager, then assisted with team development.
- Encouraged "team buy-in"; & developed/training packs specific to the site procedures/needs:
    - Making good quality safe smoked salmon - how curing and smoking can be controlled.
    - Meaningful Water activity sampling, with positive release of fillets before slicing.
    - Importance of appropriate blast chilling after warm stages in the process.
    - Production scheduling & stock colour
    - Site HACCP and reasoning behind the critical control points
- With the team/Technical manager developed a staff training programme for the future.

Final outcome: Following presentations on the range of upgrades and evidence data, the supermarket renewed the contract. The team appeared to be more confident in its product & with the supermarket.