

FOOD TECHNICAL SERVICES – PROJECT: HYDROCOLLOIDS AND AMBIENT STABLE PÂTÉ PRODUCTION

The Issue

A regular client running a small seafood smokehouse had ambitions to move from short life chilled premium quality smoked mackerel herring and salmon pâtés to a range of ambient stable sterilised long life equivalents; thus enabling export of pâté to their existing markets in mainland Europe & USA.

During the product/process development period – numerous obstacles had to be overcome, one issue related to scaling up via pilot scale retort to commercial scale retort and making the Pâté robust enough to cope with sterilisation of 121°C for 3min (standard 12 log cycle Botulinum cook).

The Smoked salmon variant which naturally had a lower fat and higher moisture than both Herring and Mackerel variants was suffering from syneresis (expulsion of aqueous phase). This occasionally caused an unsightly aqueous top layer and impacted on pâté texture.



Trials and Investigations:

Several recipe changes were tried (& failed) followed by a search for functional ingredients that'd:

- Stabilise the aqueous phase and not detract from the flavour and quality feel of the pâté.
- Allow us to keep a "clean label" i.e. one free of ingredients that might deter some customers.

Hydrocolloids were considered for the hydrophilic (water liking) properties we were looking for.

Used even in minute quantities they can stabilise/retain the aqueous phases within foods, thus retain:

- Product appearance,
- Texture,
- Flavour enhancing effects that may have otherwise been lost to the aqueous phase (eg salt).

The solution:

A call to industry associates led us to Andina – hydrocolloid specialists.

- After briefing Andina, we were provided with samples of Guar flour, a hydrocolloid suitable for mixing into cold mix pâtés that are filled into pack - then heated in pack.
- Guar flour is a polysaccharide rich constituent of Guar plant seeds (a Legume native of arid parts of India). It helps seeds retain water during drought, thus has uses in food processes.
- Added as a powder at less 0.5% of the total pâté weight it worked perfectly.

