

Adding value to under-utilised seafood resources

A. Furey, J. Babikova, U. Hoeche, F. Noci

Galway Mayo Institute of Technology

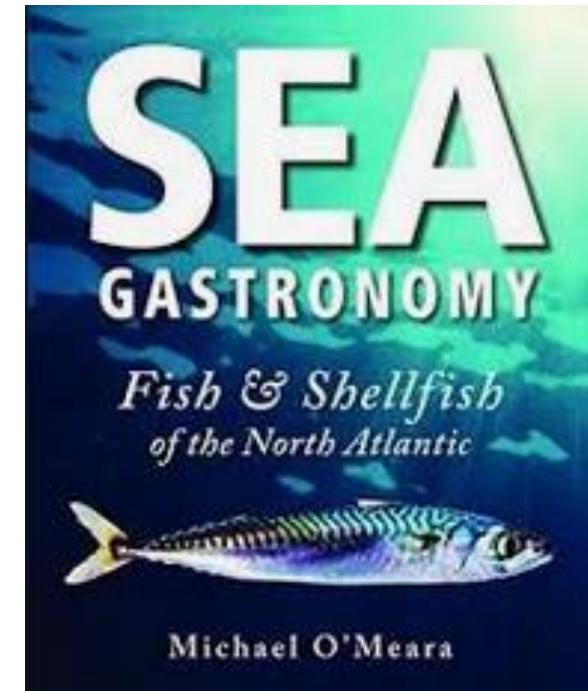


Sensory Food Network Ireland
30th September 2019



Background to the work

- 1 project started in September 2017
 - Whole roe
 - Spreadable roe- based products
- 1 project started in September 2018
 - Sprat
- Both projects looking at opportunities to add value to underused marine resources
- Collaboration between research team at GMIT and Mr. M. O'Meara (Oscar's, Cashla Bay Sauces, author of Sea Gastronomy)



Aim

- Feasibility of developing a fish roe product to add value to this currently under-utilised nutritious seafood resource
- Up to 70% of fish is ‘non-fillet’ (Archer, 2001)



Roe products



- Beluga £180/30g (£6,000/kg)
- Oscietra £95/30g (£3,167/kg)

Bottarga



- Mullet bottarga from Cabras and Tortoli' (IT) up to €250/kg



Processing

- Optimisation of
 - Salting
 - Dehydration time for product in sticks
 - Dehydration time for grated product
- Comparative analysis with commercial samples (mullet and cod)
 - Microbial
 - Colour
 - Texture
 - pH
 - Sensory

Salted air-dried pollock roe



Initial weight 308.8 g



Final weight 177.1 g



Summary findings

Salted dried pollock showed

- similar sensory and physico-chemical characteristics to mullet and cod products
- favourable overall liking scores
- balanced level of fishiness
- very acceptable appearance for sliced products
- comparable texture, flavour and overall liking to grated mullet bottarga
- nutritious fish ingredient for the development of seafood products
- opportunity to add value while reducing waste or by-products

Roe based spreadable products

Two product types under development and investigation

- spreadable emulsions
- pate' style
- Selected physico-chemical attributes
- Sensory characteristics



Roe based spreadable products

From Left to right:

- Smoked cod + herring
- Smoked plaice + herring
- Plaice Pate'
- Cod Pate'



Provisional findings

- Cod based products showed more appealing
 - Colour
 - Appearance
 - Texture
- Overall liking of spreads was very positive
- Level of Fishiness a key factor for liking
- Pates overall received positively by the assessors
- Development of work based on pates granted further funding

Sprat project

- Relatively large volume of sprat fished with limited market value
- Mostly sold frozen or fish meal
- Project investigating conventional methods for adding value to Irish caught sprat
- Formulations for a sprat-based value-added products with Irish Wild Atlantic connotation



Sprat

- Impact of traditional processing methods and changes in formulation on physical, chemical and sensory characteristics
- Comparison with commercially available products

Next phase

- Sensory evaluation of acceptability of sprat-based products



Acknowledgements

Researchers

- U. Hoeche

Postgraduate researchers

- A. Furey
- J. Babikova

GMIT RISE scheme



GMIT



Thank you

Any questions?

