

Bord Iascaigh Mhara
Irish Sea Fisheries Board



SDC Product Innovation Pelagic Category

New Product Development for Mackerel

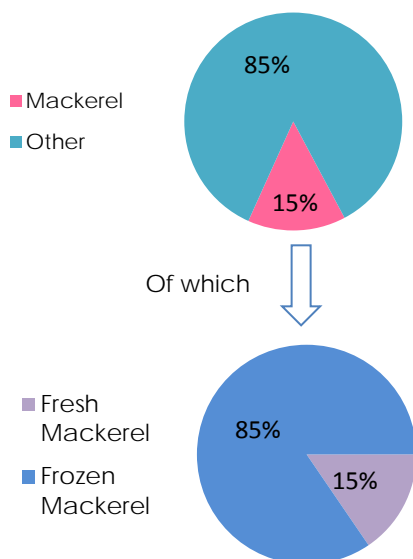


Project Objectives:

The focus of this project is to:

- Identify what innovative product concepts could be created for market.
- Experiment using different recipes, ingredients, and concepts with the aim of developing a finished product.
- Investigate machinery and packaging options suitable for these products.

Seafood Exports 2013



In January and February, the fat content is between 18% and 22% and up to 85% of the Irish quota is landed from this period of the season, which is known as 'The spring fishery'

Introduction

Mackerel is one of the main commercial pelagic species caught by Irish pelagic vessels (alongside herring, blue whiting and horse mackerel).

Mackerel is an important food fish that is consumed worldwide. It has a brownish oil rich meat with a medium size flake. It has a distinct flavour so lends itself to simple preparation.

Oily fish, such as mackerel are recommended as part of the diet because they contain long chain fatty acids. These long chain omega-3 fatty acids are called DHA and EPA, which the human body has very limited ability to make. They are very important as they help to prevent blood clots forming and are protective against heart disease. They are also important for brain and eye development in babies during pregnancy and early life.

Currently the majority of Irish mackerel is exported to markets such as Russia, Nigeria, Germany, France and the UK. For 2014, the Irish quota for Mackerel is 65,275T. In 2013, total seafood exports amounted to €489m, of which Irish Mackerel was 15% (€71m). Of this whole fresh mackerel exports had a value of €10.7m and whole frozen mackerel exports had a value of €58.5m.

It can be seen from these figures that the majority of Irish mackerel is being exported whole. Therefore, BIM need to explore new opportunities for Mackerel to be in a better position to assist Irish seafood processors through NPD.

Market Research

There has been little innovation, creativity or variation in mackerel products brought to the European market since September 2012. This is according to a "monitoring new product trends and innovations" report by market research firm Mintel, which highlights new and/or updated mackerel products to the market. A total of 164 mackerel products were launched/rebranded. Over 42% of products mentioned were simply tinned mackerel in a sauce. Others included were smoked mackerel, frozen breaded mackerel and mackerel fillets.

After thorough market research and speaking with a number of key expert people in the pelagic area, I have come to the conclusion that any new product offering will have to match the following criteria:

- Targeted at **stable markets** - avoid vulnerable markets such as Russia, Nigeria, focusing instead on key European markets
- **Convenient** - ready to go, prepared or snacking
- **Healthy** - free from gluten, protein value highlighted
- **Profitable** and appealing business option for traditional processors

New Product Development

Taking into consideration the current market situation for mackerel, significant attributes of the mackerel species, and key consumer trends the ideas below are being considered as new product offerings for mackerel:

Mackerel is high in omega-3 oils and has a brownish rich meat with a medium size flake. It has a distinct flavour and lends itself to simple preparation



Mackerel on ice

Millennials born in 1980-2000 – now aged 16-36 years old



Ready to eat mackerel salad prototype

Premium health bar

Premium ready to eat mackerel salad

Ravioli filled with smoked mackerel

Premium Health Bar

Ingredient Ideas: Chocolate, Honey, Mackerel, Mint and Mackerel flavours with supplements such as spirulina/protein powder. Muesli base or rice cake format. (Rice cakes are a key product in free from ranges which seem to be maintaining development through the introduction of new flavours and toppings).

Targeted at Millennials; health conscious, sporty, university student/young professionals who carry snacks with them in between meals.

Product idea did not receive positive consumer feedback.

The idea was discarded before being taking forward to production or sensory trials.

Premium ready to eat mackerel salad

Ingredient ideas: Quinoa, Mackerel, Dillisk, Kale, Spirulina, Mango, Avocado.

Targeted at young professionals, on the go, health conscious, well-educated consumers in metropolitan cities such as Paris.

Initial product idea was well received by consumers, however, the product kept poorly when tested for shelf life. The product costings were also higher, taking into consideration the multiple fresh/raw ingredients in the product recipes. These ingredients would need to be processed further in order to produce well-presented and stable mackerel salad.

The idea was discarded before being taking forward to production trials.

Ravioli filled with smoked mackerel

Filling Ideas: 7 different recipes developed.

Smoked mackerel with:

1. Pesto
2. Four cheeses
3. Four cheeses and spinach
4. Four cheeses, tomato and pesto
5. Tomato and chilli
6. Mushroom and onion
7. Asparagus

Targeted at well-educated, high-earning families who like to prepare wholesome, health conscious meals with little effort.

Sensory analysis was carried out on the 7 recipes and the following 3 were the most preferred: Pesto, four cheeses and four cheeses, tomato and spinach.

The idea was continued onto production trials

Packaging options investigated was a resealable pouch, for convenience with a clear window to allow visibility of the product.

Scale-up: In order for a seafood company to produce this product, they would need to

1. Outsource production
or
2. Purchase all the equipment (such as Ravioli Italpast) and packaging needed to produce the ravioli in their own factory

Ravioli sensory comments:

"So tasty, wouldn't know it had mackerel in it!"

"Eating fish without realising it... very tasty!"

"Deliciously creamy!"

"Unusual concept, great idea!"

"Would definitely purchase these in store on regular basis"

Strengths

- New markets,
- Added Value,
- Expansion,
- Increased stability

Weaknesses

- Machinery investment,
- Training,
- Factory layout

Opportunities

- New flavours,
- Further development,

Threats

- Imitation,
- Competition,
- Wider Macro environment

Conclusion

Further work needs to be completed on product costings, scalability and consumer acceptability.

This ravioli filled with smoked mackerel product is an innovative, value-add product option for a species that is mainly commodity based or sold in a tinned format.



Ravioli for Sensory Analysis