Exploring the biological and socioeconomic potential of new/emerging candidate fish species for the expansion of the European aquaculture industry:

**UPDATED RESULTS**

**2018**

Dinos Mylonas
Project Coordinator
HCMR
Crete, Greece

Rocio Robles, Dissemination leader/Scientist
CTAQUA
Cadiz, Spain

Co-funded by the Seventh Framework Programme of the European Union
GRAZIE
Andrea Fabris, Lucia and Vladimir
WORKSHOP AGENDA

9:30 Wellcome and registration.

10:00 *Presentation of the Project DIVERSIFY.* Rocío Robles. Dissemination leader DIVERSIFY. CTAQUA. Spain

10:20 *Aquaculture production in Italy.* Andrea Fabris, API Director, Italy

10:40 *Traceability, labelling and certification of aquatic products.* Javier Ojeda, APROMAR, Spain

11:00 *Coffee break*

11:30 *Current Opportunities and Challenges for Consumer Acceptance of Aquaculture Products.* Marija Banovic, MAPP Centre, Aarhus University, Denmark.

11:50 “*What do Italians think about aquaculture fish and the products made from it?*”. Luis Guerrero, IRTA, Monells, Spain.

12:10 *Competition, trends and critical success factors for new aquaculture species.* Gemma Tacken (Stichting Wageningen Research, Wageningen, The Netherlands)

12:30 *DEBATE:*

Consumer attitude to diversification in aquaculture fish products: trust of consumer in aquaculture products, sustainability and health-related behavior.

- **Moderator:** Marija Banovic (MAPP Centre) and Rocío Robles (CTAQUA)

13:30 *PRODUCT DEGUSTATION*

Following the debate, some DIVERSIFY products elaborated with *Grey mullet* (*M. cephalus*) and *Meagre* (*A. regius*) will be offered for degustation at the facilities of API.
Exploring the biological and socioeconomic potential of new/emerging candidate fish species for the expansion of the European aquaculture industry

Co-funded by the Seventh Framework Programme of the European Union
Seafood consumption in the world/EU

- 50% of seafood worldwide from Aquaculture
- 10% of seafood in the EU from Aquaculture
- 65% of seafood in the EU imported

Strong interest from the European Commission to increase EU aquaculture production via DIVERSIFICATION
Problems with Mediterranean species

- Consumers prefer fillets, steaks, ready-to-cook
- Small, plate size (difficult to prepare, bones)
- Larger fish more expensive to grow (3 y)
Choice of new/emerging species

- meagre
- greater amberjack
- Pikeperch (fw, RAS)
- grey mullet
- wreckfish
- Atlantic halibut
Partnership of DIVERSIFY

37 partners:
Spain, France, Italy, Greece, Israel, Belgium, Denmark, Netherlands, Norway, UK, Germany and Hungary

20 Research/Universities
9 Small Medium Enterprises
2 Large companies
5 Professional associations
1 NGO
Research areas

- Reproduction and genetics
- Larval husbandry
- Nutrition
- Fish health
- Socioeconomics
- Grow out husbandry
Description of the **genetic variability** of the broodstock

Paired-spawning control and *in vitro* fertilization methods

Successful spawning **protocols**

Protocol for enrichment of live food in larviculture (DHA)

**Grow out**: response to physical stimuli

Day and night distribution in **sea cages**
Successful hormonal control of reproduction (implants)

500,000 juveniles obtained → grow out cages

Main challenge: control of parasites in grow out
• **F1 fish** could be hormonally induced to spawn earlier with higher fecundity than controls

• Development of a VNN vaccine: capsid replicated

• Production efficiency increased
4-GREY MULLET

- Important knowledge generated on herbivorous sps.
- Controlled reproduction by hormonal treatment
- Effect of Taurine in larviculture
- High number of juveniles obtained
- Grow out under evaluation
5-PIKE PERCH

- Relevant role of HUFA and vitamins in larviculture.
- Prevention high cannibalism in larviculture
- Optimization of RAS via multifactorial studies (light intensity, water renewal moment and rate, siphoning period, water current...)
- Improvement of rearing practices in ongrowing
6- WRECK FISH

- Most **challenging** species
- **In vitro** fertilization protocol.
- **Wild-cultured** nutritional comparison
- Limited **larviculture** period

High larval mortality.

Survival up to 27 days.
SOCIOECONOMIC WORKPACKAGES

- WP 27-Institutional and organizational context
- WP 28-New product development
- WP 29-Consumer value perceptions and behavioural change
- WP 30-Business model and marketing strategy development
WP 28 New product development

41 ideas for new product development of value added products.

12 ideas selected for checking production feasibility and food safety.

6 ideas selected for consumer evaluation in Spain, UK, Germany, France and Italy.
Ready to eat **meagre** salad

Fresh frozen **greater amberjack** filet

**Grey mullet** in olive oil

Hamburguer fish shape (**pikeperch**)

Smoked **grey mullet**

Fish paté (**pikeperch**)
Articles in Aquaculture Europe:

- MEAGRE
- PIKEPERCH
- AMBERJACK
- HALIBUT
- WRECKFISH
THANK YOU

www.diversifyfish.eu

Co-funded by the Seventh Framework Programme of the European Union

This project has received funding from the European Union’s Seventh Framework Programme for research, technological development and demonstration (KBBE-2013-07 single stage, GA 603121, DIVERSIFY).