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

UPDATED RESULTS
MAY 2017

Dinos Mylonas, Project Coordinator
HCMR
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Rocio Robles, Dissemination leader
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Cadiz, Spain

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

Matthias Keller, Svenja Motzkus, Sandra Kees and Sabine Wedell
WORKSHOP AGENDA

10:00 *Presentation of the project DIVERSIFY.*
Rocio Robles, Dissemination leader. Technical Director, CTAQUA, Spain.

10:20 *The German fish market in figures: Update on valuable data.*
Matthias Keller, Managing Director of BVFi, Germany.

10:40 *German markets: consumer attitude to new fish products.*
Jürgen Pauly, Category Manager Fresh, Globus SB-Warenhaus, Germany.

11:00 Coffee break

11:30 *Aquaculture products for the long run: Consumer-driven product idea development from Diversify.*
Marija Banovic, MAPP Centre, Department of Management, Aarhus University, Denmark.

11:50 *Traceability, labelling and certification of fish products.*
Javier Ojeda, APROMAR, Spain.

12:10 *Cross-cultural consumer perception of new fish products.*
Luis Guerrero, IRTA, Monells, Spain.

12:30 Debate: *Consumer attitude to diversification in aquaculture fish products: trust of consumers in aquaculture products, sustainability and health-related behaviour.*

Moderator: Marija Banovic (AU)

Panel: Matthias Keller (BVFi); Jürgen Pauly (Globus); Birgit Schmidt-Puckhaber, (Fachzentrum Landwirtschaft); Javier Ojeda (Apromar); Luis Guerrero (IRTA); Machiel Reinders (WUR).
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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

- greater amberjack
- Pikeperch (fw, RAS)
- meagre
- 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
- Socioeconomics
- Grow out husbandry
- Larval husbandry
- Nutrition
- Fish health
RESULTS

Greater Amberjack
(Seriola dumerili)

Grey Mullet
(Mugil cephalus)

Pikeperch
(Sander lucioperca)

Atlantic Halibut
(Hippoglossus hippoglossus)

Wreckfish
(Polyprion americanus)

Meagre
(Argyrosomus regius)
1-MEAGRE

- 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
- Distribution in **sea cages**
2- GREATER AMBERJACK

• Successful hormonal control of reproduction (implants)

• 300,000 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
- Taurine in larviculture
- High number of juveniles obtained
- Grow out under evaluation
• 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.
Socioeconomics

Ready to eat **meagre** salad

**Grey mullet** in olive oil

Smoked **grey mullet**

Fresh frozen **greater amberjack** filet

Hamburguer fish shape (**pike perch**)

Fish paté (**pike perch**)
Thank you
www.diversifyfish.eu

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