



Lumpfish start feeding - new insights into the effects on growth, survival and behavioral responses

‘On the Horizon’ Online Webinar. 29.09.21

Ibon García Gallego. University of Las Palmas de Gran Canaria (ULPGC)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 871108 (AQUAEXCEL3.0). This output reflects only the author's view and the European Commission cannot be held responsible for any use that may be made of the information contained therein.

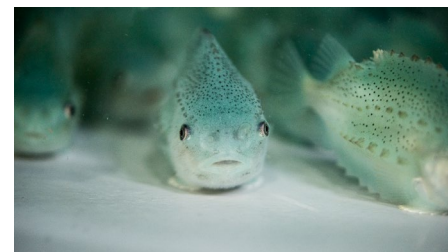
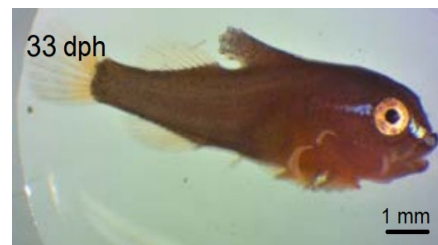
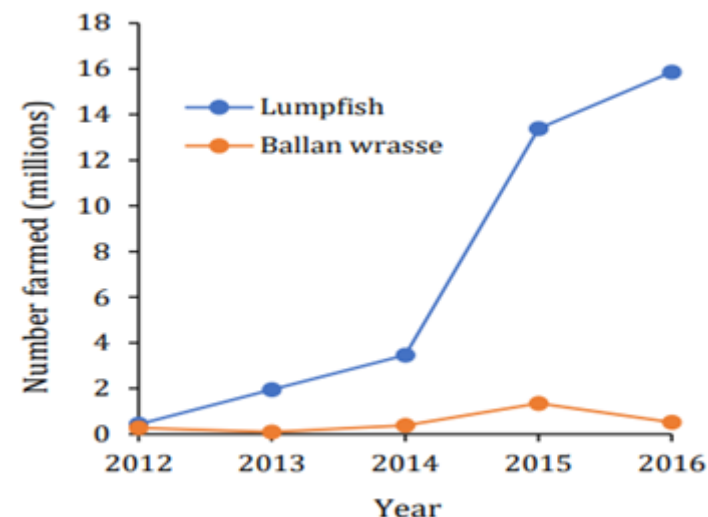


@AQUAEXCEL3

aquaexcel.eu

INDUSTRY NEED

- **Challenge: lumpfish production is currently characterized by variable growth and survival during the larval stages. There is a clear industry need to:**
 - Better know **nutritional requirements**
 - Better know **functional behavior of lumpfish larvae**
 - How larval and juvenile behavioral responses are affected by the **nutritional quality** of the first feed



SOLUTION

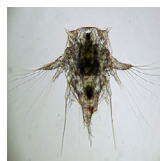
ARTEMIA

Significantly better growth and survival

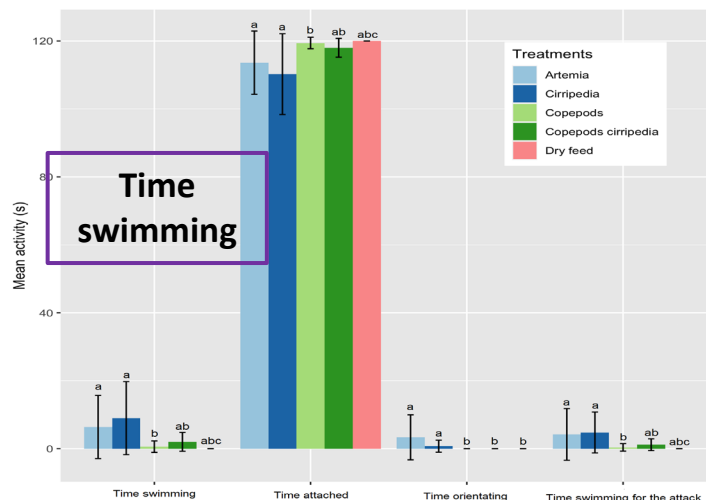


CIRRIPEDS

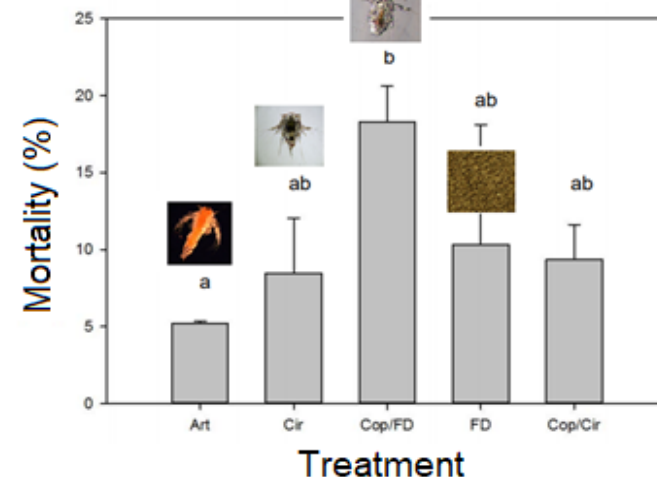
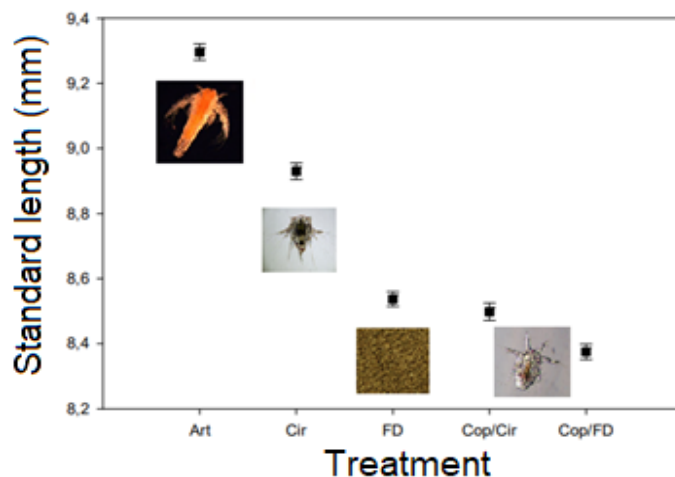
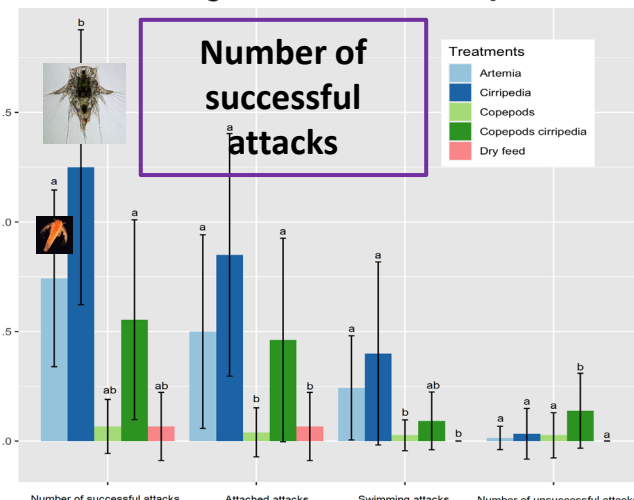
More swimming activity and prey attacks



Feeding behaviour at 28 dph



Feeding behaviour at 28 dph



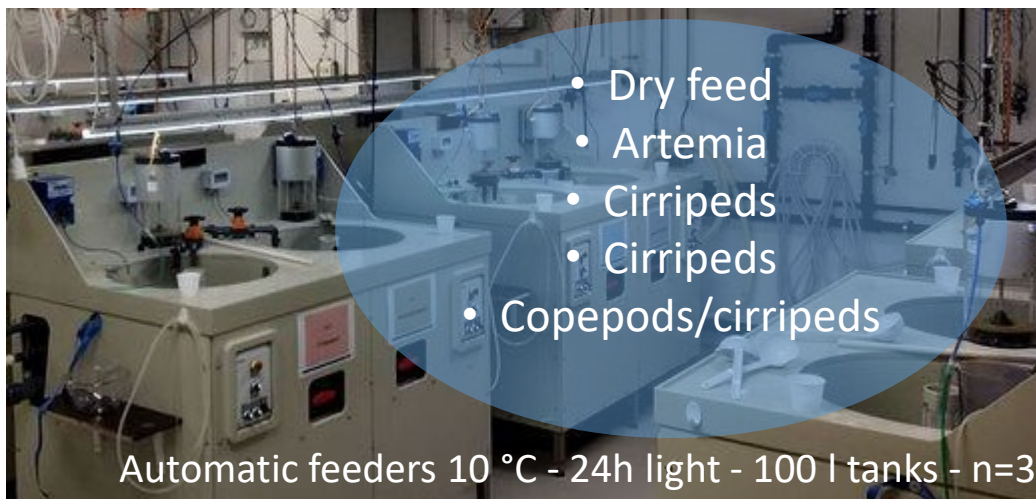
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 871108 (AQUAEXCEL3.0). This output reflects only the author's view and the European Commission cannot be held responsible for any use that may be made of the information contained therein.



@AQUAEXCEL3

aquaexcel.eu

UNDERLYING MAGIC



1. Time swimming
2. Time attached
3. Time orientating
4. Successful and unsuccessful attacks
5. Type of attacks (swimming or attacked)

- Sampling was performed at **16 dph, 22 dph** and **28 dph**
- **10 larvae** were sampled from each **100l tank** and placed into **1l** plastic bottles
- For **3 hours** larvae were **acclimatized**
- Volume of live prey (**350 cirripeds/ml + 350 Artemia nauplii/ml**) was added into the bottle
- **Larval activity** was recorded for **2 min**



TARGET MARKET

- Lumpfish hatcheries and industry



Optimize the **start feeding** protocols for **lumpfish**



- Aquaculture feed producers



Improve the quality and robustness of lumpfish (**high-quality lumpfish**): **CONTROL SEA LICE**



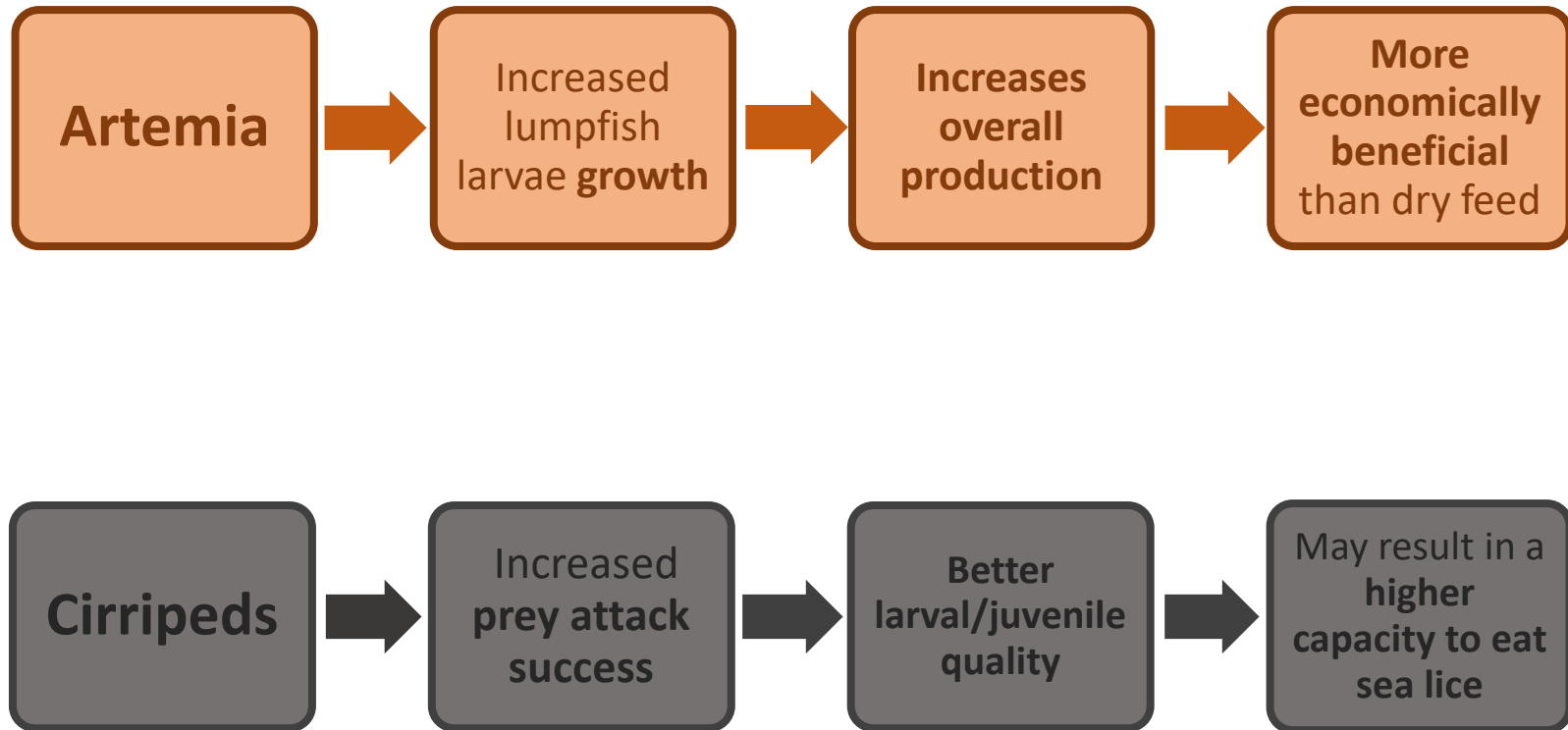
- Lumpfish aquaculture researchers



Continue researching the **key areas in the production cycle** of lumpfish



RESULTS and IMPACT

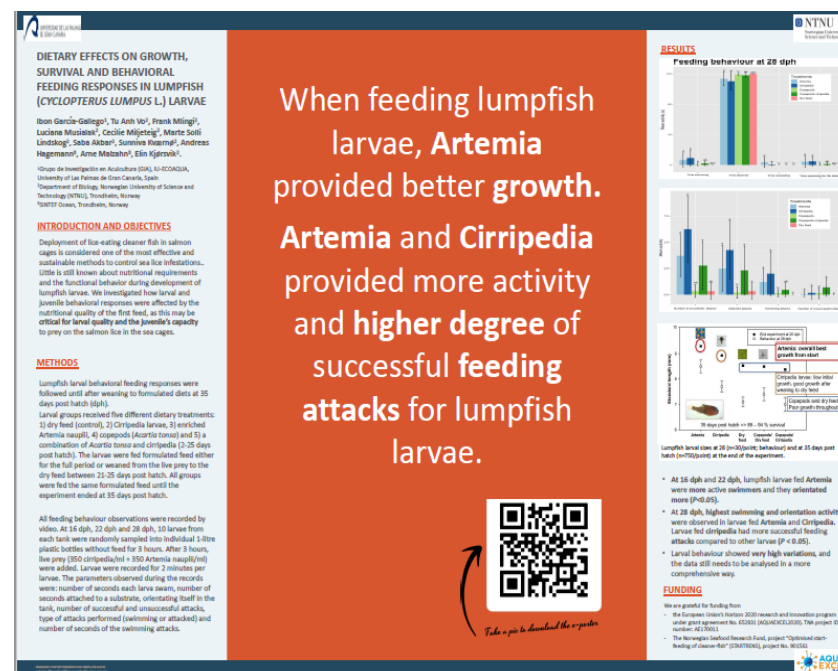


CURRENT STATUS

- TRL 4 – technology validated in lab
- AE21 e-poster
- Need to link these results with **the nutrient content** of the diet (**lipids and proteins**): restrictions due to Covid-19
- Future peer journal publication



AQUAculture infrastructures
for EXCELlence in European
fish research 3.0



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 871108 (AQUAEXCEL3.0). This output reflects only the author's view and the European Commission cannot be held responsible for any use that may be made of the information contained therein.



@AQUAEXCEL3

aquaexcel.eu



AQUAculture infrastructures
for EXCELlence in European
fish research 3.0

CONTACT US:

Communications & Press

Sarah Cosgrove

Email: sarah.cosgove@erinn.eu

Project Coordinator

Marc Vandeputte

Email: marc.vandeputte@inrae.fr

Thank you!

If you are interested to invest/collaborate towards the further development of this OUTPUT, please come and talk to me afterwards



ibon.garcia101@alu.ulpgc.es



Ibon García Gallego

Project Manager

Nesrine Mezghrani

Email: nesrine.mezghrani@inrae.fr



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 871108 (AQUAEXCEL3.0). This output reflects only the author's view and the European Commission cannot be held responsible for any use that may be made of the information contained therein.



@AQUAEXCEL3

aquaexcel.eu