EarlyCOD

Webinar:

How can nutritional strategies affect the development of farmed cod?

COD CLUSTER

Early Weaning of cod larvae

planktonic sparos I&D nutrition in aquaculture ciimar ALGARVE 2030 COMPETE 2030 PORTUGAL 2030 Cofinanciado pela União Europeia eurostars eureka innovation beyond borders

Study Design

Objective:

- Test the effect of a new live feed regime and two novel microdiets on Atlantic cod biological performance.

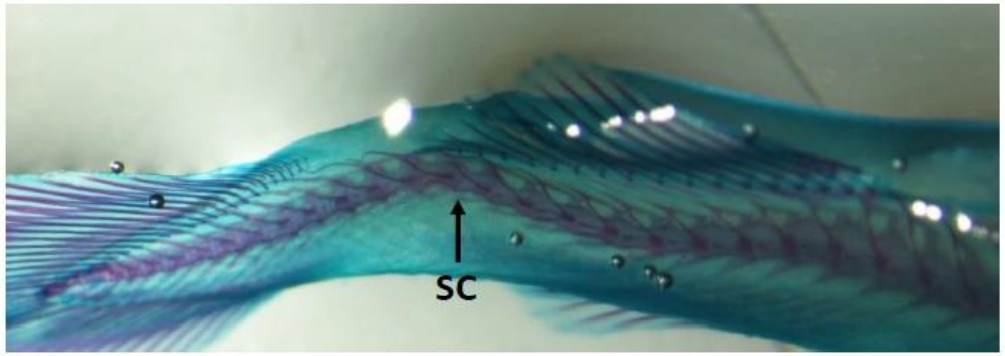
Trial features:

- Atlantic cod larvae from 3-66 dph
- 3 treatments

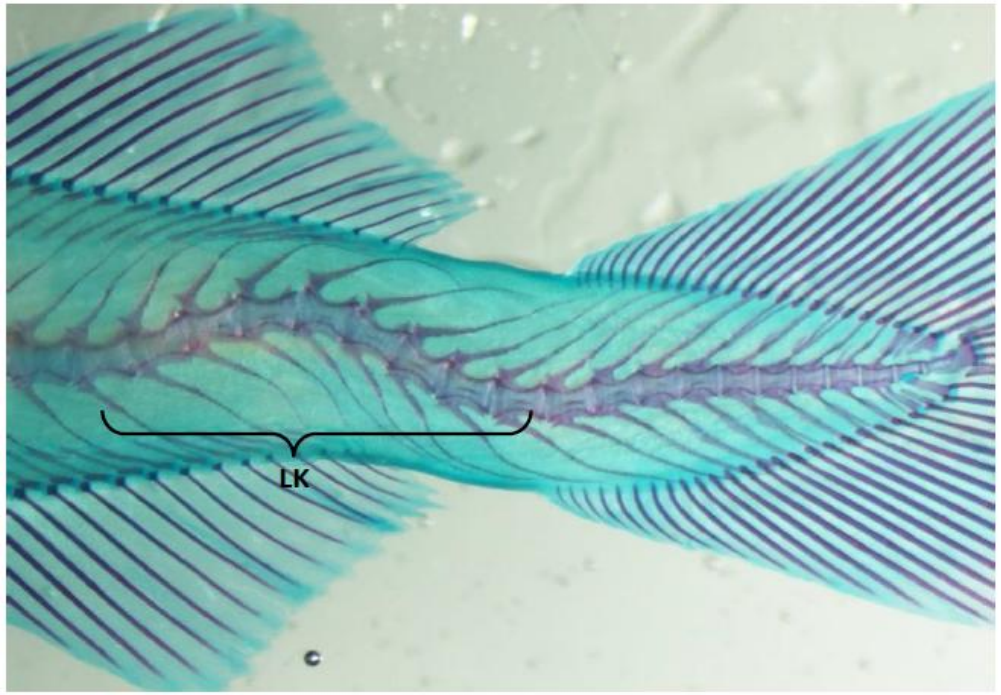
CTRL	Rotifers + Cryo-L + CONTROL diet	Live Feeds → 3-45 dph
D1	Rotifers + Cryo-µ + Cryo-S + Cryo-L + D1 diet	Co-feeding → 27-45 dph
D2	Rotifers + Cryo-µ + Cryo-S + Cryo-L + D2 diet	Inert Feeds → 46-66 dph

- Microdiets: **D1** – enhanced in Vegetable phospholipids (Veg PL);
  D2 – enhanced in Marine phospholipids (Mar PL);
  CTRL – SK Gemma Micro
- Sampling: zootechnical parameters (DW, WW, SL, RGR, FCR, Survival), Gene expression, Skeletal anomalies and Histology.

Results on deformities



Example of an Atlantic cod affected with scoliosis (SC), observed at 66 DPH, detected by double staining (alcian blue and alizarin red S).



Example of an Atlantic cod affected with lordosis/kyphosis (LK), observed at 66 DPH, detected by double staining (alcian blue and alizarin red S).

Take Home Message

ZOOTECHNICAL

- ❑ **Combination of CryoPlankton products and SPAROS diets linked to** good growth performance in Atlantic cod larvae, *in line with commercial hatchery production*.

HISTOLOGY

- ❑ **Live feed: Cryo-µ, Cryo-S and Cryo-L** show a positive effect on organ ontogeny, when compared to Cryo-L only.
- ❑ **Microdiets: SPAROS D1 and D3 associated with** overall better organ ontogeny (namely gut, eye and liver), in comparison with SKRETTING diet.

DEFORMITIES

- ❑ There was a clear reduction in skeletal deformities in cod fed SPAROS diets. In particular, diets D1 and D3 are linked to the lowest number of skeletal anomalies (general and severe).
- ❑ Phosphorus of 2.0:% may lead to better skeleton mineralization & lower incidence of skeletal deformities.

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Question and Discussion

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Thank you for joining us!

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