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For more details please contact us
Murgat Ingenierie
 Tel: 00 33 4 74 79 18 98
 Fax: 00 33 4 74 79 79 94
 36 CHEMIN DU LAVOR. SOURCES DES FONTAINES
 38270 BEAUFORT FRANCE
 Email: lesfontaines@charlesmurgat.com



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NEWS

Larval nutrition credited with success of Chilean yellowtail kingfish hatchery

Acuícola del Norte (Acuinor) is one of the largest yellowtail kingfish (*Seriola lalandi*) hatcheries currently operating in the world. The hatchery is located 900 km north of Santiago, Chile in one of the driest and harshest environments in the world, the Atacama Desert, where ocean water temperatures allow the rearing of *Seriola*.

Currently, Acuinor supplies *S. lalandi* eggs, larvae, juveniles and market size fish year around. Most of these are exports to Europe, Asia and USA.

Initially the hatchery (tanks, live feed systems and RAS) was built according to 'marine hatchery specifications and requirements' design. However, it was found that although the design was standard it was not an optimal and specific design for yellowtail.

During the past four years, most of the systems have been made as effective and efficient as possible for this demanding species, taking care of every detail in the larvae rearing process. This optimizing course of action was done with the help of CORFO and in collaboration with Dr Sagiv Kolkovski of Nutrakol in Australia.



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During the last year, the company achieved a significant milestone, reaching a survival rate of around of 20% from hatching to 1gr juveniles.

One of the primary reasons credited with attaining the improved results included a specific nutritional program developed by Nutrakol Pty Ltd for the broodstock as well as the live feed and larvae. Nutrakol is an Australian company specializing in nutritional and health solutions for aquaculture. The company manufactures 'tailor-made' diets and additives for broodstock and larvae, as well as, health solutions based on herbal remedies.

The broodstock feeding protocol includes a combination of fresh diet (pilchards and mackerels) and semi-moist diet that includes premium fishmeal and oil. Nutritional additives developed specifically for *S. lalandi* (Nutrabrood) are added to the diet at different levels according to their spawning program. These include essential nutrients such as HUFA's at specific levels and ratios, vitamins, immune stimulants, carotenoids etc. Herbal extract additives which act as hormonal boosters and modulators and also added before and during the spawning season to support and improve the gonadal development and quality (Kolkovski and Kolkovski, 2013).

Larvae nutrition includes specific live feed enrichment designed specifically for *Seriola*, to supply all the essential nutrients for these fast growing larvae.

A new additive, based solely on herbal extracts aimed at reducing the bacteria in live feeds in addition to boosting and supporting the larvae immune system, was incorporated as a standard additive during the live feed phase. Aside from its bactericide effect, the additive increases larvae stress resistance which is extremely important during the transition periods between feeds i.e. rotifers to *Artemia* and then weaning stages.



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jeremy@capamara.com