You Decide: Global Aquaculture Innovation Award Finalists Make Their Pitch, Sponsored by Skretting

- **CRISTIÁN MORENO**, MNL GROUP / FUTERPENOL
- **MIHIR PERSHAD**, VAKSEA
- **ZACH STEIN**, OSMO SYSTEMS / OSMOBOT

CRISTIÁN MORENO
DEPUTY DIRECTOR

Futerpenol

Cristián is deputy director of the animal health division at Santiago, Chile-based MNL Group. Previously, he served as CEO of SalmonChile, focusing on rebuilding the industry in the wake of the ISA crisis. He understands the challenges aquaculture faces dealing with raising healthy, disease-resistant animals. MNL Group's innovation is Futerpenol®, a non-pharmacological, natural feed additive that reduces the need for antibiotics in aquaculture by producing stronger, more disease-resistant fish.

GOAL GUAYAQUIL ECUADOR

Global Aquaculture Alliance

THE FUTERPENOL® STORY

CRISTIÁN MORENO T. - MBA

DEPUTY DIRECTOR

ANIMAL HEALTH DIVISION

MNL GROUP

GOAL 2018

GUAYAQUIL, ECUADOR

SEPTEMBER 27, 2018.

HELLO!

“The best way to predict your future, is to create it”
Abraham Lincoln.

Natural Products: Maquibright® & Delphinol®

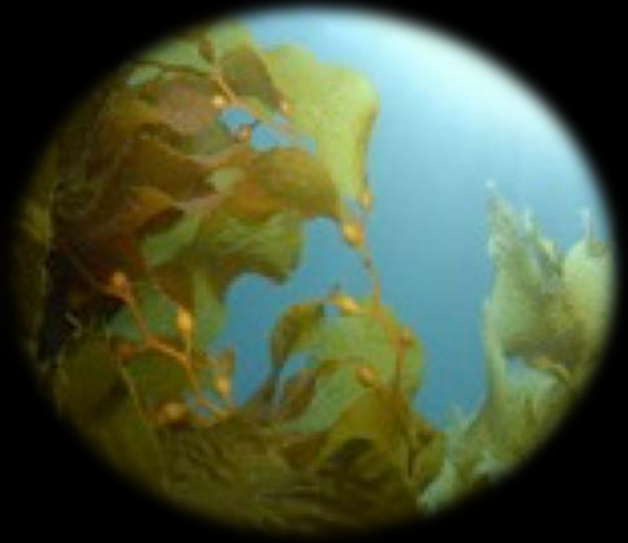

Day Zero

Typical Headline:


What will fish and shellfish farming look like in 10 years?


✓ Uses Sustainable Feeds
✓ Animal Welfare Is the "New Normal"
✓ Positive Social and Environmental Impact

Our Innovation Journey



futerpenol®
FEED GREEN

WHAT IS IT? AN ECO-FRIENDLY FEED ENHANCER

A novel class of immunostimulant that works on an intracellular level.

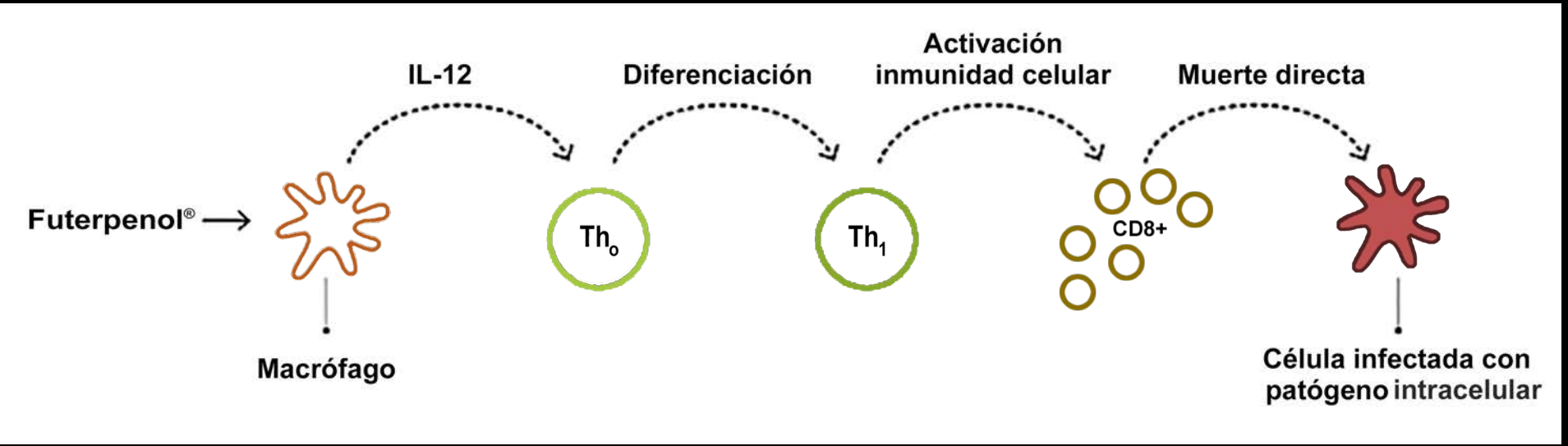
A proprietary nutraceutical and non-pharmaceutical product that contains bioactive molecules from botanical and algal sources.

Based on in vitro, in vivo, and field trials, Futerpenol® has clearly demonstrated its effectiveness in producing more disease-resistant fish.

Fish fed a Futerpenol-enhanced diet had better specific growth rates, better feed conversion ratios, and lower mortality rates.

As a result, salmon growers will have the option to reduce the use of antibiotics during the life cycle of the animal.

HOW IT WORKS: MECHANISM OF ACTION



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The effects of supplemented diets with a phytopharmaceutical preparation from herbal and macroalgal origin on disease resistance in rainbow trout against *Piscirickettsia salmonis*

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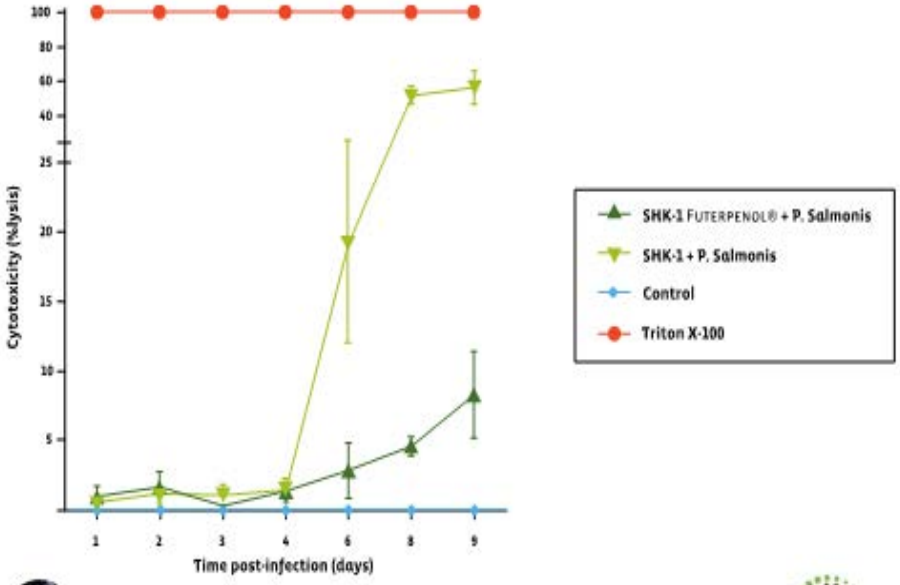
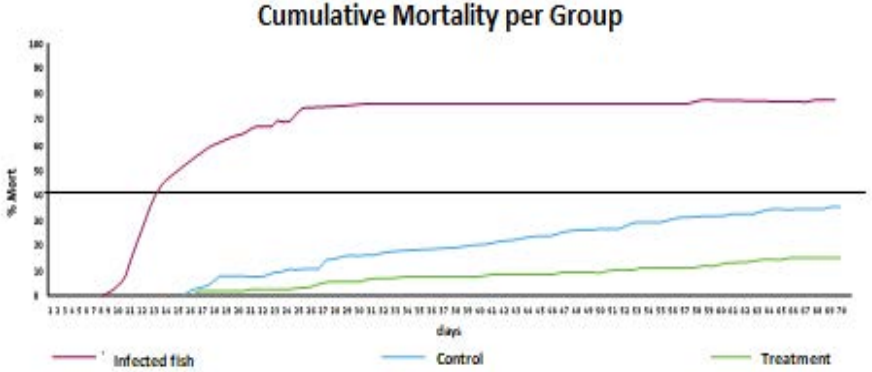
ABSTRACT

The present study aimed to evaluate the effects of a commercial phytopharmaceutical preparation from herbal and macroalgal origin on the growth and immune response of rainbow trout adapted to seawater and its susceptibility to *Piscirickettsia salmonis* infection. Preliminary in vitro trials, evaluated the effects of the commercial product Futerpenol® on the expression levels of selected immune-regulatory genes and its protective effect in a challenge against *Piscirickettsia salmonis* (LF89). Subsequent in vivo feeding trials were conducted to corroborate fish protection against *Piscirickettsia salmonis*. Control and treatment diets (with or without the commercial product Futerpenol® at a concentration of 1 kg/ton) were fed to triplicate groups of 50 fish (average weight: 100.1 ± 11.1 g) during 30 days. Fish from all dietary groups were equally redistributed in three tanks and chal-

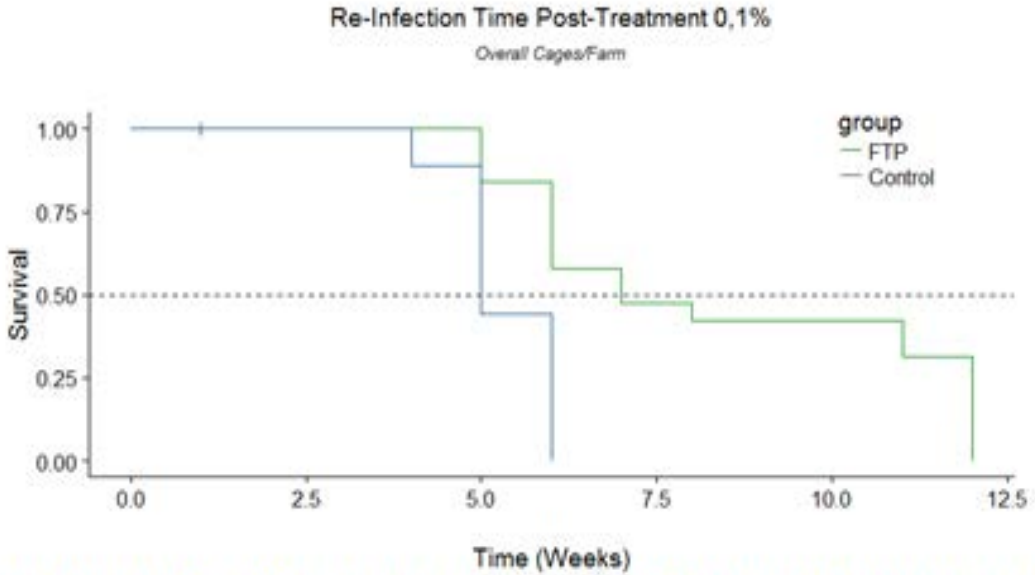
IN VITRO ASSAYS



IN VIVO ASSAYS



After cohabitation challenge with P. salmonis, the group of fish fed treatment diet with Futerpeol showed a significant reduced mortality compared to the control group ($P \leq 0.05$). A cumulative mortality of 35% in control group and 15% in Futerpenol group.



The figure shows the time until the presentation of the event of interest, in this case when a cage reached a 0.1% mortality per week by SRS. Differences between control and Futerpenol group were analyzed with Long-Rank test *p= 0.0011*.

40%
RPS

- Vibriosis
- IPN
- Furunculosis
- BKD
- SRS
- ISA
- Flavobacteriosis
- Yersiniosis
- Francisellosis
- HSMI

PECES : 1.119.195

Dieta Normal

SGR	FCRe	FCRb
0,99	1,16	1,12

SGR	FCRe	FCRb
1,16	1,09	1,06

Dieta + Futerpenol®

PECES : 1.005.968

What´s Next for #Feedgreen?


SHRIMP!

Can Shrimp Benefit from #Feedgreen?

Futerpenol® is a nutraceutical immunostimulant. It is expected to activate the hemocytes, such as bacterial and/or fungal cell wall components, as a result, activating the immune response PRRs (Pathogen recognition receptors).

Help Us Keep Contributing to a Responsible Aquaculture Future: Vote for #FeedGreen! by MNL

- Sharing Ideas?
- Talk About R&D Collaborative Project and Founding?
- Or want to know more about Futerpenol®?

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