Magic light in aquaculture.

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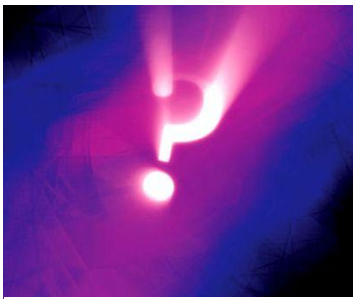
It is estimated that around 10.000 submerged lights are used in sea cages in Norwegian salmon farming, but the aquaculture industry has yet to see the light, scientists say. Shorter production cycle and lower feed costs can be benefits of light technology.



Light to speed growth and lower feed costs in aquaculture

New light technology combined with knowledge about its biological impacts can give fish farmers new tools to improve growth rate and lower feed costs.

Øystein Falch, www.Inocap.no

A survey conducted by Inocap, a Norwegian consulting company specialized on aquaculture, seafood and biotechnology, reveals that scientists in Norway and Scotland believe that there is an untapped potential for light applications in salmon farming and other farmed species.

The lights that are already installed in salmon sea cages along the coast of Norway are only used to avoid sexual maturation that would otherwise have a negative impact on the growth and meat quality of the fish. The industry is quite successful at using light for this purpose, even though the practices among farmers vary. Farmers that Inocap has spoken with admit that the variation in practice is partly due to lack of knowledge and they welcome more research on the topic.

There are more reasons to be attracted to light, because it is likely to improve the growth rate and feed conversion ratio (FCR). When speaking to salmon farmers in Norway none of them claim to use light intentionally for this purpose. They should, however, be curious and alert, as scientists believe that light technology has possible benefits for the industry. Øystein Falch from the consulting company Inocap says that: "By lowering the FCR by 10% the farmers can pocket in excess of NOK 1/kg, or NOK 1,3 billion for the entire Norwegian salmon production". In addition the industry can lower its environmental footprint and reduce pressure on limited feed ingredients.

Considering average time at sea of 18 months and an improved growth rate of 5,6%, then the production cycle is shortened by one month. The combined Norwegian salmon industry could then increase annual output by 67.000 ton, or NOK 1,8 billion in sales, within the existing production capacity and regulatory limitations (maximum allowed biomass). Øystein Falch states that "The depreciation costs per kilo will go down, and included other potential economies of scale the return on total capital can potentially increase by 8% - 10%". He goes on to say that the combined effects of having a shorter production cycle and lower feed consumption, can potentially result in an increase of a return on total capital of 30%.

Effects of light on growth and FCR should receive farmers' attention. The result could be magical.