



# ORFFA

## Excential Beta-Key to improve sustainability and feed efficiency in aquaculture

The global demand for seafood has been increasing over the past decades and the expectation is that this demand will only increase in the future. Since global capture fishery has reached the limitations of production, aquaculture has been pointed out as the solution to meet the demand. This has resulted in a spectacular growth of aquaculture production. Nowadays, more and more attention goes to the sustainability issues accompanying this growth. Excential Beta-Key can aid aquaculture stakeholders in their mission to produce fish and shrimp in a more sustainable way.

### REPLACEMENT OF MARINE-BASED INGREDIENTS

One of the sustainability concerns is the use of fishmeal and fish oil in aquaculture diets. In nature, fish eat fish, but to feed aquaculture farmed fish with fishmeal and fish oil that could be used for human consumption is inefficient and considered not sustainable. Additionally, fishmeal and fish oil are limited and expensive, another reason to replace marine-based ingredients in aquafeed. A problem with using alternative products, like plant-based materials, is that the benefits in sustainability and lower costs are often accompanied by decreased growth performance and fish health. The use of feed additives like Excential Beta-Key can help to overcome these problems.

### EXCENTIAL BETA-KEY

Excential Beta-Key is Orffa's optimal source of betaine. The product is known for its non-hygroscopic and good free-flowing characteristics. In aquaculture, Excential Beta-Key has multiple functions such as efficient methyl donor, protective osmolyte, feed attractant and liver protector.

### FEED ATTRACTANT

The removal of marine-based ingredients results in a loss in feed attractiveness. In general, when more plant material is used, the feed intake decreases. With the use of betaine (2g/kg) a beneficial impact on growth and feed intake can be obtained, as was shown in tilapia diets where fishmeal (FM) was completely replaced by soybean meal (SBM), corn gluten meal (CGM) or the combination of both (Figure 1).

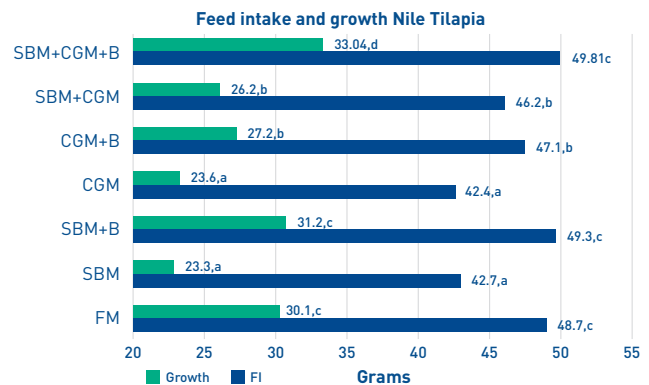


Figure 1: Effect of betaine (B) in Nile-tilapia diets, where fish meal (FM) is replaced by soybean meal (SBM), corn gluten meal (CGM) or the combination of both.

### FEED EFFICIENCY

Besides a lower feed attractiveness, a reduction of the feed efficiency is another challenge when aiming for a more sustainable feed. In freshwater prawn, it was observed that the addition of betaine at 5 g/kg significantly decreased FCR from 2.89 to 2.12. Similar results were observed in rohu fingerlings, where the addition of 2.5 g/kg betaine in the diet significantly improved the FCR (Figure 2).

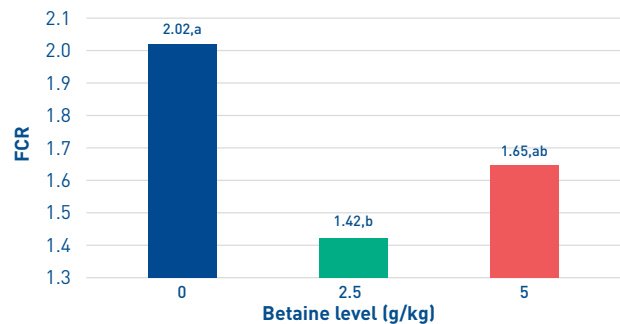


Figure 2: Effect of different betaine levels on FCR in rohu fingerlings.

These results indicate that the addition of Excential Beta-Key can be a viable strategy to increase the sustainability and efficiency of aquafeed. References available on request.



Applicable in all aquatic species



Increased feed intake



Support sustainability



Better feed efficiency

For more information please visit our website and contact one of our specialists ([www.orffa.com](http://www.orffa.com))

Engineering your feed solutions

[www.orffa.com](http://www.orffa.com) - Follow us on



# ORFFA