



IMPROVED *DIGESTIBILITY*



Improved
performance

mFeed+



mFeed+

A KEY PARAMETER IN AQUACULTURE NUTRITION



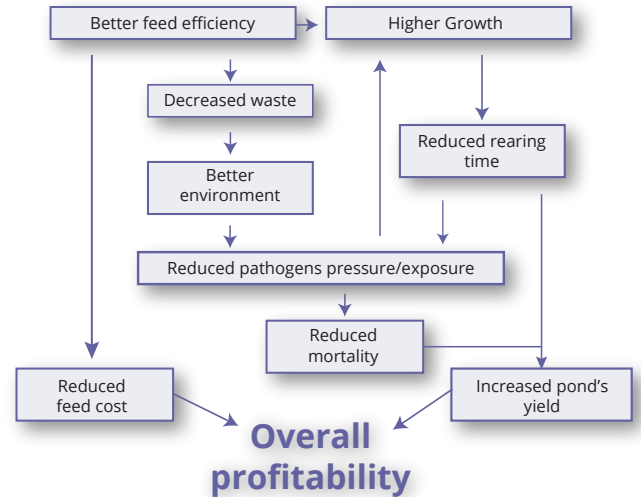
Olmix is contributing to a more sustainable aquaculture. The current trend of replacing the preferred ingredient fishmeal faces challenges of formulating a nutritionally balanced feed but also of ensuring a highly digestible feed making nutrients bioavailable.

An increasing use of alternative ingredients, such as from plant and animal origin, can result in less efficient digestibility in fish and shrimp feeds. These feeds and thus their ingredients will have to be broken down mainly in the intestine and hepatopancreas, through the action of various endogenous enzymes.



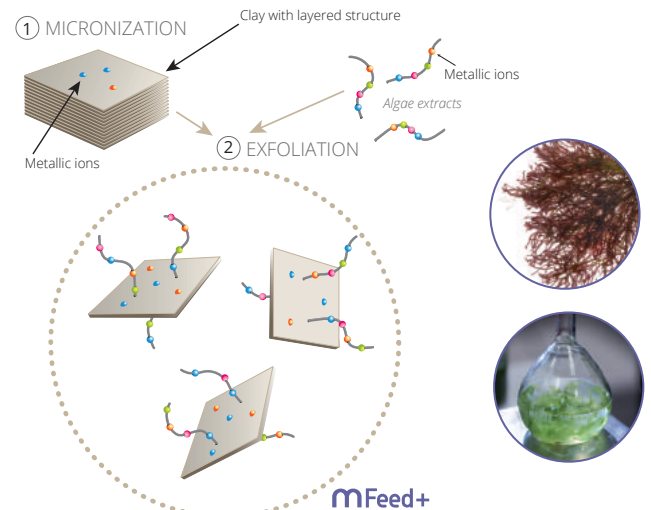
This process of breaking down ingredients, called hydrolysis, is a fundamental step for feed to become available as nutrients.

Therefore the more efficient these endogenous enzymes are, the more nutrients will be available to convert into energy and body mass rather than into waste.

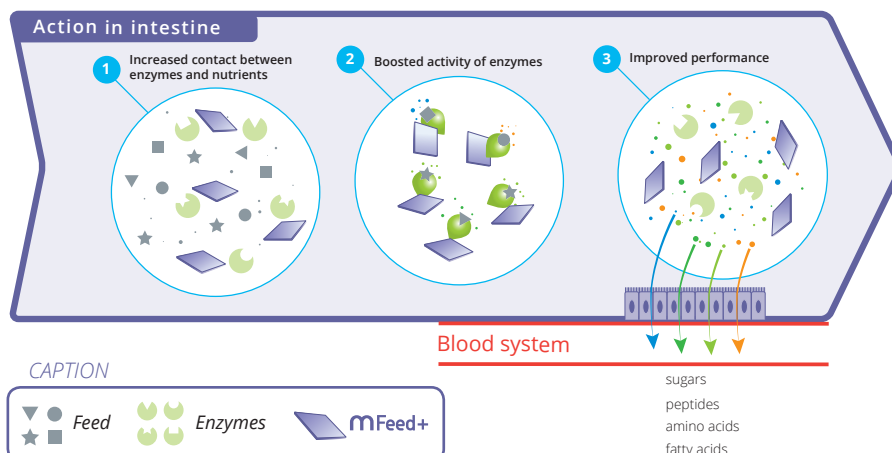


OLMIX UNIQUE TECHNOLOGY

mFeed+ is based on the **patented technology OEA: Olmix Exfoliated Algoclay**. Exfoliated layers offer a **very large contact surface** (up to 800 m²/g), with which enzymes can interact. The metallic ions, used by the enzymes as cofactors, are provided both by the clay and by the algae which has **more than 20 different metallic ions**. This makes a real **"meeting point"** between enzymes and their substrate and provides a **stable support for enzymatic hydrolysis**.



➤OEA : Olmix Exfoliated Algoclay TECHNOLOGY



CAPTION

★ Feed ● Enzymes ■ mFeed+

sugars
peptides
amino acids
fatty acids

Benefits:

- Better feed efficiency for better economic performance.
- Improves digestibility of raw materials and alternative ingredients
- Allows to reduce fish meal in feed formulation.



EFFICACY OF MFeed+: PROVEN IN AQUACULTURE

Tested under commercial conditions and in partnership with universities, **MFeed+** improves Feed Conversion Ratio (FCR) and overall growth performance of various species such as shrimp, salmon and tilapia. By optimizing digestion, **MFeed+** contributes to a better digestive health. Finally, **MFeed+** allows the reduction of fish meal without impairing growth performance.



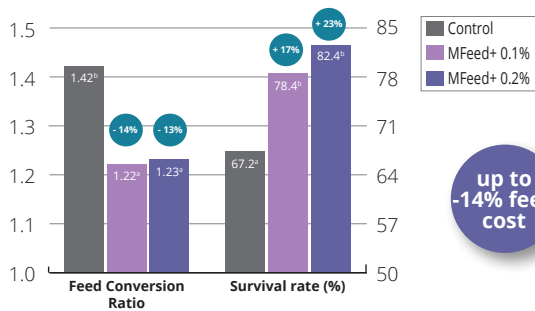
Improved performance



Effect of MFeed+ on zootechnical performance of juvenile shrimp (*Litopenaeus vannamei*)

University trial, Thailand

(375 shrimps in tanks / 5 replicates / 60 days)

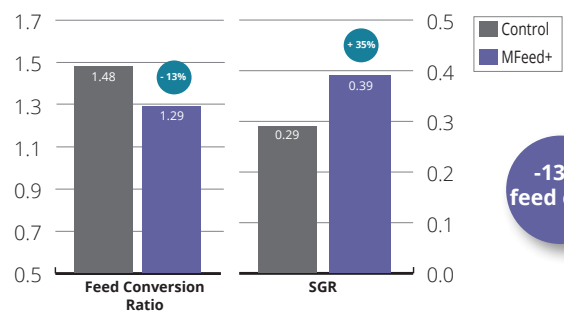


MFeed+ improves digestion, resulting in a better FCR ($P < 0.05$). By optimizing digestion, the use of **MFeed+** contributes to a better digestive health (higher survival).

Efficacy of MFeed+ on Atlantic salmon pre-smolts performance

Field trial, Scotland

(97 000 fishes in tanks / 3 replicates / 5 months)



MFeed+ improves the utilization of feedstuffs, as manifested by the significantly improved growth rate (+35%, $P < 0.05$) and better conversion of feed (-13%).

Reduced fishmeal inclusion

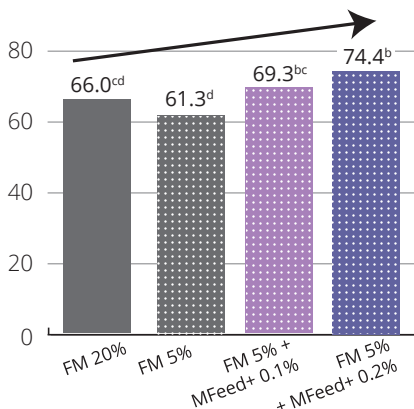


Effect of fish meal reduction and MFeed+ inclusion on performance of Nile tilapia (*Oreochromis niloticus*)

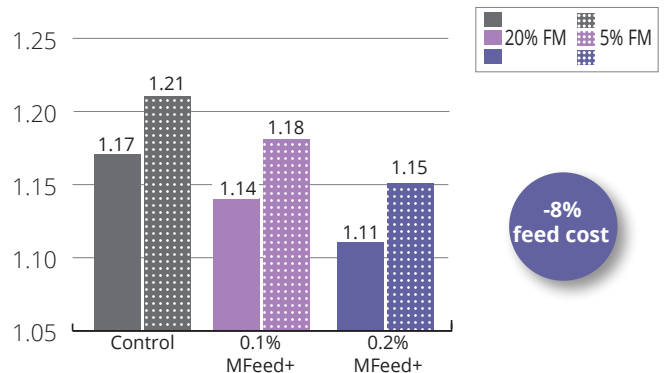
University trial, Thailand

(720 fishes in tanks (6 grams/fish) – 6 replicates / treatment - 12 week trial – isonitrogenous & isocaloric diets
Fish meal (FM) inclusion: 20 or 5%)

→ Final weight of tilapia (g/ind) comparing two levels of FM inclusion



→ Feed Conversion Ratio



While a reduced level of fish meal in the diet led to reduced growth (-7% $P < 0.001$) and health performance, **MFeed+** improved the use of the feed and thus the performance in both the high and low fish meal diets (up to 20% with 0.2% **MFeed+**, $P < 0.001$). These results show that **MFeed+** can be used to improve performance of a high fish meal diet, or to reduce feed cost (up to 8.5% decrease) by reducing the level of fish meal, without loss of a high level performance.



mFeed+



DIRECTIONS OF USE

mFeed+ is incorporated in diets of aqua species at the rate of **0.5 to 2 kg/T of feed**, according to feed formulation profile and farm performance.

CONTACT

OLMIX is at your disposal for personalized consultation
Mail: mfeed+@olmix.com
Phone: +33 2 97 38 81 03

PACKAGING

mFeed+ is available in
• 25 kg bags • 1 000 kg palets (40 bags)



mFeed+ CERTIFICATIONS

For a more sustainable aquaculture **mFeed+** is based on natural and environment-friendly materials. It has no toxicity against animals, humans or the environment. Olmix products are **dioxins and heavy metals controlled**.



ISO 9001:2008
ISO 22000:2005



ZA du Haut du Bois
56580 Bréhan - FRANCE
Phone: +33 (0)297 388 103
Fax: +33 (0)297 388 658
contact@olmix.com
www.olmix.com

