



## **Alltech®** **GUT HEALTH MANAGEMENT**

Gut health management is essential for building a foundation for performance and profitability in aquaculture production. The Alltech® Gut Health Management program focuses on supporting animal performance, promoting good bacteria, building immunity and maximizing growth efficiency.

Investing in your fish and shrimp's feed and intestinal health is critical because intestinal bacteria have important effects on the regulation of cell turnover in the gut wall, competition for nutrients, modification of digestion, competitive exclusion of pathogens and modulation of mucosal immunity. It is crucial that the gut functions at its maximum capability to maintain optimal gut health and aid growth performance, which are both essential for increasing profitability in aquaculture.

Follow the program's three stages to help optimize the potential of your fish.

### The three nutritional stages of gut health from start to finish

- 1 THE RIGHT START** — Promoting beneficial bacteria, enhancing gut development and supporting early growth and performance.



- 2 GETTING THE MOST FROM YOUR FEED** — Maximizing feed utilization, growth and efficiency.



- 3 BUILDING IMMUNE FUNCTION** — Maintaining optimal gut health and supporting weight gain.



## THE RIGHT START

A good start in life has a big impact on every living species, from humans and plants to fish and shrimp. To effectively give aquaculture a good start, the correct bacteria needs to be introduced into the intestine. Providing the correct microbes for gut development can correspond with optimized early growth, improved feed conversion and increased survival rates.

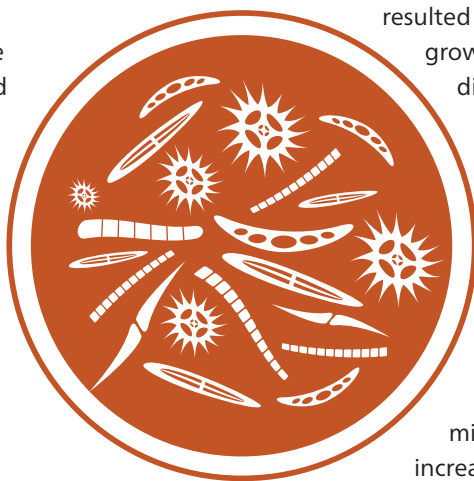
For best results, these microbes should be provided as early possible to help fish and shrimp achieve optimal growth and increased survival rate.

### Good bacteria:

- Live in the upper gastrointestinal tract;
- Prefer a low-pH environment.

### Unfavorable bacteria:

- Live in the lower gastrointestinal tract;
- Prefer a high-pH environment;
- Produce toxins that can cause tissue damage.



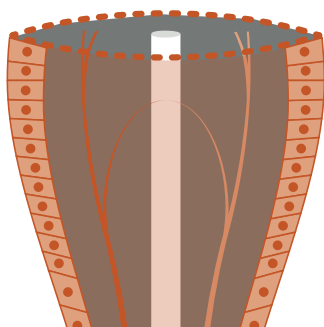
## BUILD IMMUNE FUNCTION

While certain bacteria promote intestinal health, other bacteria can be damaging, and these harmful bacteria can begin to colonize when conditions within the gastrointestinal tract are compromised. It is therefore important to address these types of unfavorable bacteria before they can colonize the intestinal tract. In the past antibiotics were introduced into animal feed and resulted in lower mortality rates and increased growth performance. More recent research discovered that animal performance was due to the efficient absorption of nutrients in the intestine of animals.

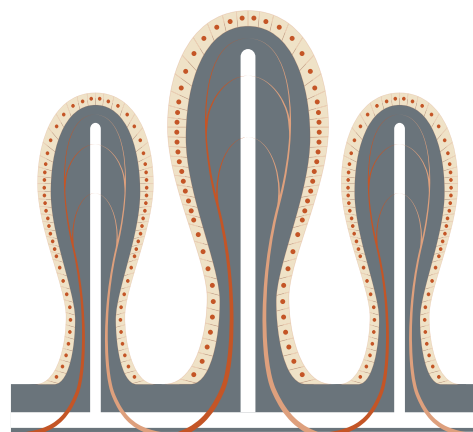
As the world moves towards antibiotic-free production, a more holistic approach is taken to ensure a healthy development. The introduction of an additive, such as BIO-MOS®, aids in normalizing gut microflora, increasing immunity and increasing the production of mucus to act as a barrier against disease.

## GETTING THE MOST FROM YOUR FEED

Two continual goals in aquaculture are to maximize profitability and increase the efficiency of feed. Upon introducing positive bacteria into the gut, the focus turns to nurturing these organisms by maintaining a proper environment. *Mannan oligosaccharides (MOS)* derived from specific yeast strains have been extensively researched, and through feeding these yeast fractions, both the length and density of the villi and microvilli can be increased in the gut, therefore supporting enhanced uptake and absorption of nutrients delivered within the feed.



Up to 50% average increase in villi width



Up to 29% average growth in villi height

## Alltech® GUT HEALTH MANAGEMENT

The Alltech Gut Health Management program was inspired by the “Seed, Feed, Weed” approach created by Dr. Steve Collett from the University of Georgia. After the ideal intestinal ecology is established and optimum feed utilization is attained, it is important to preserve them, especially during periods of stress. Building natural immunity is the best way to reduce the effects that harmful microorganisms can have on fish. The Alltech Gut Health Management program promotes intestinal health through proper nutrition to help achieve optimal levels of performance.

### PRODUCTS

#### ► ACTIGEN®

A cost-effective means of maintaining gut health and integrity to support overall performance.

ACTIGEN is a safe and traceable technology developed through nutrigenomics that helps animals to thrive and reach their potential. ACTIGEN supports overall performance and ultimately promotes seafood marketability by:

- Developing intestinal structure and function;
- Modulating the immune system;
- Preventing colonization of pathogens.

#### ► BIO-MOS®

A selected strain of *Saccharomyces cerevisiae* yeast that boosts immune system development, stimulates natural defenses and improves feed efficiency.

The key benefits of introducing BIO-MOS into diet are:

- The improvement of productivity and profitability;
- The introduction of practical solutions;
- Access to an invaluable educational program;
- The provision of cutting-edge research supported by world-renowned research institutes;
- Access to expertise from world-class consultants.

#### Advantages of ACTIGEN



Optimized for low inclusion rate



Supports overall performance



Optimizes nutrient utilization

#### Advantages of BIO-MOS



Supports defenses



Supports gut health



Optimizes nutrient utilization

### ALLTECH ON-FARM SUPPORT

Alltech specialists in the field are available in your region to support you and your farm.

If you would like to find out more about gut health management for your farm, please email [aquasolutions@alltech.com](mailto:aquasolutions@alltech.com)

