

NUCLEO 20

AQU012



Growth and natural defence of shrimp and fish

PROPERTIES

- **NUCLEO 20** is a combination of purified nucleotides formulated for aquaculture applications
- **NUCLEO 20** helps to stimulate natural defence, growth rates and vaccination effectiveness of aquaculture species
- **NUCLEO 20** helps to reduce the negative effects of stress

Nucleotides →

- Nucleotides are essential factors in many key body functions (**Immunity** through the multiplication of immune system cells, in hepatic functioning, the digestion and the growth through a better intestinal absorption)
- Diets are deficient especially during periods of peak demand.
- Many requirements cannot be totally supplied from internal sources from the normal digestion of food.
- De novo synthesis is highly energy consuming

COMPOSITION

Nucleotides (purified natural RNA source)
&
Precursors of nucleotides **20% Min**

USE AND PRESENTATION

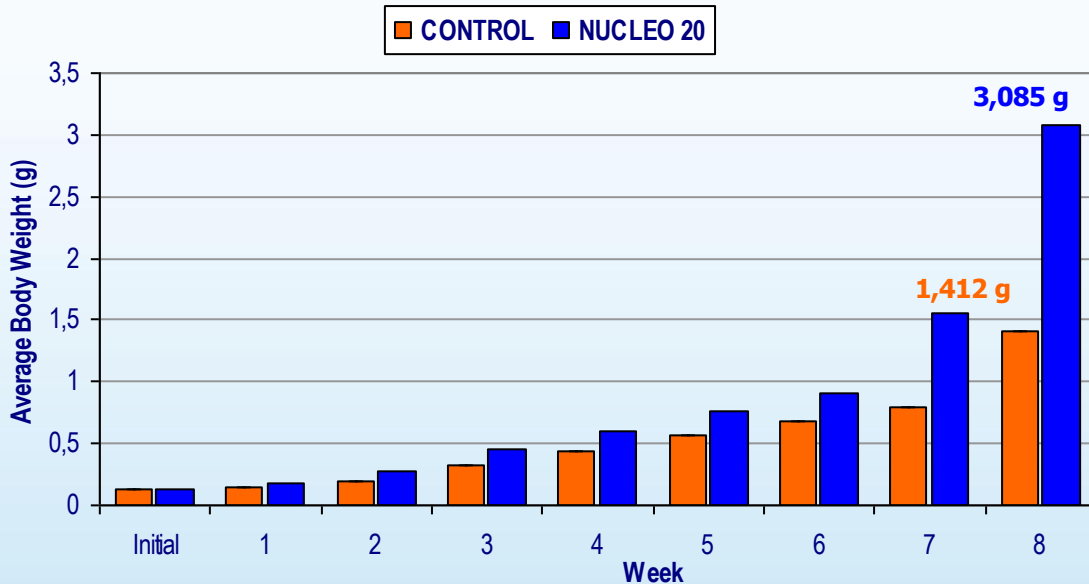
Recommended incorporation rates	Shrimp	Fish
Starter phase:	2kg / ton	2kg / ton
Grow out:	2kg / ton	1kg / ton

- **NUCLEO 20** is presented in powder form
- **NUCLEO 20** has been formulated to insure optimal flow during industrial processes and homogeneous incorporation into premixes.
- **NUCLEO 20** is stable in all types of animal feed: flour, pellets or liquids and has been formulated to be remain stable in extruders at high pelletization temperatures (<140°C)
- **NUCLEO 20** is compatible with all feed ingredients and feed additives usually used in the manufacture of feed
- **NUCLEO 20** is a totally non toxic feed ingredient. It leaves no residues. There is no required withdrawal period when using the product.
- **NUCLEO 20** can be stored for 18 months after the manufacturing date in a cool, dry place.

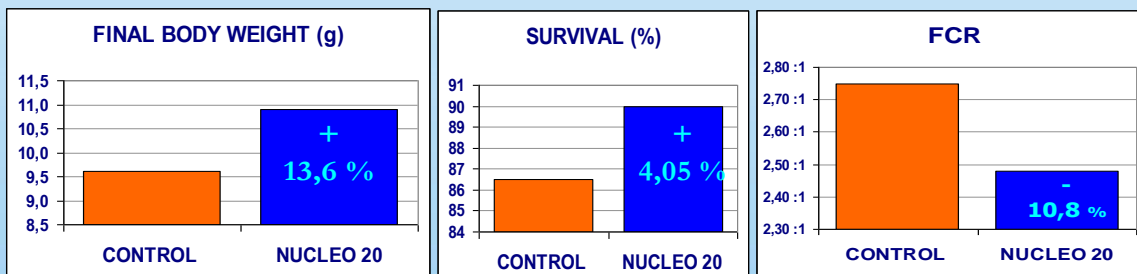


NUCLEO 20: Benefits for shrimp

- Shrimp trial (Lallemand courtesy) :
- Effects of the administration of NUCLEO 20 via formulated feed on juvenile shrimp *Penaeus vannamei* for 8 weeks in a nursery



- NUCLEO 20 significantly improves weekly average body weight, final body weight, survival and the FCR after 31 days of experiments with juvenile *Penaeus vannamei*:



- Effects of administration of NUCLEO 20 via formulated feed on shrimp, *Penaeus vannamei*, in grow out earth ponds :

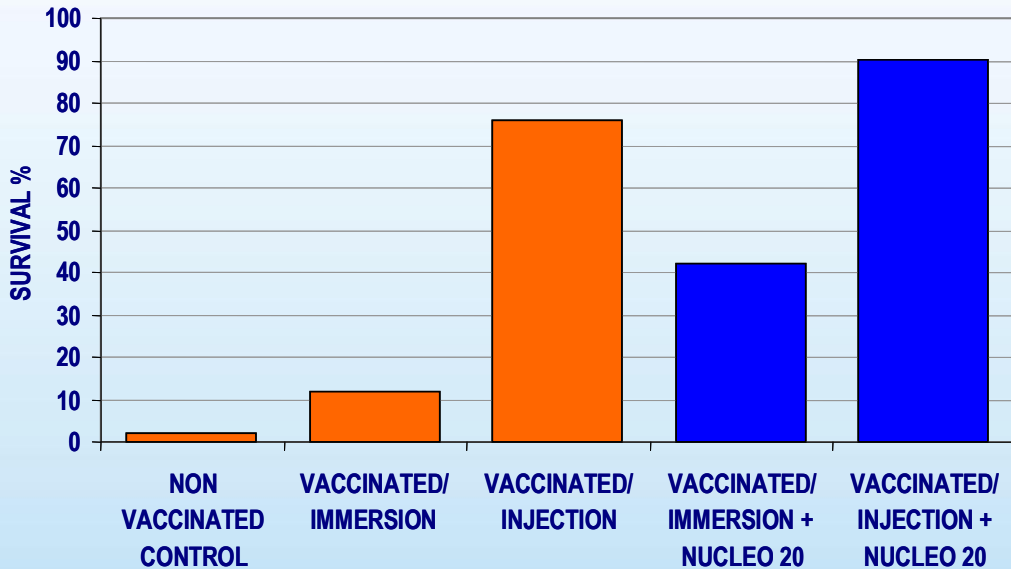
PARAMETERS	UNIT	CONTROL	NUCLEO 20	CHANGE %
TRIAL 1- Trial Period 110 Days				
Final Weight	g	20	25	+25.0%
FCR	1:	1.65	1.2	-27.3%
Survival	%	70	80	+14.3%
TRIAL2- Trial Period 87 days				
Final Weight	G	12.5	15.4	+23.2%
Survival	%	65	90	+38.5%



NUCLEO 20: Benefits for fish

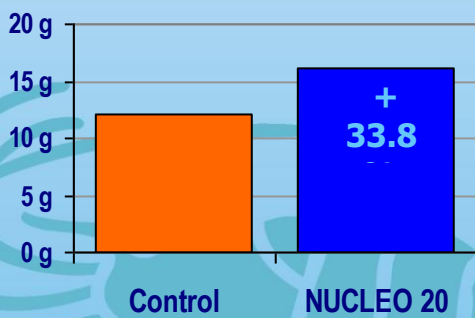
- **Fish trials** (Lallemand courtesy) :
- **NUCLEO 20** improved the Immune Response of Tilapia after vaccination & significantly reduced mortality confronted with *Aeromonas hydrophila* challenge:

- Comparison of survival of Control Group vs. **NUCLEO 20** Group after 84 Days of Experiment:

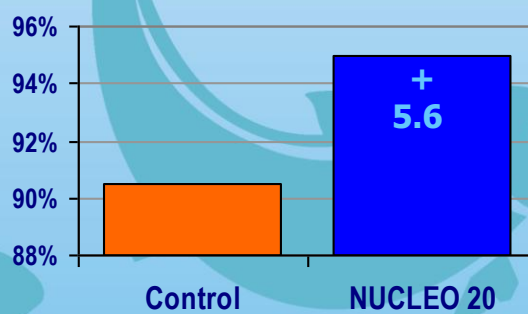


- **NUCLEO 20** in the Diet improves : survival and growth rates, & the FCR of Tilapia:
 - **NUCLEO 20 @ 2kg/ton**
 - Survival & Growth recorded weekly

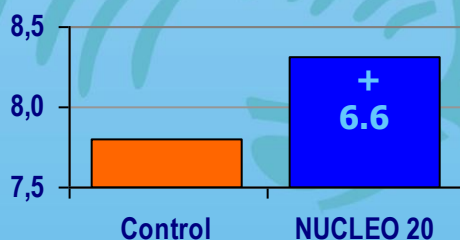
Average Body Weight (g)



Survival (%)



Total Body Length (Cm)



Feed Conversion Rate

