

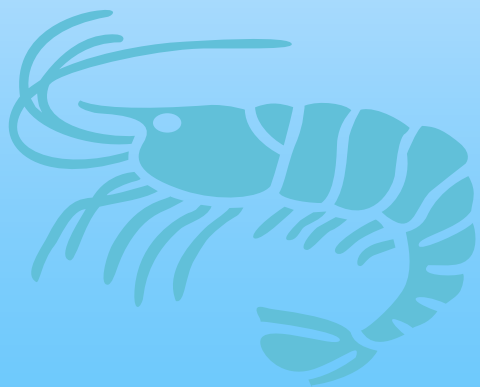
PERFOSTIM S/F

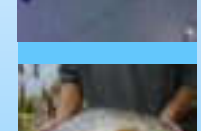
TRIAL DONE IN A TILAPIA FARM

VING HUNG CO. LTD.

(VIET NAM)

2003





PERFOSTIM S/F

COMPOSITION

PERFOSTIM S/F IS AN ORIGINAL FEED ADDITIVE COMPOSED OF TESTED BACTERIA AND ESSENTIAL ELEMENTS :

BACTERIA



PEDIOCOCCUS ACIDILACTICI
MA 18/5M

- ✓ COLONIZATION OF DIGESTIVE TRACK
- ✓ DECREASE OF PATHOGENS ACTIVITY
- ✓ IMPROVEMENT OF THE SURVIVAL RATE

SELENIUM



- ✓ LIMITS THE EFFECT OF FREE RADICALS.
- ✓ ENZYMATIC ACTIVITY STIMULATION
- ✓ IMPROVEMENTS OF GROWTH PERFORMANCES
- ✓ DECREASE OF MORTALITY RATE
- ✓ FASTER RESPONSE OF THE IMMUNE

VITAMIN E



VITAMIN C

- ✓ STIMULATION OF THE IMMUNE RESPONSE.
- ✓ INCREASE OF STRESS RESISTANCE.

PERFOSTIM S/F **PROPERTIES**

⇒ **PERFOSTIM S/F COULD BE USED DIRECTLY BY THE FARMER FOR THE BENEFIT OF ITS REARING**

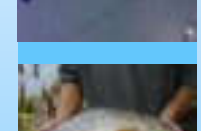
⇒ **PERFOSTIM S/F IS A PROVED ESSENTIAL SUPPLEMENTATION BLEND DEDICATED TO IMPROVE FEED QUALITY AND REARING EFFICIENCY**

⇒ **PERFOSTIM S/F IS ALLOWING :**

✓ **TO STABILIZE GUT BACTERIAL FLORA DURING REARING PHASES**

✓ **TO IMPROVE HEALTH STATUS**

✓ **TO INCREASE GROWTH RATE**



PERFOSTIM S/F **PROPERTIES**

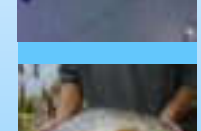
A STRAIN SELECTED TO IMPROVE THE AQUACULTURE SPECIES PERFORMANCE:

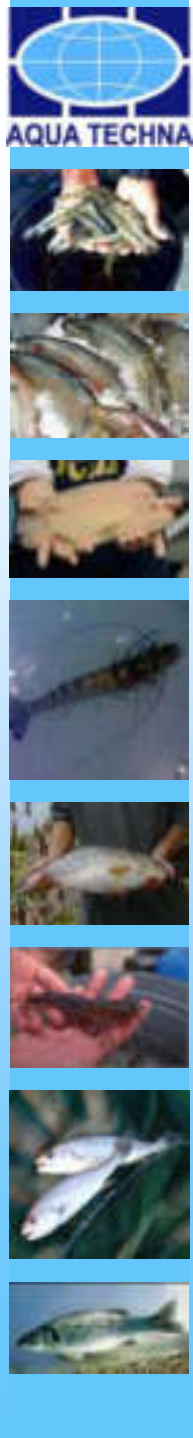
⇒ IDENTITY:

- ✓ **PEDIOCOCCUS ACIDILACTICI MA 18/5M,**
- ✓ **DEPOSITED AT THE NATIONAL COLLECTION OF MICROORGANISM (PASTEUR INSTITUTE, FRANCE) N° MA 18/5M.**

⇒ PROPERTIES:

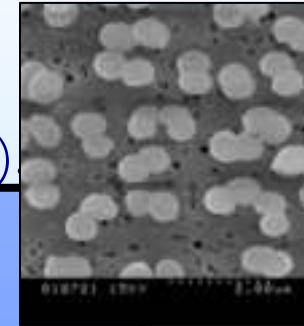
- ✓ **PRODUCES LACTIC ACID L+ FROM CARBOHYDRATE SUBSTRATES (HOMO FERMENTATIVE BACTERIA),**
- ✓ **ABLE TO GROW IN A WIDE RANGE OF PH, TEMPERATURES, OSMOTIC PRESSURES,**
- ✓ **SURVIVES ALL ALONG THE DIGESTIVE TRACT.**



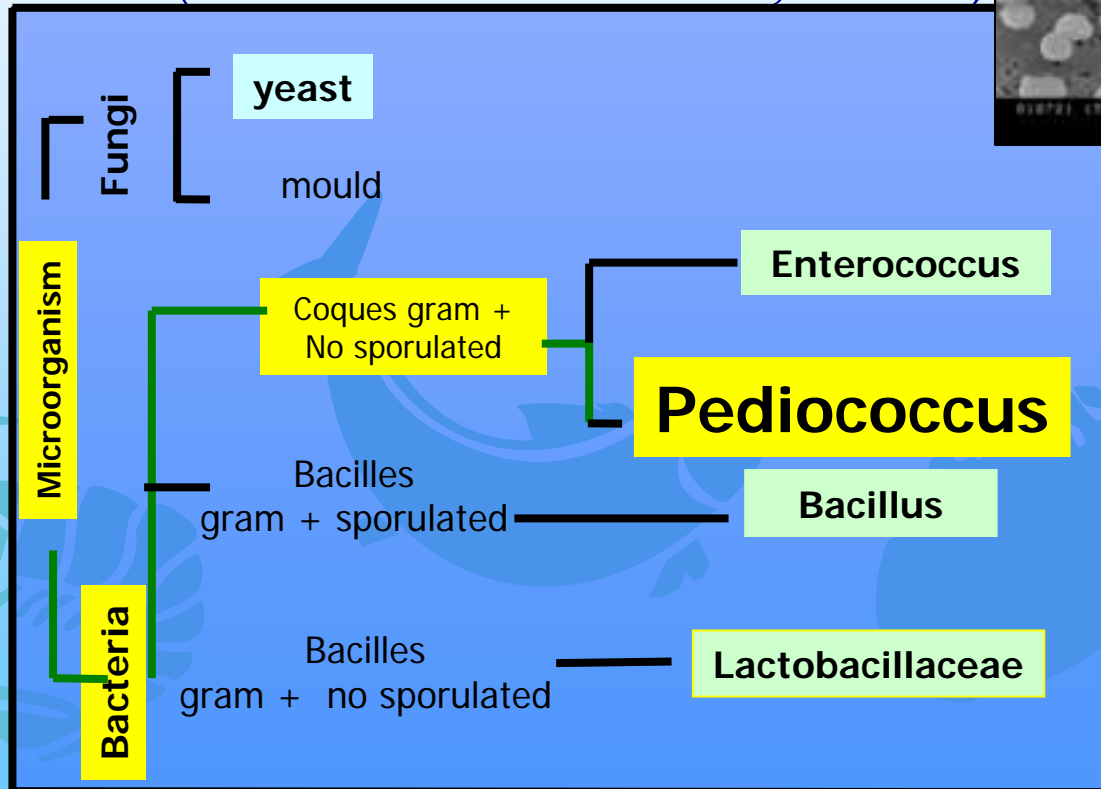


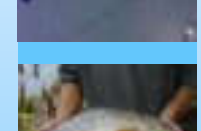
Pediococcus acidilactici, strain n°MA 18/5M

Registered at Collection Nationale de Cultures de Microorganismes (CNCM Institut Pasteur, France)



Pediococcus classification
and other probiotics
microorganisms

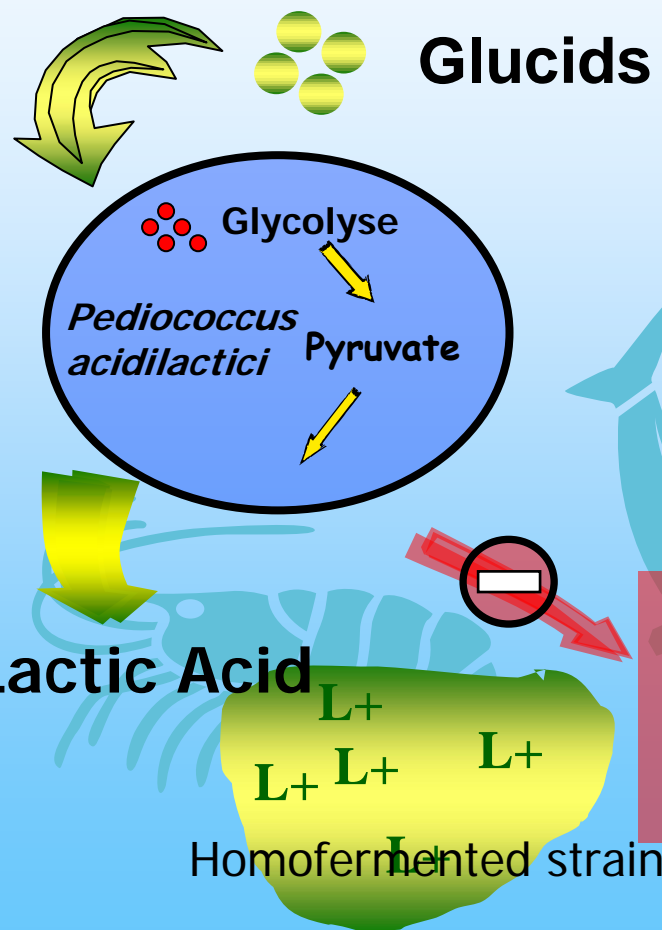




PERFOSTIM S/F

PRODUCTION OF LACTIC ACID

Specific sugars transfer to lactic acid by *Pediococcus acidilactici*.



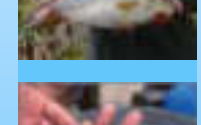
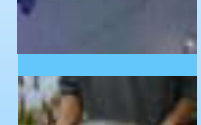
Fermentative profile of <i>Pediococcus acidilactici</i>	
• L-arabinose*	• Rhamnose*
• Ribose*	• N-acetyl glucosamine
• D-xylose*	• Esculine*
• Galactose	• Cellobiose*
• D-glucose	• Trehalose*
• D-fructose	• D-tagatose*
• D-mannose*	

* not digested by the animal

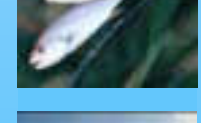
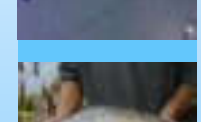
CO₂ (nutrients lost)*
Ac. Acetic (less palatability)*

*: heterofermented bacteria

PERFOSTIM S/F MATERIALS & METHODS

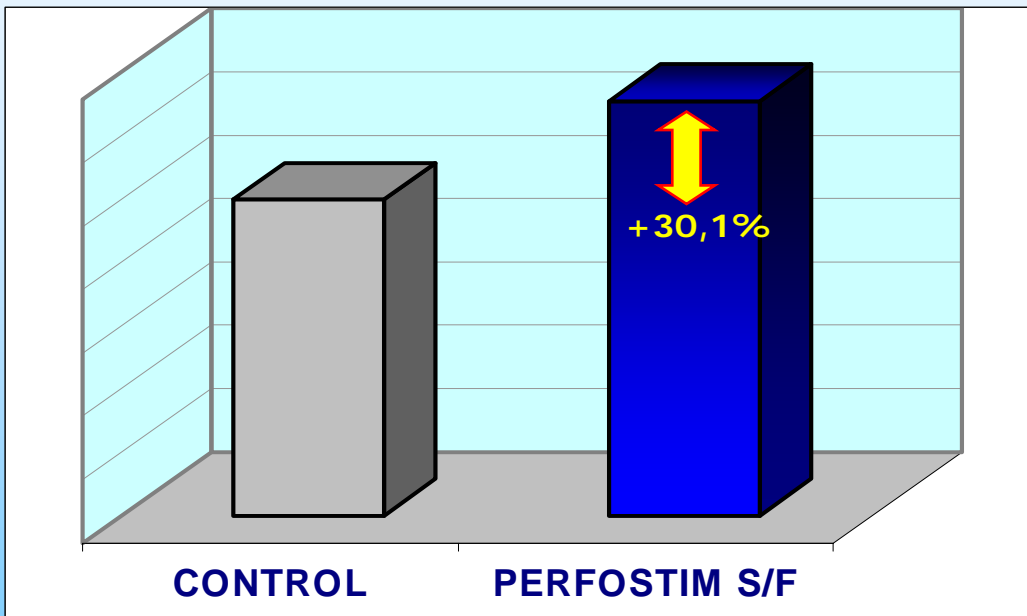


- ⇒ **PERIOD : JULY - SEPTEMBER 2003 (HATCHERY & NURSERY STAGES)**
- ⇒ **ANIMALS : >1200 RED TILAPIA (OREOCHROMIS MOSSAMBICUS X O.NILOTICUS) JUVENILES (CONTROL & TREATMENT), ALLOTTED IN 2 REPETITIONS.**
- ⇒ **REARING PARAMETERS : FLOATING PENS & WATER PARAMETERS MONITORED DAILY (T°C: 28-33°C, PH: 6,5-8,5)**
- ⇒ **TREATMENTS : 2 GROUPS : CONTROL AND PERFOSTIM S/F.**
- ⇒ **SUPPLEMENTATION : PERFOSTIM S/F GIVEN CONTINUOUSLY IN THE FEED (10⁶ CFU/G 1) DURING 21 DAYS**

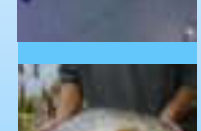


PERFOSTIM S/F RESULTS: GROWTH

⇒ **THE SUPPLEMENTATION OF THE FEED WITH PERFOSTIM S/F IMPROVES SIGNIFICANTLY THE GROWTH**

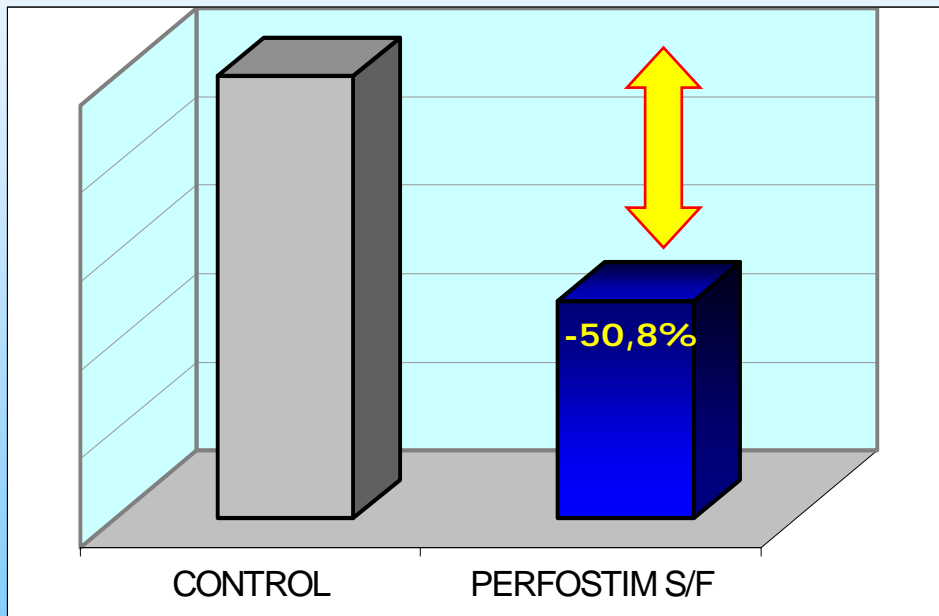


	CONTROL	PERFOSTIM S/F (1.106 CFC/G)
INDIVIDUAL MEAN WEIGHT (G) (1200 JUVENILES)	0,116	0,168



PERFOSTIM S/F RESULTS: SURVIVAL

⇒ **THE SUPPLEMENTATION OF THE FEED WITH PERFOSTIM S/F DECREASES SIGNIFICANTLY THE MORTALITY OF THE JUVENILES TILAPIA**



	CONTROL	PERFOSTIM S/F (1.106 CFC/G)
MORTALITY PERCENTAGE/ PEN (1200 JUVENILES)	45,3%	22,3%

PERFOSTIM S/F CONCLUSIONS

PERFOSTIM S/F IMPROVES VIABILITY AND WEIGHT GAIN OF RED TILAPIA JUVENILES

