



# The Best Source for Maturation Feeds

## Cultured Marine Polychaetes

# TOPSY BAITS HOLLAND



- Product:** Cultured Marine Polychaete (*Nereis virens*)
- Origin:** Topsy Baits bv, The Netherlands.
- Ingredients:** 100% marine polychaete (*Nereis virens*), cultured, freshly frozen
- Use:** Animal feed for aquatic species.  
Not for human consumption.

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**Service Aqua Ltd**  
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**Packaging:** Transparent, vacuumed, polyethylene bag.  
 3 Kg net weight per bag; 5 bags per case. Net weight = 15 Kg per case.  
 Insulating Styrofoam case, with brand identification and production lot number.



**Direction of Use:**

Topsy's polychaetes sold by Service Aqua Ltd must be applied to the shrimp tank: whole and while frozen. Thanks to the care at harvest, preparation and packing, the polychaetes distributed by Service Aqua present a very high level of hygiene and shall not be washed prior feeding. To preserve their maximum nutritional qualities, Topsy's polychaetes should not be defrosted nor cut before their use.

**Feeding:** Feed 3-4 % of the shrimp breeders bodyweight per day at once.

**Certification and Verification. Specific Pathogen Free:**

Each polychaete lot marketed by Service Aqua Ltd is systematically analyzed for specific pathogen prior its distribution. The following viral pathogens are screened: WSSV, IHNV, YHV, IMNV, NHP & TSV.

  
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**Case: 07-058**

Dear Mr. Pinon and Ms. Escobar:

The tests you requested for the detection of WSSV, IHNV, YHV, IMNV, NHP & TSV by PCR have been completed. The bag of bloodworms (*Polychaete sp.* Lot# SAQ0107) arrived on February 7<sup>th</sup>, 2007 in good condition. Representative samples from the bag were collected for DNA and RNA extractions. WSSV, IHNV, IMNV, NHP, YHV & TSV were not detected in any of the samples tested. A summary of the tests and results is provided on the following page.

We hope that this information will be helpful to you. If there are any questions regarding this case please feel free to contact us.

UAZ Policy on certification: This report provides our findings on the samples submitted to our laboratory for examination, health status evaluation, disease diagnosis or pathogen detection. It is our policy and intent to perform the most appropriate assays for the determination of the health status on some of all specimens submitted to our laboratory. However, this report in no way constitutes a stock or facility "certification" or a "certificate" of health pathogen status for the samples tested or for the stocks, or facility, from which the samples were derived.

PCR disclaimer: This report provides our findings on the samples submitted to our laboratory for pathogen detection. The PCR assay used by this laboratory for the detection of shrimp pathogens is a research tool. The results should be considered as experimental and tentative. Whenever possible, PCR results should be confirmed by alternative assay. This report in no way constitutes a stock or facility "certification" or a "certificate" of health pathogen status for the samples tested or for the stocks, or facility, from which the samples were derived.

Sincerely yours,  
  
 Ms. Selanget Navarro  
 Research Specialist

  
 D.V. Lightner Ph.D.  
 Professor

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**Case: 07-058**

Test(s) Requested:	Sample Type:	Species:
YHV	1 bag of frozen bloodworms	<i>Polychaete sp.</i>
TSV	1 bag of frozen bloodworms	<i>Polychaete sp.</i>
WSSV	1 bag of frozen bloodworms	<i>Polychaete sp.</i>
IHNV	1 bag of frozen bloodworms	<i>Polychaete sp.</i>
NHP	1 bag of frozen bloodworms	<i>Polychaete sp.</i>
IMNV	1 bag of frozen bloodworms	<i>Polychaete sp.</i>

**Protocols:**

YHV: RT-PCR described by Tang and Lightner (DAO, 1999, 35:165-173)  
 TSV: RT-PCR described by Nunan, et al. (DAO, 1998, 34:87-91)  
 WSSV: Two-step nested PCR modified method from Lo, et al (DAO, 1996, 25:133-141)  
 IHNV: PCR described by Nunan, et al. (Marine Biotechnology, 2000, 2: 319-328)  
 NHP: 1 step PCR based on Gene bank published sequence U65509  
 IMNV: RT-PCR nested protocol described by Poulos and Lightner (DAO, 2006, 73:69-72)

**Table:**

UAZ #	Sample Ref	WSSV	IHNV	TSV	YHV	IMNV	NHP
07-058	Bloodworms <i>Polychaetes sp.</i> Lot #SAQ0107	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

**Conclusion:** WSSV, YHV, TSV, IMNV, NHP & IHNV were Not Detected in any of the samples tested.

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## Typical Nutritional Profile:

Perfil Nutricional Típico	
Bag, 3 kg net weight	%
Total Protein (DW)	63
Total Moisture	85
Total Lipid (DW)	14
Fatty Acids	mg/g Lipids
EPA	72.3
DHA	24.2
ARA	5.6
Cholesterol	1.2 % DW

## Lipid Class:

	Lipid Class in %
Lysophosphatidylecholine	3.17
Phosphatidylcholine	9.48
Phosphatidylserine	1.25
Phosphatidylinositol	2.53
Phosphatidic Acid / Phosphatidylglycerol	2.12
Phosphatidylethanolamine	9.91
Cholesterol	18.84
Free Fatty Acid	19.78
Triglycerol	25.33
Sterol Esters	7.60
TOTAL	100

Source: Topsy Baits bv

## Fatty Acids Profile:

Nomenclature	Systematic Name	% Total Fatty Acids	mg / g Lipids
C14:0	Pentadecanoic acid	1.3	6.8
C16:0	Palmitic acid	0.5	2.5
C18:0	Stearic acid	14.6	78.8
C20:0	Arachidic acid	3.3	18.0
<b>Total Saturated</b>		<b>106.1</b>	<b>106.1</b>
C16:1n?		0.6	3.1
C16:1n9		0.6	3.1
C16:1n7	Palmitoleic acid	4.5	24.5
C18:1n?		5.7	30.7
C18:1n9	Oleic acid	7.5	40.3
C18:1n6/7	Cis-vaccenic acid	5.3	28.6
C20:1n?		2.7	14.6
C20:1n9	Gondoic acid	3.4	18.3
C20:1n7		2.8	15.2
C22:1n11		3.9	20.7
C22:1n9	Erucic acid	0.5	2.5
C24:1n9		0.1	0.6
<b>Total Mono-unsaturated</b>		<b>202.4</b>	<b>202.4</b>
C18:2n6	Linoleic acid	3.6	19.5
C20:2n6		-	-
C20:3n6		0.6	3.4
C20:4n6	ARA	1.0	5.6
C20:5n6		-	-
<b>Total n-6 PUFA</b>		<b>29.2</b>	<b>29.2</b>
C18:3n3	Linolenic acid	1.1	5.9
C18:4n3		0.2	1.2
C20:3n3		0.3	1.9
C20:4n3		0.2	1.2
C20:5n3	EPA	13.4	72.3
C20:5n3		2.1	11.5
C22:6 n3	DHA	4.5	24.2
<b>Total n-3 PUFA</b>		<b>118.2</b>	<b>118.2</b>
<b>Total PUFA</b>		<b>27.3</b>	<b>147.3</b>
<b>Total DMA</b>	Dimethylacetate Fatty acid	4.1	22.4
<b>Total NMID</b>	Non-methylene interrupted dienes	11.3	61.2
<b>Total PUFA</b>		<b>100</b>	<b>539.4</b>