# 2023 - 2024 **CATFISH**

African sharptooth catfish are a source of high-quality proteins and omega-3 fatty acids. These qualities make the catfish extremely nutritious and tasty – perfect for a rapidly expanding global population.





Sinking feed



**Designed for RAS** 



Floating feed



Sustainability score



Semi-floating feed



With astaxanthine



Free from land animal protein



Low nitrogen and phosphorus emission



High digestiblity



Improved resistance



Omega-3 fatty acids





# AQUATE™ Innovative premix in all Alltech Coppens' feeds. Optimizes growth Supports immune response Optimizes digestive function Contributes to mucous barrier protection Contributes to external barrier protection

# **BIO-MOS®**

is a mannan-oligosaccharide, which is known to bind and drain opportunistic bacteria. This can result in a significant improvement of the intestinal flora. Additionally, it can improve the structure and length of the microvilli in the gut through which the nutrient intake can increase. BIO-MOS® contributes to mucous barrier protection.

### **BIO-MOS®**

**Improves** function

# **BIOPLEX®**

is a crucial element in our new premix. **BIOPLEX®** are organically bound trace elements such as zinc, copper, manganese & iron. With **BIOPLEX®** we can improve the health, growth performance & performance of the fish.

# AQUATE™

# **ACTIGEN®**

is derived from yeast cell walls and supports the fish's immune response. Actigen® furthermore optimizes growth in fish.

### **ACTIGEN®**

Helps maintain the immune system

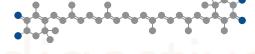
Break with tradition and feed your animals the modern way. Alltech has proven that

chelated trace minerals in the form of Bioplex® and Sel-Plex® can be included at significantly lower levels while improving animal performance. This optimizes animal mineral requirements and reduces negative environmental impacts. We call this innovation Alltech's Total Replacement Technology™ (TRT).

### TOTAL **REPLACEMENT TECHNOLOGY®**

**BIOPLEX®** 

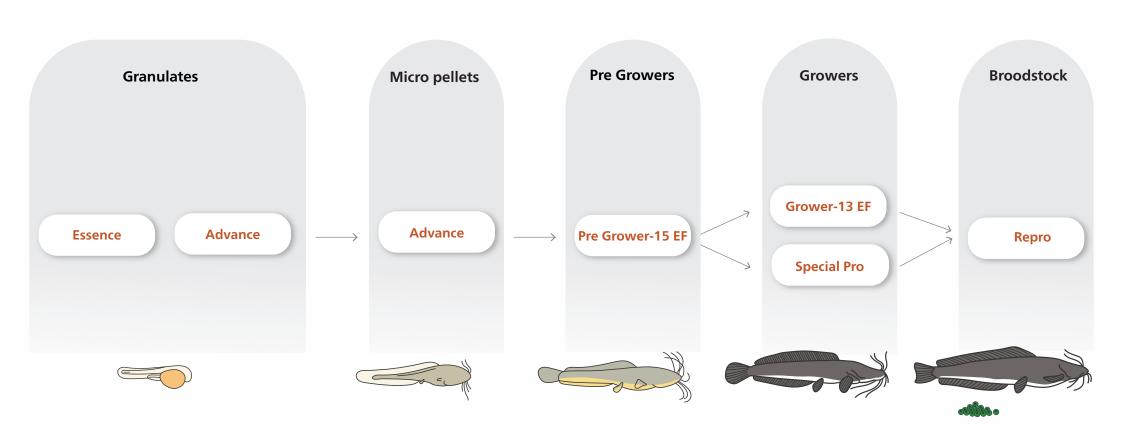
**Improves** 





# Traditional farming Semi - intensive Intensive RAS

# Catfish feed overview







# CATFISH FEEDING TABLE

Feeding table for Grow-out: Based on an optimal water quality and a water temperature of 26-28 °C Feeding level for optimal FCR

Feeding	Average weight	Feed level	Feed size
days	(g)	(%BW/day)	(mm)
0	10	5.62	1.5
1	11	5.59	1.5 + 2.0
2	12	5.57	1.5 + 2.0
3	13	5.55	2.0
4	15	5.51	2.0
5	16	5.47	2.0
6	18	5.44	2.0
7	19	5.40	2.0
14	35	4.99	2.0
21	58	4.48	3.0
28	90	4.04	3.0
35	132	3.61	3.0
42	184	3.16	4.5
49	242	2.74	4.5
56	305	2.37	4.5
63	372	2.08	4.5
70	441	1.87	4.5 / 6.0
77	514	1.70	4.5 / 6.0
84	589	1.57	4.5 / 6.0
91	669	1.50	4.5 / 6.0
98	754	1.43	4.5 / 6.0
105	845	1.36	4.5 / 6.0
112	940	1.30	4.5 / 6.0
119	1040	1.24	4.5 / 6.0
126	1144	1.18	4.5 / 6.0
133	1251	1.12	4.5 / 6.0
140	1361	1.06	4.5 / 6.0
147	1473	1.02	4.5 / 6.0
154	1589	0.97	4.5 / 6.0
161	1706	0.92	4.5 / 6.0
168	1826	0.89	4.5 / 6.0
175	1948	0.86	4.5 / 6.0
178	2000	0.84	4.5 / 6.0

<sup>\*</sup> This feeding protocol is only a guideline.



## CATFISH FEEDING TABLE

Feeding protocol for African catfish fry:
The fry are fed to near satiation (≥ 5,5 %BM/day)
This feeding advice is a guideline only based on optimal water quality and a water temperature of 27-28 °C

Feeding	Average weight	Feed	Feed
days	(g)	size	type
1	0.0025	Live feed	Artemia
2	0.005	Live feed	Artemia
3	0.009	90% artemia + 10% 0.2-0.3	Artemia + Essence
4	0.015	75% artemia + 25% 0.2-0.3	Artemia + Essence
5	0.022	50% artemia + 50% 0.2-0.3	Artemia + Essence
6	0.032	75% 0.2-0.3 + 25% artemia	Essence + Artemia
7	0.044	90% 0.2-0.3 + 10% artemia	Essence + Artemia
8	0.059	95% 0.2-0.3 + 5% artemia	Essence + Artemia
9	0.076	75% 0.2-0.3 + 25% 0.3-0.5	Essence + Advance
10	0.098	50%% 0.2-0.3 + 50% 0.3-0.5	Essence + Advance
11	0.122	25% 0.2-0.3 + 75% 0.3-0.5	Essence + Advance
12	0.151	0.3-0.5	Advance
13	0.184	0.3-0.5	Advance
14	0.221	0.3-0.5	Advance
15	0.26	0.3-0.5	Advance
16	0.31	0.3-0.5	Advance
17	0.36	0.3-0.5	Advance
18	0.42	0.3-0.5	Advance
19	0.48	0.3-0.5	Advance
20	0.55	0.3-0.5	Advance
21	0.63	0.5-0.8	Advance
22	0.71	0.5-0.8	Advance
23	0.80	0.5-0.8	Advance
24	0.90	0.5-0.8	Advance
25	1.0	0.5-0.8	Advance
26	1.1	0.5-0.8	Advance
27	1.2	0.5-0.8	Advance
28	1.4	0.5-0.8	Advance
29	1.5	0.5-0.8	Advance
30	1.6	0.5-0.8	Advance
31	1.8	0.5-0.8	Advance
32	2.0	1.0	Advance
33	2.1	1.0	Advance
34	2.3	1.0	Advance
35	2.5	1.0	Advance
36	2.7	1.0	Advance
37	2.9	1.0	Advance
38	3.2	1.0	Advance
39	3.4	1.0	Advance
40	3.7	1.0	Advance
41	3.9	1.0	Advance
42	4.2 4.5	1.0 1.0	Advance Advance
44	4.8	1.0	Advance
45	5.1	1.5	Advance
46	5.4	1.5	Advance
47	5.8	1.5	Advance
48	6.1	1.5	Advance
49	6.5	1.5	Advance
50	6.9	1.5	Advance
51	7.3	1.5	Advance
52	7.7	1.5	Advance
53	8.1	1.5	Advance
54	8.6	1.5	Advance
55	9.0	1.5	Advance
56	9.5	1.5	Advance
57	10.0	1.5	Advance

<sup>\*</sup> The actual feed rate must be based on the appetite of the fry.

 $<sup>^{\</sup>star}\,\text{The fry should idealy be fed 6 times per day e.g.\,8.00 \,hr,\,11.00 \,hr,\,14.00 \,hr,\,17.00 \,hr,\,20.00 \,hr,\,23.00 \,hr.}$ 





- Artemia replacer
- High survival
- Supports bone development
- · Good and steady growth









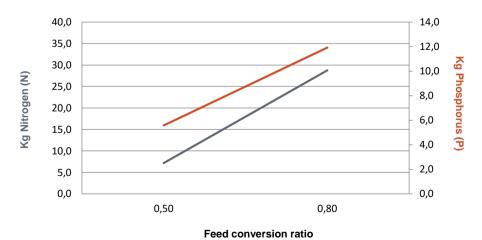


### **COMPOSITION:**

Analyses (%)		Sizes
Protein	45	0.2-0.3 mm
Fat	11	0.3-0.5 mm
Crude fibre	1,0	0.5-0.8 mm
Ash	7,3	
Total P	2,12	
Vitamins added		
Vitamin A (IE/kg)	16667	
Energy (MJ/kg)		
Gross Energy	19,8	
Digestible Energy	17,8	

### **ECOLOGICAL FIGURES:**

Discharge per 1000 kg production



The values of the nutrients and vitamins are from the time of writing.

These values can vary due to natural variation in the ingredients. We reserve the right to change our recipe.

For the exact values we refer to the label.









High survival

Digestible Energy

· Medium energy starter diet





19,0

19,0







### **COMPOSITION:**

Analyses (%)	0.2-0.3 mm	0.3-0.5 mm	0.5-0.8 mm	1.0 mm	1.5 mm	
Protein	56	56	56	54	54	
Fat	15	15	15	15	15	
Crude fibre	0,3	0,3	0,3	0,3	0,3	
Ash	11,3	11,3	11,3	12,0	12,0	
Total P	1,77	1,77	1,77	1,75	1,75	
Vitamins added						
Vitamin A (IE/kg)	16085	16085	16085	12000	12000	
Energy (MJ/kg)						
Gross Energy	21,2	21,2	21,2	20,6	20,6	

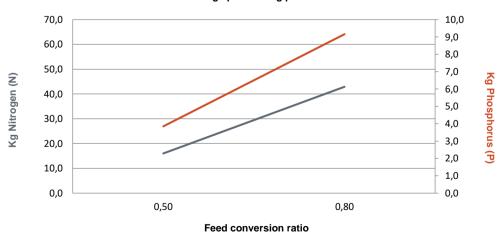
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### **ECOLOGICAL FIGURES:**

### Discharge per 1000 kg production



The values of the nutrients and vitamins are from the time of writing.

These values can vary due to natural variation in the ingredients. We reserve the right to change our recipe.

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# PRE GROWER-15 EF

- · High performance
- Very pallatable
- · Optical feeding control









### **COMPOSITION:**

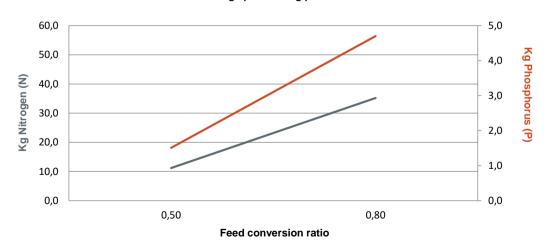
Analyses (%)		Sizes
Protein	50	2.0 mm
Fat	15	
Crude fibre	0,5	
Ash	8,7	
Total P	1,15	
Vitamins added		
Vitamin A (IE/kg)	11669	

### Energy (MJ/kg)

0, ( 0,		
Gross Energy	21,2	
Digestible Energy	19,2	

### **ECOLOGICAL FIGURES:**

Discharge per 1000 kg production



The values of the nutrients and vitamins are from the time of writing.

These values can vary due to natural variation in the ingredients. We reserve the right to change our recipe.



# **GROWER-13 EF**

- · Semi-intensive farming
- · Good performance
- Very pallatable
- · Optical feeding control



### **COMPOSITION:**

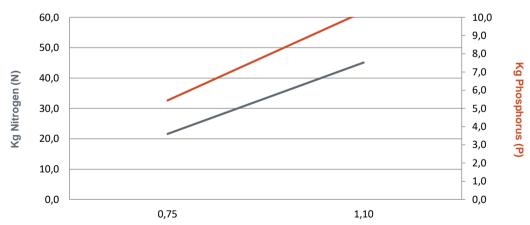
Analyses (%)		Sizes
Protein	42	3.0 mm
Fat	13	4.5 mm
Crude fibre	2,7	6.0 mm
Ash	13,0	
Total P	1,39	
Vitamins added		
Vitamin A (IE/kg)	10002	

### Energy (MJ/kg)

=norgy (morng)		
Gross Energy	19,4	
Digestible Energy	15,8	

### **ECOLOGICAL FIGURES:**

### Discharge per 1000 kg production



### Feed conversion ratio

The values of the nutrients and vitamins are from the time of writing.

These values can vary due to natural variation in the ingredients. We reserve the right to change our recipe.



# SPECIAL PRO



- Very pallatable
- · High water quality
- · Optical feeding control









### **COMPOSITION:**

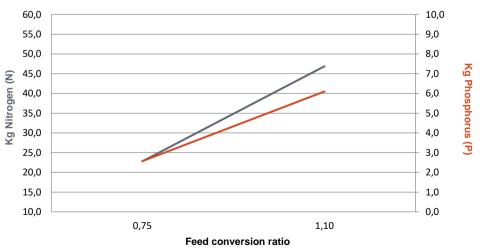
Analyses (%)	3.0 mm	4.5 mm	
Protein	48	43	
Fat	13	14	
Crude fibre	1,4	1,6	
Ash	9,1	6,7	
Total P	1,33	1,01	
Vitamins added			
Vitamin A (IE/kg)	10000	10000	

### Energy (MJ/kg)

Gross Energy	20,0	20,2
Digestible Energy	17,6	17,8

### **ECOLOGICAL FIGURES:**

### Discharge per 1000 kg production



The values of the nutrients and vitamins are from the time of writing.

These values can vary due to natural variation in the ingredients. We reserve the right to change our recipe.





- · Broodstock diet
- · Optimal egg development
- · High egg quality and fry survival













### **COMPOSITION:**

Analyses (%)		Sizes
Protein	48	6.0 mm
Fat	15	9.0 mm
Crude fibre	1,2	
Ash	8,9	
Total P	1,36	
Astaxanthin (mg/kg)	40,0	

### Vitamins added

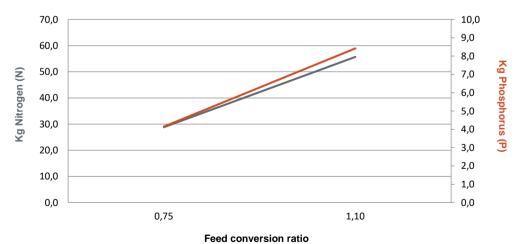
Vitamin A (IE/kg) 24998

### Energy (MJ/kg)

Gross Energy	20,7	
Digestible Energy	18.5	

### **ECOLOGICAL FIGURES:**

Discharge per 1000 kg production



The values of the nutrients and vitamins are from the time of writing.

These values can vary due to natural variation in the ingredients. We reserve the right to change our recipe.