



SPF



ADG (AVERAGE  
DAILY GROWTH)



PRODUCTIVITY



# GROWTH LINE

FAST AND CONSISTENT  
GROWTH WITH OUR  
NEWEST GENERATION

## TECHNICAL RECOMENDATIONS TO ACHIEVE THE BEST PERFORMANCES OF BLUE GENETICS GROWTH LINE IN HATCHERIES

Blue Genetics Growth Line is confirmed to have the highest rates of copulation and spawning for the production of PL's in hatcheries. Once the animals reach 1 gram weight, they can grow between 3 to 4 gram per week on average, with peak growth up to 5 or 6 gram in some weeks.

It is a line designed to be stocked in high- or low density ponds with a wide range of salinities, under controlled environmental conditions and free of pathogens, that will show its maximum genetic potential and feed conversion efficiency with good management practices in hatcheries and farms, as well as with a consistent feeding throughout the farming.

That is why, being a unique growth line, we provide our clients with the following recommendations, which together with their knowledge and technical skills, will help to achieve the best performance of the line in terms of growth, survival and Food Conversion Ratio.

## 1. BROODSTOCK RECEPTION AND ACCLIMATION

### a. Water Parameters during shipping:

- Water volume per bag: 10 to 12 liters of water
- Temperature: 16 to 19 °C
- Salinity: 27 to 30 ppt
- pH: 6.8 to 7.8

### b. Acclimation:

Salinity Range	Acclimation time	Temperature Range	Acclimation time	pH Range	Acclimation time
28 to 37 ppt	20 Minutes per 1 ppt	18 to 28 °C	20 Minutes per 1 °C	6.8 to 8.0 pH	20 Minutes per 0.1 pH

Recommended min. and max. ranges for acclimation in destination

### c. Recommended Treatments after acclimation.

After the broodstock have been acclimated for 24 hours or more, and before using them in the production tanks, in order to remove any possible fouling organisms, it is recommended to use one of these treatments:

- Iodine (PVP) 50 ppm for 1 minute
- Formalin 250 ppm for 1 minute
- Chloramin T 50 ppm for 1 minute
  
- For any other preventive prophylactic treatments for 10-14 days before using the breeders for production, please contact us.

## 2. BROODSTOCK FEEDING.

Broodstock should be fed about 26 % of their biomass per day on a wet weight basis as per the following proportions: Squid: 8.9 %, Artemia Biomass: 4.6 %, Polychaetes: 8.9 % and Dry Diet: 1.68 % of their biomass.

Maturation tanks are fed 6 times per day utilizing 4 diets, as per the following table for natural & inverted photoperiod

NATURAL PHOTOPERIOD	INVERTED PHOTOPERIOD
<ul style="list-style-type: none"><li>• 04:00 Dry Diet</li></ul>	<ul style="list-style-type: none"><li>• 04:00 Dry Diet</li></ul>
<ul style="list-style-type: none"><li>• 08:00 Squid</li></ul>	<ul style="list-style-type: none"><li>• 08:00 Artemia Biomass</li></ul>
<ul style="list-style-type: none"><li>• 12:00 Polychaetes</li></ul>	<ul style="list-style-type: none"><li>• 12:00 Squid</li></ul>
<ul style="list-style-type: none"><li>• 16:00. Artemia Biomass</li></ul>	<ul style="list-style-type: none"><li>• 16:00 Dry Diet</li></ul>
<ul style="list-style-type: none"><li>• 20:00 Dry Diet</li></ul>	<ul style="list-style-type: none"><li>• 20:00 Squid</li></ul>
<ul style="list-style-type: none"><li>• 24:00 Squid</li></ul>	<ul style="list-style-type: none"><li>• 24:00 Polychaetes</li></ul>

## 3. BROODSTOCK HANDLING FOR PRODUCTION

- **Ablation** is 10 days after acclimation. Less time will create unnecessary stress to the animals.
- **Water temperature** should be maintained at around 28°C.
- **Salinity** should be stable at 33 +/- 2 parts per thousand.
- **Temperature at spawning and Hatching tanks:** keep at 29° C at all times.

- **Salinity in Spawning and Hatching tanks:** Reduce salinity by 2 ppt below the maturation tank's salinity to soften the eggs and help the animals to hatch better.
- Never reduce the salinity in spawning and hatching tanks lower than 28 ppt.

#### 4. BROODSTOCK HANDLING FOR PRODUCTION

# Larval Rearing Feeding Protocol

Feeding quantities are adjusted for 1,000,000 organisms, extrapolate as necessary.

STAGE	amount/ 1 million of larvae												Probiotics (gr/tons)					Algae (Thalassiosira weissflogii) (cell/ml)
	4 time/day			5 time/day			4 time/day			5 time/day		1 or 2 time/day (depending if water is clean or dirty)						
	INVE FRIPPAK #1 CAR g.	INVE FRIPPAK #2 CD g.	INVE FRIPPAK #3 CD g.	Zeigler EZ Larva 1 (10-50 mn) g.	Zeigler EZ Larva 2 (10- 100 mn) g.	Zeigler EZ Larva 3 (100-250 mn) g.	Zeigler EZ Artemia 1 (50-200 mn) g.	Zeigler EZ Artemia 2 (300-500 mn) g.	INVE FRIPPAK PL+300 g.	INVE S-Pak 200-500 µ g.	Zeigler Black Flake g.	Artemia naupli units	Epicore Epicin- G2 g.	INVE Mic g.	Shrimp Shield g.	Zeigler Rescue or remediate g.	Epicore Epizym- hod g.	
N2												1	1	1	1	1	14,320	
NZ1												1	1	1	1	1	21,820	
Z1	6			24								1	1	1	1	1	45,002	
Z2	6			27								1	1	1	1	1	54,440	
Z3	7			27			27					16,025,455	1	1	1	1	2	58,040
M1		9			33		33					20,462,903	2	1	2	2	2	
M2		10			36		36					22,099,935	2	1	2	2	2	
M3		10			40		40					23,867,930	2	1	2	2	3	
M3PL		11			41		41					25,777,364	2	1	2	2	3	
PL1			12			45	45					26,066,233	2	1	2	2	3	
PL2			13			50	50					27,740,521	2	1	2	2	3	
PL3			13			55	55					28,082,163	2	1	2	2	3	
PL4			14			58	58					28,492,028	2	1	2	2	4	
PL5			14			62	62					29,346,789	2	1	2	2	4	
PL6								68	5	5	5	29,640,257	2	1	2	2	4	
PL7								68	5	5	5	29,936,660	2	1	2	2	4	
PL8								69	5	5	5	30,236,026	2	1	2	2	4	
PL9								69	5	5	5	30,538,386	2	1	2	2	5	
PL10								69	6	6	6	30,843,770	2	1	2	2	5	
PL11								69	6	6	6	31,152,208	2	1	2	2	5	
PL12								69	6	6	6	31,463,730	2	1	2	2	5	
PL13								69	6	6	6	31,778,367	2	1	2	2	5	
PL14								69	6	6	6	33,367,286	2	1	2	2	5	
Total	19	40	66	78	150	270	448	619	51	51	51	526,918,012	40	24	40	40	70	193,622