

# INCORPORATION OF BLACK SOLDIER FLY LARVAE (*Hermetia illucens*) IN THE DIET OF OMEGA PERCH (*Therapon barcoo*)



AQUA-ERF

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## INTRODUCTION

Black Soldier Fly larvae (*Hermetia illucens*) can convert organic side streams (from agriculture, fruit and vegetable processing facilities, retail,..) to nutritionally valuable feed ingredients. The application of this insect in aquaculture nutrition could significantly contribute to the sustainability of fish farming as it could reduce pressure on natural fish stock used for fish feed at the same time reducing waste disposal. The omegaperch (*Therapon barcoo*) performs well in recirculating aquaculture systems and feeds on grow-out diets with very low or no dietary levels of fishmeal and fish oil. Due to its well balanced essential amino acid profile, the incorporation of BSF larvae in omegaperch diet could enhance production parameters as well as its ecological character.

## MATERIALS & METHODS



- Eight week trial in a Recirculating Aquaculture System at 27±0.5°C
- 18 tanks of 130 liter
- 20 fish/tank with ABW of 96±3.49 gram at stocking (density: ±14.8kg/m<sup>3</sup>)
- Fish were fed every half hour by automatic beltfeeders for ten hours/day
- Six different feed treatments tested in triplicate with mixture of
  - ▶ 2mm plant based extruded pellets
  - ▶ Black Soldier Fly larvae

The mix ratio are based on dry weight and showed in Table I

- Fresh BSF larvae were produced on organic supermarket side streams
- BSF larvae were frozen for half an hour before putting them on the beltfeeder

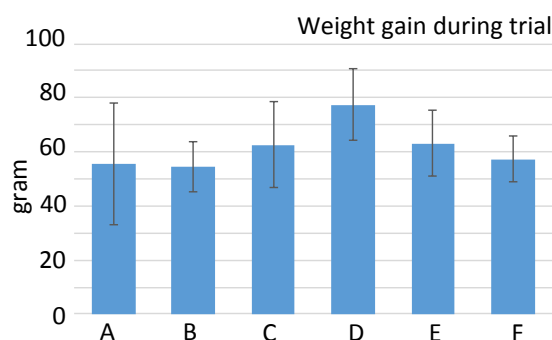
Diet	A	B	C	D	E	F
Pellet	100	80	75	50	25	-
BSF Larvae	-	20	25	50	75	100

Table I: Percentage of different mix ratio

## RESULTS

	A	B	C	D	E	F
SGR (%)	0.82	0.80	0.91	1.05	0.91	0.87
	±0.25	±0.11	±0.20	±0.15	±0.14	±0.10
FCR	3.39	2.26	2.88	2.41	2.80	3.04
	±0.97	±0.36	±0.55	±0.29	±0.46	±0.39

Table II: Specific Growth rate and Food Conversion Rate calculated over full trial period ± standard deviation



## DISCUSSION & CONCLUSION

- ▶ Although not significant, better growth is obtained when Black Soldier Fly larvae are included in the diet
- ▶ Combination treatments had higher growth than both 100% single compound treatments.

Indication that both feeds contain some nutritional elements that are unavailable or lacking in the other

Combining compounds → higher variety of nutrients available to the fish → better growth.

