EFFECTS OF BLACK SOLDIER FLY (*Hermetia illucens*) MEAL IN STURGEON (*Acipenser baerii*) JUVENILES FEEDS: PRELIMINARY RESULTS

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Recent investigations have highlighted that insect-based protein meals can be used as a more sustainable alternative to conventional protein (fish or plant protein meals) used so far in aquaculture (Henry et al., 2015; Gasco et al., 2016). *Hermetia illucens* (HI) is a good candidate due to its valuable nutritional properties. The aim of this research was to investigate the effects of the inclusion of a defatted HI larvae meal in sturgeon feeds on performances, somatic indexes, and condition factor.

Three hundred fifty two *A. baerii* of about 24g were weighed and allocated to 16 fiberglass tanks. Four diets were formulated (Table 1). Diets were isonitrogenous and isoenergetic. Trial lasted 118 days.

At the end of the trail weight gain (WG), feeding rate (FR), feed conversion ratio (FCR), protein efficiency ratio (PER), and specific growth rate (SGR) were calculated using the tank as experimental replicate. Hepatosomatic (HSI), viscerosomatic (VSI) indexes, and condition factor (K) were calculated. Data were statistically analyzed by ANOVA (post-hoc test: Tukey).

Preliminary results (Table 2) indicate that the inclusion of HI significantly affected fish performances and K. Generally, up to 25% of FM substitution, fish performed as well as CF or CV.

Henry et al., 2015. Review on the use of insects in the diet of farmed fish: Past and future. Anim. Feed Sci. Technol., 203, 1-22.
Gasco et al., 2016. *Tenebrio molitor* meal in diets for European sea bass (*D. labrax*) juveniles: growth performance, whole body composition and in vivo apparent digestibility. Anim. Feed Sci. Technol. 220, 34-45.

TABLE 1. Ingredients (g/kg) of experimental diets

	CF	HI25	HI50	CV
Fish meal	700	525	350	320
HI	0	185	375	0
Wheat meal	140	120	100	0
Fish oil	60	70	75	90
Starch gelatinized	80	80	80	80
Soia protein concentrate	0	0	0	200
Soia Bean meal (48%)	0	0	0	140
Gluten meal	0	0	0	150
Mineral mix	10	10	10	10
Vitamin mix	10	10	10	10

TABLE 2. Growing performance (n=4), Hepatosomatic and Viscerosomatic indexes (n= 12), and condition factor (n= 24) of sturgeons fed experimental diets

	CF	HI25	HI50	CV
WG (g)	2932 A	2648 AB	2520 B	2916 A
FR (%/day)	1.90 b	1.97 ab	2.05 a	1.93 b
FCR	1.04 B	1.15 AB	1.23 A	1.06 B
PER	1.99 a	1.80 ab	1.69 b	1.91ab
SGR (%)	1.59 A	1.51 AB	1.48 B	1.58 A
HSI (%)	2.69	3.02	3.39	3.41
VSI (%)	8.04	8.50	8.91	8.76
K	0.256 ab	0.246 b	0.260 a	0.261 a

A, B: $p < 0.01$; a, b: $p < 0.05$