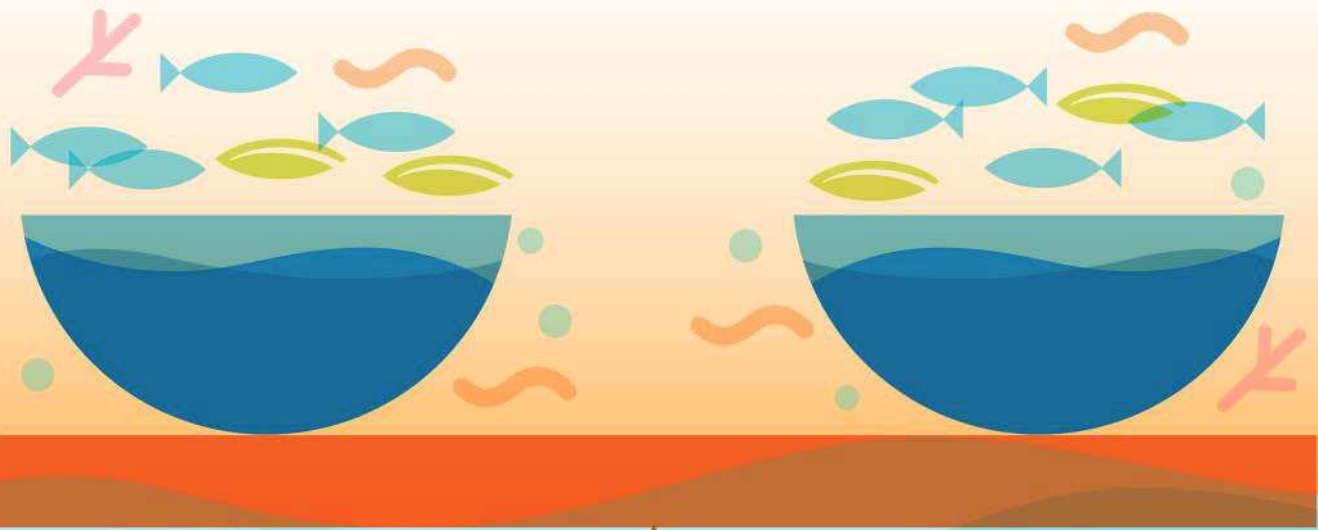


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## THE EFFECT OF INSECT-BASED EXTRUDED DIETS ON GROWTH PERFORMANCE AND FEED UTILIZATION IN ATLANTIC STURGEON (*Acipenser oxyrinchus*) JUVENILES

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### Introduction

The Atlantic sturgeon is one of the largest and most endangered fish in Europe. The last records of the natural population are dated to the 1970s and currently, the species is recognized as extinct in the wild in Poland, while the last specimen in the Baltic Sea was recorded in 1996. Its reintroduction projects are based on hatchery material and fish raised in captivity. Thus maintenance, as well as nutrition guides, must be developed for successful species propagation and restocking.

### Materials and methods

1800 juvenile Atlantic sturgeons (10,3 g each) were used in the 50-day-long feeding trial. They were divided into 3 treatments using 6 tanks per group and 100 fish per tank. The control diet (CON) contained 300 g/kg of fish meal. In 2 experimental treatments 150 and 300 g/kg of *Hermetia illucens* partially defatted meal (BSFM) was introduced. After 50 days of feeding growth performance and somatic indices were measured, and all the data were analysed using analysis of variance and post hoc Duncan's test.

### Results

There was no fish mortality recorded. Among all treatments, there were no significant differences in final body weight, body weight gain, specific growth rate as well as feed conversion ratio. Condition factor and viscerosomatic index were not differentiated between insect meal inclusion levels. However, in treatment with 300 g/kg of *Hermetia illucens* meal the lowest hepatosomatic index was observed. There were no differences in fin length indices.

### Conclusions

*Hermetia illucens* meal may be used in Atlantic sturgeon nutrition even with high inclusions of up to 300 g/kg of feed with no negative effects on growth performance, somatic indices or animal welfare. It may be concluded that insect meals are suitable feed materials for wild fish rearing for restocking purposes.

This study was carried out as part of the project entitled: "Innovative technology of highly adaptative juvenile sturgeon fish rearing for the natural and seminatural environment", no. 00001-6521.1-OR1500001/20, Task 2.1 "Innovations" according to EU Regulation No. 508/2014, Priority 2 – "Supporting environmentally sustainable, resource-efficient, innovative, competitive and knowledge-based aquaculture" realized in the Operational Program "Fisheries and Sea".