

# Effects of dietary prebiotic xylooligosaccharide on growth and feeding performance, hematological factors, non-specific immune response and digestive enzymes activity of sobaity (*Sparidentex hasta*) fingerling

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## Abstract

The aim of this study was to evaluate the effects of xylooligosaccharide on growth and feeding performance, hematological factors, non-specific immune response and digestive enzymes activity of sobaity (*Sparidentex hasta*). For this purpose, sobaity fingerlings were prepared with an average weight of  $35.64 \pm 0.3$  g from the Mariculture Research station of South Iranian Aquaculture Research Center. This study was carried out in a completely randomized design with three treatments and replications in fiberglass tanks with 300 liters volume. Fish were fed with feed containing 0, 0.5 and 1 percents of xylooligosaccharide at appeant satiation for a period of 8 weeks. At the end of the experiment, blood, plasma and intestine samples were collected for estimating the immunological (plasma total Ig, plasma lysozyme activity, plasma complement activity), hematological (hemoglobin, hematocrit and red and white blood cells count) parameters and digestive enzymes activity (amylse, lipase and protease). The obtained results indicated that dietary xylooligosaccharide did not change sobaity growth and feeding performance including final weight, final length, specific growth rate, condition factor, feed conversion ratio, protein efficiency ratio ( $P > 0.05$ ). The results of this study indicated that different levels of prebiotic did not affect non-specific immune response and white blood cells count. Digestive enzymes activity did not show significant differences between the control group with the treatments 0.5 and 1 percents of xylooligosaccharide ( $P > 0.05$ ). Overall, this study showed that hematological factors were affected by dietary prebiotic. Nonetheless, the diet supplemented with 0.5 and 1 percents of xylooligosaccharide had no significant effects on the non-specific immune response and growth performance of sobaity.

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