

# Investigating the effect of Celmanax, A-Max and Ultera A-Max probiotics on growth performance of Beluga (*Huso huso*) grower under condition of pen culture in Gorgan bay

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## Abstract

This research was carried out to evaluate the effect of commercial maxim, salmanox and ultramax on the growth performance of *Huso huso* (with an initial weight of  $4.24 \pm 27.4$  kg) in Pennsylvania breeding system in Gorgan during the winter of 1396 accepted. For this purpose, a gram perbiotic per kg of diet and three perbiotics (3% of body weight) were supplemented in experimental diets, while no strain was added in the diet (0 gr/kg of diet). At the end of the experiment (after 90 days), the fish were biometric and some growth parameters were calculated. The final weight of fish was increased in Ultra Max and Salmanox treatment, but in Max treatment, the control group decreased the tolerance. The highest final length was obtained in salmonox treatment (101 cm), while this parameter was at the lowest level (65.9 cm) in the control. Weight growth percent, weight and length of growth were increased in experimental treatments with the influence of probiotics. Maximum body weight gain (43.59%), weight growth rate (0.36%) and longitudinal (153%) were obtained in salmanox treatment.

**Keywords:** commercial prebiotic, growth performance, Beluga, velocity of growth weight