

Synergistic effects of dietary β -1,3 glucan and feed stimulants in juvenile olive flounder (*Paralichthys olivaceus*)

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The present study was conducted to investigate the effects of dietary supplementation of β -1,3 glucan and feed stimulants(BAISM) as a feed additive for juvenile olive flounder (*Paralichthys olivaceus*). Eight experimental diets supplemented with β -1,3 glucan and feed stimulants at 0%, β -1,3 glucan 0.05% + Baism 0.45%, β -1,3 glucan 0.05% + Baism 0.95%, β -1,3 glucan 0.10% + Baism 0.90%, β -1,3 glucan 0.10% + Baism 1.90%, β -1,3 glucan 0.15% + Baism 1.35%, β -1,3 glucan 0.15% + Baism 2.85% and β -1,3 glucan 0.30% + Baism 2.70% of diets as a dry-matter(DM) basis were prepared. Three replicate groups of fish averaging 9.2 ± 0.1 g (Mean \pm SD) were randomly distributed in each aquarium as a group of 15 fish and fed one of eight experimental diets for seven weeks. After the feeding trial, β -1,3 glucan 0.10% + Baism 0.90%, β -1,3 glucan 0.10% + Baism 1.90% diets had a higher weight gain(WG), feed efficiency(FE), specific growth rate(SGR) and protein efficiency ratio(PER) than did fish fed 0%, β -1,3 glucan 0.05% + Baism 0.45%, β -1,3 glucan 0.05% + Baism 0.95%, β -1,3 glucan 0.15% + Baism 2.85% and β -1,3 glucan 0.30% + Baism 2.70%($P < 0.05$). however, there was no significant difference among fish fed β -1,3 glucan 0.05% + Baism 0.45%, β -1,3 glucan 0.05% + Baism 0.95%, β -1,3 glucan 0.15% + Baism 2.85% and β -1,3 glucan 0.30% + Baism 2.70%($P > 0.05$). and β -1,3 glucan 0.10% + Baism 0.90% diets had a higher peak value of CL(Chemiluminescence) and lysozyme activity, than did fish fed the other diets ($P < 0.05$).

These results indicated that dietary supplementation of β -1, 3 glucan and Baism affected growth, feed efficiency, specific growth rate, protein efficiency ratio, Peak value of CL and Lysozyme activity, and the optimum dietary supplementation level of β -1, 3 glucan and Baism as a

feed additive could be approximately β -1, 3 glucan 0.10% + Baism 0.90% of diet in juvenile olive flounder (*Paralichthys olivaceus*).

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