

**THE EFFECTS OF THE DIETARY MICROBIAL PHYTASE
SUPPLEMENTATION IN JUVENILE OLIVE FLOUNDER,
Paralichthys olivaceus AND JUVENILE KOREAN ROCKFISH,
Sebastes schlegeli FED SOYBEAN MEAL-BASED DIETS**

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This study was conducted to determine the effects of the dietary microbial phytase (P) supplementation on growth performance and bioavailability of phosphorus in juvenile olive flounder, *Paralichthys olivaceus* and juvenile Korean rockfish, *Sebastes schlegeli* fed soybean meal-based diets.

Nine experimental diets were formulated to be isonitrogenous and isocaloric to contain 50.0% crude protein (CP) and 16.7kJ, 48.6% crude protein (CP) and 16.0kJ available energy/g without the dietary phytase supplementation for olive flounder and Korean rockfish, respectively : 100% fish meal (FM); 70% FM + 30% soybean meal (SM); 70% FM + 30% SM + Phytase(P) 1000U/kg diet; 70% FM + 30% SM + P 2000U/kg diet; 70% FM + 30% SM with phytase-treated (Ptre) P 1000U/kg diet; 60% FM + 40% SM; 60% FM + 40% SM + P 1000U/kg diet; 60% FM + 40% SM + P 2000U/kg diet; 60% FM + 40% SM with Ptre P 1000U/kg diet. After two weeks of the conditioning period, triplicate groups of 25 fish initially averaging 6.15 ± 0.04 g, was randomly distributed into the aquarium for olive flounder, and 20 fish initially averaging 7.25 ± 0.04 g was randomly distributed into the aquarium for Korean rockfish. After 8 weeks feeding trials, there was no significant difference on weight gain fish fed between 100% FM and 70% FM+30%SM with Ptre P 1000U in olive flounder and Korean rockfish. Apparent phosphorus digestibility fish fed phytase supplemental diets were significantly higher than those of fish fed phytase non-supplemental diets in olive flounder and Korean rockfish.

Therefore, these results indicated that pre-treated soybean meal with phytase 1000U could replace fishmeal up to 30% for the maximum growth of juvenile olive flounder and Korean rockfish. Phytase supplementation could improve apparent digestibility of phosphorus in olive flounder and Korean rockfish fed soybean meal based diets.

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