

DIETARY ARGININE REQUIREMENT OF JUVENILE COHO SALMON  
(*ONCORHYNCHUS KISUTCH*).

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Juvenile coho salmon (*Oncorhynchus kisutch*) were fed six dietary arginine levels between 3.5% to 8.5% of dietary protein. Test diets contained wheat gluten, casein and gelatin as protein source. Fish were fed at a restricted level of approximately 3.5% of body weight adjusted bi-weekly. An herring meal diet was included as positive control. It was fed at both a restricted level and apparent satiation. Each treatment included three 80L aquarium each containing 70 fish (initial weight of 1.6g). Water temperature was kept constant at 15 °C, using a recirculating water system. The fish were counted and weighed bi-weekly for 8 weeks.

No significant differences were found for weight gain, feed intake, and survival. Weight gain of the fish fed the test diets ranged between 360% to 420% of average initial weight. Weight gain of the herring meal control diet fed at the same restricted level was within that range (370%), indicating an excellent performance of the test diets. Weight gain of the herring meal control diet fed to satiation reached 500% for the apparent satiation treatment. Survival was above 95% for all dietary treatments. Significant differences were found for both PER and PPV. PER reached its highest significant level at dietary arginine level of 4.5%. However, PPV reached its highest significant level at dietary arginine level of 5.5%. PPV was a more sensitive measure, as it took into account both the protein retention and the protein intakes of the fish, indicating the dietary arginine requirement was at 5.5% of dietary protein for juvenile coho salmon.