Effect of replacement of fish meal by potato protein concentrate in the diet for rainbow trout on feeding rate, digestibility and growth

Six isonitrogenous and isoenergetic diets were composed to investigate the effects of incorporation of potato protein concentrate (PPC) and supplementation of methionine in the diet for rainbow trout (Oncorhynchus mykiss) on feeding rate, digestion, growth, feed utilization and body composition. The control diet contained all Danish L T-fish meal as protein sources. The other experimental diets contained 2.2, 5.6, 8.9 and 11.1% PPC respectively. Diet 6 contained 5.6% PPC and 1.7% methionine. A 4-week trial was conducted at about 12°C. The results showed that feeding rate decreased with increased incorporation levels of PPC. Apparent digestibility of dry matter, crude protein and ash increased with increased proportion of dietary PPC, while there was no significant effect on the apparent digestibility of crude fat. The incorporation of 5.6% PPC decreased growth rate and 8.9% PPC decreased both growth and feed efficiency. Supplementation of 1.7% methionine decreased both feeding rate and growth.