

Voluntary feed intake, feed and nutrient utilisation in slow and fast growing rainbow trout strains



Two rainbow trout strains differing in their growth performance were used to study possible interactions between genotype, dietary composition and feed level on their feed utilisation efficiency and voluntary feed intake. Two diets (35 and 45 % of crude protein) and two feeding levels (to satiation or at a restricted level of 2 % of body weight), were used. The two diets were distributed, in duplicate, for each strain, during a four month growth trial. At the end of the experiment the digestibility of the two diets was determined in each strain, using chromic oxide, as a marker, and an automatic system for the faecal collection. The body composition of both strains was also analysed. The final weight of fish of the fast growing strain, fed to satiation, was significantly higher than that observed for fish of the slow growing strain. No significant differences were found between the strains's body weights, when a dietary restriction was made. Results observed for the feed-gain ratio were also similar between the two strains. The apparent digestibility coefficient (ADC) of dry matter and energy were significantly different between the two diets but similar for both strains.

Concerning protein digestibility no significant differences were observed for diets, although one of the strains appeared to show a higher ADC for protein. Body composition as well as nitrogen and energy retention were similar for both diets and strains.

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