

**ORL-F&HN-09****Supplementation of Commercial Probiotics in Feed for Growth and Survival of Rainbow Trout**

Suraj Kumar Singh\*, Mahendra P Bhandari, Utsav Koirala, and Sharad DC

Rainbow Trout Fishery Research Station  
Nepal Agricultural Research Council  
Dhunchu, Rasuwa, Nepal  
suraj9842529211@gmail.com

Dietary additives of probiotics, also known as 'eco-friendly medium' used for handling of gut microflora is a fresh approach to improve the intestinal health, growth parameters and welfare of farmed aquaculture animals. The present study was designed to evaluate the influence of different rate of dietary supplementation of *Bacillus* as probiotics in four isonitrogenous diets for rainbow trout (*Oncorhynchus mykiss*) fingerlings. The probiotics *Bacillus* spp was obtained from the local market named Unimax, which was a blend of different *Bacillus* species with colony forming unit (CFU) found to be  $1.18 \times 10^4$  CFU/g.

The experiment was conducted at Rainbow Trout Fisheries Research Station, Dhunchu, Rasuwa in Completely Randomized Design (CRD) having 4 diets, diet-1: control; fish meal based (T1), diet-2: 1% commercial probiotics mixed with total diet (T2), diet 3: 3% commercial probiotics meal mixed with total diet (T3) and diet 4: 5% commercial probiotics mixed with total diet (T4). Altogether there were four treatments replicated four times. The treatments were randomized by excel with Rand () command. Fishes were hand fed twice a day with pellet feed as suggested by rainbow trout daily feeding guide according to the daily temperature and total body weight of the fishes in each raceway.

Growth parameters such as total harvest weight, daily growth rate, specific growth rate, feed conversion ratio and condition factor were not significantly different in diet T3 and diet T4 whereas were significantly different with diet T2 and control diet. No significant changes were observed in water temperature, dissolve oxygen and pH under different treatments.

The present findings demonstrated that dietary inclusion of commercial probiotics with *Bacillus* highly increases the growth performances and feeding efficiency in trout fingerlings. Furthermore, different levels of probiotics *Bacillus* resulted in different performance.

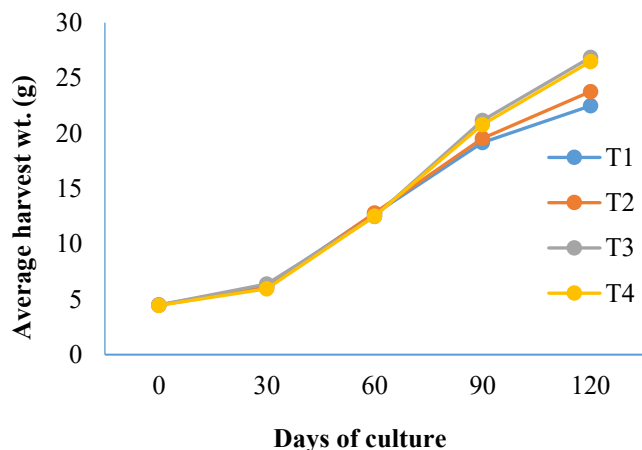


Figure: Growth trends of rainbow trout fry in different treatments during experimental period of 120 days.