

*Comparative study on the response of
four different artificial diets in
the growth and mortality of Free
Swimming Larvae of Rainbow Trout
(Oncorhynchus mykiss)*

A Dissertation
Submitted for the partial fulfillment of
M. Sc Degree in Zoology

By

Suren Subba

Central Department of Zoology
Institute of Science and Technology
Tribhuvan University
Kirtipur, Kathmandu
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Recommendation for acceptance

This is to certify that *Mr. Suren Subba* had completed the dissertation work entitled "*Comparative study on the response of four different artificial diets in the growth and mortality of Free Swimming Larvae of Rainbow Trout (Oncorhynchus mykiss)*" submitted for the partial fulfillment of M.Sc. degree in zoology under my supervision. This is an original work and not submitted for any degree before. So I recommend this paper for approval.

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APPROVAL

This is to certify that the dissertation prepared by Mr. **Suren Subba** entitled " **Comparative study on the response of four different artificial diets in the growth and mortality of Free Swimming Larvae of Rainbow Trout** " has been accepted for the partial fulfilment of **Master's Degree of Science in Zoology** with special paper Fish and Fisheries.

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Evaluation and approval

We certify that the dissertation presented by **Mr.Suren Subba** entitled "Comparative study on the response of four different artificial diets in the growth and mortality of Free swimming larvae of Rainbow Trout " has been evaluated and accepted for the partial fulfillment of **Master's Degree of Science in Zoology** with special paper Fish and Fisheries by the following experts committee.

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Head of Department
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Date :

DECLARATION

I hereby declare that to the best of my knowledge this thesis is original;no part of it was earlier submitted for the candidature of research degree to any university.

Date : 2066/11/23

Suren Subba

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ABSTRACT

The present study is a feeding trial experiment on Rainbow Trout free swimming larvae. The objective of the experiment was to evaluate growth and mortality of free swimming trout larvae at different formulated test diets.

For it, trout alevins of initial average body weight of 0.08391 to 0.08907 gm were nursed in 12 floating net cages set in a circular tank for 60 days from 28th December 2008 to 24th February 2009 at Fishery Research Division, Godawari. The physicochemical parameters of water in the circular tank was recorded; where water temperature ranged from 8.5°C to 13°C, pH 7.0 to 8.5 and Dissolved Oxygen (DO) 6.5 - 9.0 mg /l.

The alevins were fed with 4 different diets - Diet 1 (Normal diet), Diet 2 (Normal diet with buff liver), Diet 3 (Normal diet with chicken liver) and Diet 4 (Normal diet with mutton liver). The experiment was conducted at Completely Randomized Design (CRD) with three replications for each diet.

Body weight, total length and condition factor of alevins did not show significantly variation at different test diets like Diet 2, Diet 3 and Diet 4 but the result was recorded good in terms of growth and survival for the Diet 1. Gross weight and feed efficiency was recorded varying from 34.76% to 71.12 %. The specific growth rate was recorded 3.043%/day or highest in test Diet 3. The FCR was recorded 2.8768 or highest in Diet 4. The coefficient of co-relation between length and weight was highest (0.972) in Diet 3.

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