

**EFFECT OF OVULIN ON INDUCED BREEDING IN ROHU
(*Labeo rohita* Hamilton, 1822) AND NAINI (*Cirrhinus mrigala*
Hamilton, 1822) AT FISH DEVELOPMENT AND TRAINING
CENTRE, JANA KAPUR, NEPAL**



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Submitted To

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RECOMMENDATION

This is to recommend that the thesis entitled “**EFFECT OF OVULIN ON INDUCED BREEDING IN ROHU (*Labeo rohita* Hamilton, 1822) AND NAINI (*Cirrhinus mrigala* Hamilton, 1822)**” AT FISH DEVELOPMENT AND TRAINING CENTRE, JANAHPUR, NEPAL has been carried out by **Mr. Rajeshwar Sah** for the partial fulfillment of **Master’s Degree of Science in Zoology** with special paper **Fish and Fisheries**. This is his original work and has been carried out under my supervision. To the best of my knowledge, this thesis work has not been submitted for any other degree in any institutions.

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DECLARATION

I hareby declare that the work presented in this thesis has been done by myself, and has not been submitted elsewhere for the any degree. All sources of information have been specifically acknowledged by reference to the author(s) or institution(s).

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Rajeshwar Sah

ABSTRACT

Fresh water fish culturing is an important sector of food production in Asia and throughout the world for raising the quality and quantity of domestic fish production for human consumption. The present study was undertaken to study the 'Effect of ovulin on induced breeding in Rohu (*Labeo rohita* Hamilton, 1822) and Naini (*Cirrhinus mrigala* Hamilton, 1822)' Gonado-Somatic Index (GSI). Fertility rate, Hatching rate, Embryonic development and Growth of *Labeo rohita* and *Cirrhinus mrigala* (fingerlings) was studied. Studied fish specimens were spawned successfully following a single dose of Ovulin with 0.5 ml/kg for female and 0.3 ml/kg for male brooders. During the study period the range of Temperature of in different ponds was 24⁰C - 34.4⁰C, pH of water showed it to be alkaline during whole study period, Dissolved Oxygen were recorded 5.0-9.1 mg/l, CO₂ were recorded 13.7 – 17.1 mg/l. The total number of eggs (Fecundity rate) spawned was found to range from 233203 to 316384 in *Labeo rohita* and 423200 to 768000 in *Cirrhinus mrigala*. Fertilization rate were recorded 77.77-88.33% in *Labeo rohita* and 71.05-82.24% in *Cirrhinus mrigala*. Hatching rate was recorded 75.29-82.68% in *Labeo rohita* and 60.68-79.28% in *Cirrhinus mrigala*. The development of embryo was noted. The development of embryo continued and the hatching takes place after 8-10 hours of fertilization. Hatchings after transferring to the nursery pond, the fry were fed with artificially formulated feed with 40% protein regularly. The length and weight of hatchings was recorded gradually increased.

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LIST OF ABBREVIATIONS

Abbreviated from	Details of abbreviations
^o C	Degree Celsius
ha	hector
DoFD	Directorate of Fisheries Development
MoAC	Ministry of Agriculture and Co-operative
CBS	Central Bureau of Statistics
FAO	Food Agricultural Organization
AGDP	Agricultural Gross Domestic Production
GDP	Gross Domestic Production
mt	Metric tone
kg	Kilo gram
BW	Body weight
cm	Centi meter
gm	Gram
LRH	Lueiting Release Hormone
mg	Mili gram
ml	Mili litre
mm	Mili meter
CPE	Carp Pituitary Extract
m	Meter
g	Micro gram
GnRH	Gonadotropic Release Hormone
hrs	Hours
NGO	Non Government Organization
INGO	International Non Government Organization
FDTC	Fish Development and Training Center
UNDP	United National Develop Program
pH	Hydrogen in concentration
CDZ	Central Department of Zoology
GN	Government of Nepal
BS	Bikram Sambat