

**IDENTIFICATION OF MOST EFFECTIVE
ORGANIC FERTILIZER TO OBTAIN MAXIMUM
SURVIVAL RATE IN *Catla catla* REARING**

A dissertation submitted to the
Faculty of Animal Science and Export Agriculture
UvaWellassa University
in partial fulfillment of the requirement of
the degree of
Bachelor of Science in Aquatic Resources Technology

by

**KRISTHOMBUWASAM GALWADU
MADHUSHIKA PRABHANI**

**Aquatic Resources Technology Degree Programme
Faculty of Animal Science and Export Agriculture
Uva Wellassa University**

2014

Abstract

Catla catla (Catla) is a zooplankton feeding Indian major carp species which was introduced to reservoirs in Sri Lanka to uplift the inland fishery production. The problem identified in fish seed production in the Aquaculture Development Center-Udawalawa was the low survival rate of *Catla catla* post larvae (PL) to fry rearing. The survival rate of *Catla catla*, post larvae (PL) to fry rearing in cement tank is low, and in mud ponds it is lower than in cement tanks. Therefore this study was conducted to observe the survival rate of *Catla catla* in ponds treated with each type of organic fertilizer, to find out the best organic fertilizer to achieve highest survival rate of *Catla catla* and to analyze the effect of each organic fertilizer for the growth rate of *Catla catla*. As cow dung is the common practice in the field, it is used as the control. Complete Randomized Design (CRD) was used as experimental design and MINITAB 16 statistical software was used to analyze the data. Tukey test was used to compare mean values at 5 % significant level. After a plankton count it was found out five days were needed to fertilize the mud ponds and cement tanks before stocking PL (post larvae). 6000 PL were stocked in each nine cement tanks with three replicates and 500 PL were stocked in each hapa net cage fixed in mud ponds with four replicates. 250 g/m² cow dung, 30g/m² Ipil ipil and rice straw were added in fertilizing mud ponds and cement tanks. The highest survival in cement tanks (80.02%±4.78) and mud ponds (36.45%±1.92) were observed in the treatment of rice straw. The highest percentage length gain and weight gain were observed in the same cement tanks and mud ponds fertilized by rice straw. As well the highest zooplankton number at the date of stoking PL were observed in the treatment of rice straw. The highest zooplankton community in the treatment of rice straw might be the reason for highest survival rate and growth of *Catla* in mud ponds and in cement tanks. Results of the current study was revealed that rice straw is the best fertilizer to fertilize both mud ponds and tanks to obtain highest survival rate and growth of *Catla* rearing.

KEY WORDS: Rice straw, Ipil ipil, Post larvae, length gain, weight gain