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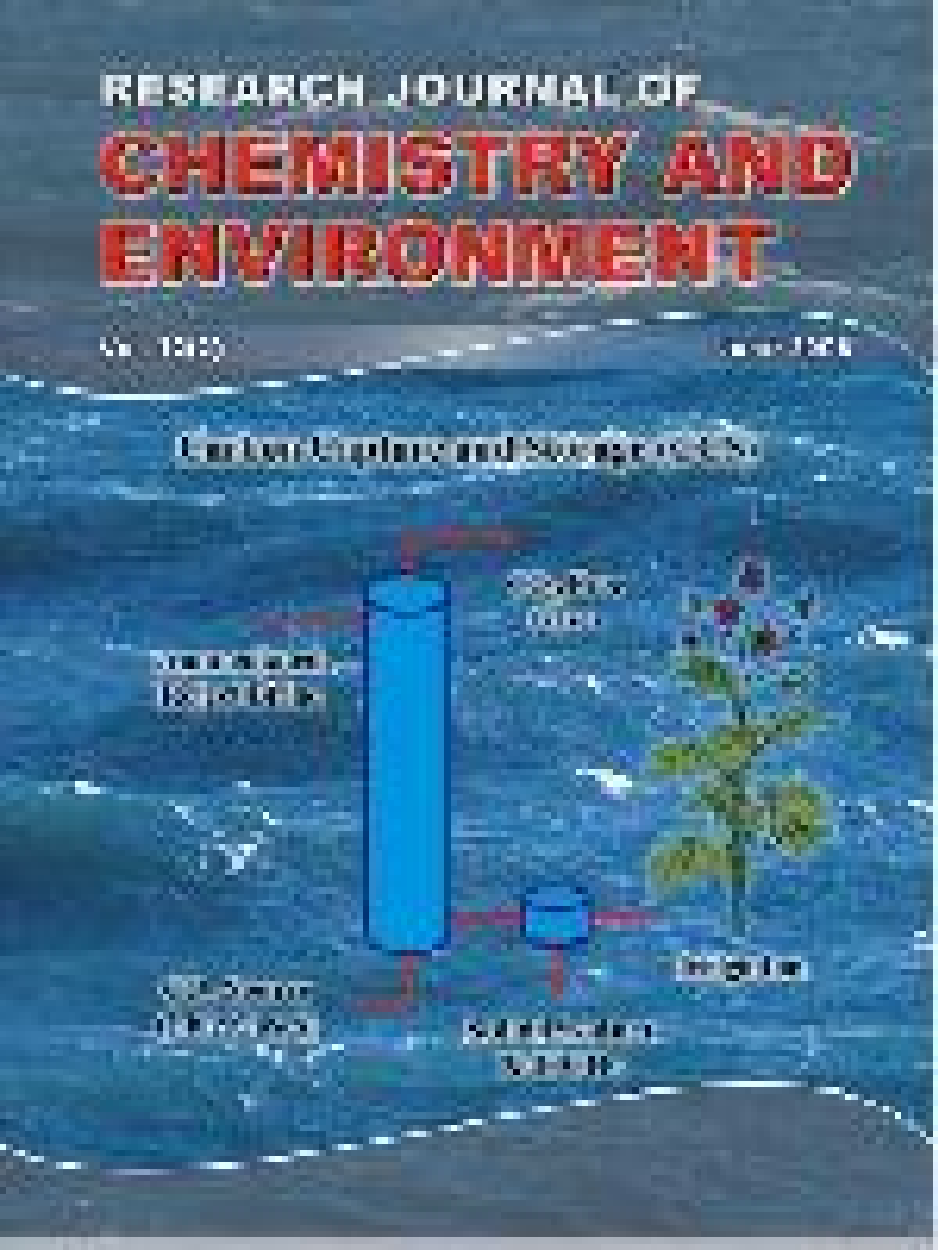

Will Silver Barb (*Barbonymus Gonionotus*) survive at Floating Net Cage in Cirata Reservoir by Gulma Water Hyacinth (*Eichhornia Crassipes*) alone?

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Abstract
This research aims to identify the average daily gain (ADG) and survival rate (SR) of silver barb fed with water hyacinth farmed at floating net cage in Cirata Reservoir. Experiment is conducted from December 2014 to February 2015 using complete random model consisting of four treatments and three repetitions. The treatments include water hyacinth feeding for 10%, 20% and 30% and artificial feeding for 3% of the fish's weight.

Fish are fed two times a day by observing the ADG, SR and water quality. The results show that water hyacinth feeding greatly influences the ADG; the 3% feeding supplies the highest ADG by 1%, while the other treatments equally contribute 0.1%. However, there is no significant difference in the average survival rate of the fish resulting in 98%.

Keywords: Silver barb (*Barbonymus gonionotus*), floating net cage, cirata reservoir, water hyacinth (*eichhornia crassipes*), average daily gain, survival rate.

Introduction

As open water, Cirata Reservoir is unprotected from incoming materials and substances in the various forms of residuals from fish metabolism, organic materials, nutrients, minerals and suspended solids as well as lifeless aquatic organisms[1] which may cause eutrophication in the reservoir and bottom water sedimentation. The results from eutrophication may be the the sudden and rapid growth of phytoplankton and water hyacinth. The impacts of this eutrophycation consist of decrease in water quality, biodiversity of the fish, aesthetics, silting and others[2]. The water hyacinth spread in Cirata Reservoir has been out of control affecting the water quality in the area.

According to reports from Cirata Reservoir Governing Body or BPWC, the number of the water hyacinth spread in the reservoir[3] has reached 5% of the total area and the institution along with the community near the reservoir has issued the policy and conducted activities in order to outgrow the growing number of water hyacinth by taking them out of the water and disposing them. Such actions, however, may be altered by using them as feeding alternative in the form of keeping herbivorous fish[4] such as silver barb (Indonesian: *ikan tawes*).

Silver barb (*Barbonymus goniomus*) is included in the species of herbivorous fish feeding themselves with natural and organic substances. It is suggested, therefore, to consider conducting research on the feeding level of water hyacinth and the growth speed in silver barb kept in floatingnets at Cirata Reservoir. The species, originally from and widely spread in Indonesian waters, has been long known as prominent consumption fish as well as having potential prospects for farming[5].

It is important to pay attention to the nutrition containing in the feed for the fish[6] in order to avoid diseases and to support growth, thus the feed must carry the crucial elements of proteins, fats, carbohydrates, vitamins and minerals. The content of proteins in water hyacinth as an alternative for feeding fish is still considered sufficient because it contains 11.5% of proteins[7].

The major problem in the using of water hyacinth as a valuable material for feeding is that it is regarded as the waste polluting the rivers. In the long run, it is expected that water hyacinth may contribute in cutting dependence on artificial feed. This research aims to examine the maximum number of water hyacinth supporting lives and the highest average daily gain of silver barb fed with water hyacinth in floating nets at Cirata Reservoir.

Material and Methods

Experiments, observations and analysis for the purpose of this research are conducted for 70 days in floating nets at Cirata Reservoir, West Java from December 2014 to February 2015. The research is carried out using equipments of floating nets (Figure 1), bamboo, anchors, buckets, scoop nets, secchi disks, digital scale, pH meter, thermometer, DO meter, and stationeries.

Figure 1: Floating Net Cage at Cirata Resevoir