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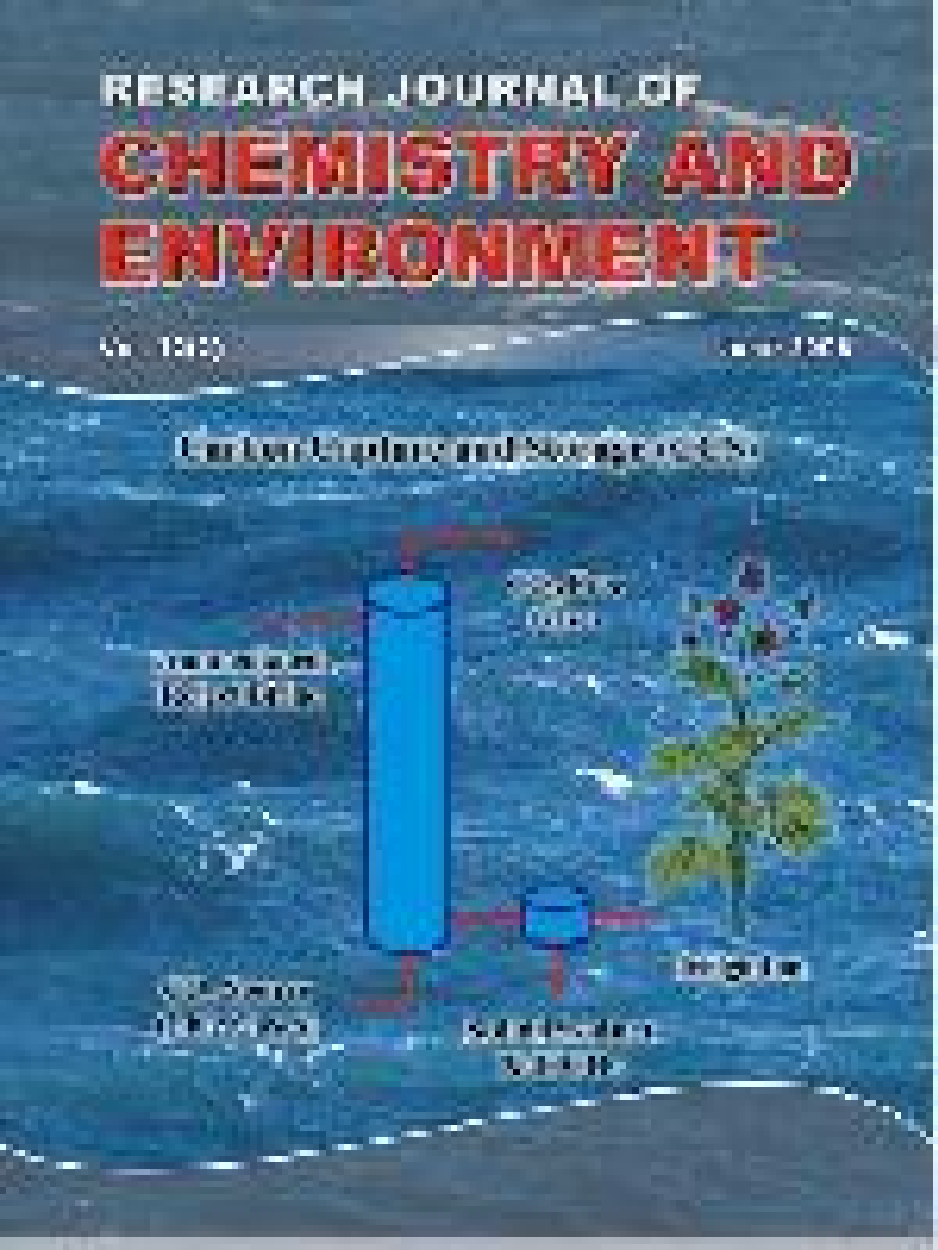

The Effect of Probiotic Mixture in Feed Pellets containing Water Gulma (Azolla sp.) for Gouramy Seed (*Osphronemus goramy Lac.*)

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Abstract

The objective of this experiment was to know the concentration of commercial probiotics given to the mixed pellets diet and water gulma azolla that could result in the highest growth in Gourami seeds (Osphronemus goramy Lac.). The experiment lasted from August 2010 until October 2010. The method of this research was experimental method using completely randomized design with 4 treatments and 4 replications. The treatments were treatment A (5 ml / kg), treatment B (10 ml / kg), treatment C (15 ml / kg) and treatment D (20 ml / kg). Observed parameters were specific growth rate and feed conversion ratio. The results showed that the addition of commercial probiotics in feed mixture pellets and azolla gives effect on growth of Gourami seed. The addition of probiotics at 15 ml / kg of feed produced the highest daily growth rate of 1.585% and feed conversion ratio of 3.02.

Keywords: Gourami, probiotics, azolla, growth rate, feed conversion ratio.

Introduction

Gouramy fish (*Osphronemus goramy Lac.*) represent one of fresh water fish type which has price relatively expensive if compared to other freshwater fish. This condition encourages the farmers to perform magnification business of gouramy. Major problem in culturing gouramy is growth which relatively slows compared to other fish.

Factors which affect fish growth are internal factor and external factor. Internal factors are generally difficult factor to be controlled, like descendant, sex, age, while external factor are like environment and feed[4]. Farmers with traditional technology usually only use foliage therefore growth of fish is relatively slow. Leaf protein which is utilized in addition protein at feed of carp fish is leaf sente (*Alocasia macrorrhiza (L*), Schott), papaya (*Carica papaya* Linn), keladi (*Colocasia esculenta* Schott), tapioca (*Manihot utililissima* Bohl), genjer (*Limnocharis flava* (L) Buch), kangkung (*Ipomea reptans* Poin), sweet potato (*Ipomea batatas* Lamk), cucumber (*Cucumis sativus* L), turnip (*Curcubita moshata* Duch en Poir), dadap (*Erythrina* sp), dan water gulma namely azola (*Azolla pinata*)[2].

Fig. 1: Gurami (O*sphronemus goramy* Lac.) seed

Most important thing in growth of fish is protein content from animal or plant[15]. Additions of leaf flour in feed can increase vegetation protein needed by fish. According to Mudjiman[7], fishes need enough feed, complete and obstetrical balance of the nutrient like protein, fat, carbohydrate, vitamin and mineral. Artificial diet is therefore given so that fish gets complete nutrition with cheap price.

There is effort to increase the digestibility of feed that is fermentation and addition of probiotic. According to Fuller[5], probiotic is food additive in the form of beneficial life microbe which is given to organism. Verschuere et al[14] define probiotic as addition of life microbe which has influenced profits for host through association. Giving of probiotic increases alteration of feed fiber, easy to be digested to provide bigger energy. According to Sahwan[9], giving of probiotic at feed means to add nutritional value.

Material and Methods

This research has been done in Laboratory Akuakultur, Fishery and Marine Science Faculty, Universitas Padjadjaran. Research takes place during 60 days starting from August 2010 till October 2010.

Table 1
Content of Feed Nutrition

Component	Content of Nutrition
Protein	40 % from 100% Dry basis
Lemak	10 % from 100% Dry basis
Fiber	8 % from 100% Dry basis
Water	12 % from 100% Dry basis