

LAMPIRAN



1. Instrumentasi



Ikan Baung (*Hemibagrus nemurus*)

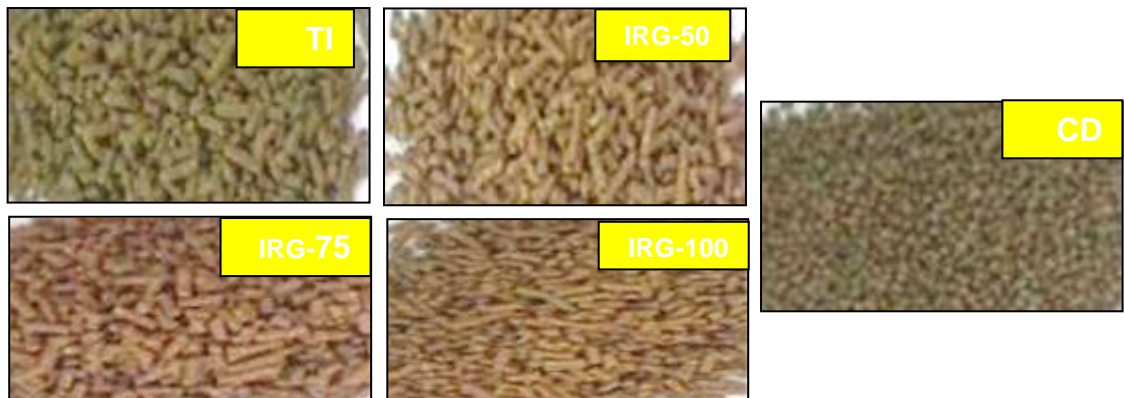


Ikan rucah bergaram





Tepung ikan rucah bergaram



Diet Uji





Keramba



Respon terhadap pakan





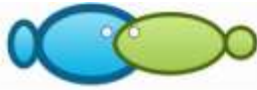
Penimbangan

2. Personalia tenaga pelaksana dan kualifikasinya

No	Pelaksana	Kualifikasi
1.	Ghazali, S.Pi	S-1
2.	Sadarlis, S.Pi	S-1

3.

3. Artikel Ilmiah



Evaluation of salted trash fish as a protein source replacing fishmeal in the diet for river catfish (*Hemibagrus nemurus*)

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Abstract. The research was conducted to evaluate the effect of substitution of fishmeal by salted trash fish in the diet on growth, feed efficiency, nutrient utilization and body composition of river catfish (*Hemibagrus nemurus*). Five formulated diets were prepared to contain 38% protein and 3.25 kcal g⁻¹ digestible energy (DE) as an optimum dietary protein and energy for the fish. One diet was control diet which contained fishmeal without salted trash fish (FM), and other diets were trash fish diets which fishmeal was reduced and proportionally replaced by salted trash fish 25% (STF-25), 50% (STF-50), 75% (STF-75) and 100% (STF-100). Catfish fingerlings, 45 g in size, obtained from local fish hatchery were stocked into triplicate 2 x 2 x 1.5 m floating net cages at a density of 100 fish cage⁻¹, and fed experimental diets at satiation, twice a day for 8 weeks. Results indicated that the salted trash fish diets were characterized by higher salt, ash and fiber but similar in amino acid profiles as well as water stability as compared to control diet. The survival rate was reached 100% in all treatments. Inclusion of salted trash fish at a level 25% in the diet increased weight gain as compared to control diet; and inclusion up to 50% did not affect weight gain, specific growth rate, food consumption, food efficiency, protein efficiency and protein retention; but further increase reduced weight gain, specific growth rate, food efficiency, protein efficiency and protein retention. Salted trash fish diets did not affect fish body protein and ash, but increased body moisture and decreased body fat. Essential amino acid profiles of the fish fed salted trash fish diets were similar to that fish fed control diet. It was concluded that the salted trash fish could be included in the river catfish diet up to 50% as replacement for 50% fishmeal without negative effect on weight gain, specific growth rate, food consumption, food efficiency, protein efficiency, protein retention and proximate body composition of river catfish.

Key Words: fishmeal diet, trash fish diet, river catfish, growth performance, fish body composition.

Introduction. River catfish (*Hemibagrus nemurus* Valenciennes, 1840) is a popular and demanded river catfish species for both fresh and smoked fish consumption in Riau Province, Indonesia. Naturally, the fish was caught from the rivers, lakes and reservoir, however, its population in the wild was decreasing due to overfishing and environmental damage, therefore, the next supply of the fish would depend on aquaculture production. The culture of the river catfish now has been developed; artificial breeding and aquaculture techniques have been available; however, the fish was required relative high dietary protein (approximately 38-42%) for its optimum growth and high flesh quality (Khan et al 1993; Hasan et al 1999; Hasan et al 2013).

Fishmeal (FM) is the most preferable and digestible protein source in the diet for most farmed fish including river catfish due to its amino acid, fatty acid, energy, vitamins and minerals balance (Tacon 1993; Eguia 1998; Khan et al 1993; Hasan et al 1999; 2013; Abdelghany 2003). However, its price is high and its production is limited and scarcely available, import dependent, hence it is not economical for small scale feed manufacturer. Since the demand for FM continues to grow, while its production is expected to remain constant (New & Wijkstrom 2002; Borgeson et al 2006), more attention must be paid to utilizing local material as an alternative protein source replacing FM in the fish diet.

Trash fish from marine by-catch is a potential protein source as a replacement for conventional FM in the fish diet due to its high protein content, averaging 66.1% dry



4. Buku Ajar

BUKU REFERENSI

FEEDING AND PROCESSING TECHNOLOGY OF RIVER CATFISH (*Hemibagrus nemurus*)

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