

Dissolved oxygen content plays an important role as an indicator of water quality and supports fish growth. The observation on DO parameter during the research obtains a value ranging from 4.6 – 5.3 mg/L. This DO range falls within tolerance limit for juvenile catfish. This is pursuant to the opinion of Mahyudin (2010) that oxygen content which may support fish farming ranges from 3 – 7 mg/L.

Conclusions

According to the research results, we may conclude that feed with a combination of 75% mackerel tuna leftover and 25% soybean meal powder may present daily growth rate of 3.09%, absolute growth of 126.3 grams, feed utilization efficiency (EPP) of 68.48%, and survivability 82.50% juvenile catfish in nursery stadia.

References

- [1] Abadi, S.W. 2010. Effect of Different Proportions of Salted Fish Flour and Soybean Flour in Artificial Feed Against Siamese Patin Fish Growth (*Pangasionodon hypophthalmus*). *Skripsi*. Fakultas Pertanian. Universitas Lampung. Bandar Lampung.
- [2] Bhatnagar A, Devi P. 2013. Water quality guidelines for the management of pond fish culture. *International Journal of Environmental Sciences* 3: 1.980–2.009.
- [3] Craig, S., dan L.A. Helfrich. 2002. *Understanding Fish Nutrition, Feeds, and Feeding*. Publication Virginia Cooperative Extension. 4 pp.
- [4] Chou, R. L., B.Y. Her., M.S. Su., dan G. Hwang. 2004. Substituting Fish Meal With Soybean Meal in Diets of Juvenile Cobia *Rachycentron canadum*. *Aquaculture*, (229) : 325 – 333.
- [5] Effendie, M. I. 1997. *Fisheries Biology*. Yayasan Pustaka Nusatama. Yogyakarta. 159 hlm.
- [6] Effendi, I. 2004. *Aquaculture Introduction*. Penebar Swadaya, Jakarta.
- [7] Ekubo AA, Abowei JFN. 2011. Review of Some Water Quality Management Principles in Culture Fisheries. *Applied Sciences, Engineering and Technology* 3(12): 1342-1357.
- [8] Hutagalung, R.I. 1999. *Definition and Standard of Feed Raw Materials*. *Collection of Feed Quality Management Workshop Papers*. American Soybean Association and Animal Research Center. 2-13 pp.
- [9] Kaligis, E. 2015. Response of Growth of Vaname Shrimp (*Litopenaeus vannamei*) in Low Maternity Media by Providing Different Protein and Calcium Feed. *Journal of Tropical Marine Science and Technology*, 7(1): 225 – 234.
- [10] Kementerian Kelautan dan Perikanan (Ministry of Fisheries and Marine Affairs). 2010. *The Hatchery Technology of Patin Fish (Pangasius sp.) That are Maintained Outdoor in Fertilized Ponds*. Research Report. Marine and Fisheries Research and Development Agency. Sukamandi.
- [11] Kholis, M. 2008. *Complete Guide to Catfish Agribusiness*. Jakarta: Penebar Swadaya.
- [12] Kholis, M. 2010. *Complete Guide to Catfish Agribusiness*. Penebar Swadaya. Jakarta.
- [13] Kordi, K. M. G. H. 2010. *Aquaculture on a Tarpaulin Pool*. Andi. Yogyakarta. p 1-22
- [14] Kordi, K. M. G. 2010. *Catfish Cultivation on a Tarpaulin Pool*. Lily Publisher. Yogyakarta. 98p.
- [15] National Research Council. 1993. *Nutrient Requirements of Warm Water Fishes*. Washington DC : National Academy of Science.
- [16] Obasa, S. O., A. A. Akinyemi, O.P. Ogundijo., dan O. O. Alade. 2011. Use Of Fish Waste Meal as a Replacement For Fish Meal In The Practical Diets of African Mud Catfish *Clarias Gariepinus* Fingerlings. *Journal of Aquaculture Science and Environment*, 11(1) : 68 – 77.
- [17] Rasyaf, M. 1994. *Broiler Chicken Feed*. Kanisius. Yogyakarta