

INTISARI

Kajian Kesuburan Air Buangan
Budidaya Lele (*Clarias sp.*) Untuk
Budidaya Azolla (*Azolla microphylla*)

Penelitian telah dilakukan untuk mengetahui tingkat kesuburan air buangan budidaya lele dengan padat tebar berbeda, yang selanjutnya digunakan untuk budidaya azolla. Penelitian tersebut dilakukan di Unit Kolam Percobaan, Stasiun Penelitian Departemen Perikanan Fakultas Pertanian Universitas Gadjah Mada, pada bulan Maret s/d Juni 2022. Penelitian ini menggunakan metode Rancangan Acak Lengkap (RAL). Air dari ember budidaya lele (EBL) (volume air EBL 70 L) dengan padat tebar lele 35, 70, 105, dan 140 ekor / ember, yang dibuang (disifon) setiap hari sebanyak 3,5 L (5 % volume air EBL). Air buangan dari budidaya lele hari ke-56 s/d 98 digunakan untuk budidaya azolla. Budidaya azolla dalam ember (EBA) (volume air EBA 21 L) dilakukan 3 kali siklus, masing-masing siklus selama 14 hari. Bibit azolla yang ditebar pada setiap siklus sebanyak 50 g. Ember budidaya azolla (EBA) setiap hari ditambahkan air buangan budidaya lele tersebut sebanyak 1 L (5 % volume air EBA). Pengamatan dilakukan terhadap kesuburan air budidaya dan berat mutlak (produksi) azolla. Pengamatan kesuburan air budidaya azolla pada hari ke-14, 28, dan 42; meliputi parameter amonium, nitrat, dan fosfat. Azolla dipanen dan ditimbang berat totalnya pada hari ke-14, 28 dan 42. Hasil penelitian menunjukkan bahwa air buangan dari budidaya lele dengan padat tebar yang semakin tinggi (35 s/d 140 ekor/ 70 L air) memberikan tingkat kesuburan (amonium, nitrat, fosfat) yang semakin tinggi (semuanya termasuk eutrofik s/d hipereutrofik). Air buangan budidaya lele padat tebar 35 ekor / 70 L air untuk budidaya azolla menghasilkan berat mutlak (produksi) pada siklus pertama (hari ke-0 s/d 14), kedua (hari ke-14 s/d 28), ketiga (hari ke-28 s/d 42); secara berurutan sebesar 96 g, 295 g, 331 g. Air buangan budidaya lele padat tebar 70, 105, 140 ekor / 70 L air untuk budidaya azolla pada siklus pertama, kedua, ketiga menyebabkan bibit azolla tidak mau tumbuh dan bahkan mengalami kematian.

Kata kunci: amonium, azolla, budidaya, fosfat, kesuburan air, lele, nitrat

ABSTRACT

Study of the Fertility Catfish (*Clarias* sp.)
Cultivation Wastewater for
Azolla (*Azolla microphylla*) Cultivation

Research had been carried out to determine the fertility level of catfish cultivation wastewater with different stocking densities, which was then used for azolla cultivation. The research was carried out at the Experimental Pond Unit, Research Station of the Department of Fisheries, Faculty of Agriculture, Gadjah Mada University, from March to June 2022. This research used the Completely Randomized Design (CRD) method. Water from catfish farming buckets (EBL) (EBL water volume 70 L) with catfish stocking densities of 35, 70, 105, and 140 fish/bucket, which were discarded (syphoned) every day as much as 3.5 L (5 % EBL water volume). Waste water from catfish cultivation days 56 to 98 was used for azolla cultivation. Azolla cultivation in buckets (EBA) (EBA water volume 21 L) was carried out 3 cycles, each cycle lasting 14 days. 50 g of Azolla seeds were stocked in each cycle. Every day, 1 L (5 % of the volume of EBA water) was added to the azolla cultivation bucket (EBA). Observations were made on the fertility of cultivation water and the absolute weight (production) of azolla. Observation of the fertility of azolla cultivation water on days 0, 14, and 28; included ammonium, nitrate and phosphate parameters. Azolla was harvested and its total weight was weighed on days 14, 28 and 42. The results showed that waste water from catfish cultivation with higher stocking densities (35 to 140 fish/ 70 L of water) provided fertility levels (ammonium , nitrate, phosphate) which were increasingly high (all including eutrophic to hypereutrophic). The waste water from cultivating densely stocked catfish 35 fish/ 70 L of water for azolla cultivation produced absolute weight (production) in the first cycle (day 0 to 14), second (day 14 to 28), third (day 28th to 42nd); sequentially 96 g, 295 g, 331 g. Waste water from catfish cultivation with a stocking density of 70, 105, 140 fish / 70 L of water for azolla cultivation in the first, second and third cycles caused azolla seedlings to not grow and even die.

Key words: ammonium, azolla, catfish, cultivation, nitrate, phosphate, water cabbage production