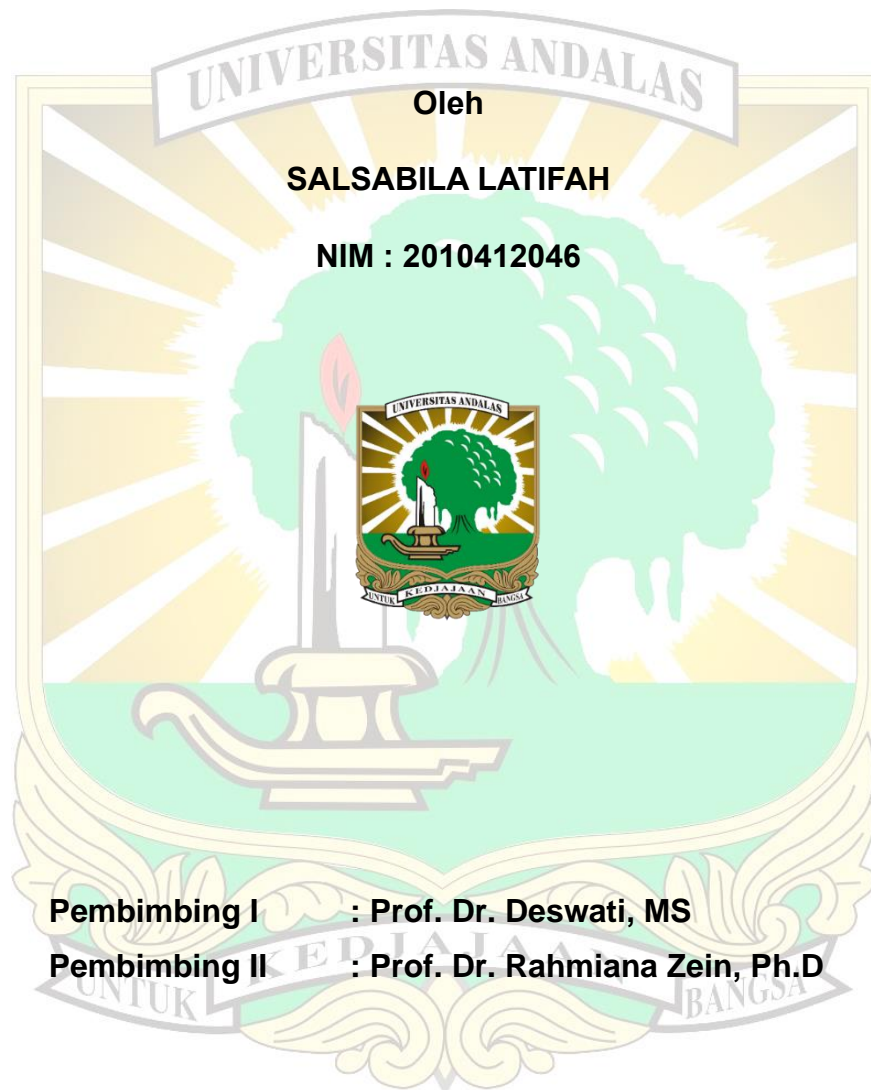


**PENGARUH PEMANFAATAN TEKNOLOGI BIOFLOK PADA BUDIDAYA IKAN
LELE (*Clarias batrachus*) DENGAN KEPADATAN IKAN YANG BERBEDA
TERHADAP KUALITAS AIR SERTA PERFORMA PRODUKSI IKAN**

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INTISARI

Pengaruh Pemanfaatan Teknologi Bioflok pada Budidaya Ikan Lele (*Clarias batrachus*) dengan Kepadatan Ikan yang Berbeda terhadap Kualitas Air serta Performa Produksi Ikan

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Teknologi bioflok (BFT) merupakan salah satu teknologi budidaya yang sedang dikembangkan untuk meningkatkan efisiensi penggunaan pakan dengan memberikan nutrisi flok serta meningkatkan kualitas air melalui penguraian bahan limbah ikan yang dibantu oleh bakteri heterotrofik. Tujuan dari penelitian ini adalah, untuk mempelajari pemanfaatan teknologi bioflok dengan padat tebar ikan yang berbeda terhadap kualitas air serta performa produksi ikan. Selanjutnya, parameter kualitas air (amonia, nitrit, nitrat, sulfat dan fosfat), protein kasar dan nitrogen total serta performa produksi ikan (ADG (*Average Day Growth*), ABW (*Average Body Weight*), produksi, SGR (*Spesific Growth Rate*), FCR (*Food Conversion Rate*), dan SR (*Survival Rate*)) dianalisis. Ikan lele ditebar dengan berat rata-rata $18,7 \pm 0,1$ g dan panjang rata-rata $11,48 \pm 0,02$ cm, dipelihara selama 40 hari dan diberi pakan sebanyak 2-4% dari bobot badan ikan. Parameter kualitas air dan performa produksi diukur setiap 10 hari. Data yang diperoleh dianalisis dengan Rancangan Acak Lengkap, dengan 4 perlakuan dan 3 ulangan, sebagai perlakuan A (100 ekor/ $0,7\text{m}^3$ air, kontrol), B (100 ekor/ $0,7\text{m}^3$ air, bioflok), C (125 ekor/ $0,7\text{m}^3$ air, bioflok), dan D (175 ekor/ $0,7\text{m}^3$ air, bioflok). Berdasarkan penelitian yang telah dilakukan, diperoleh kadar amonia (0,216-0,532 mg/L), nitrit (0,004-0,062 mg/L), nitrat (0,286-19,642 mg/L), fosfat (0,017-0,886 mg/L), dan sulfat (2,609-34,063 mg/L). Kadar protein kasar dan nitrogen total tertinggi diperoleh perlakuan D dengan protein kasar dan nitrogen total berturut-turut $16,210 \pm 1,021\%$ dan $2,594 \pm 0,163\%$. Performa produksi ikan diperoleh nilai ADG (2,022-2,97)(g/(ekor)/hari), ABW (80,55-118,973)(g/ekor), Produksi (5,289-15,654)kg, SGR(3,651-4,626)%, FCR(0,925-1,327) dan nilai SR (65,67-88)%. Hasil penelitian ini menunjukkan bahwa aplikasi teknologi bioflok pada budidaya ikan lele mampu memperbaiki kualitas air media, protein kasar, nitrogen total serta performa produksi. Dengan teknologi bioflok, pada penelitian ini mampu mendukung kehidupan ikan lele hingga kepadatan 175 ekor/ $0,7\text{m}^3$ air.

Kata kunci : Teknologi bioflok, padat tebar, kualitas air, performa produksi ikan

ABSTRACT

The Effect of Biofloc Technology Utilization in Catfish (*Clarias batrachus*) Cultivation with Different Stocking Densities on Water Quality and Fish Production Performance

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Biofloc technology (BFT) is one of the aquaculture technologies being developed to improve feed utilization efficiency by providing floc nutrition and improve water quality through the decomposition of fish waste materials assisted by heterotrophic bacteria. The objective of this research was to study the utilization of biofloc technology with different fish stocking densities on water quality and fish production performance. Furthermore, water quality parameters (ammonia, nitrite, nitrate, sulfate and phosphate), crude protein and total nitrogen and fish production performance (ADG (Average Day Growth), ABW (Average Body Weight), produksi, SGR (Spesific Growth Rate), FCR (Food Conversion Rate), dan SR (Survival Rate)) were analyzed. Catfish were stocked with an average weight of $18,7 \pm 0,1$ g and an average length of $11,48 \pm 0,02$ cm, reared for 40 days and fed 2-4% of the fish body weight. Water quality parameters and production performance were measured every 10 days. The data obtained were analyzed using a completely randomized design, with 4 treatments and 3 replications, as treatments A (100 fish/0,7m³ water, control), B (100 fish/0,7m³ water, biofloc), C (125 fish/0,7m³ water, biofloc), and D (175 fish/0,7m³ water, biofloc). Based on the research conducted, the levels of ammonia (0,216-0,532 mg/L), nitrite (0,004-0,062 mg/L), nitrate (0,286-19,642 mg/L), phosphate (0,017-0,886 mg/L), and sulfate (2,609-34,063 mg/L) were obtained. The highest levels of crude protein and total nitrogen were obtained by treatment D with crude protein and total nitrogen of $16,210 \pm 1,021\%$ and $2,594 \pm 0,163\%$, respectively. Fish production performance obtained ADG (2,022-2,97)(g/(piece)/day), ABW (80,55-118,973)(g/piece), Production (5,289-15,654)kg, SGR (3,651-4,626)%, FCR (0,925-1,327) and SR (65,67-88)%. The results of this study indicate that the application of biofloc technology in catfish farming can improve media water quality, crude protein, total nitrogen and production performance. Biofloc technology in this research can support the life of catfish up to a density of 175 fish/0,7m³ of water.

Key words : Biofloc technology, stocking densities, water quality, production performance