PENGARUH PEMBERIAN PAKAN CAMPURAN MATA IKAN (*Azolla microphylla* Kaulf.) DAN LARVA *BLACK SOLDIER FLY Hermetia illucens* (Linnaeus, 1758) TERHADAP PERTUMBUHAN IKAN NILA *Oreochromis niloticus* (Linnaeus, 1758)

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INTISARI

Tumbuhan mata ikan (*Azolla microphylla*) dan larva *Black Soldier Fly* (*Hermetia illucens*) memiliki potensi untuk menjadi pakan ikan alternatif karena kandungan protein yang tinggi dan nutrisi lain yang terkandung di dalamnya. Pengembangan pakan campuran tumbuhan mata ikan dan larva BSF dilakukan untuk melanjutkan penelitian sebelumnya dengan hasil kurang baik akibat rendahnya kadar protein. Penelitian ini dilakukan dengan rancangan acak lengkap menggunakan pakan komersial protein 20% (P20) sebagai kontrol dan pakan campuran protein 18,98% (P18) serta 23,57% (P23) sebagai perlakuan. Pakan campuran dibuat dengan perhitungan metode *Pearson's square*. Kontrol dan perlakuan diberikan pada 90 ikan dengan pengulangan 3 kali untuk 10 ikan per plot ulangan. Evaluasi pemberian pakan, pertumbuhan ikan, dan sintasan dilakukan tiap 10 hari sekali selama 50 hari. Evaluasi rasio konversi pakan dan efisiensi pakan dilakukan di akhir penelitian. Data yang didapatkan dianalisis dengan *one-way* ANOVA dan uji lanjutan analisis *post hoc* LSD dan Duncan dengan tingkat kepercayaan 95%. Pakan campuran dan pakan komersial memberikan nilai sintasan yang tinggi. Pakan campuran tidak memberikan perbedaan yang pada pertumbuhan ikan serta nilai FCR maupun EP dibanding pakan komersial. Daging ikan dengan pakan campuran memiliki kandungan protein yang tidak terlalu berbeda, namun berbeda signifikan pada kadar lemak, 1,03% untuk P20, 0,77% untuk P23, dan 0,52% untuk P18. Berdasarkan hasil, pakan campuran dapat menyamai performa dari pakan komersial. Perlu dilakukan studi lebih lanjut untuk mengembangkan pakan campuran agar dapat menjadi pakan alternatif.

KATA KUNCI: *Azolla microphylla*, ikan nila, larva BSF, pakan ikan campuran, pertumbuhan

THE EFFECT OF FEED CONTAINING MOSQUITO FERNS (*Azolla microphylla* Kaulf.) AND BLACK SOLDIER FLY MAGGOT *Hermetia illucens* (Linnaeus, 1758) ON THE GROWTH OF NILE TILAPIA *Oreochromis niloticus* (Linnaeus, 1758)

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ABSTRACT

Mosquito ferns (*Azolla microphylla*) and Black Soldier Fly maggot (*Hermetia illucens*) have the potential to be alternative fish feeds because of their high protein content and other nutrients contained therein. Mosquito ferns and BSF maggot were developed into mixture feed to continue previous research with unfavorable results due to low protein content. This study was conducted in a completely randomized design using a commercial feed of 20% (P20) protein as a control and a mixture of 18.98% (P18) and 23,57% (P23) protein as a treatment. Mixture feed was made by calculating Pearson's square method. These feeds were fed to 90 fish with three repetitions for ten fish per replicate plot measuring ± 1.25×1×0.9 m. The feeding process, growth, and survival rate were observed every ten days for 50 days, while feed conversion ratio and feed efficiency were observed at the end of the study. The data obtained were analyzed by one-way ANOVA and follow-up test LSD and Duncan post hoc analysis with a 95% confidence level. Mixed feeds and commercial feeds provide high survival rates. Mixed feed did not give a significant difference in weight and length growth as well as FCR and EP values compared to commercial feed. Fish meat with mixture feed had protein content that was not too different from commercial feed's protein, but significantly different in fat content, 1.03% for P20, 0.77% for P23, and 0.52% for P18. Based on the results, mixture feeds can match the performance of commercial feeds. Further studies need to do to develop mixture feeds so that they can be alternative feeds.

KEY WORDS: *Azolla microphylla*, fish’s mixture feeds, growth, BSF maggot, Nile tilapia