ABSTRAK

Ikan nila salin merupakan komoditas perikanan bernilai ekonomis tinggi yang memiliki pertumbuhan relatif cepat dan toleran terhadap perubahan salinitas. Keberhasilan budidaya dipengaruhi oleh kualitas pakan, sedangkan tingginya biaya pakan komersial mendorong pemanfaatan bahan baku alternatif seperti tepung ulat sagu (*Rhynchophorus ferrugineus*). Tepung ulat sagu memiliki kandungan protein, asam amino esensial, dan antioksidan yang tinggi, serta difermentasi untuk meningkatkan kualitas nutrisi dan kecernaannya. Penelitian ini bertujuan untuk menganalisis pengaruh penambahan fermentasi tepung ulat sagu dalam pakan terhadap pertumbuhan dan kelangsungan hidup benih ikan nila salin. Penelitian dilaksanakan pada bulan Mei sampai Juni 2026 di Laboratorium Hatchery dan Teknologi Budidaya, Program Studi Akuakultur, Fakultas Pertanian, sedangkan analisis proksimat dilakukan di Laboratorium Tanah dan Konservasi Fakultas Pertanian Universitas Malikussaleh. Penelitian menggunakan Rancangan Acak Lengkap (RAL) nonfaktorial yang terdiri atas empat perlakuan dan tiga ulangan, yaitu perlakuan A (pakan buatan), perlakuan B (tepung ulat sagu 30%), perlakuan C (tepung ulat sagu 35%), dan perlakuan D (tepung ulat sagu 40%). Berdasarkan hasil analisis ragam (ANOVA), penambahan tepung ulat sagu fermentasi dalam pakan memberikan pengaruh nyata terhadap pertumbuhan panjang mutlak, pertumbuhan bobot mutlak, *Feed Conversion Ratio* (FCR). Hasil terbaik diperoleh pada perlakuan B dengan nilai rata-rata pertumbuhan panjang mutlak sebesar 1,83 cm, pertumbuhan bobot mutlak 1,74 g, nilai FCR 1,37. Hasil uji organoleptik menunjukkan bahwa pakan perlakuan C memiliki aroma menyengat dan warna cokelat. Selama penelitian, kualitas air masih berada pada kisaran optimum dengan suhu 26,1°C-29,2°C, salinitas 10 ppt, oksigen terlarut 5 ppm-6,4 ppm, dan pH 7,2-9.

Kata kunci: fermentasi, kelangsungan hidup, nila salin, pertumbuhan, ulat sagu

ABSTRACT

Saline tilapia is a fishery commodity with high economic value duet o its relatively fast growth and tolerance to changes in salinity. The success of saline tilapia cultivation is influenced by feed quality, while the high cost of commercial feed encourages the use of alternative raw materials, such as sago worm meal *(Rhynchophorus ferrugineus)*. Sago worm meal contains high level of protein, essential amino acids, and antioxidants, and is fermented to improve its nutritional quality and digestibility. This study aimed to determine the effect of adding fermented sago worm meal to food on the growth and survival of saline tilapia fry. The study was conducted from May to June 2026 at the Hatchery and Cultivation Technology Laboratory, Aquaculture Study Program, Faculty of Agriculture, while proximate analysis was conducted at the Soil and Conservation Laboratory, Faculty of Agriculture, Malikussaleh University. The study used a non-factorial Completely Randomized Design (CRD) with four treatments and three replications, namely treatment A (artificial feed), treatment B (30% fermented sago flour), treatment C (35% fermented sago flour), and treatment D (40% fermented sago flour). Based on of the analysis of variance (ANOVA), the addition of fermented sago flour significantlyeffected absolute length growth, absolute weight growth, and Feed Conversion Ratio (FCR). The best growth performance was obtained in treatment B, with an average absolute length growth of 1,83 cm, absolute weight growth of 1,74 g, and FCR of 1.37. The organoleptic tests showed that the feed in treatment C had a pungent aroma and a brown color. During the study, water quality remained with in an acceptable range, with a temperature of 26.1-29.2°C, salinity of 10 ppt, dissolved oxygen of 5-6.4 ppm, and pH of 7.2-9.

Keywords : fermentation, survival, Saline tilapia, growth, sago worm