

Intisari

Penelitian ini bertujuan untuk mengetahui ekspresi gen HSP70 pada tingkatan umur yang berbeda akibat fluktuasi suhu. Penelitian ini dilakukan dengan menggunakan metode rancangan acak lengkap (RAL) Faktorial 2x2 dengan aras umur (14-28 hari dan 28-42 hari) dan suhu (fluktuasi suhu 21-33° C dan suhu stabil 31±1° C). Setiap perlakuan terdiri dari tiga ulangan. Benih gurami dipelihara selama 14 hari dengan kepadatan 1 ekor/liter. Parameter yang diamati meliputi pertumbuhan mutlak, heterogenitas, sintasan, dan ekspresi gen HSP70 relatif. Data dianalisis dengan menggunakan analisis sidik ragam (ANOVA) dan deskriptif. Hasil menunjukkan ekspresi gen HSP70 relatif lebih tinggi pada fluktuasi suhu dan ekspresi gen HSP70 relatif lebih tinggi pada umur 14-28 hari. Peningkatan ekspresi gen HSP70 relatif menunjukkan bahwa ikan mengalami stres akibat fluktuasi suhu. Stress akibat fluktuasi suhu juga ditunjukkan dengan pertumbuhan ikan yang melambat walaupun tidak berpengaruh pada sintasan.

Kata kunci : benih, ekspresi HSP70, gurami, suhu

Abstract

This aims of this study was to determine a HSP70 expression in different stage of fry as an effect of fluctuated temperature. Completely Random Design (CRD) was used in this experiment with 2x2 factorial: stage of fry (14-28 days and 28-42 days) and temperature (fluctuated temperature 21-33° C and stable temperature 31±1° C). Each treatment consisted of three replications. Giant gourami fries were maintained for 14 days, 1 individuals/liter. Parameters observed were absolute growth rate, heterogeneity, survival rate, and relative HSP70 expression. The data was analyzed by using Analysis of Variance (ANOVA) and by descriptive analysis. The results showed that relative expression of HSP70 was higher at fluctuated temperature and relative expression of HSP70 was higher at 14-28 days old. The increasing of relative expression of HSP70 showed that fish had stress due to fluctuated temperature. The stress was also indicated by the decreasing of fish growth rate, even though fluctuated temperature has no effect in survival rate.

Keywords: fry, HSP70 expression, giant gourami, temperature