

Pemberian hormon pertumbuhan rekombinan secara “putus dan sambung” pada tiga kelompok ukuran benih ikan kerapu bebek, *Cromileptes altivelis* (Valenciennes 1828)

[“Stop and go” treatment of recombinant growth hormone to different sizes of humpback grouper juveniles, *Cromileptes altivelis* (Valenciennes 1828)]

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Abstrak

Penelitian bertujuan membandingkan respons pertumbuhan tiga kelompok ukuran benih ikan kerapu bebek dari kelompok induk dan periode pemijahan yang sama terhadap hormon pertumbuhan rekombinan ikan kerapu kertang *Epinephelus lanceolatus* (rElGH); melalui eksperimen “putus dan sambung” yaitu dengan, tanpa, dan perlakuan kembali rElGH masing-masing selama 42 hari. Setiap kelompok ukuran dibagi menjadi dua kelompok perlakuan, kelompok pertama diberi perlakuan rElGH dengan dosis 50 mg rElGH-HP55 kg⁻¹ pakan (pC) sedangkan kelompok kedua sebagai kontrol. Pertambahan bobot badan kelompok pC dibandingkan dengan kontrol pada benih berukuran kecil, sedang dan besar berturut-turut pada eksperimen tahap pertama 85,89%, 39,66% dan 16,34%; tahap kedua -34,57%, -14,76%, dan -5,27%, dan tahap ketiga 56,16%, 50,24% dan 59,14%. Perbedaan laju pertumbuhan spesifik benih berukuran kecil, sedang dan besar perlakuan pC terhadap kontrol pada eksperimen tahap pertama 41,6%, 19,06% dan 7,52%; tahap kedua -44,81%, -27,23% dan -14,66%; dan tahap ketiga 55,9%, 40,62% dan 48,42%. Faktor kondisi pC dan kontrol pada semua kelompok ukuran tidak berbeda nyata. Kandungan dan retensi protein, dan kandungan glikogen hati gabungan sampel dari semua kelompok ukuran ikan perlakuan pC pada eksperimen tahap kedua menurun dibandingkan eksperimen tahap pertama, masing-masing sebesar 11,49%, 35,14% dan 84,73%. Dapat disimpulkan pemberian rElGH memacu pertumbuhan semua kelompok ukuran benih ikan, namun benih berukuran kecil mempunyai respons pertumbuhan lebih tinggi daripada kelompok benih berukuran sedang dan besar. Penghentian pemberian rElGH menyebabkan berhentinya faktor pemacu pertumbuhan, sehingga performa pertumbuhan, kandungan dan retensi protein, dan kandungan glikogen hati menurun.

Kata penting: faktor kondisi, glikogen hati, hormon pertumbuhan rekombinan, kelompok ukuran, laju pertumbuhan, retensi protein

Abstract

The objective of this study was to compare the growth response of 3 different sizes of humpback grouper juveniles, which were come from the same brood stock group and spawning season after “stop and go” experiment of recombinant *Epinephelus lanceolatus* growth hormone (rElGH); that are with, without and retreated with rElGH for 42 days respectively. Each size group was divided into two treatment groups. The first group was treated with 50 mg crude rElGH kg⁻¹ in commercial diet (pC) and a second group as a control. Weight gain of pC compares to control for small size group, medium size group and large size groups of juveniles subsequently for first stage were 85.89%, 39.66% and 16.34%; second stage were -34.57%, -14.76%, and -5.27%; and third stage were 56.16%, 50.24% and 59.14%. Specific growth rate differences of small, medium and large size of pC compared to control in first stage were 41.6%, 19.06% and 7.52%; second stage were -44.81%, -27.23% and -14.66%; and third stage were 55.9%, 40.62% and 48.42%. No significant difference of condition factor among all sizes of pC and control fish. Protein content and retention, and liver glycogen content from pooled sample of all size fish groups pC treatment in the second stage were decreasing compared to the first stage, respectively, 11.49%, 35.14% and 84.73%. It can be concluded that rElGH treatment improved growth performance of all size fish groups, however small juveniles have highest growth response compared to medium and large juvenile groups. The ceasing of rElGH treatment on second experiment stage is most likely causing the loss of accelerating growth factor then decreasing growth performance, protein content and retention, and liver glycogen content.

Keywords: condition factor, different sizes, growth, liver glycogen, protein retention, recombinant growth hormone.

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