Dietary Lutein Levels on Color of Clark ’s Anemonefish

*(Amphiprion clarkii* Bennett, 1830)*

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Abstract

Effect of dietary lutein at concentration levels of on color of 35.82, 75.94, 101.57 and 179.94 mg of lutein per kg diet and a control (0 ppm lutein) on intensity, stability and pattern of color on body and caudal fin of Clark’s anemone fish was studied. The experiment lasted 4 months, which test fish were fed twice a day to sation with each diet for 3 months. Then all the test fish were fed with only the control for 1 month. The fish color was measured using a color reader shown in CIE L*a*b* system. The results showed that yellow color scores of test fish were fed with the diet containing lutein at levels of 0, 35.82, 75.94, 101.57 and 179.94 mg of lutein per kg diet were 3.50±0.42, 4.45±0.49, 9.42±0.67, 9.72±0.53 10.32±0.45 and 19.62±0.24, 23.70±1.34, 28.77±0.60, 32.35±1.90, 42.37±1.16 for body and caudal fin color, respectively. Yellow color score these positions showed significant difference (P<0.05). In contrast, lightness (L*) and redness (a*) of both position were non-significant difference (P>0.05). The study showed chang of color pattern of test fish were fed with diets containing lutein equal or more than 75.94 mg/kg diet for 2 month onward. Brownish dark and white body bands became yellowish dark and slightly reddish white, respectively. Forth study on color intensity showed that yellow color of both fish body and caudal fin were reduced slightly after feeding with diet containing lutein terminated.

**Key word**: lutein, color, Clark’s anemonefish

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