conferenceseries.com

Hiroki Kihara et al., J Aquac Res Development 2018, Volume 9
DOI: 10.4172/2155-9546-C1-024

11th Global Summit on
AQUACULTURE & FISHERIES
May 24-25, 2018 Osaka, Japan

The effect of adding pomelo peel to the diets of seven band grouper *Hyporthodus septemfasciatus* on growth and limonene content

Hiroki Kihara, Jonas R Miller, Fumiaki Takakuwa, Hideki Tanaka and Amal Biswas
Kindai University, Japan

Seven band grouper *Hyporthodus septemfasciatus* has a high market value among aquaculture marine finfish in Japan. There is a recent trend in Japan to establish local brand for different species adding flavor to the flesh by using locally available ingredients. This study investigated the effect of pomelo peel (*Citrus natsudaidai, CN*) on the growth performance and aroma component (limonene) content in the flesh of seven band grouper. Experimental diets CN0.5, CN1, CN2 and CN4 were prepared by adding 0.5, 1.0, 2.0 and 4.0% of pomelo peel, respectfully, to a control diet (CN0) consisting of fish meal, fish oil, α-starch, a mixture of vitamins and minerals. 30 fish with mean weight 33.8 g were stocked into each of 15 500 L circular tanks. Triplicate groups for each treatment were fed until apparent satiety twice a day for first six weeks and once per day for next four weeks. At the end of rearing trial, all necessary biochemical analyses were carried out to compare the growth performance, digestibility and limonene concentration in the flesh among the treatments. There was no significant difference in the growth performance among the treatments ($P>0.05$, Tukey's test). During the rearing period, the body weight increased 300% and feed efficiency was 101-103%, indicating a high quality of all experimental diets. The lower plasma glucose concentration in fish fed with CN supplemented diets indicates that the polyphenols contained in citrus fruits have an effect on lowering the blood glucose level, which is agreed with the findings in humans. It was also shown that limonene, an aroma component of pomelo peel, accumulated in the fish body as the concentration in the diet increased. It is reported that limonene is effective in reducing diseases and stress in humans. Although pomelo peel could not improve the growth performance, the higher accumulation of limonene in fish body could bring about a healthy image in promoting the branding of cultured *H. septemfasciatus*.

Biography

Hiroki Kihara has completed his BSc in Fisheries from the Aquaculture Research Institute of Kindai University, Japan. He is currently pursuing MSc under the same university.

fkwag.1127@outlook.jp

Notes: