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TEERAYA SRIRAYAPORN : SUITABLE PROTEIN AND LIPID LEVELS IN DRY PELLET FOR
JUVENILE WHITE SEA BASS, *Lates calcarifer*. THESIS ADVISOR : VORANOP VIYAKARN, Ph.D.
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Study on suitable protein and lipid level of dry pellet on growth and survival of juvenile seabass, *Lates calcarifer* was conducted. The study using factorial design (3 x 4) was divided into 2 experiments.

The first experiment was to study on growth of fish with 1.1 ± 0.1 g average body weight. The 12 experimental diets consisted of 3 dietary protein levels (35, 40 and 45 %) with 4 lipid levels (10, 15, 20 and 25%) in each protein level. All fish were fed to satiation for 8 weeks. Twenty fish raised in $0.5 \times 0.5 \times 0.8$ m³ nylon net cage was considered 1 replication. Each experiment group was done in triplicate. The result shows that fish fed 45 % protein and 15 % lipid diet gave the highest growth (30.0 ± 1.0 g) but is not significantly different from fish fed 45/25 and 45/20 diets (29.3 ± 1.4 g and 28.4 ± 1.3 g, respectively). Furthermore diet with 45 % protein and 15 % lipid yielded maximum daily relative growth rate (0.5), minimum feed conversion ratio (1.26), and minimum daily feed and energy intake (4.57 % and 26.0 kcal/100g diet, respectively) with daily protein intake of 2.05 %. Nutritional value of 45/15 diet : net protein utilization, protein efficiency ratio and energy efficiency ratio, were 1.46, 1.78 and 0.14 g/kcal, respectively. The mortality was not found in all treatments.

The second experiment was a study on digestibility of diet using fish from the first experiment but raised in $0.3 \times 0.6 \times 0.3$ m³ aquaria at the density of 10 fish per aquarium. The range of apparent digestibility of protein and energy at 3 hour after feeding were 82.45-91.74 % and 82.45-92.33 %, respectively and those at 6 hours after feeding were 85.92-92.33 % and 85.04-91.90 %, respectively. Digestible energy/protein ratio of all diets were in the range of 10.47-13.52 kcal/g protein.

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ลายมือชื่ออาจารย์ที่ปรึกษา

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