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MATURATION, SPAWNING, INTENSIVE LARVAL REARING AND MASS FINGERLINGS PRODUCTION OF COBIA (*Rachycentron canadum*)

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Advances in larval rearing and fingerling production of cobia (*Rachycentron canadum*) at the University of Miami Experimental Hatchery (UMEH) are presented in this paper. Larval rearing trials were conducted in four 12,000-L cylinder-conical tanks with eggs obtained from conditioned spawns of both wild and F1 broodstock cobia stocked in two 80000-L maturation tanks at UMEH.

Flow-through seawater ranging in temperature from 28 to 32° C at a daily turnover rate of 100-600% was used throughout the larval rearing and nursery stages (30 days post hatch). Vigorous aeration combined with pure oxygen was used to maintain oxygen levels at or above saturation levels (7-9 mg/L). Water quality was kept at desirable levels with ammonia and pH maintained at  $\leq 2.0$  mg/l and around 8.0, respectively.

Newly-hatched larvae were stocked at 5 and 10/L. Standard protocol consisted of live feeds being added 3-5 times a day as needed to maintain proper concentrations of microalgae (*Isochrysis galbana*) @ 10,000 cells/ml), rotifers (*Brachionus plicatilis* @ 5/ml) and *Artemia sp* (@ 0.1-1.0/ml). Cobia larvae were fed "ad libitum" using a "pulse feeding" technique. Microalgae and rotifers were added between 2 and 10 days post-hatch (DPH), with *Artemia* being added from 7 DPH through 22 DPH. At 23 DPH, 100% of the post-larvae were weaned onto starting diets (Otohime and Gemma) with survival rates of approximately 50%. Survival rates  $\geq 30\%$  were achieved from egg to shipping size fingerlings (0.5-1.0 gram). More than 20,000 fingerlings were produced in each 12-T tank per run.

Tanks were cleaned daily by siphoning the bottom and skimming the water surface. Larvae were sampled daily and dissected under the microscope to observe any signs of pathogenic organisms, particularly the ectoparasite *Amyloodinium* and the bacteria *Photobacterium sp*. As opposed to previous years, no diseases outbreaks were observed.

Careful monitoring, adequate nutrition (enriched rotifers and *Artemia*), prophylaxis (50-75 ppm formalin bath for one hour as needed) and probiotics (Ecomicrobials @ 100 ppm in the live feeds prior to feeding the larvae) were critical for the high survival rates and excellent health of the fingerlings produced.