LHRHa and pimozide-induced breeding in the catfish, *Clarias macrocephalus* (Gunther)

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Clarias macrocephalus is endemic yet dwindling freshwater foodfish in the Philippines. Induced breeding protocol was developed by monitoring the size and maturation of eggs at 0-48 h after a simultaneous injection of luteinizing hormone-releasing hormone analogue (LHRHa; 0.0005 - 0.10 µg/g BW) and pimozide (PIM; 1 µg/g BW). Based on its similar osmotic pressure with catfish plasma, eggs were fixed in 1% phosphate-buffered formalin. Mean egg diameter of fish that were induced to mature increased during ovulation. Oocyte maturation, indicated by oocytes with germinal vesicle breakdown (GVBD), was observed at least 12 h post-injection in fish given 0.01 - 0.10 µg LHRHa + 1 µg PIM/g BW, followed by ovulation 4 h thereafter. Results showed that a simultaneous injection of *C. macrocephalus* with 0.05 µg LHRHa + 1 µg PIM/g BW at 1800-1900 h followed by stripping at 16-20 h post-injection resulted in high ovulation, fertilization and hatching rates.

Effects of different fat sources on the egg quality of grouper, *Epinephelus suillus*

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The effect of different fat sources on the egg quality of grouper, *Epinephelus suillus* eggs was evaluated. Fish in three tanks, each containing 3 females and 1 male, were fed various types of feeds namely: trash fish (control), trash fish + cod liver oil (treatment 1) and trash fish + SELCO, a lipid emulsion containing high levels of highly unsaturated fatty acid (HUFA) (treatment 2).

Approximately 77.9 million eggs spawned from January to October 1992 by the control group, 40.0 million by fish in treatment 1, and 36.4 million by the treatment 2 group. Egg production (0.45 million eggs/kg BW) among the control group was significantly higher than treatment 2. Egg production of treatment 1 (0.06-0.36 million eggs/kg BW) was not significantly different ($P<0.01$) from the control group nor treatment 2 (0.02-0.30 million eggs/kg BW). Fertilization and hatching rates showed significant differences among the three groups with control > treatment 1 > treatment 2. There were no differences detected in the egg and oil globule diameters among the treatments. Crude protein and lipid levels of floating (good) and sinking (bad) eggs collected in February to March 1992, and August to September 1992 were similar in all treatments. Unfed larvae from treatment 1 survived until the fifth day after hatching while those in the control and treatment 2 groups lasted only until the third day. These results suggest that supplementation of cod liver oil and SELCO in the trash fish diet of *E. suillus* broodstock does not influence egg production, fertilization and hatching rates, and egg quality.

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