

The Effects of long jack, *Eurycoma longifolia* on sperm quality and quantity of African catfish, *Clarias gariepinus*

ABSTRACT

The experiment was to study the effects of long jack, *Eurycoma longifolia* through the sperm quality and quantity of African catfish, *Clarias gariepinus*. Mostly farmers are using hormone to induce the reproduction in these fishes especially *C. gariepinus*. For expanding interest in *C. gariepinus*, there was expanded exertion in the improvement of method for production of fish in hatchery. Thus, the present study was an alternative to improve the production of *C. gariepinus*. In the present study, two diets with crude protein of 40 % were formulated with different supplementation levels of *E. longifolia* powder; with no supplementation of *E. longifolia* (LJ0) and the supplementation of 5 % *E. longifolia* (LJ5). Eight males of *C. gariepinus* were randomly distributed into two fibre tanks (2×2×1.5 m) with four fish per tank. The tank was contained green water (pH≈ 7.2, dissolved oxygen≈ 5.3 mg/L, temperature≈ 27.20°C). *C. gariepinus* were fed at 3% of body weight twice a day for a period of 30 days. The diet in LJ5 had significantly higher in sperm counts ($12085.33 \pm 286.71 \times 10^4$ sperm/ml), milt volume (0.38 ± 0.04 ml) and motility duration (24.11 ± 0.96 sec). While the result for diet in LJ0 in sperm count, milt volume and motility duration were $10014.67 \pm 273.76 \times 10^4$ sperm/mL, 0.21 ± 0.06 ml and 12.67 ± 0.58 sec. However, significant differences were not observed in the body weight gained, total length, specific growth rate and feed conversion ratio (FCR) among the two treatments. Besides, the results were showed *E. longifolia* possess promising pro-fertility which can be exploited in fish seeds production and 50 g/kg of *E. longifolia* based diet could give satisfactory and efficient result on the sperm quality and quantity of *C. gariepinus*.