Abstract

The study was carried out to determine the effect of different inclusion levels of pawpaw seeds powder (PSP) on the proximate composition, growth and histological structure of Nile tilapia gonads. Nile tilapia were treated with pawpaw seeds powder at four levels at 0 g, 4 g, 8 g and 12 g PSP/kg feed for 60 days. The proximate composition of the carcass of the Nile tilapia showed that the 8 g PSP/kg feed treatment group had the highest values (mean ± SE) of Crude protein and ash (53.97 ± 0.094 and 20.05 ± 0.35) respectively. The highest body weight gain and specific growth rate was achieved at the 8 g PSP/kg treatment level but this treatment level showed the lowest feed conversion ratio. Histology of gonads of Nile tilapia treated with different levels of PSP revealed that ovaries and testes of 0 g PSP/kg feed were normal. Ovaries of the 4 g PSP/kg feed had degenerative stromas while testes had scanty spermatozoa. At 8 g PSP/kg feed, the ovaries showed increased atretic follicles and testes had degeneration of spermatozoa. Treatment with 12 g PSP/kg feed resulted in severe atretic follicles of the ovaries and deformation of seminiferous tubules and erosion of spermatozoa of the testes. The results of this study showed that pawpaw seeds powder can be used to control the breeding of Nile tilapia in production units.