Antioxidative effects of mulberry foliage extract in African catfish diet

ABSTRACT

This study was carried out to evaluate the antioxidative potential and quality of the meat of African catfish fed mulberry foliage extract (MFE). A total of 360 juvenile African catfish (8.4 ± 0.2 g) were fed four diets namely, basal diet (control), MFE-2 (2 g MFE kgī 1), MFE-5 (5 g MFE kgī 1) and MFE-7 (7 g MFE kgī 1) for 60 days. At the end of the experiment, muscles were excised, vacuum-packaged and conditioned for 0, 7 and 14 days in a chiller (4°C). The meat from fish fed MFE-5 and MFE-7 had significantly ($P < 0.05$) greater total phenols content than the other dietary groups. This value reduced ($P < 0.05$) during storage. The DPPH-scavenging effect of MFE-7 increased ($P < 0.05$) compared with the others. It decreased ($P < 0.05$) during storage. The lowest POV was revealed ($P < 0.05$) in MFE-7. The 2-thiobarbituric acid-reactive substances (TBARS) and peroxide value (POV) increased ($P < 0.05$) during storage. The pH value was significantly ($P < 0.05$) higher in MFE supplemented diets than in the control group. It is concluded that MFE at the concentration of 7 g kgī 1 DM is potential dietary antioxidant supplements, to improve the quality of fish meat.

Keyword: African catfish; Mulberry foliage extract; Antioxidative potential; Meat composition; Meat quality