

## 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 ( $8.4 \pm 0.2$  g) were fed four diets namely, basal diet (control), MFE-2 (2 g MFE kg<sup>-1</sup>), MFE-5 (5 g MFE kg<sup>-1</sup>) and MFE-7 (7 g MFE kg<sup>-1</sup>) 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 kg<sup>-1</sup> 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