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Effect of N-carbamoylglutamate supplementation on the growth performance, antioxidant status and immune response of mirror carp (*Cyprinus carpio*) fed an arginine-deficient diet

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Abstract

The present study was conducted to determine the effect of dietary N-carbamoylglutamate (NCG) supplementation on the growth performance, antioxidant capability and immune responses of mirror carp (*Cyprinus carpio*) fed an arginine (Arg)-deficient diet. A total of 630 mirror carp (41.65 ± 0.14 g) were fed diets (Arg 1.24% of the diet) that were supplemented with 0.50% Arg (control diet) or graded levels of NCG at 0 (Arg deficiency diet), 0.04%, 0.08%, 0.12%, 0.16% and 0.20% for 8 weeks. The results showed that, compared with the control diet, the Arg-deficient diet supplementation with 0 NCG (1) decreased the final body weight (FWB), the weight gain rate (WGR) or the protein efficiency ratio (PER) and increased the feed conversion ratio (FCR); (2) decreased the concentration of Arg and nitric oxide (NO) and the activity of total nitric oxide synthetase (T-NOS) in the plasma; (3) decreased the activities of superoxide dismutase (SOD) in the proximal

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