EFFECT OF AN ACUTE HANDLING STRESS ON HEPATIC OXIDATIVE STATUS OF EUROPEAN SEA BASS FED DIETS DIFFERING IN LIPID SOURCE AND CARBOHYDRATE CONTENT

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AIM

Assess the impact of an acute handling stress on hepatic oxidative status of European sea bass fed diets differing in lipid source and carbohydrate content.

Material & Methods

Antioxidant parameters

Material & Methods

Enzyme activity:
- Glucose 6-phosphate dehydrogenase (G6PD)
- Superoxide dismutase (SOD)
- Catalase (CAT)
- Glutathione peroxidase (GPX)
- Glutathione reductase (GR)

Oxidative damage biomarker: lipid oxidative damage (LP)

Results & Discussion

LP content and enzymatic antioxidant mechanisms indicate that CH+ groups were less prone to oxidative damage, independently of stress conditions. Stress exposure increased LP levels in all groups, indicating that previous feeding with the tested diets had no effect on attenuation of oxidative stress under stressful condition.

Increased LP under stressful conditions suggests that enzymatic antioxidant mechanisms failed to adjust to the stressful conditions. Indeed, lower enzymes activities were observed in stressed fish compared to non-stressed fish. Even in VO groups the higher GPX activity observed under stressful conditions was inefficient against the accumulation of LP.

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