

Effects of dietary oxidized fish oil and antioxidant deficiency on histopathology, haematology, tissue and plasma biochemistry of sea bass

Two groups of sea bass (mean initial weight 78 and 250 g) were given for 23 weeks a commercial diet, whose composition was modified or not (control). The modified diet was: — supplemented with highly oxidized fish oil, — poorly supplemented with ascorbic acid, — not supplemented with butylated hydroxytoluene, DL-alpha-tocopheryl acetate and choline. At the end of the experiment, fish fed the modified diet displayed skeletal muscle degeneration, decreased red blood cell count, haemoglobin content and haematocrit, and increased erythrocyte fragility and plasma enzyme activity (aspartate aminotransferase and creatine kinase). Simultaneously, low DL-alpha-tocopheryl acetate levels and increased amounts of thiobarbituric acid-reactive substances were observed in muscle and liver. On the other hand, growth disorders, liver lesions, changed plasma enzyme activity (alanine aminotransferase, glutathione peroxidase), or altered conjugated dienes in perivisceral fat were not evidenced. The pathological observations were more pronounced on the smaller fish group, but the disease could already be detected by measuring haematological and biochemical criteria, the interest of which in the diagnosis of such nutritional disease is discussed.

Auteurs du document : Jean-Luc Messenger, Germaine Stéphan, Claire Quentel, Félix Baudin Laurencin

Obtenir le document : EDP Sciences

Mots clés : Sea bass, nutritional pathology, oxidation stress, diagnosis, Bar, pathologie nutritionnelle, stress oxydatif, diagnostic

Date : 1992-07-15

Format : text/xml

Source : <https://doi.org/10.1051/alr:1992020>

Langue : Anglais

Télécharger les documents : <https://www.alr-journal.org/10.1051/alr:1992020/pdf>

Permalien : <https://www.documentation.eauetbiodiversite.fr/notice/effects-of-dietary-oxidized-fish-oil-and-antioxidant-deficiency-on-histopathology-haematology-tissue0>

Evaluer cette notice: