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Challenges of Animal  
Science Diversity in  
Times of Climate and  
Technological Change

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Invitation to submit



## **Dietary supplementation with olive polyphenols in rainbow trout: effects on growth and fillet quality**

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**ABSTRACT:** Based on its expected antioxidant properties, the present study evaluated the effects of the supplementation with a polyphenol-rich extract from olive oil vegetation water on growth traits and fillet quality at 1, 6, and 13 d of storage in rainbow trout (*Oncorhynchus mykiss*). A total of 480 specimens (initial live weight  $95 \pm 6.0$  g) were randomly distributed into 16 flow-through tanks (4 tanks per treatment; 30 fish per tank) and fed during three months with four isonitrogenous (crude protein: 48.6%) and isolipidic (crude lipid: 14.8%) diets which included increasing levels of polyphenol extract: 0, 200, 400, and 600 mg/kg. The supplementation with polyphenols did not affect the specific growth rate (on average 0.91%/d) and feed conversion ratio (1.40) of trout or the condition (1.00) and viscerosomatic (6.57%) indexes or the fillet yield (56.5%) and quality. Fillet traits changed from 1 to 13 d of storage as pH (+1.40%) and lightness (+5.85%) increased along with total volatile basic nitrogen (+20.9%), and lipid peroxidation (TBARS: +559%) ( $P < 0.001$ ). Overall, the dietary inclusion of the tested polyphenol extract up to 600 mg/kg neither affected trout growth nor improved fillet quality and shelf life.

**Keywords:** olive oil vegetation water, antioxidants, growth performance, fillet quality.

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