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Effect of Mechanical Separation Process on lipid oxidation in European aquacultured sea bass, gilthead sea bream, and rainbow trout products

Giulia Secci, Monica Borgogno, Paola Lupi, Silvia Rossi, Gisella Paci, Simone Mancini, Antonio Bonelli, Giuliana Parisi



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1 Effect of Mechanical Separation Process on lipid oxidation in European aquacultured sea bass,
2 gilthead sea bream, and rainbow trout products

3 Giulia Secci^a, Monica Borgogno^a, Paola Lupi^a, Silvia Rossi^a, Gisella Paci^b, Simone Mancini^b,
4 Antonio Bonelli^a, Giuliana Parisi^{a*}

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6 ^aDepartment of Agri-Food Production and Environmental Sciences, University of Florence, via
7 delle Cascine 5, 50144 Firenze, Italy.

8 ^bDepartment of Veterinary Science, University of Pisa, viale delle Piagge 2, 56124, Pisa, Italy

9 *Corresponding Author: Giuliana Parisi, Department of Agri-Food Production and
10 Environmental Sciences, University of Florence, via delle Cascine 5, 50144 Firenze, Italy.
11 giuliana.parisi@unifi.it; Phone +39 055 2755590; Fax +39 055 321216.

12
13 Abstract

14 Mechanical separation systems are a good option to create new fish products and open new
15 market, however studies on the effect on quality of mechanical treatment on species of interest for
16 European aquaculture, such as European sea bass, gilthead sea bream, and rainbow trout are scarce.
17 Thus in this research, the effect on colour, nutritional quality, and lipid stability was considered
18 immediately after separation process and after 90 days of frozen storage. Results revealed that
19 mechanical separation technique significantly affected colour and lipid stability of the three studied
20 species. Increases in L* and secondary oxidation products were observed, together with a decreased
21 of antioxidant capacity. Nutritional value instead was unaffected by treatment. Thus, mechanical
22 separation process could represent a new way to better exploit species of interest for European
23 aquaculture and acquire new market niches, but oxidative processes during the treatment have to be
24 limited and kept under control.

25
26 Keywords: mechanical separation; MSM; TBARS; fishburger; antioxidant capacity.

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