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Seasonal Variability of the Price and Quality of Fresh Red Porgy Fish Sold in the Local Market of Igoumenitsa, NW Greece

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Abstract : Farmed Red porgy (Pagrus pagrus) is one of the "new candidate fish species" for the diversification of Mediterranean aquaculture which is predomintly based on the cultivation of the European sea bass, (Dicenfrarchus labrax), and the gilthead sea bream, (Sparus aurata). The quality of farmed red porgy (Pagrus pagrus) was investigated with samples obtained from the local fish market in the region of Igoumenitsa, NW Greece. Sample of the fish (ungutted and with scales) were purchased from three local fish mongers and transported to the laboratory within few minutes in foamed polystyrene boxes in ice. The average weight of whole fish ranged between 271-289g. A sample of the fish flesh taken from the upper epaxial region was transferred aseptically to a stomacher bag containing sterile Buffered Peptone Water solution (0.1%) and homogenized. After serial dilutions in 0.1% peptone water, the homogenates were spread on the surface of agar plates. Total viable counts (TVC) were determined using plate count agar after incubation at 30 oC for 3 days. The quality attributes monitored during the present work included bacterial load (total mesophilic) and the pH of the flesh. There was a marginal increase in the price of fresh red porgy sold during the summer time, with prices ranging, over a period of four seasons, from 5.85 to 7.5 per kilo. The results of the microbiological analysis indicate that with the exception of summer samples (which exhibited 5.23 (±0.13) log cfu/g), the bacterial load remained well below the legal limits and was around 3.1 log cfu/g. The pH values varied between 6.54 and 6.69. The results indicate a possible influence of season on the bacterial load of fish sold in the market. Nevertheless, the parameters investigated in the present work indicate that the bacteria load was well below the legal limit and that fish were sold within few days after harvesting. The peak of bacterial load in the summer samples may be a result of a post-harvesting contamination of the farmed fish and temperature fluctuations during handling and transportation.

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