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Comparison of European sea bass (*Dicentrarchus labrax*) from organic and semi-intensive rearing systems

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The study aimed to compare biometric and rheological traits and chemical composition of sea bass coming from the organic and semi-intensive rearing systems of an Italian fish farm (Veneto Agricoltura). The two systems differed for the diet, organic and conventional, while water conditions and stocking density were similar. After 18 months of rearing, 40 specimens (20 per rearing system) were slaughtered by immersion in ice slurry and analysed the day after catch. Biometric traits, dressing percentage and fillet pH, CIE L*a*b* colour and texture were measured. Chemical composition and fatty acid profile of the diets and sea bass fillets were analysed. Individual data were submitted to ANOVA by GLM procedure of SAS. Sea bass showed similar weight at slaughter (447 vs 421 g; P>0.05) and no difference in biometric traits or dressing percentage. Fillets showed similar texture profile, pH and L* and a* indexes, while b* index was higher in organic sea bass than in semi-intensive sea bass (1.39 vs 0.54; P<0.01). Fillet proximate composition did not change, while fatty acid profile differed according to the composition of the diets: in particular, organic sea bass showed higher proportion of saturated fatty acids (FA) (23.7 vs 22.2%), monounsaturated FA (33.4 vs 31.3%) and n-3 polyunsaturated FA (22.7 vs 14.4%) and a lower proportion of n-6 polyunsaturated FA (16.0 vs 29.1%) compared to semi-intensive sea bass (P<0.001). The n3/n6 ratio was higher in the organic fish (1.42 vs 0.49; P<0.001). In conclusions, differences between organic and semi-intensive sea bass concerned their nutritional value and exclusively depended on the feeding regime.

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Growth performance of different rainbow trout (*Oncorhynchus mykiss*) strains reared in Trentino (Northern Italy)

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We will present some results of an ongoing project aimed at analysing the major biotic and abiotic factors that influence the rainbow trout (*O. mykiss*) productive yield in the Trentino region (Northern Italy). Five trout strains were compared for their overall farming performance and suitability to be reared in the local farms. Eyed-egg samples of different strains were obtained from local and foreign suppliers. In the first part of the trial, the strains were compared in terms of egg size, hatching and growth rates up to the parr stage in a single farm and the intraspecific genetic variability was assessed using a microsatellites technique by analysing DNA extracted from random samples of caudal fin tissue. Significant among-strains differences in growth performance were found after 8 rearing months. In the second phase of the trial, parrs of each strain were divided into 4 lots. Then the lots of the 5 strains were transferred to 4 selected Trentino trout farms to carry out a performance test up to a market size of around 0.7 kg. Regardless of the location, all fish lots were kept at the same density and were fed the same commercial trout feed, six days a week. Individual weight and length were measured on random samples of 100 fish per lot every 2 months. At the same time, major water parameters were registered in the different farms. Specific growth rate (SGR), thermal growth rate (TGR), condition factor and feed conversion ratio (FCR) were calculated. Statistical analyses were performed with SAS and STATISTICA 9.0. The growth graphs fit quadratic equations and average daily gain ranged from 1.46 to 1.77 g. Among-strains differences in growth performance, condition factor, feed conversion and age at sexual maturity were found at market size.

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Comparative growth of the Mediterranean mussel (*Mytilus galloprovincialis* Lamarck, 1819) reared in three coastal areas of Sardinia

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Mussel culture is the most important aquacultural activity in Sardinia (Italy). Small specimens (42.5±3.1 mm shell length, 2.3±0.6 g wet meat weight) of *Mytilus galloprovincialis* of the same origin (Taranto) were grown in suspended culture from April to October 2010 in three different Sardinian coastal lagoons: 1) Calich, 2) Porto Pozzo, and 3) Tortoli. Several morphometric variables (i.e., shell length, shell height, wet shell weight, wet meat weight, and wet total weight) were measured monthly in 60 mussels from each of the experimental groups. During the same period, a number of hydrological variables (i.e., temperature, salinity, pH, and dissolved oxygen) were monitored