

Brown Trout – Suitability of an “Old” Species for Organic and Conventional Aquaculture

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Background: German aquaculture concentrates mainly on rainbow trout and carp. To increase the product range farmers turn back to well known but non target species like Brown trout that is a less robust for farming.

Fish feed contain increasing amounts of plant material which can cause nutritional, physiological and ecological effects. The influence of different feed composition on the growth performance and the product quality of the fish at market size was investigated.

Materials and methods: Brown trout (*Salmo trutta fario* L.) were raised according to the organic guidelines of “Naturland”, a German founded association for organic agriculture. Three certified organic trout feeds of different suppliers were tested. A control group was fed a standard trout diet.

The fillets were analysed for proximate, fatty acid and free amino acids composition and selenium. Instrumental methods include colour, texture and water-binding capacity. Sensory assessment was accompanied by electronic nose measurements.

Results: All brown trout groups showed comparable and acceptable growth performances. The fillet composition of the organic groups was similar and rich in long chain n-3 fatty acids. High values of oleic acid mirrored the increased amount of plant material in the conventional feed. This led to lower taurine and selenium contents as well.

Conclusions: The fish quality of all groups was good. The tested modern organic feed stuffs yielded similar production values compared to standard diets. High taurine and omega-3 and omega-6 fatty acids highlight the healthy aspects of fish consumption.

Although the overall costs for organic fish production is higher, due to higher feed and production prizes and because of strict maximum production limits requested by organic certifiers it was shown that organic Brown trout production is economically feasible.

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