

REPRODUCTIVE PHYSIOLOGY OF FISH



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THE EFFECT OF SEASONAL ALTERATION IN THE LIPID COMPOSITION OF BROODSTOCK DIETS ON EGG QUALITY IN THE EUROPEAN SEA BASS (*Dicentrarchus labrax* L.)

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There is now good evidence that the lipid composition of broodstock diets has a direct affect on the subsequent egg quality. This presentation investigates the assumption that broodstock lipid requirements would vary seasonally, depending on the state of gonad maturation. Fish were fed two pelleted, lipid enriched diets (maize oil, diet 1 or high quality fish oil diet 2), during four different periods in the annual cycle. The first group was fed diet 2 for twelve months and the second only during vitellogenesis (Sep-Feb) with diet 1 fed for the remaining six months. Both these showed improved egg quality and higher hatch rates when compared to the remaining two groups fed diet 2 during pre-vitellogenesis (Feb-Sep) and spawning (Feb-Mar). Improved egg quality was manifest in higher total n-3 fatty acids including enhanced levels of both docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA).

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