

Timing of sexual maturity, gamete and alevin quality of wild brown trout (*Salmo trutta*, L. 1758) under a controlled photoperiod regime

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Abstract – Wild brown trout were divided into two groups and kept in captivity for a period of four months under a natural or artificial photoperiod regime. Fish of both groups (duplicates with 81 females and 72 males in total) reached sexual maturation. The females held under gradually increasing darkness conditions, exhibited sexual maturation earlier than the controls. Males demonstrated a marginal acceleration in the timing of sexual maturation. Hatching time, egg and fry survival and timing of fry emergence did not vary between the experimental and control groups. Fecundity, milt volume and spermatocrit were unaffected by artificial photoperiod. It is concluded that the photoperiodic regime did not compromise gamete quality and viability of larvae or alevins, whereas the photoperiod modulated the onset of maturity.

Key words: brown trout, photoperiod, reproduction, sexual maturation, stocking.