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The Development of Brook Trout (*Salvelinus fontinalis* Mitchell, 1814) Embryos During the Yolk Sac Period

Nadir BAŞÇINAR

Çanakkale Onsekiz Mart University, Faculty of Fisheries, Department of Aquaculture, TR-17020,
Çanakkale - TURKEY

İbrahim OKUMUŞ

Karadeniz Technical University, Faculty of Marine Sciences, Department of Fisheries, TR-61530,
Trabzon - TURKEY

Ramazan SEREZLİ

Karadeniz Technical University, Faculty of Fisheries, TR-53600, Rize - TURKEY

Abstract: The growth rate during yolk absorption, yolk conversion efficiency, dry weight and water contents of brook trout (*Salvelinus fontinalis* Mitchell, 1814) larvae were observed and the relationships between degree-days were evaluated. While the mean wet weight was 72.45 ± 5.58 mg ($n = 10$) at hatching and reached 98.85 ± 6.22 mg just before the swim-up stage, the mean dry weights of the body and yolk sac were 2.70 ± 0.41 and 23.33 ± 0.59 mg at hatching and 9.49 ± 1.27 and 12.46 ± 1.14 mg at swim-up stages, respectively. The mean body dry matter and water content of the larvae were 36.04% and 63.96% at hatching and 19.22% and 80.78% at swim-up stages, respectively. Considering the relationships between larval development and degree-days, dry yolk and total larval weights and dry matter of the larvae decreased, while dry body weight and water content increased with degree-days. The growth of larva, yolk sac absorption and yolk conversion efficiency were calculated as 0.235 mg/day, 0.477 mg/day and 0.50, respectively. These results can be used for environmental and husbandry manipulations to influence rates of larval development and mortality, and to increase the productivity of hatcheries.

Key Words: Brook trout, *Salvelinus fontinalis*, larval development, yolk conversion efficiency, growth

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