

# Alaska Department of Fish and Game

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Habicht, C., J. E. Seeb, R. B. Gates, I. R. Brock, and C. A. Olito. 1994. Triploid coho salmon outperform diploid and triploid hybrids between coho salmon and Chinook salmon during their first year. *Canadian Journal of Fisheries and Aquatic Sciences* 51(S1):31-37.

**Abstract:** Sterile hybrid and triploid fish may provide hatchery programs with a tool to reduce the risk of genetic contamination of wild stocks, provided these fish have acceptable performance characteristics. We examined growth, survival, and deformities in diploid and triploid families of coho salmon (*Oncorhynchus kisutch*) and hybrids between coho salmon females X chinook salmon (*O. tshawytscha*) males. Data were collected from the half-sibling families through day 387. A reparameterized Gompertz growth model showed that conspecific coho salmon grew faster than hybrids, regardless of ploidy. No difference in growth rates was found between diploids and triploids. Abnormalities were significantly associated with the male parent but not with ploidy component, in contrast to previous observations of reduced deformity occurrence in triploid hybrids. Food conversion was better for conspecifics than hybrids during initial feeding, but not different during the second half of the experiment. No ploidy or cross X ploidy interaction effects on food conversion efficiency were observed. Finally, conspecifics had better posthatching survival than hybrids, regardless of ploidy. Of the treatments studied, conspecific triploid coho salmon may be the most viable alternative for sterile fish production: they performed as well as the conspecific diploids and better than either diploid or triploid hybrids.

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