

## **Multi-generation laboratory cultures of *Calanus finmarchicus* (Gunnerus) at NTNU, Department of Biology.**

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### **Abstract**

At NTNU, Department of Biology, our research group has successfully established viable laboratory cultures of *Calanus finmarchicus*. Presently the ninth laboratory-reared generation is developing, descending from individuals collected from Trondheimsfjorden during the late autumn of 2004. The cultures seem now well fit to laboratory environments; fat deposition in copepodids is similar or higher than in the source population, the portion of males is high, and a large number of offspring are produced in each generation. Cultures are raised and maintained in standard polyester or polyethylene tanks under flow-through conditions, and fed a mixture of micro algae. Water is pumped from ca. 90 m depth in Trondheimsfjorden and pre-treated ("aged" and filtered) upstream the tanks. To avoid excessive cannibalism on nauplii in dense cultures, newly hatched nauplii are continuously separated from their mother culture with custom made equipment. The harvested nauplii are raised to adulthood in separate tanks maintaining the synchronicity of the cultures. Most of the cultures have been run at a temperature of 10°C, which roughly corresponds to a development time (egg to adult) of 4-5 weeks. After adulthood is reached, another 3-4 weeks are required for gonad maturation and onset of reproduction, giving a total generation time of at least two months. The cultures are primarily established for oil-related ecotoxicological investigations (NFR funded), but may as well be used for all kinds of investigations on elucidating the ecology, biology or genetics of the species.