

## Comparison of Individual and Pooled Sampling Methods for Detecting Bacterial Pathogens of Fish

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**Abstract:** There are two widely used methods for collecting tissue samples from finfish for bacteriological culture. A method specified in the Office International des Epizooties (OIE) Manual of Diagnostic Tests for Aquatic Animals involves combining renal and splenic tissues from as many as 5 fish into a single, pooled sample. The method published in the American Fisheries Society (AFS) Blue Book/US Fish and Wildlife Service (USFWS) Inspection Manual requires use of a bacteriological inoculating loop for collecting samples from the kidney of individual fish. Potentially, under the proper circumstances, a variation of the OIE's approach could be employed to more fully utilize the samples already taken for virology. If implemented, this approach would provide substantial savings in labor and material costs. To compare the relative performance of the AFS/USFWS specified method and the variation of the OIE's method, cultures of *Yersinia ruckeri* were used to establish low level infections in rainbow trout (*Oncorhynchus mykiss*) that were sampled by the two methods. A total of 22 of 37 groups tested positive following bacteriological culture of samples obtained by either method. The loop method yielded 18 positive groups, and there was one group where the loop was positive and the pool was negative. The pooled samples produced 21 positive groups, and there were four groups where the pool was positive and the loop was negative. There was significant agreement in the relative ability of the two sampling methods to permit detection of these low-level bacterial infections of rainbow trout.