

Successful Therapy of Furunculosis in Atlantic Salmon (*Salmo salar* L.) Using the Fluoroquinolone Antimicrobial Enrofloxacin

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ABSTRACT

An outbreak of furunculosis in an Atlantic Salmon (*Salmo salar* L.) commercial sea-pen farm was diagnosed and treated with the fluoroquinolone antimicrobial enrofloxacin. The affected post-smolt and adult fish readily consumed pelleted feed impregnated with enrofloxacin at a concentration of 2000 ppm for 10 days. Mortalities of infected post-smolts were reduced from an average of 5.8 percent per month for the two months preceding therapy to 0.6 percent per month for the two months following therapy. Infected adult fish had a two-month mean mortality rate of 2.6 percent prior to enrofloxacin treatment and 0.3 percent over the two months subsequent to therapy. Noninfected fish in the same farm exhibited an average monthly mortality of 0.4 percent over the four month study period. Mean antimicrobial tissue concentrations over the ten complete days of medication were 4.58, 7.32, 4.58, 8.89 and 3.40 ppm for muscle, skin plus fat, liver, kidney and gill, respectively. Within 24 hours of consuming medicated feed, tissue concentrations of antimicrobial were nearly 66 percent of the average concentrations for the medication period. Half-lives of elimination for the antimicrobial residues were approximately 2 days for liver, 3 days for kidney, 6 days for gill, 11 days for muscle and 22 days for skin plus fat. The producers reported a successful harvest occurred after a 180 day medication-free period.