

Evaluation of surgery procedures for implanting telemetry transmitters into the body cavity of tilapia



Surgery procedures were used to implant telemetry transmitters into the body cavity of adult (574–1 033 g) tilapias *Oreochromis aureus* in aquaculture tanks (4 m², 1.5 m³, 26.5 ± 0.5 °C, ≥ 5.0 mg O₂ l⁻¹) and their effect on fish survival, growth and behaviour was evaluated. Only one out of 35 implanted fish died. With one exception, all fish consistently retained their transmitter until the end of the study (up to 30 months). Healing was faster when the incision was sutured with polyamide monofilament (5–14 days) than with other suture materials, due to tunnelling with atraumatic needles for catgut or fouling of braided silk. In all 10 fish sacrificed after 30 and 50 days, the transmitter had become encapsulated by connective tissue. No infection or damage to the viscera was observed. The activity of four tilapias (903–1 033 g) equipped with motion sensitive transmitters was telemetered during the recovery from anaesthesia and surgical procedures. All four fish maintained a normal diurnal activity rhythm pattern throughout the study but had low levels of activity during the first 12–24 h. Based on the evolution of their resting posture after surgery,

it is suggested that tilapias need 3 to 4 days to completely compensate the negative buoyancy resulting from anaesthesia and tagging.

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