

Intisari

EFIKASI DOSIS VAKSIN *Streptococcus* sp. PADA NILA MERAH (*Oreochromis* sp.) SECARA SUNTIK INTRAPERITONEAL

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Penelitian ini menguji tentang efikasi vaksin *Streptococcus* sp. pada nila merah (*Oreochromis* sp.) untuk pengendalian penyakit *Streptococcosis* menggunakan vaksin *formain-killed cells* secara suntik intraperitoneal (i.p.). Efikasi dosis vaksin diukur dari nilai laju sintasan (*Survival rate*), tingkat perlindungan relatif (*Relative present survival*) dan rerata waktu kematian (*Mean time to death*). Pengamatan panjang dan berat dilakukan untuk mengetahui pengaruh vaksinasi terhadap pertumbuhan ikan. Perlakuan yang dilakukan terdiri dari vaksinasi (dosis vaksin 10^5 , 10^6 , 10^7 sel/ikan sebanyak 0,1 ml) dan nonvaksinasi (disuntik dengan PBS 0,1 ml/ekor dan tidak disuntik sebagai kontrol) secara suntik *Intraperitoneal*. *Booster* dilakukan 7 hari setelah vaksinasi kemudian dilakukan uji tantang dilakukan 14 hari setelah vaksinasi menggunakan *Streptococcus* sp. secara suntik *Intraperitoneal* sebanyak 0.1 ml/ekor dengan dosis 10^8 sel/ikan. Hasil penelitian menunjukkan bahwa ikan yang divaksinasi menggunakan *Streptococcus* sp. mempunyai sintasan dan waktu kematian yang lebih tinggi dibandingkan dengan ikan yang tidak divaksinasi. Dosis vaksin yang paling efektif yaitu 10^7 sel/ikan yang mana memberikan nilai MTD 7,73 hari, SR 80% dan RPS 47,83%.

Kata kunci: Vaksin, *Streptococcus* sp., *Oreochromis* sp., suntik *Intraperitoneal*.

Abstract

DOSE EFFICACY OF *Streptococcus* sp. VACCINE IN TILAPIA (*Oreochromis* sp.) ADMINISTERED BY INTRAPERITONEAL ROUTE

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The effectiveness of *Streptococcus* sp. vaccine prepared from formalin-killed cells of *Streptococcus* sp. and administered by intraperitoneal (i.p.) route was evaluated in tilapia (*Oreochromis* sp.) for prevention of streptococcal disease. Survival rate (SR), relative percent survival (RPS), and mean time to death (MTD) were evaluated for vaccine efficacy. Length and weight measurement was done to determine effect of vaccine on fish growth. Tilapia were vaccinated by i.p. The treatments were conducted on vaccine (vaccine doses 10^5 , 10^6 and 10^7 cell/fish in a volume 0,1 ml) and non-vaccine (injected with PBS 0,1 ml/fish as a positive control and not injected as a negative control. Booster was done on 7 days after vaccination and challenged by i.p. injection with 10^8 cell/fish of *Streptococcus* sp.. The challenging test was done 14 days after vaccination. The result showed that tilapia vaccinated had higher survival rate and longer mean time to death than tilapia non vaccinated. The most effective vaccine dose was 10^7 cell/fish with MTD up to 7,73 days, SR up to 80% and RPS up to 47,83%. The vaccination did not inhibit fish growth.

Keywords: Vaccine, *Streptococcus* sp., *Oreochromis* sp. Intraperitoneal route.