Accepted Manuscript

Protective efficacy of *Mucuna pruriens* (L.) seed meal enriched diet on growth performance, innate immunity, and disease resistance in *Oreochromis mossambicus* against *Aeromonas hydrophila*

Mohamed Saiyad Musthafa, Syed Mohideen Asgari, Amitha Kurian, Elumalai Preetham, Abdul Rahman Jawahar Ali, Bilal Ahmad Paray, Mohammad K. Al-Sadoon

PII: S1050-4648(18)30093-7

DOI: 10.1016/j.fsi.2018.02.031

Reference: YFSIM 5138

To appear in: *Fish and Shellfish Immunology*

Received Date: 19 December 2017

Revised Date: 6 February 2018

Accepted Date: 14 February 2018

Please cite this article as: Musthafa MS, Asgari SM, Kurian A, Preetham E, Jawahar Ali AR, Paray BA, Al-Sadoon MK, Protective efficacy of *Mucuna pruriens* (L.) seed meal enriched diet on growth performance, innate immunity, and disease resistance in *Oreochromis mossambicus* against *Aeromonas hydrophila*, *Fish and Shellfish Immunology* (2018), doi: 10.1016/j.fsi.2018.02.031.

Protective efficacy of *Mucuna pruriens* (L.) seed meal enriched diet on growth performance, innate immunity, and disease resistance in *Oreochromis mossambicus* against *Aeromonas hydrophila*

Mohamed Saiyad Musthafa[a,] *, Syed Mohideen Asgari[a,b], Amitha Kurian[c], Elumalai Preetham[c], Abdul Rahman Jawahar Ali[a], Bilal Ahmad Paray[d], Mohammad K. Al-Sadoon[d],

[a]*P.G. & Research Department of Zoology, The New College, Chennai 600014, Tamil Nadu, India.*

[b]*P.G. and Research Department of Zoology, J.B.A.S College for Women, Chennai- 600 018, Tamilnadu, India.*

[c]*Department of Processing Technology (Biochemistry), Kerala University of Fisheries and Ocean Studies (KUFOS), Cochin- 682506, Kerala, India.*

[d]*Department of Zoology, College of Science, King Saud University, PO Box 2455, Riyadh 11451, Saudi Arabia.*

Abstract

The impact of *Mucuna pruriens* (L.) seed meal diet on growth performance, innate immune response, and disease resistance in *Oreochromis mossambicus* against *Aeromonas hydrophila* is reported for the first time. Infected *O. mossambicus* was fed with 2 g kg^{-1}, 4 g kg^{-1}, and 6 g kg^{-1} of *M. pruriens* seed meal diets significantly increased initial body weight (IBW) and final body weight (FBW) over control, for a period of 4 weeks. At 4 g kg^{-1} and 6 g kg^{-1} the enriched diet significantly ($P < 0.05$) enhanced the survival rate, weight gain (WG), protein efficiency ratio (PER), specific growth rate (SGR), feed conversion ratio (FCR), and feed efficiency (FE) when compared to the control; besides, from weeks 2 to 4 these diets significantly ($P < 0.05$) enhanced the complement activity, phagocytic activity, respiratory burst activity, and lysosome activity. On being fed with 4 g kg^{-1} and 6 g kg^{-1}-