

UG Probio: Probiotic for Udang Galah

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Abstract

Three types of diets were prepared with the incorporation of UGprobio(PF), non-putative *Bacillus sp* (NPF) and *Penaeus monodon* commercial probiotic(CPF) at level 1010 cfu with an un-supplemented control (CF). After 60 days, mean prawn weights of three probiotics treated groups averaged 0.570 ± 0.06 g with no significant difference between non putative *Bacillus* treatment and commercial probiotic treatment and significant difference between UGprobio and others ($P < 0.05$). Among the four different treatments, UGprobio performed well in all the growth-related parameters. The prawns fed UGprobio added diet showed a higher mean weight gain (0.663 ± 0.017 g) and 0.267 g increase in growth over control. The prawn fed the control diet recorded lowest feed intake. Best FCR value (2.13 ± 0.02) was obtained in the diet prepared by UGprobio. The control diet FCR value was (3.08 ± 0.05). Prawn survival after 60 days was significantly greater ($P < 0.05$) in the treated groups 90.23 ± 0.45 compared with the control group $79.33 \pm 0.87\%$.

Newly hatched larvae of fresh water prawn(*Macrobrachium rosenbergii* ; Udang Galah) were reared with three dietary treatments consisting newly hatched *Artemia salina* nauplii, with UGprobio (10 8 cfu/ml), and newly hatched *Artemia salina* nauplii without UGprobio and a control diet carried out in triplicate in 60 liter Aquarium (50 Pcs/L) After trial, the larvae that fed probioticum *Artemia* naupli were found to have higher survival and a faster rate to metamorphosis than larvae under feeding non-probioticum and control feed. There were no significant differences between non-probioticum *Artemia* and control feed treatment in larval growth and development rate of metamorphosis ($P > 0.05$). Larval survival after 40 days was significantly greater ($P < 0.05$) in the UGprobio treated groups (65.26 ± 1.02) compared with the control group (35.26 ± 6.56 %).

After 60-days feeding trial with UGprobio supplemented and non-supplemented control feeds, *Macrobrachium rosenbergii* from 0.429 ± 0.014 g exhibited significant differences ($P < 0.05$), between UGprobio treated and control groups in growth and survival. Sixty days after the start of the UGprobio feeding, the prawns were challenged by bath exposure to *Aeromonas hydrophila* (107 cell/ ml) ,for 28 days. Two weeks after challenging, cumulative mortality was significantly ($P < 0.05$) reduced in UGprobio treated group. Probiotic treated group had 88.33% survival, whereas the control group had only 20.83% survival. In addition, the control group had an unhealthy external appearance, while treated group prawn, appeared healthy and normal.

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