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Title: Effects of Different Fertilization and Feeding Regimes on the Production of Integrated Farming of Rice and Prawn *Macrobrachium rosenbergii* (De Man)

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Abstract: An experiment was conducted in rice field plots each of 30 m^2 to determine the appropriate combination of feeding and fertilization regimes for the giant freshwater prawn *Macrobrachium rosenbergii* (De Man. 1979) cultured along with rice in rice fields. There were four treatments: rice culture only with regular fertilization (A, control); rice-prawn integrated culture with regular fertilization (B); rice-prawn integrated culture with basal fertilization and commercial feed (C); and rice-prawn integrated culture with regular fertilization and commercial feed (D). Juvenile prawns of 1.5-g size were stocked on the third day after rice transplantation at a density of 2 prawns m^{-2} and fed twice daily at 5% reducing to 2% of body weight during the experiment. The rice yield in treatment D (0.42 kg m^{-2}) was significantly higher than that in other treatments (0.34, 0.36, 0.34 kg m^{-2} in treatments A, B, C respectively). Prawns grew significantly faster ($P < 0.05$) in treatments C and D (23.8 ± 0.9 and 22.0 ± 1.7 g $prawn^{-1}$ respectively) than in treatment B (14.7 ± 1.6 g $prawn^{-1}$). Prawn production in treatment C (347 ± 13 kg ha^{-1} $crop^{-1}$) was significantly ($P < 0.05$) higher than that (234 ± 30 kg ha^{-1} $crop^{-1}$) in treatment B, while in treatment D (296 ± 53 kg ha^{-1} $crop^{-1}$) it was not significantly different from that in treatment B and C ($P > 0.05$). Treatment C gave the highest economic returns among all treatments, followed by treatments D and B, indicating that eh combination of basal fertilization and commercial feed is the most appropriate nutrient input regime for the rice-prawn integrated culture system.

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