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Sustainable Aquaculture for a Secure Future

Title: Comparisons of growth and economic performance among monosex and mixed-sex culture of red mud crab (*Scylla olivacea* Herbst, 1796) in bamboo pens in the tidal flats of mangrove forests, Bangladesh

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Abstract: An experiment was conducted in a randomized block design to compare growth and economic performance between monosex and mixed-sex culture of red mud crab (*Scylla olivacea* Herbst, 1796) fed with trash fish at 5-10% body weight per day in the mangrove tidal flat at Burigoaliny Union of Satkhira District, Bangladesh. The experiment had three treatments in triplicate each: (a) all-male culture, (b) all-female culture and (c) mixed-sex culture. Crabs of 80-120 g in size were stocked at a density of 0.5 crab m⁻² and cultured for 100 days. Specific growth rates (SGRs) by weight and internal carapace width (ICW) in the all-male culture were significantly higher than those in the all-female culture ($P < 0.05$), while SGRs in the mixed-sex culture showed no significant differences from those in the all-male and all-female culture ($P > 0.05$). No significant differences in final mean body weight, ICW, daily weight gain, survival rate, gross and net yields were found among all the treatments ($P > 0.05$). The area of high water level with mangroves gave significantly better results in terms of feed conversion ratio, survival rate, gross and net yields than the area of low water level ($P > 0.05$). The experiment suggests that the all-female culture in the area of high water level with mangroves could be suitable in developing commercial pen culture of red mud crabs in Bangladesh.

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