SCREENING OF PROBIOTIC CANDIDATES BACTERIA AS BIOCONTROL OF AEROMONAS HYDROPHILA PATHOGEN ISOLATED FROM MINA PADI CULTIVATION AREA

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Abstract	The agricultural activities in rice-farming system can have an impact on fish farming and the characteristics of bacterial community, especially pathogenic bacteria. Utilization of probiotics as environmentally friendly biotechnology products can be used to improve environmental quality and suppress the presence of pathogenic bacteria. This study aimed to select bacteria as probiotic agents from aquaculture ponds with the Rice-fish farming system. A total of 22 bacterial isolates were isolated from the water and sediment contained in the culture ponds. Based on the screening results, 15 isolates were confirmed as general non-pathogenic bacteria (Aeromonas sp.), 9 isolates had antibacterial activity against Aeromonas hyrophylla and 4 isolates showed high antibiotic sensitivity and were able to synergize. The results showed the Proteus mirabilis, Proteus penneri, Kurthia gibsonii and Bacillus cereus strains. Bacillus cereus strain LB8 has antibacterial activity that can inhibit the pathogen Aeromonas hydrophila with an inhibition zone of 8mm and has a very high sensitivity to antibiotics. These four isolates are able to work together synergistically and can be used as consortium probiotic bacterial agents to suppress the growth of pathogens.
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