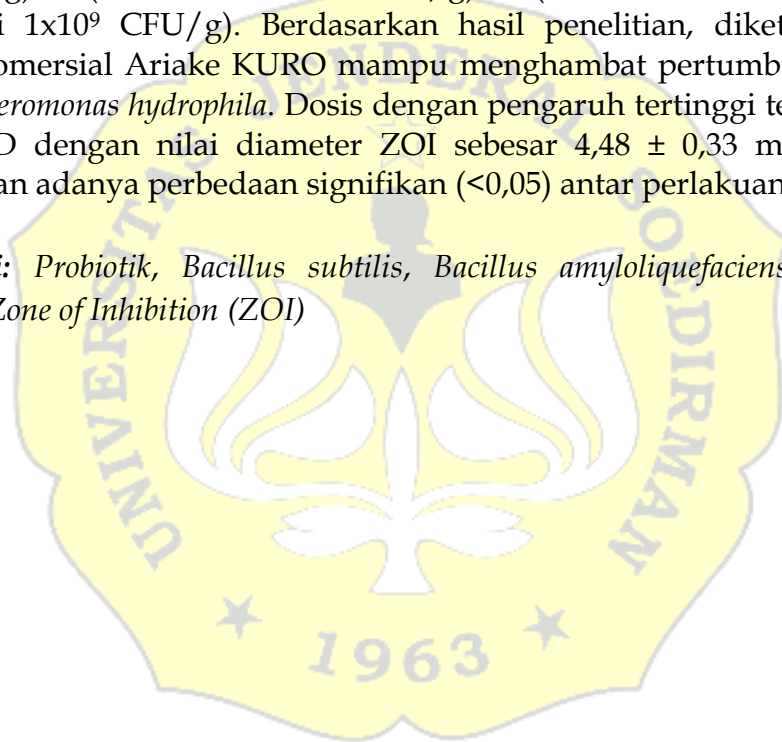


ABSTRAK

Bakteri probiotik telah diketahui memiliki kemampuan untuk melawan bakteri patogen tanpa terjadinya resistensi. Selain melawan bakteri patogen secara langsung, bakteri probiotik pun mampu meningkatkan kekebalan tubuh inang, menghindari inang dari serangan penyakit. Salah satu probiotik yang bisa digunakan adalah probiotik komersial Ariake KURO dengan kandungan bakteri *Bacillus amyloliquefaciens* D2018 dan *Bacillus subtilis* D2558. Penelitian ini bertujuan untuk mengetahui apakah bakteri probiotik *Bacillus amyloliquefaciens* D2018 dan *Bacillus subtilis* D2558 pada probiotik komersial ini memiliki kemampuan untuk menghambat pertumbuhan bakteri patogen *Aeromonas hydrophila* secara *in vitro*. Metode yang digunakan pada penelitian ini adalah metode eksperimen dengan Rancangan Acak Lengkap (RAL) 5 perlakuan dan 3 ulangan. Perlakuan yang digunakan yaitu K (tanpa probiotik); A (konsentrasi 1×10^6 CFU/g); B (konsentrasi 1×10^7 CFU/g); C (konsentrasi 1×10^8 CFU/g); D (konsentrasi 1×10^9 CFU/g). Berdasarkan hasil penelitian, diketahui bahwa probiotik komersial Ariake KURO mampu menghambat pertumbuhan bakteri patogen *Aeromonas hydrophila*. Dosis dengan pengaruh tertinggi terdapat pada perlakuan D dengan nilai diameter ZOI sebesar $4,48 \pm 0,33$ mm. Hasil ini menunjukkan adanya perbedaan signifikan ($<0,05$) antar perlakuan.

Kata kunci: Probiotik, *Bacillus subtilis*, *Bacillus amyloliquefaciens*, *Aeromonas hydrophila*, Zone of Inhibition (ZOI)



ABSTRACT

Probiotic bacteria are known to have the ability to fight pathogenic bacteria without developing resistance. Apart from fighting pathogenic bacteria directly, probiotic bacteria are also able to increase the host's immunity, preventing the host from disease attacks. An example of probiotic that can be used is the commercial probiotic Ariake KURO, containing the bacteria *B. amyloliquefaciens* D2018 and *B. subtilis* D2558. This study aims to determine whether the probiotic bacteria *B. amyloliquefaciens* D2018 and *B. subtilis* D2558 in commercial probiotics have the ability to inhibit the growth of the pathogenic bacteria *Aeromonas hydrophila* in vitro. The method used in this research was an experimental method with a Completely Randomized Design (CRD) includes 5 treatments and 3 replications. The treatments used were K (without probiotics); A (concentration of 1×10^6 CFU/g); B (concentration of 1×10^7 CFU/g); C (concentration of 1×10^8 CFU/g); D (concentration of 1×10^9 CFU/g). Based on the research results, it is known that the commercial probiotic Ariake KURO is able to inhibit the growth of the pathogenic bacteria *Aeromonas hydrophila*. The dose with the highest score was in treatment D with a ZOI diameter value of 4.48 ± 0.33 mm. These results indicate a significant difference (<0.05) between treatments

Key words: Probiotics, *Bacillus subtilis*, *Bacillus amyloliquefaciens*, *Aeromonas hydrophila*, Zone of Inhibition (ZOI)

