

## INTISARI

*Bacillus amyloliquefaciens* strain W36 yang diisolasi dari akar tanaman tebu merupakan bakteri penambat nitrogen. Kemampuan bakteri kelompok *Bacillus* telah diketahui mampu menghambat bakteri patogen tanaman. Penelitian ini bertujuan untuk mengetahui kemampuan *Bacillus amyloliquefaciens* W36 dalam menghambat pertumbuhan *Ralstonia solanacearum*. Aktivitas antagonisme dari isolat *Bacillus amyloliquefaciens* W36 terhadap *Ralstonia solanacearum* diuji melalui tiga metode, antara lain metode *cross-streak*, *disk-diffusion*, dan cawan tangkup. Hasil penelitian menunjukkan terdapat aktivitas penghambatan oleh *Bacillus amyloliquefaciens* W36 terhadap *Ralstonia solanacearum*, ditandai dengan terbentuknya zona bening. Berdasarkan perhitungan persentase zona bening pada uji *disk-diffusion*, didapatkan kemampuan penghambatan *Bacillus amyloliquefaciens* W36 sebesar 24.75%, sedangkan pada kontrol tidak terjadi penghambatan. *Strain* W36 juga memiliki kemampuan menghambat *Ralstonia solanacearum* melalui senyawa organik volatil.

**Kata kunci:** antagonisme, *Bacillus amyloliquefaciens* W36, *Ralstonia solanacearum*.

## ABSTRACT

*Bacillus amyloliquefaciens* strain W36 isolated from sugarcane roots is a nitrogen-fixing bacterium. The ability of *Bacillus* group bacteria has been known to inhibit plant pathogenic bacteria. This study aims to determine the ability of *Bacillus amyloliquefaciens* W36 in inhibiting the growth of *Ralstonia solanacearum*. The antagonistic activity of *Bacillus amyloliquefaciens* W36 isolate against *Ralstonia solanacearum* was tested through three methods, including cross-streak, disk-diffusion, and double plate chamber methods. The results showed that there was inhibitory activity by *Bacillus amyloliquefaciens* W36 against *Ralstonia solanacearum*, characterised by the formation of clear zones. Based on the calculation of the clear zone percentage in the disk-diffusion test, the inhibitory ability of *Bacillus amyloliquefaciens* W36 was 24.75%, while there was no inhibition in the control. Strain W36 also has the ability to inhibit *Ralstonia solanacearum* through volatile organic compounds.

**Keywords:** antagonism, *Bacillus amyloliquefaciens* W36, *Ralstonia solanacearum*