

ABSTRACT

Bacillus subtilis is known to be effective against plant pathogens. Many studies have been conducted about the effects of this species to plant pathogens. There are also some studies, which tackled about the products that *Bacillus* sp. releases and how it acts with plant pathogens. The study is about the host range characterization of *Bacillus subtilis* and its use as biocontrol agent. Biocontrol is defined as the use of one living organism to control another organism. It can include almost anything that is of biological origin. This study used the following pathogens in determining the use of *B. subtilis* as biocontrol agent: *Escherichia coli*, *Enterobacter aerogenes*, *Salmonella typhi*, and *Staphylococcus aureus*. To determine the inhibitory activity of *Bacillus subtilis*, Agar Plug Assay was performed. To determine the survival rate of the selected hosts with *B. subtilis*, Mixed Culture Assay was employed. Bacterial counts of the pathogens were obtained every 24 hours using Miles and Misra Method. This method includes serial dilution, which has been used by microbiologists in order to count the concentrations of bacteria. *Bacillus subtilis* was found to be effective in inhibiting the growth of *E. coli* and *S. aureus*. It was concluded that *B. subtilis* is effective against the gram-negative bacteria but not all bacteria in this group can be inhibited. Paired t-test was employed to compare the difference between initial and final count of the test organisms.