

A CASE STUDY

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# Efficacy of biocontrol agents and bactericides for the management of bacterial blight incited by *Xanthomonas axonopodis* pv. *dieffenbachiae* in *Anthurium andraeanum*

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## ABSTRACT

Bacterial blight of *Anthurium* incited by *Xanthomonas axonopodis* pv. *dieffenbachiae* (XAD) is one of the most serious and devastating disease causes severe losses to cut flower production. *In vitro* screening of antagonistic *B. mojavensis* strain KA3 inhibited the growth of *X. axonopodis* pv. *dieffenbachiae* over an area of 3730 mm<sup>2</sup>. It was followed by *B. subtilis* isolate BSD4, which inhibited the pathogenic bacteria to an extent of 3430 mm<sup>2</sup>. *In vitro* screening with bactericides and fungicides against *X. axonopodis* pv. *dieffenbachiae* reflected that streptomycin sulphate was most effective in inhibiting the bacterial blight pathogen at 2000 ppm which confers an area of inhibition of 1810 mm<sup>2</sup>, which was significantly superior over all other treatments and succeeded by 1000 ppm of streptomycin sulphate, which recorded 1254 mm<sup>2</sup> area of inhibition against XAD. Screening with gentamycin, indicated that the mean maximum area of inhibition of the bacterial pathogen XAD was 1054 mm<sup>2</sup> at 2000 ppm against XAD under *in vitro*. However, comparison of the efficacy between streptomycin sulphate and gentamycin, indicated that, streptomycin sulphate was highly effective rather than gentamycin. Similarly, fungicides such as copper oxychloride, alliete, isotianil and bromopol (2-bromo 2-nitro propane 1, 3-diol) which had antibacterial activity were tested against XAD under *in vitro*.

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