

**Control of *Erwinia* spp. isolated from star-of-bethlehem (*ornithogalum* spp.) using actinomycetes and preparation of antiserum using rabbits**

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**Abstract**

*Erwinia* spp. causes soft rot in *Ornithogalum* spp., a flower grown purposely for export in Kenya. As a result, the pathogen poses a great risk to the economy of the country. This study aimed at isolating actinomycetes and *Erwinia* spp. from the soils of Menengai crater and infected *Ornithogalum* spp. respectively. In addition, the study sought to produce antiserum against the pathogen using a rabbit. Isolation of actinomycetes from the soil was carried out using standard methods. *Erwinia* spp. was isolated by first sterilizing the plant tissues using 70% ethanol prior to plating using nutrient agar after cleaning the plant tissues using distilled water. Further sub-culturing on nutrient agar was carried out to obtain pure cultures. The obtained *Erwinia* spp. was used in testing for sensitivity using the actinomycetes isolate and in production of antiserum through injection of the antigen intramuscularly into the rabbit. The antiserum was tested against the pathogen using immunodiffusion technique. Five potent actinomycetes, PAN 12, PAN 30, PAN 35, PAN 50 and PAN 60 were isolated from the soils of menengai crater. The *Erwiniaspp.* obtained had typical cultural and morphological characteristics of *Erwinia* spp. Although there was no significant difference in the zones of inhibition of the *Erwinia* spp. by the actinomycetes isolates, PAN 35 indicated the largest zones of inhibition. The antiserum produced had very high potency of controlling *Erwinia* spp. There is need to control *Erwinia* spp. otherwise horticultural farming in general and growing of the flower in particular will be jeopardized.

**Key words:** rabbits, *Erwinia* spp., *ornithogalam* spp