THE EFFECT OF BACTERIA AND ESSENTIAL OILS ON MYCOTOXIN PRODUCERS ISOLATED FROM FEED OF PLANT ORIGIN

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Abstract. The aim of the investigation was to test the antifungal activity of *Pantoea, Streptomyces* and *Sphingomonas* bacterial strains and essential oils from *Abies sibirica* (siberian fir), *Thymus pulegioides* (broad-leaved thyme), *Carum carvi* (caraway), *Pimpinella anisum (anise)*, *Eucalyptus globulus* (tasmanian blue gum), *Syzygium aromaticum* (clove), *Lavandula hybrida* (lavender) and *Melaleuca alternifolia* (tea-tree) – a pilot study. The antifungal activity was tested against mycotoxin producing fungi from *Aspergillus, Penicillium, Fusarium* and *Alternaria* genera. The killer activity of the bacterial isolates was evaluated by the ability of the tested strains to form lysis zones on fungal lawns. The antifungal activity of the essential oils was assessed by the agar diffusion method. It was revealed that the isolated strains of *Pantoea citrea*, *Streptomyces* sp. and *Sphingomonas* sp. showed a wide fungicidal spectrum against *Aspergillus flavus, A. terreus, A. versicolor, A. fumigatus, Penicillium verrucosum, P. cyclopium, P. chrysogenum, Fusarium poae, F. avenaceum, F. culmorum, F. solani* and *Alternaria alternata*. The most efficient antifungal activity was characteristic of essential oils from *Syzygium aromaticum* and *Pimpinella anisum*.

Keywords: bacteria; fungi; essential oils; antifungal activity.