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Antimicrobial Potential of Prickly Pear (Opuntia ficus-indica) Seed Oil and Grain Extracts

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Abstract

The prickly pear (*Opuntia ficus-indica*) is a succulent plant belonging to the cactus family. It is a highly nutritious and refreshing fruit, valued for its seeds and oil. This study aims to evaluate the antibacterial and antifungal activity of oil extracted from prickly pear seeds (from the Bordj Bou Arréridj region) and the acetone extract of spontaneous grains against 15 microbial strains (bacteria and fungi). The samples were extracted separately using distilled water and 70% acetone to obtain a dry extract, which was then stored at 4°C until testing. The antimicrobial activity was assessed using the agar diffusion method (well diffusion technique), measuring the diameters of inhibition zones. The results indicate that four bacterial strains and six fungal strains, including two yeasts, were sensitive to the dry extract. For the oil extract, two bacterial strains and five fungal strains, including two yeasts, exhibited sensitivity. Both extracts demonstrated strong antimicrobial activity, particularly against yeasts and Gram-positive bacteria, confirming the antimicrobial potential of *Opuntia ficus-indica*.

Keywords: *Opuntia ficus-indica*, seed oil, antibacterial activity, antifungal activit