

## EXAMINING THE ROLE OF SPONGE GOURD DUST AS A NATURAL NALIDIXIC ACID ADSORBENT: AN ANALYSIS OF REMOVAL EFFECTIVENESS

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*This study explores Nalidixic acid (NAL), a former treatment for gram-negative bacterial urinary tract infections. Nalidixic acid can pollute water, harm aquatic life, and promote antibiotic resistance. This research is looking into using the dust of the sponge gourd (Luffa cylindrica) (SG) as a natural adsorbent for NAL. It has observed that NAL was adsorbed by SG in FTIR study by changing bond pattern. Removal efficiency of NAL by SG is 52.6%. So, SG can be used as potential antibiotic adsorbent.*

*Keywords: Sponge Gourd, Nalidixic acid, Bioadsorbents, FTIR, Removal efficiency, Bioremediation*

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