

ANALYSIS OF THE POSSIBLE ANTIBACTERIAL POTENTIAL OF THE ETHANOLIC EXTRACT OF CREEPING BENTGRASS

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• Introduction

✓ *Agrostis stolonifera*, popularly called creeping grass, is a perennial grass that forms numerous stolon's that extend over the ground. The extracts obtained from the vegetative organs of the plant contain many phytotoxic compounds. The aim of the study was to identify the possible antibacterial effects of some ethanolic extracts obtained from different vegetative organs.

• Material and method

✓ Two ethanol extracts from the roots and leaves of *A. stolonifera* were tested in 5 different concentrations. The possible antimicrobial effects were analyzed in 7 standardized bacterial strains: *Staphylococcus aureus* (ATCC 25923), *Streptococcus pyogenes* (ATCC 196415), *Enterococcus faecalis* (ATCC 29212), *Clostridium perfringens* (ATCC 13124), *Escherichia coli* (ATCC 8739), *Pseudomonas aeruginosa* (ATCC 10145), *Legionella pneumophila* (ATCC 33152). The diffusimetric method was used to determine the minimum inhibitory concentration (MIC), respectively was determined the cell viability test with 2,3,5 triphenyltetrazolium chloride.

Conclusions

Gram+ bacterial strains: *Staphylococcus aureus* and *Enterococcus faecalis*, respectively Gram- bacterial strains: *Clostridium perfringens* and *Pseudomonas aeruginosa* show intermediate sensibility to the ethanolic extract of leaves from *A. stolonifera* for the first 3 concentrations of tested extract. The ethanolic extract from the root of *A. stolonifera* shows intermediate antibacterial potential against the Gram+ bacterial strains: *Streptococcus pyogenes*, *Enterococcus faecalis* and *Staphylococcus aureus*, respectively Gram- bacterial strains: *Escherichia coli*, *Pseudomonas aeruginosa*, *Clostridium perfringens* and *Legionella pneumophila* at the first concentrations tested, after that the antibacterial effect was absent..

• Results and discussions

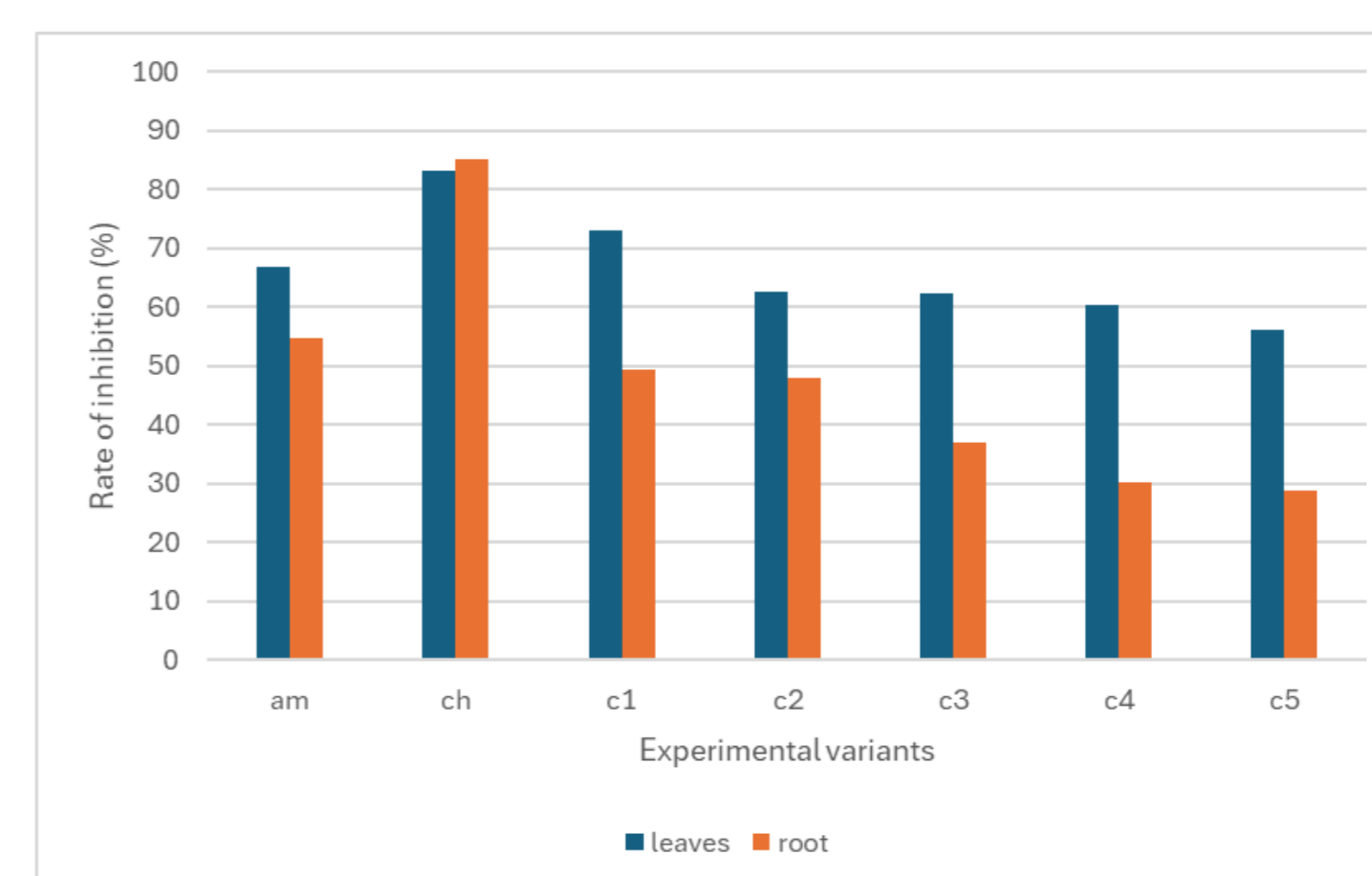


Fig. 1. Effect of ethanolic extract on *Staphylococcus aureus* strain

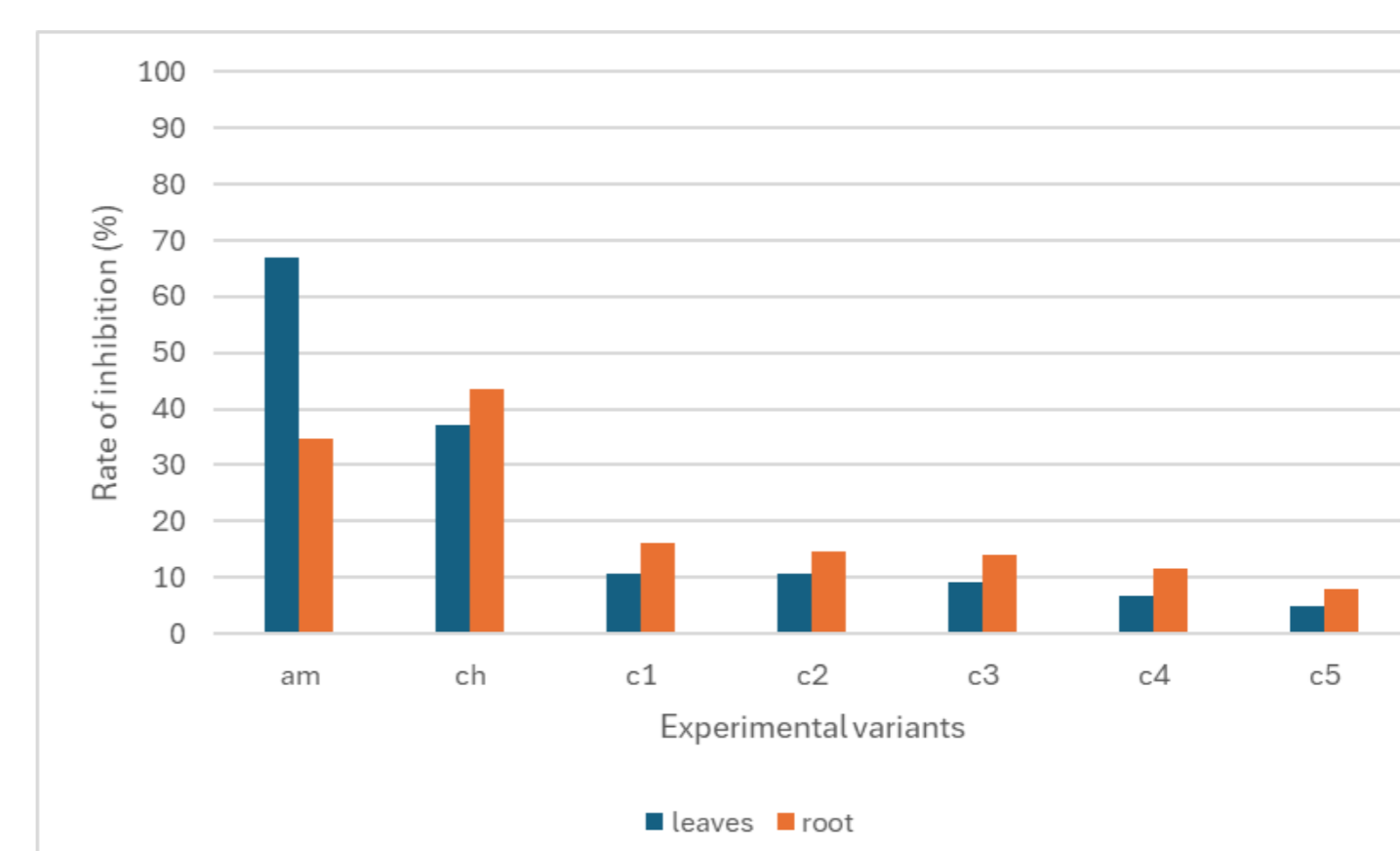


Fig. 2. Effect of ethanolic extract on *Streptococcus pyogenes* strain

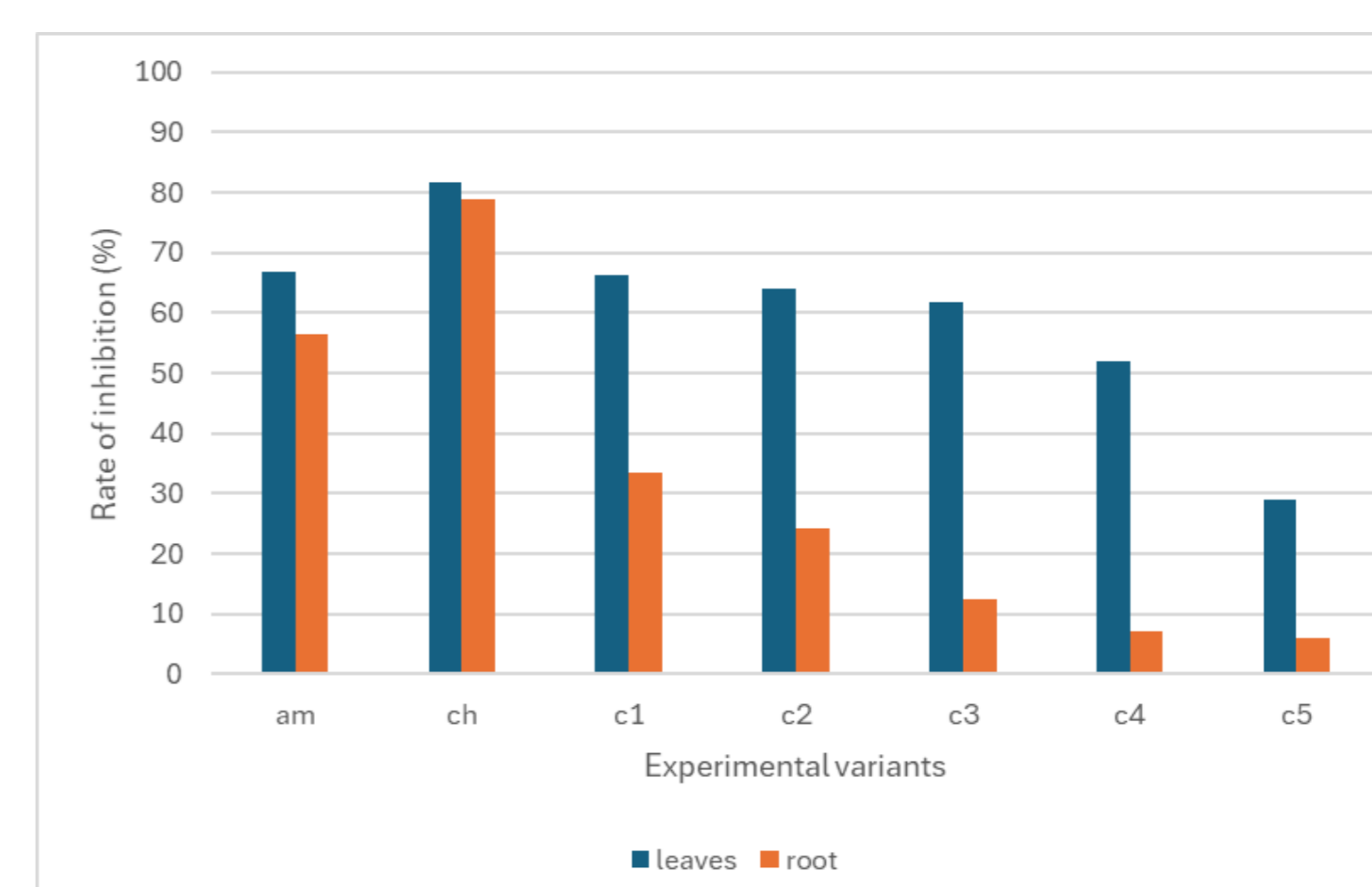


Fig. 3. Effect of ethanolic extract on *Escherichia coli* strain