

PREDESTINATION OF FOOD SAFETY BY NATURAL INGREDIENTS

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Summary. Antimicrobial properties of the extracts isolated from various aromatic and spicy plants have been reported in numerous sources. This study was aimed at testing the antimicrobial effect on some microorganisms (*Escherichia coli*, *Listeria monocytogenes*, *Citrobacter freundii*, *Hafnia alvei*, *Salmonella typhimurium*, *Bacillus cereus*, *Enterococcus faecalis*, *Enterobacter aerogenes*, *Staphylococcus aureus*, *Proteus vulgaris* and some species of yeasts: *Kluyveromyces marxianus var. lactis*, *Sacharomyces cerevisiae*, *Candida parapsilosis*, *Torulaspota delbrueckii*, *Pichia kluyveri*, *Rhodotorula rubra* *Debariomyces hansenii*, *Trichosporon cutaneum*).

Studying the bactericidal properties of plant extracts by the method of diffusion into agar, the effectiveness of substances dissolved in ethanol and water was investigated. Single extracts have been found to inhibit the growth of some bacteria species, yet there have been no effects of the solvent determined on the bactericidal properties of the extracts in general.

The extracts under study and a suspension of microorganisms were added to a liquid broth of triptone - soya and kept at optimum temperature. The examination of the number of cells, has shown a divergent effectiveness of separate extracts with respect to the microorganisms. The extract of *Hypericum perforatum* had contributed to the killing of all the *S. aureus* cells, while the extract of *Rhaponticum carthamoides* leaves had no effect on the growth of *B. cereus*.

The influence of some plant extracts on some species of yeasts was studied using the method of diffusion into agar. The extracts of *Mentha piperita* have been found to be of the highest activity, while the extracts of *Origanum vulgare* did not inhibit the growth of yeasts.

Keywords: plant extracts, essential oils, antimicrobial activity, food safety.