

Antimicrobial Activity of Sour Cherry Pomace

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Abstract : Due to high content of bioactive compounds, sour cherry possesses antioxidant and antimicrobial activity. Additionally, waste material from industrial processing of sour cherry is also a good source of bioactive compounds. The aim of this study was to screen the antimicrobial activity and determine the minimal inhibitory (MIC) and minimal bactericidal concentrations (MBC) of sour cherry pomace extract. Tested strains were Gram-negative bacteria (*Escherichia coli* ATCC 25922, *Salmonella typhimurium* ATCC 14028 and wild isolates *Escherichia coli* and *Salmonella* sp.), Gram-positive bacteria (*Staphylococcus aureus* ATCC 11632, *Bacillus cereus* ATCC 10876 and wild isolates *Staphylococcus saprophyticus* and *Bacillus* sp.) and yeasts (*Saccharomyces cerevisiae* 112, Hefebank Weihenstephan and *Candida albicans* ATCC 10231). Antimicrobial activity was tested by disc-diffusion method and agar-well diffusion method. MIC and MBC were determined by microdilution method. Screening tests showed that Gram-negative bacteria were resistant to tested extract, with exception of *Salmonella typhimurium* and *Salmonella* sp. for which only zones of reduced growth appeared. However, Gram-positive bacteria were more sensitive where the highest clear zones appeared with 100 µl of extract applied. There was no activity against tested yeasts. MIC and MBC values were in the range 3.125-37.5 mg/ml and 6.25-100 mg/ml, respectively. The most susceptible strain was *Staphylococcus aureus* while the most resistant was *Bacillus* sp. where MBC was not found in tested concentration range. Sour cherry pomace possesses high antibacterial potential, which indicates that this waste material is a promising source of bioactive compounds and could be used as a functional food ingredient.

Keywords : antimicrobial activity, sour cherry, pomace, bioactive compounds

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