

**PHYTOCHEMICAL SCREENING AND  
ANTIMICROBIAL ACTIVITY OF *Citrus maxima* AND  
*Citrus limon* PEEL AND FRUIT EXTRACT**

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## ABSTRACT

### PHYTOCHEMICAL SCREENING AND ANTIMICROBIAL ACTIVITY OF *Citrus maxima* AND *Citrus limon* PEEL AND FRUIT EXTRACT

Citrus fruits contain nutrients and phytochemicals, secondary metabolites of plants that may be beneficial for the human health. Current research was conducted to investigate the phytochemical constituents in the citrus genus (*C.maxima* and *C.limon*). Phytochemical screening indicates the presence of reducing sugars, terpenoids, saponins, flavonoids and tannins. Both alkaloids and anthraquinones were completely absent. Total flavonoid content (TFC) values for *C.limon* juice was  $0.130 \pm 0.22$  mg/g while *C.limon* peel was  $1.567 \pm 0.54$  mg/g. Moreover, for *C. maxima*, it shown that its peel has  $3.383 \pm 0.92$  mg/g and its juice was  $0.176 \pm 0.59$  mg/g. Meanwhile, for total phenolic content (TPC), *C.limon* juice yield  $0.124 \pm 0.16$  mg/g and *C.limon* peel give  $2.008 \pm 0.12$  mg/g. For *C.maxima*, its juice yield  $0.240 \pm 0.04$  mg/g while for peel has  $0.931 \pm 0.14$  mg/g. Antimicrobial activity of ethanolic extract from citrus peel and juice was screened against three pathogenic bacteria *S.aureus*, *E.coli* and *B.subtilis* by using disc diffusion method. The highest antimicrobial activity was exhibited by the *C.limon* peel against *E. coli* with  $12.0 \pm 2.52$  mg/g ( $p=0.163$ ). While for *C.limon* juice possess highest antimicrobial activity against *S. aureus* with  $19.6 \pm 1.40$  mg/g ( $p=0.568$ ). The results obtained reveal that both citrus fruits rich in phytochemicals and antimicrobial activity, with that *C.limon* juice are highly recommended for the consumer due to its well known antimicrobial properties that help fights against problem related to throat infection. Vitamin C that consists in *C.limon* also helps to promote immunity and fight infection.