

ANALYSIS OF NITRILE COMPOUNDS BY BRANCH OF
GENERAL ORGANIC CHEMISTRY FUNGAL PATHOGENS

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**INHIBITORY OF PHENOLIC COMPOUNDS ON GROWTH OF SEVERAL
TROPICAL POST-HARVEST FUNGAL PATHOGENS**

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ABSTRACT

A study was conducted to determine the influence of five phenolic compounds namely caffeic acid, cinnamic acid, 3-hydroxybenzoic acid, vanillic acid and gallic acid on mycelial growth of post-harvest pathogens of *Fusarium* sp., *Curvularia lunata*, *Colletotrichum gloesporioides* and *Glomerella cingulata* under laboratory conditions. It is found that cinnamic acid exhibits greater inhibitory effects compared to other phenolic compounds such as caffeic acid, vanillic acid, 3-hydroxybenzoic acid and gallic acid. It completely inhibited mycelial growth of both *C.lunata* and *C.gloesporioides* fungicidally at concentration of 10 mM, *G. cingulata* at concentration of 20 mM while giving fungistatic effect to *Fusarium sp.* at concentration of 40 mM. Gallic acid was generally less inhibitory than other compounds used. It only showed fungistatic activity to *G.cingulata*, *C. lunata*, *C.gloesporioides* and *Fusarium sp.* at concentration more than 40 mM. The results of this study reveal the potential application of cinnamic acid as an antifungal agent to protect produce from post-harvest pathogen. Being natural compound and environmental friendly, these compounds potentially provides an acceptable antifungal agent that acceptable by consumer that prefers healthy lifestyles.