## Abstract:

Antifungal activity of cold-tolerant Eucalyptus darlympleana was evaluated against postharvest pathogens of kiwifruits- Botrytis cinerea, Botryosphaeria dothidea, and Diaporthe actinidiae – to screen effective natural substances as an alternative to chemical fungicides. Methanol extract of the tree showed strong antagonistic activity against all the three pathogens. For chemical identification of the antifungal substances, the methanol extract was successively partitioned with CH2C12, EtOAc, n-BuOH and H2O. Four compounds were purified from EtOAc fraction subjected to SiO2 column chromatography. Phenolic and flavonoid compounds were elucidated by 1H-NMR and 13C-NMR spectroscopy. Antifungal activity of phenolic compound - gallic acid- was evaluated with gradient concentrations of 1, 10, 100, 1,000, and 5,000 µg/ml. Aerial mycelium growth and spore germination of the pathogens were strongly inhibited by the phenolic compound. This is the first report on the isolation of gallic acid from E. darylmpleana, which has strong antifungal activity against mycelium growth and spore germination of B. cinerea.