

## **Abstract**

Softening during ripening in climacteric fruit is generally attributed to degradation in cell wall assembly, particularly the solubilization of pectin. These changes could involve increased activities of various cell wall hydrolases. Their activity is believed to be regulated by ripening-related hormones and/or other signal molecules. Activities of pectin methyl esterase (PME), polygalacturonase (PG), pectate lyase (PL) and cellulase in banana cv. dwarf cavendish fruit were measured over a period of 7 days after ripening was initiated with ethylene. Effects of treatments with 1-methylcyclopropene (1-MCP), abscisic acid (ABA) and indole acetic acid (IAA) on activities of these hydrolases were measured in order to help elucidate their roles during banana ripening. Ethylene stimulated activities of all four enzymes, at best differentially. 1-MCP and IAA suppressed the ethylene effects. ABA stimulated activities of all hydrolases except polygalacturonase. ABA stimulation was most evident for pectate lyase. Thus ethylene plays a major role in up-regulating the activities of various cell wall hydrolases. In contrast IAA suppresses their activity. ABA can enhance softening with or without ethylene.