

Abstract

Banana fruit (*Musa acuminata* AA Group cv. Sucrier) were coated with 20% polyethylene parafilm wax and held at 29-30°C. Surface coating prevented the early senescent peel spotting, typical for this cultivar, but had no effect on ethylene production and respiration. The positive effect of surface coating on peel spotting was accompanied by reduced *in vitro* phenylalanine ammonia lyase (PAL) activity and total free phenolics in the peel but had no effect on polyphenol oxidase (PPO) activity. Cinnamic acid and dopamine were mainly phenolics detected in the peel. Both cinnamic acid and dopamine were high in early ripening bananas without spotting and they significantly decreased upon development of severely senescent spotting. Surface coating considerably reduced cinnamic acid content but significantly increased dopamine content. We conclude that senescent spotting of banana peel requires high oxygen levels and dopamine may be the main substrate for browning reaction leading to development of senescent peel spotting.