

**Title** Effect of heat treatment on ripening and senescent spotting of banana  
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#### **Abstract**

The effect of heat treatment on senescent spotting and quality in 'Sucrier' bananas (*Musa acuminata*, AA Group), locally known as 'Kluai Khai', show peel spotting when the peel is just about as yellow as green which coincides with optimum eating quality. Early spotting is considered undesirable, especially for export markets. Bananas ripened at colour index 3-4 were heated at 42°C (70-75% RH) for 0, 6, 12, 18 and 24 hours. After heat treatment banana were transferred to room temperature (25°C, 90-95% RH). Bananas heated at 42°C for 18-24 hours controlled effectively senescent spotting. Eating quality of bananas heated at 42°C for 24 hours was not acceptable, while those heated at 42°C for 18 hours had an acceptable eating quality. Heat treatment had no significant effect on titratable acidity and pulp firmness but had significant effect on soluble solids and peel firmness. Weight loss, malondialdehyde (MDA) content, ion leakage and total phenolics of bananas with heat treatment were higher than control bananas, while polyphenol oxidase (PPO), phenylalanine ammonia lyase (PAL) and lipoxygenase (LOX) activities of bananas with heat treatment were lower than control bananas. Dopamine content in the peel of banana fruits in the control bananas declined more rapidly than that of bananas with heat treatment.