Abstract:

Green mature mangoes (cv. Kensington Pride) harvested from the Bundaberg district (south east Queensland, Australia) were treated with 0, 10, 100 and 1000 μL L-1 ethylene at 90 - 95% relative humidity using a flow-through system at 15oC, 20oC, or 25oC for 24 h or 72 h, and then ripened at the same treatment temperature. The time (days) for fruit to reach the eating soft stage, and the skin colour and flesh acidity of the ripe fruit were recorded. At 15oC, ripe fruit had more green colour on the skin compared to those at 20oC and 25oC. There was little effect of ethylene treatments on the amount of green colour when ripened at 15oC, although ethylene treatment for 72 h resulted in more rapid softening and higher flesh acidity. At 20 and 25oC, treatment with 10 μL L-1 ethylene and above reduced the amount of green colour on the skin when ripe. With 24 h treatment, increasing ethylene concentration from 10 μL L-1 to 1000 μL L-1 caused no significant change in the green colour and flesh acidity. With 72 h treatment however, increasing ethylene concentration resulted in significantly more green colour on the fruit skin, and higher flesh acidity. The treatment which resulted in the least amount of green colour on the skin of ripe fruit was 10 μL L-1 ethylene at 20oC for 72 h. To minimise the amount of green colour in the ripe fruit, temperatures above at least 15oC, and exposure to low ethylene concentrations for about 72 h, are recommended.