Quality of cherry tomato is best when the fruit harvested nearly full-ripe stage, however full ripe fruit was rapidly soften and lead to short the shelf-life. In this study, we investigated the effect on postharvest quality in full-ripe cherry tomato by 1-MCP and calcium chloride treatment.

Firstly, the optimization of each 1-MCP and calcium chloride concentrations in cherry tomato were performed at 10, 100, 500 ppb and 0.5, 2.0, 6.0%, respectively. We treated fruits with chosen concentrations such as 500 ppb of 1-MCP and 2.0% of calcium chloride which were effective to delay the discoloration and softening of cherry tomato. Next, the fruit was treated 1-MCP, calcium chloride, and combined 1-MCP and calcium chloride at 10°C. We investigated their respiration rate, physicochemical factors, antioxidant ability, and cell wall metabolism. There were slight significant changes of all treatments on respiration rate and ethylene production since the cherry tomato was already approached to ripening stage. However, the maintenance of firmness and color in 1-MCP treated fruit was longer than others. The overall physicochemical factors of 1-MCP, calcium chloride and combination treated fruits had higher than control. Our results suggest that 1-MCP can be show the effect to prolong the postharvest quality of cherry tomato in the advanced ripeness stage.

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