

Title The study on ventilation store with refrigerating and wetting
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Abstract

A ventilating storehouse with refrigerating and wetting system can lower the temperature with the cold source in nature or with the cold machine in system, and increase the humidity. The thermal resistance of the storehouse is $5.07 \text{ m}^2 \cdot ^\circ\text{C}/\text{w}$. The average wind velocities in the storehouse are: 0.054 m/s (no machine), 0.105 m/s (ventilating with machine) and 1.633 m/s (refrigerating). The storehouse temperature can decline to the -5°C below, control accuracy is $\pm 0.1^\circ\text{C}$. The humidity in the building can rise to 99%, control accuracy is $\pm 2\%$. Citrus store in the ventilating storehouse with refrigerating and wetting system, the rate of respiration is lower than store in the ventilation storehouse, the rate of decay is less than store in the ventilating storehouse, quality and flavor are better than store in the ventilating storehouse. When store in the ventilating storehouse with refrigerating and wetting system, the rates of respirations are 4.29 mg/kg·h (Jincheng) and 2.34 mg/kg·h (Ponkan), the rates of decay are 6.32% (Jincheng store 150 days) and 5.39% (Ponkan store 120 days) is, when Jincheng store 150 days, organic acid is 0.58 g/100ml, sugar is 8.33 g/100ml, vitamin C is 41.11 mg/100ml, when Ponkan store 120 days, organic acid is 0.22 g/100 ml, sugar is 6.41 g/100 ml, vitamin C is 15.62 mg/100ml.