FRESH-DEMO PEACHES TESTING

FRESH-DEMO aims at evaluating a technique of fruit and vegetable conservation based on ultrasonic humidification technology, combined with natural water acidifier, to preserve quality and freshness of fruits and vegetables along the entire post-harvest supply chain and to contribute to food waste prevention.

Peaches Case study

In a case study performed with peaches the peaches were harvested in Italy and transported to northern Netherlands. After delivery they were stored at +5°C to simulate the temperature of the average consumer's fridge until end of shelf-life. This was done under conventional conditions (only cooled) and with ultrasonic humidification as well as with additional acidifier treatment.

What is ultrasonic humidification technology?

The ultrasonic humidifier produces tiny aerosols with a diameter of 0.001-0.002 mm. A frequency of at least 1 MHz is then generated to produce waves which detach the aerosol droplets from the water surface via mechanical vibration (or ultrasonic sound). The aerosols are removed via an air flow in the humidifier after which they mix quickly with the ambient air. Because of the small diameter, the aerosols create a mist floating over the produce, thereby prolonging the shelf life and improving the quality of the products.

humidified storage *conventional storage*

After day 15 of storage conventional stored peaches offered first decay and non-equal areas on the surface (black marked area on (right picture). Humidified stored peaches (left) did not have any decay or non-equal structures.

Results of the Peaches Case study

All humidified and acidifier treated peaches proofed of significantly better quality and freshness than the control peaches.

- Higher product quality (sensory – fresh appearance, smell, taste)
- The vitamin C content over storage increased about 14%
- Minimised weight loss by 3%
- Extension of (shelf) life, total number of cells is minimized up to 10%

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