



FRESH-DEMO ASPARAGUS 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.

Asparagus Case study

Asparagus is considered a very sensitive product with high water content and therefore short shelf life. During the tests, the products were delivered directly after the harvest and stored according to three methods: conventional dry storing, conventional wet storing with towel and humidification. Storage happened at 5°C for at least 7 days.

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.



Wet storage humidified storage dry storage

The humidified stored asparagus demonstrate typical colour and fresh appearance. The wet and the dry stored asparagus display brown areas on the surface. Especially the dry stored asparagus exhibit many brown areas as well as loss of structure.

Results of the Asparagus Case study

All humidified stored asparagus offer significantly better quality and freshness than both control groups:

- Minimized weight loss up to 4%
- Longer shelf life and reduced microbiological growing
- Stability in drying matter by optimized ambient humidity
- Better taste, flavour and fresher appearance