Field Test of Apple Storage with Bluezone Fresh Preservation Technology

Bluezone's ultraviolet enhanced oxidation technology is a breakthrough approach to air purification; Bluezone kills or converts chemical and biological impurities inside a self-contained reaction chamber using both oxidation and ultraviolet irradiation.

Objective

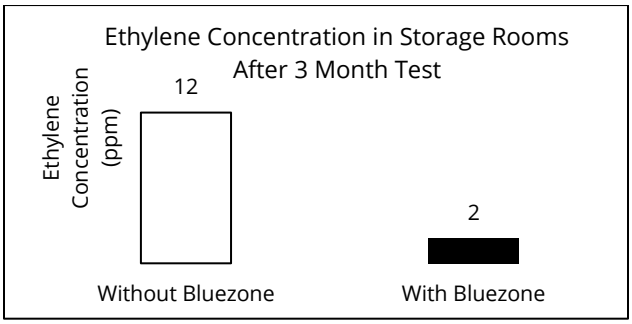
Compare the ethylene concentration and quantity of marketable apples in cold storage rooms with and without Bluezone.

Methods and Materials

- Untreated Pinova Standard apples were stored in a climate-controlled storage facility for 3 months.
- Apples were divided between a storage room with Bluezone and a storage room without Bluezone.
- Both storage rooms were set to 3°C and 95% relative humidity. The temperature and ethylene content of the air were taken every week on Monday and Thursday. The ethylene concentration was checked using a Dräger X-am 5000.

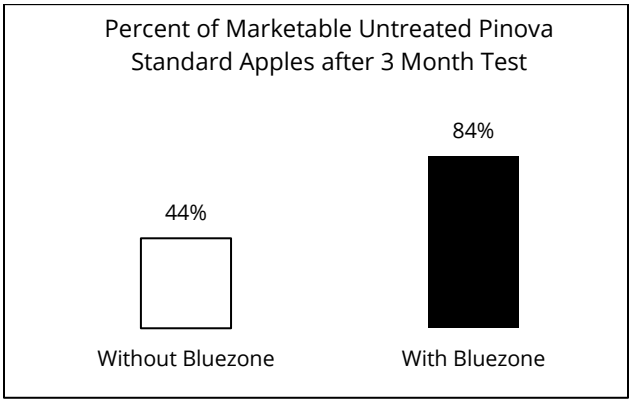
Test Results for Ethylene

The storage room without a Bluezone saw a marked increase in ethylene concentration, most likely because the apples released ethylene (apples are ethylene producing fruits). The room with a Bluezone was able to maintain a very low ethylene level despite the apples constant rate of release.



Test Results for Apples

After 3 months of storage, there were 84% marketable Untreated Pinova Standard apples in the room with Bluezone and only 44% in the room without.



Conclusion:

By destroying ethylene, Bluezone can maintain very low ethylene concentrations despite apples continuous production of ethylene into the contained storage room. The storage room with a Bluezone nearly doubled the amount of marketable Untreated Pinova Standard apples compared to storage room without a Bluezone.

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