FRUIT OBSERVER

BESSELING GROUP
CONTROLLED ATMOSPHERE

DYNAMIC CONTROLLED ATMOSPHERE

Besseling Fruit Observer

The market price for fruit and vegetables is primarily determined by quality, supply and demand. But how do you maintain the best quality in your products until the most suitable moment? Simple: by opting for storage under Controlled Atmosphere (CA) conditions. By using CA the physiological processes in the stored product are slowed down resulting in an extended storage life. During the last couple of years the concept of CA has evolved and refined more and more which led to the introduction of new storage concepts and technologies such as Dynamic Controlled Atmosphere and the Fruit Observer.

The Besseling Fruit Observer determines the physiological condition of fruit and vegetables. Like humans fruit and vegetables respond to changes in their environment. When it is cold we get goose bumps and if there are not enough oxygen molecules in the air we gasp for breath. In fruit and vegetables we can see a reaction to the environment in the activity of chlorophyll, a substance which is naturally present in fruit, vegetables and plants.

The activity is measured by chlorophyll fluorescence, a natural phenomenon. Chlorophyll fluorescence changes rapidly when anaerobic respiration has been triggered due to lack of oxygen. Once the anaerobic point has been detected by the Fruit Observer the oxygen level has to be increased to a safe level so fruit and vegetables will return to aerobic respiration. By determining the lowest possible level you can store above this threshold and avoid harmful stress or even worse…

Low oxygen levels have proved their effectiveness during the storage of fruit and vegetables. The lower the oxygen level, the less the fruits respire and the less they deteriorate in quality. Moreover, disorders like scald can be

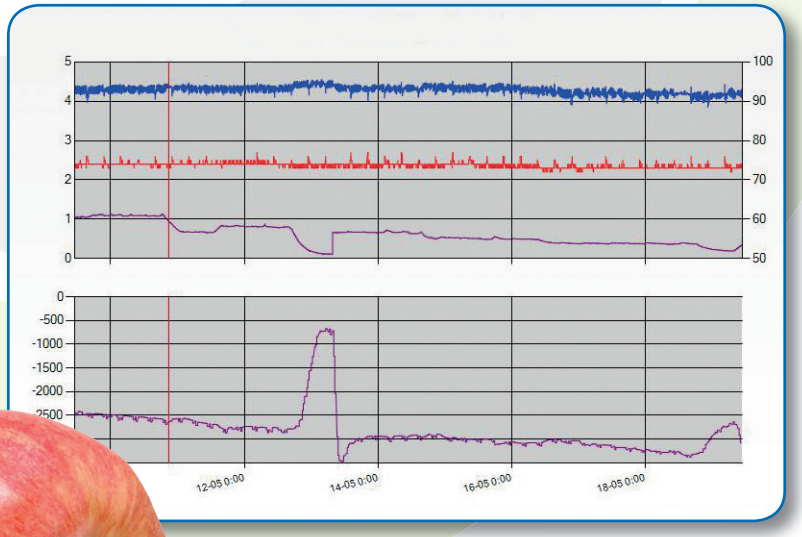
reduced significantly. There is however a lowest limit to the oxygen level. The lowest possible oxygen level differs dependent on variety, season and the quality of the fresh produce.

The Fruit Observer™ software provides continuous information about the physiological condition of the observed fruit and vegetables. The initial screen of the software is split into two graphs showing:

1. Actions - levels of O_2, CO_2, temperature and relative humidity
2. Reaction – chlorophyll response

The upper graph shows which parameter triggered the reaction of chlorophyll which is simultaneously displayed in the lower graph. This enables you to react adequately in order to prevent damage to your valuable produce. The Fruit Observer software operates stand-alone. This makes it possible to use the Fruit Observer technology also on projects equipped with other CA equipment brands.

Changes in the chlorophyll can also provide you valuable information about the quality of fruits and vegetables and helps you getting the best possible price for your produce.



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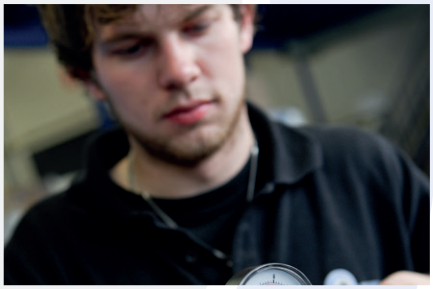
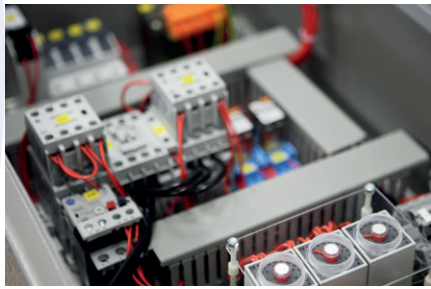


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THE ART OF STORAGE