## LOWEST POSSIBLE OXYGEN LEVEL USING THE FRUIT OBSERVER

Low oxygen levels have proved their effectiveness during the storage of apples and pears. The lower the oxygen level, the less the fruits respire and the less they deteriorate in quality. However, there is a lower limit to the oxygen level. The lowest possible oxygen level differs, dependent on variety, season and the susceptibility to rot of a batch of apples or pears.

The Netherlands-based company Besseling, which manufactures Controlled Atmosphere (CA) technology for the storage of, among other things, fruit, has recently started marketing the 'Fruit Observer', a system that allows fruit to be safely stored at extremely low oxygen levels. The Fruit Observer uses chlorophyll fluorescence measurements to determine the activity of the chlorophyll present in the fruits.

"When the oxygen level in the cold store becomes so low that the normal aerobic respiration of the fruit switches to anaerobic respiration, the Fruit Observer measures an increase in chlorophyll activity. This is a signal to raise the oxygen level in the cold store somewhat to ensure that the fruit does not start to produce alcohol. This allows the lowest possible oxygen level to be set for any cold store", explains André van Dienst, Besseling's Sales Executive.

Besseling is launching the Fruit Observer onto the market to control the oxygen level. In the future, the device could also possibly be used to determine other storage parameters, including $CO_2$, temperature and moisture content.

To measure the chlorophyll fluorescence, in each cold store two sensors are suspended above two different bins. A cold store requires two sensors, one $CO_2$ and one $O_2$ meter, and software. Besseling supplies the Fruit Observer as a standalone system without an obligatory service contract or a link to a particular cooling and/or CA system. *(GP, EFM)*


**André van Dienst (left) and Eric van der Zwet displayed the Fruit Observer during the Obstbautagen in Jork, North Germany.** *EFM*