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LET'S MEET







OUR TARGET





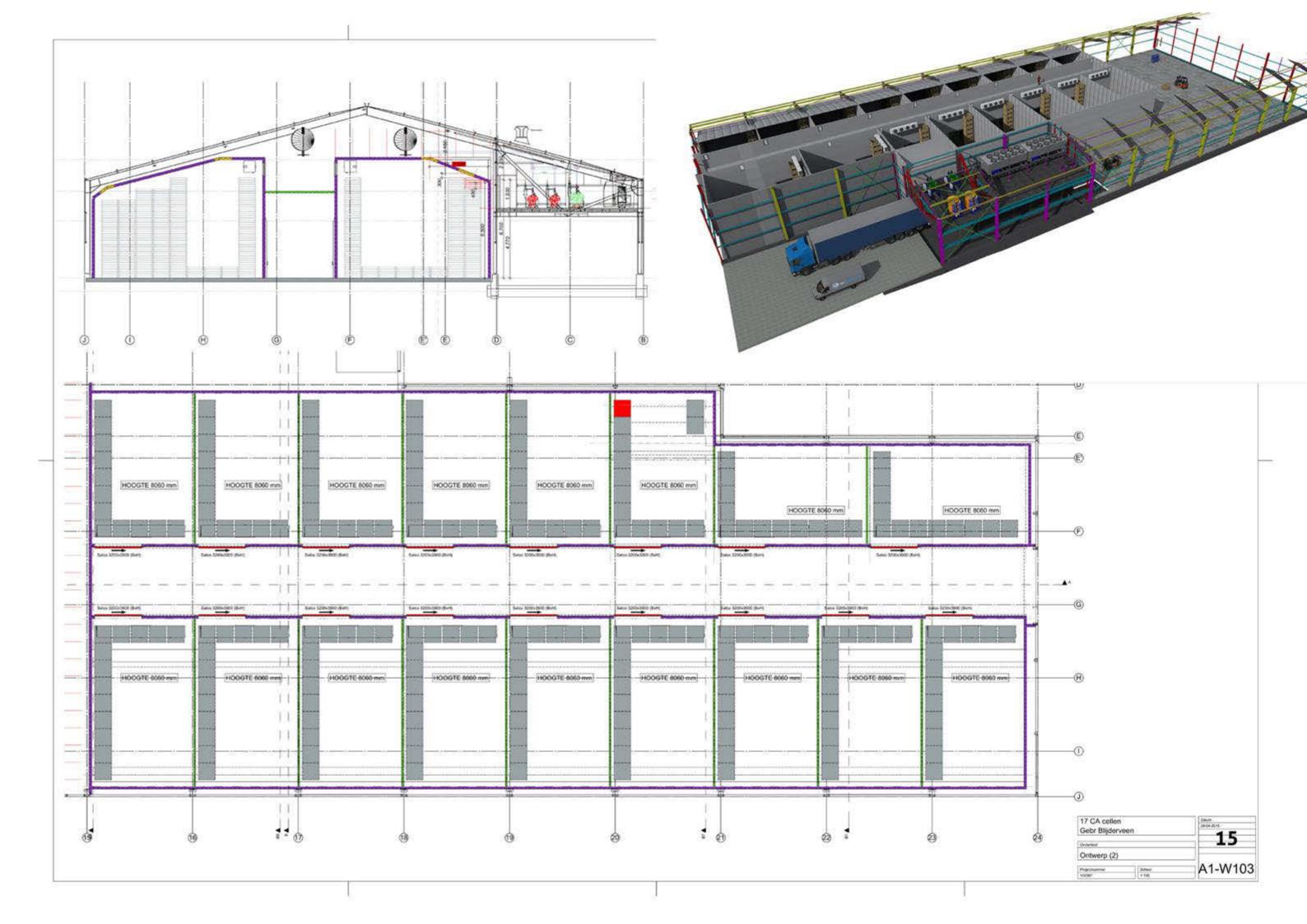




WHERE DOES IT HAPPEN















WE CAN OFFER YOU OUR PARTNERSHIP 3 PHASE CONSULTANCY

PHASE 1: FEASIBILITY & DESIGN

- INVESTMENT, RUNNING COST, EFFICIENCY
- CALCULATING LOADS AND CAPACITIES
- COOLING, CA, FREEZING, RIPENING, SORTING & PACKING, ETC
- CONSOLIDATED IN A TERMS OF REFERENCE

PHASE 2: TERMS OF REFERENCE

- CALCULATING LOADS AND CAPACITIES
- . COOLING, CA, FREEZING, RIPENING, SORTING & PACKING, ETC
- CONSOLIDATED IN A TERMS OF REFERENCE

PHASE 3: READY-2-BUILD

- TERMS OF REFERENCE TRANSLATED TO 2D/3D DRAWINGS
- FITTING ALL DISCIPLINES IN 1 PLAN
- READY-2-BUILD PLAN CAN BE USED TO HIRE ANY BUILDING CONTRACTOR







FULL CONTROL IN 1 TOUCH

COMPARE THE SOFTWARE MODULES









Basic configuration

Max. number of stores (AUS)	16	X	Х	X
Max. number of sampling points (central)	8	28	56	112
Max. number of measuring stations	1	1	2	4
Max. number of Palliflex units	20	100	200	400
Max. stores for disinfestation (b-Cat)	2	8	16	32
Max. number of CO ₂ absorbers	1	4	8	10
Max. number of (V)PSA's	1	2	4	10
C ₂ H ₄ removal controlled by My Fruit	X	V.	4	√
Max. number of C ₂ H ₄ decomposers	1	4	6	12
ACR module activated	×	×	ACR1.0	ACR2.0
Max. number of ACR stores	X	X	32	64

Measurement and injection of gases

,				
Measurement and registration of O ₂ and CO ₃	V	√	√	✓
O ₁ meter 0-2.5% range	×	×	¥	V
O ₂ meter 0-25% range	V	4	√	V
Number of CO ₂ ranges	1	1	2	2
Measurement and registration of C ₂ H ₄	Х	×	V	√.
Extra sensors (including alarm/output)	5	10	15	32
CO ₂ absorption based online	Х	×	V	V
CO ₂ injection	✓	4	√	¥.
C ₂ H ₄ injection	X	V	V	V
Aeration based on CO ₃ values	✓	V	₩.	√.

Temperature control

Measurement of temperature in rooms	V	√	√	√	
Max. number of temperature sensors per room	2	4	6	10	
Rending In °F	V	V .	W	√	
Refrigeration control in cold stores	X	√	√	✓	
Max. number of relay groups refrigeration	X	3	9	18	
Machine room refrigeration controlled	×	×	4	√	
Max. number of refrigeration plants (machine rooms)	Х	X	1	4	
Control of suction pressure	Х	W.	₹	V	
Defrosting sensors	Х	√	√	√	
Pilot temperature sensor	X	v	V	✓	

Extras that make the difference

extras that make the difference				
Moisture loss measurement and registration	X	V	√.	√
Central measurement and registration of NH ₃	X	4	4	✓
Automatic room leakage test	X	V	4	√
CA flex programmable conditions	X	V	V	✓
My Fruit APP	. ✓	√	4	√











FULL CONTROL



Why Advanced Control of Respiration ACR?

Huge Energy savings

A lot of energy can be saved by storing products under ACR-conditions. Whenever an average oxygen value of 0,3% is compared to a standard ULO-condition of 1.5% oxygen(O₂), it comes to light that the rate of respiration (breathing) from fruit has declined by 300% (see fi gure 1). In short, fruit breathes much slower with lower oxygen values. This means that apples produce three times less heat, which results in far lower cooling costs.

"My investment in ACR really cuts back my running costs!"

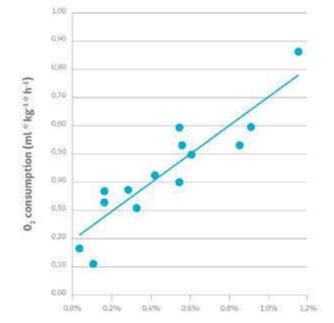


Figure 1: Lower oxygen values result in lower respiration rates (Elster apples). The trendline which is shown above is just indicative.

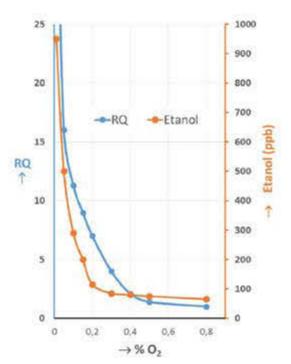


Figure 7. Incase oxygen levels are lowered down from 1,0% to 0.3-0.4%. the RQ -value will increase. And still, no alcohol production at all. For this reason, RQ is the perfect and early indicator for fermentation.

ACR gives early warnings

The aim of 'Dynamic storage systems' is to store products at the lowest possible oxygen value. This requires a lot of security for a storage system. Some systems use the measurement of alcohol as an indicator for upcoming fermentation. But as a matter of fact, we actually do not want to measure any alcohol at all. ACR measures in such a way that it is able to react, way before the product even starts the production of alcohol. In fi gure 2, a real-life example is shown:

A lower oxygen level creates a higher RQ-value, but no alcohol is produced. With 0% oxygen (not shown in the table), the RQ-value will rise infi nitely, This results into an alcohol value of more than 1000 ppb (parts per billion).

"ACR has proven to be reliable. No nonsense or assumptions, just facts"

Prevention of Scald

Anti-scald products, like DPA (di-fenyl amine) are forbidden in a lot of countries. A perfect alternative however, is low oxygen storage. As a rule of thumb, apples need to be stored in a low oxygen environment of 0,6% in order to prevent scald. The ACR system is perfectly suitable for creating this environment.

"Storage above 1.5%, that's a recipe for scald!"

Better quality during shelf life

20 years of research on the eff ect of ACR storage on the quality of apples during shelf life has shown that extremely low oxygen (<0.6%) results in retention of firmness and color. Even aft er two weeks of storage at 18°C, the positive eff ects of ACR will still be visible.

"The remarkable longer shelf life with ACR off ers big advantages for my customers".

Way of storage

1 week 18%

4.8

Figure 3. Firmness of Eistar apples during starage. The black and white stripes represent apples stored for 4 months. The green stripes represent apples directly after harvest. In both cases, the firmness was directly measured after one week of storage at 18°C.

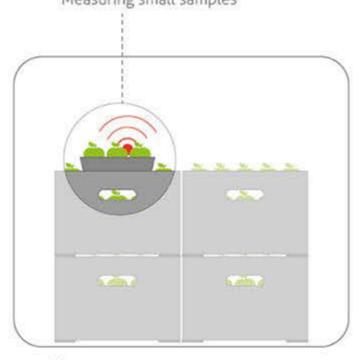
Calibration

The numbers tell the tale! Calibration (another term for standardization) of oxygen and CO₂ meters is a requirement for a proper functioning CA installation. Calibration takes place once a week; our My Fruit control system regulates this automatically, thanks to our three-point-calibration with a unique two calibration-ranges (0%-2,5% en 0%-25%). This makes our system one of the safest dynamic systems to exist. Other systems calibrate once a month or even once in a trimester. This is dangerously scarce, especially when fruit is stored at extremely low oxygen levels.





Measuring small samples

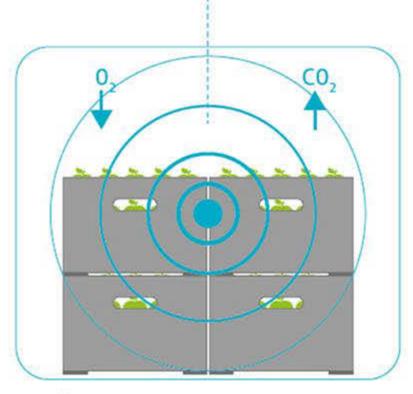


cold store

Competitive DCA system I Based on Fluorescence

Duscu off tuorescence

- Measurement on 6-24 fruits per cold store
- Only correlation between fluorescence & metabolism

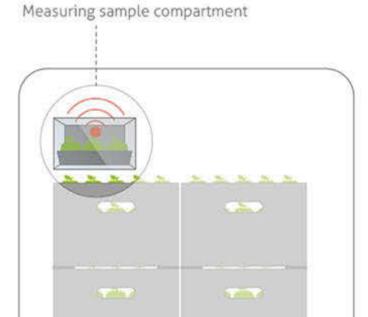


cold store

Van Amerongen system

Based on respiration / RQ

- Respiration quotient = RQ
- RQ = $\frac{[CO_2 \text{ production during elapsed time}]}{[O_2 \text{ uptake during elapsed time}]}$
- Measurement on whole room: average value
- Average value
- Fully automatic (manual possible)
- DCA integrated in standard control system
- Metabolism fully understood



cold store

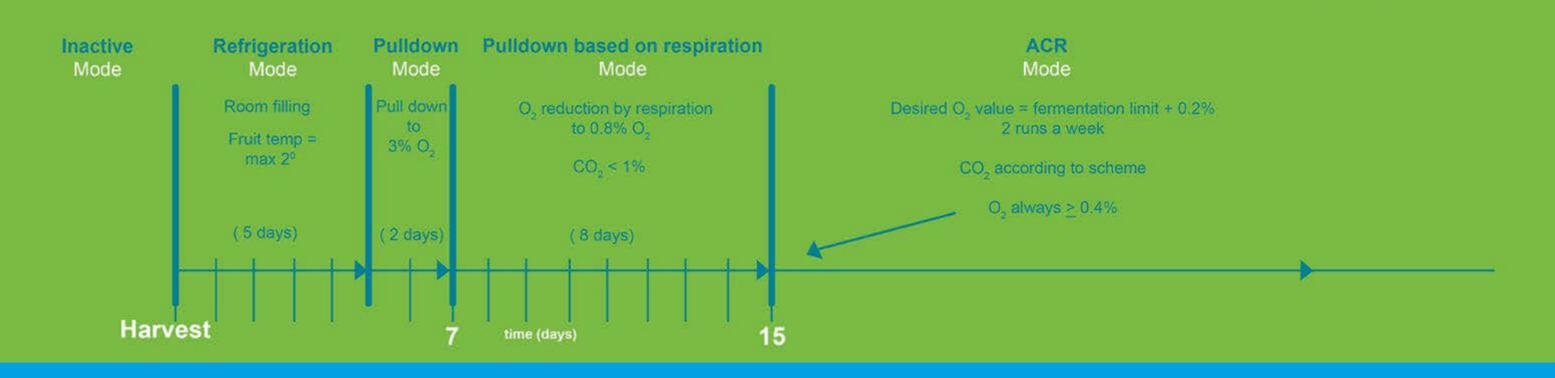
Competitive DCA system II Based on alcohol measurements

- Alcohol measurement; C,H,OH = Alcohol
- Ethanol samples taken from air
- Remetabolisation of alcohol problematic
- No direct cooling in compartment: condensation water
- No trustable, cheap alcohol meter available
- Late reaction: fermentation already started

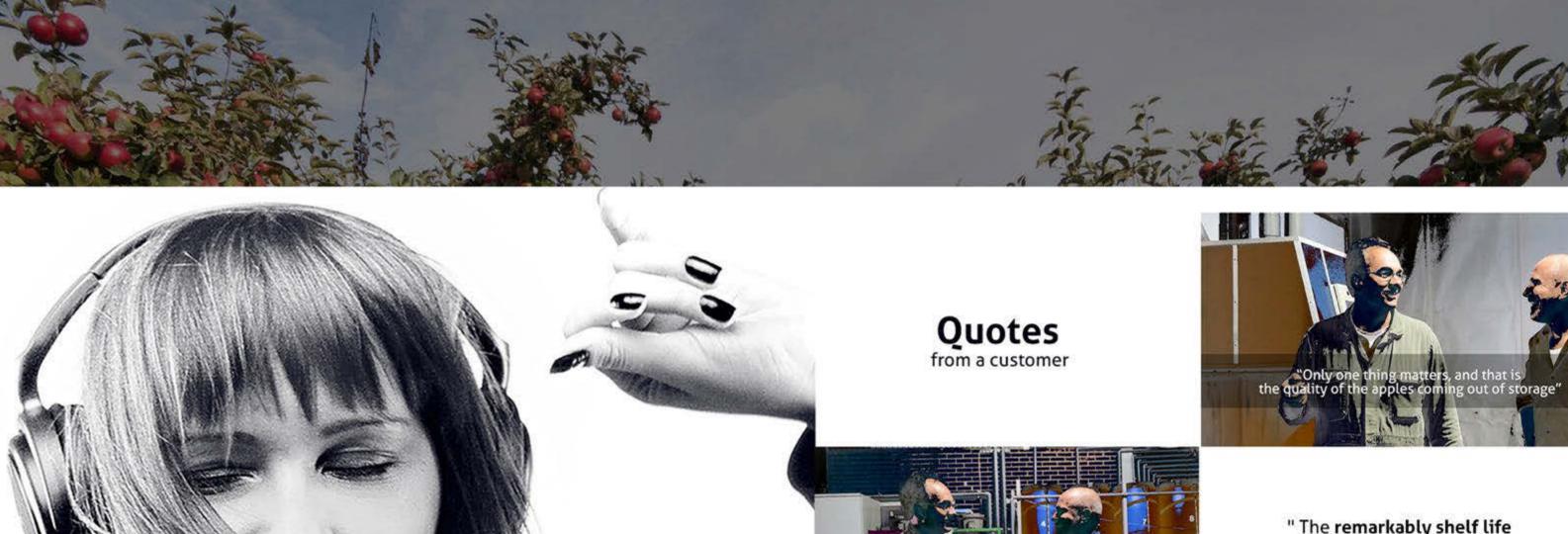
- Super gastight rooms leakage <0.15cm2/100m3
- Minimize product variation; no more than 4-5 lots of minimally 15% of the room tonnage

Example Protocol for Dynamic ACR



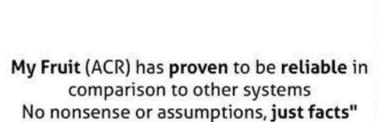


Notes: Based on mediterranean apple varieties: Granny Smith, Gala, Golden Delicious, Jonagold.



"The remarkably shelf life with My Fruit, offers big advantages for my customers"

have saved 25% on my energy bill last year"



Storage above 1.5% O, is a recipe for scald!"

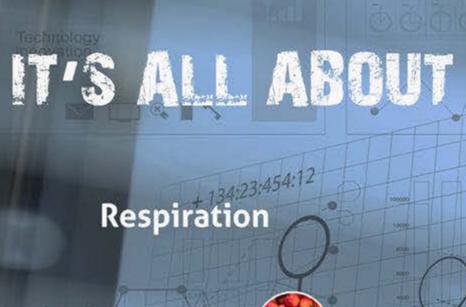


Quotes from a customer



My Fruit

WE ALL BENEFIT!



Moisture loss







Cooling



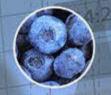
Engine room



Temperature Management

Energy consumption per Kg

Running costs per Kg





4:23:454:1

Complete Service

Machine Management



Distance Control

ADVANCED ANALYTICS

BIGDATA

My fruit, the best Fruit

CHANGING THE WAY THE BUSINESS WORKS

DATA IN

Operational efficiency, Cost reduction Reduced risk.

PROTOCOL OUT

Customers and users My Fruit, The best Fruit





CA STORAGE AND CONSTRUCTION

Experience our Knowledge, Quality & Commitment

YOU MAY LIKE US







