



# European pear varieties

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Proeftuin pit- en steenfruit

Proefcentrum Fruitteelt vzw – Proeftuin pit- en steenfruit (pcfruit vzw – pps)  
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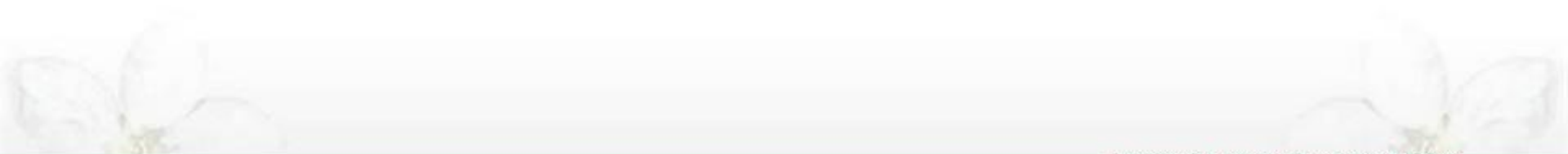
# Topics



- Pear varieties in Europe
- Variety trends in Europe
- New pear varieties in Belgium
- Experiences with new pear varieties in Belgium
  - Celina / QTee®
  - Cepuna / Migo®
  - Sweet Sensation®



# Pear production in Europe





# Pear production in EU-28

<b>x 1.000 Tons</b>	<b>1996</b>	<b>2015</b>	<b>2016*</b>	<b>%</b>
<b>Conference</b>	<b>529</b>	<b>967</b>	<b>918</b>	<b>-5</b>
<b>Abate Fetel</b>	<b>257</b>	<b>333</b>	<b>290</b>	<b>-13</b>
<b>Williams</b>	<b>347</b>	<b>283</b>	<b>252</b>	<b>-11</b>
<b>Rocha</b>	<b>-</b>	<b>134</b>	<b>135</b>	<b>+0</b>
<b>Doy. du Comice</b>	<b>158</b>	<b>87</b>	<b>76</b>	<b>-12</b>
<b>Coscia</b>	<b>65</b>	<b>79</b>	<b>66</b>	<b>-17</b>
<b>Dr. Guyot</b>	<b>168</b>	<b>74</b>	<b>58</b>	<b>-21</b>
<b>Blanquilla</b>	<b>286</b>	<b>44</b>	<b>37</b>	<b>-15</b>
<b>Others</b>	<b>775</b>	<b>392</b>	<b>339</b>	<b>-14</b>
<b>Total</b>	<b>2.585</b>	<b>2.394</b>	<b>2.170</b>	<b>-9</b>

2016: Estimation Prognosfruit



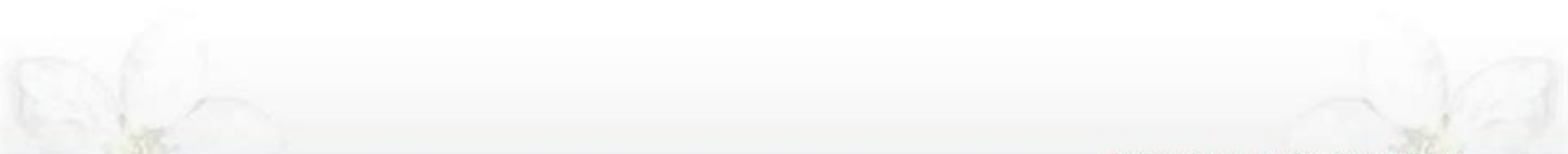
# Production of Conference in the EU-28 (x 1.000 tons)

Countries	1999	%	2016*	%
Belgium	142	23.0	306	33.3
Netherlands	95	15.4	290	31.6
Spain	159	25.7	147	16.0
Italy	136	22.0	62	6.8
Poland	36	5.8	40	4.4
France	35	5.7	30	3.3
UK	16	2.6	24	2.6
<b>Total</b>	<b>618</b>	<b>100.0</b>	<b>918</b>	<b>100.0</b>

2016: Estimation Prognosfruit



# Variety trends in Europe





# New pear varieties in Spain



**Celina / QTee® (71 ha)**



**Carmen**



**Angelys (55 ha)**

(Ignasi Iglesias – IRTA – Spain)



**Selena® / Elliot**



# Pear varieties in France

- Pear acreage decreases
  - 2002: 10.000 ha
  - 2010: 6.900 ha
- Williams and Dr. Guyot
- Pears are not important
- 54 ha Angelys
- Selena® (Elliot) in organic
- Sweet Sensation®
  - Small interest

2007: 7.450 ha  
2014: 5.500 ha



(Sandrine Codarin – CTIFL – France)

**Selena® / Elliot**





# New pear varieties in The Netherlands

- Sweet Sensation®: 200 ha
  - The Greenery
  - ⇒ 420 ha (?)
- Xenia® / Oksana:
  - Total 225 à 250 ha planted (in Europe)
  - Aim: ± 450 ha
  - 150 ha in The Netherlands
- Cepuna / Migo®: Enormous interest
  - Fruitmasters (EFC)
  - 370 ha by 2022 (= estimation)



**Sweet Sensation®**

(Marc Ravesloot – WUR – The Netherlands)

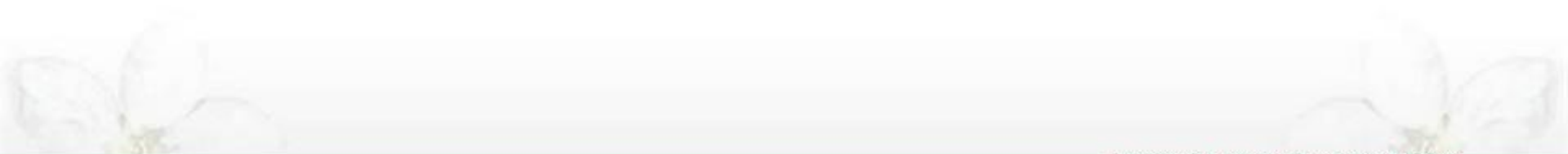


# Portugal = 99% Rocha





# New pear varieties in Belgium





# New pear varieties in Belgium

- Corina<sup>®</sup>: 100 ha (plant stop)
- Sweet Sensation<sup>®</sup>: 135 ha (⇒ 180 or 420 ha)
- Cepuna/Migo<sup>®</sup>: 20 ha ⇒ expectation/hope = 140 ha in 2022
- Celina/QTee<sup>®</sup>: 100 ha (+ 30 ha in 2017 / stop)
- Dicolor: ± 15 ha (also in CZ and UK)
- Xenia<sup>®</sup>/Oksana: 10 ha (?) ⇒ 100 ha
- Regal Red<sup>®</sup> Comice: 5 ha
- Dazzling Gold<sup>®</sup>/Uta: only trial parcel at BFV
- Queen's Forelle<sup>®</sup>/Thimo: ± 15 ha (2016) + 1 ha (2017)
- Early Desire<sup>®</sup>/Gräfin Gepa: ± 4 ha (2016) + 9 ha (2017)
- Red Modoc: 15.000 trees (2016) + 25.000 trees (2017)



# Experiences with new pear varieties in Belgium



*Celina/QTee®*



*Cepuna/Migo®*



*Sweet Sensation®*

(Research done with financial support of CMO)



# Sweet Sensation®

- Red clone of Doyenné du Comice
- Club-variety
- Good fruit set, but severe june drop
- Colouring can be a problem
- Same vigour as Comice
- Same harvest time
- Taste test with fruit growers
  - 6.4 (scale 1-9)



*Love at  
First Bite*





# Sweet Sensation

## Yield data

<b>Rootstock</b>	<b>Kg/tree</b>	<b>Fruit weight (g)</b>	<b>Kg/tree</b>
	<b>2016</b>	<b>2016</b>	<b>(2006-2016)</b>
<b>Quince Ad.</b>	<b>6.3</b>	<b>412</b>	<b>98.8</b>
<b>Quince C</b>	<b>5.9</b>	<b>399</b>	<b>99.4</b>

Planting year: 2005-2006

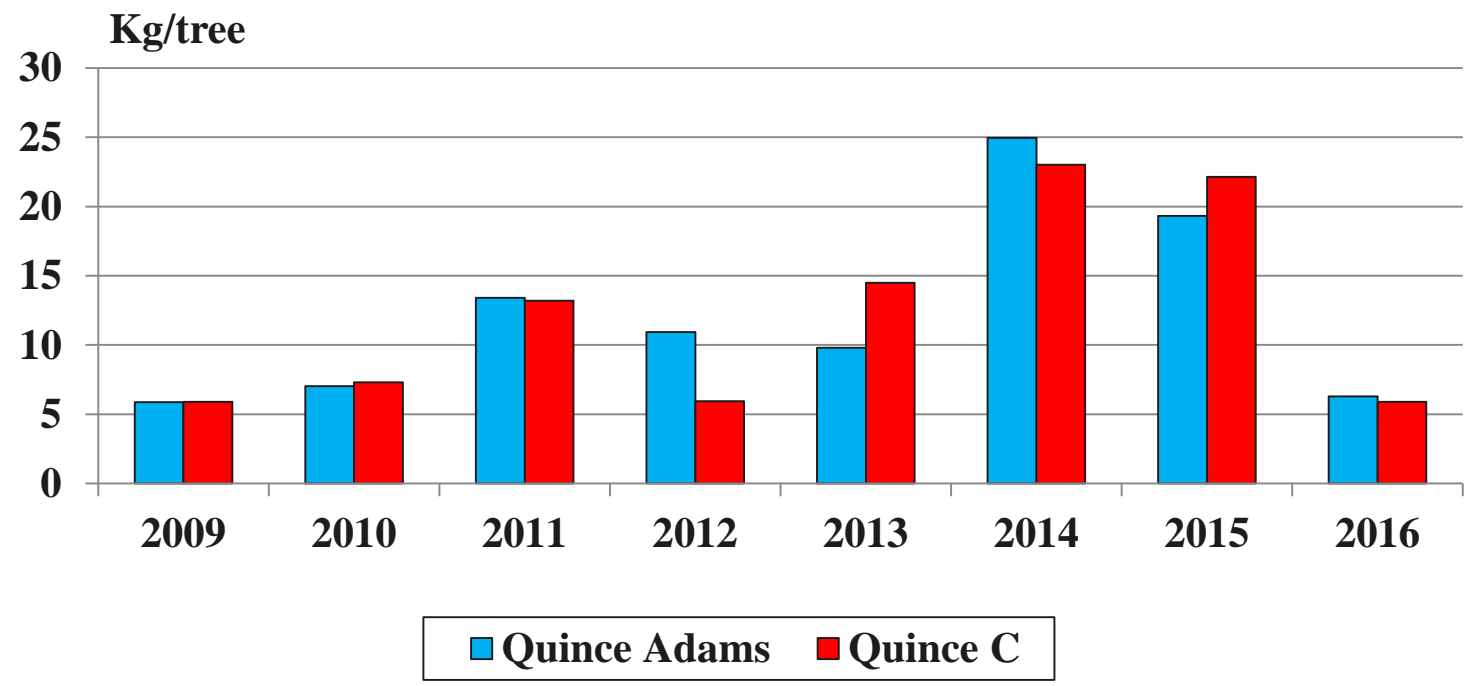
Rootstock: Quince C and Quince Adams

Planting distance: 3.50 x 1.50 m (1.714 trees/ha)



# Sweet Sensation

## Yield data (2009-2016)



Planting year: 2005-2006

Planting distance: 3.50 x 1.50 m





# Cepuna/Migo®



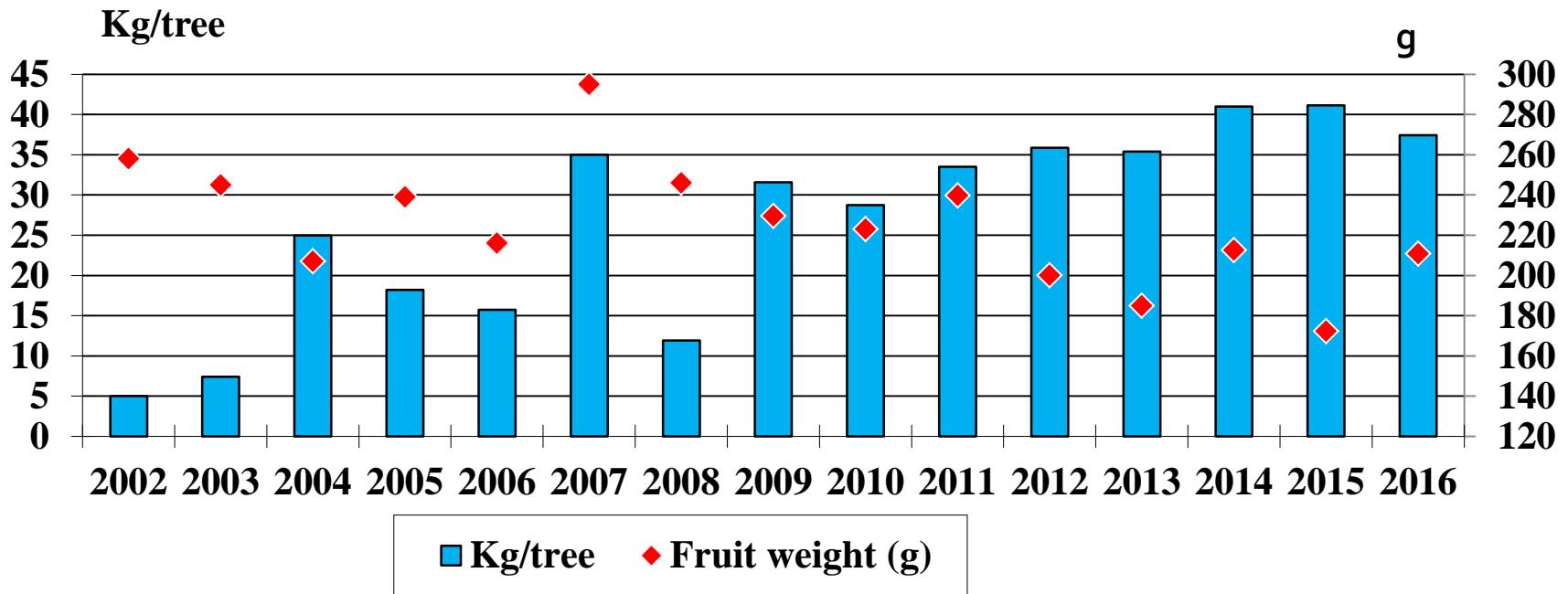
- Conference x Doyenné d'Hiver
- Angers (France)
- Harvest: immediately after Conference
- Productive, good fruit size
- Good storability and shelf-life
- Good taste, juicy
- Almost no russeting
- Problems with incompatibility on Quince C





# Cepuna/Migo®

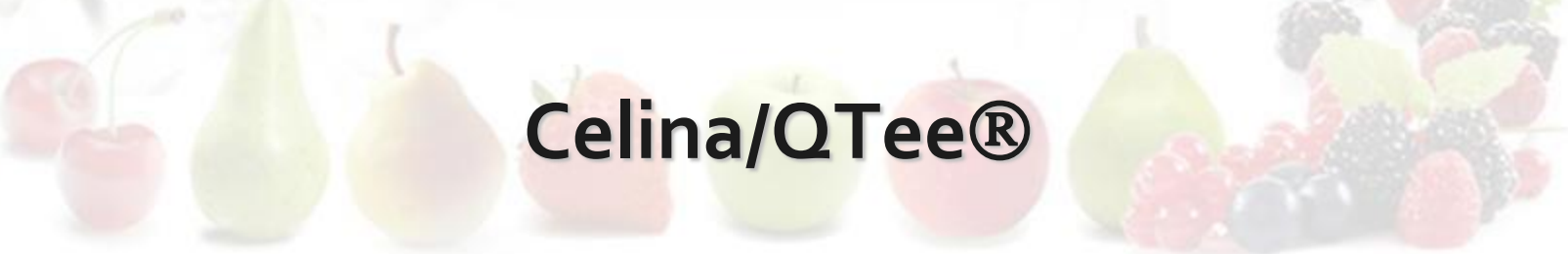
## Yield data 2007-2016



Since 2009 = 50 to 60 tons/ha

Planting year: 1999-2000

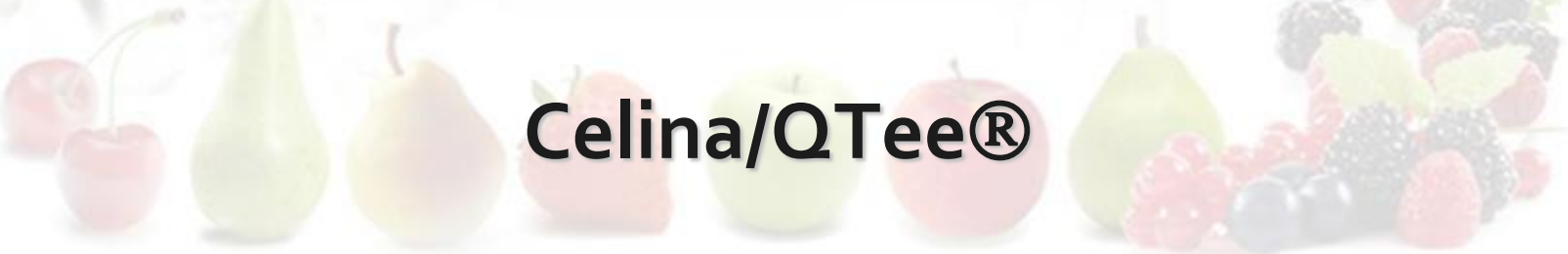
Rootstock: Quince Adams (B. Hardy)



# Celina/QTee®

- Colorée de Juillet x Williams
- Norway (Graminor)
- Productive
- Good fruit size (65-70 mm)
- Good taste, very attractive
- Early bloom
- Pollinators: Conference and Cepuna
- Hand thinning is necessary
- Needs open tree for colouring
- Second half of August (= Williams)





# Celina/QTee®

- Less susceptible to scab than Conference
- Very few second flowering
- Little susceptible to fire blight
- Not susceptible to Stemphylium vesicarium (Brown spot)
- Susceptible to Pseudomonas
- Susceptible to pear decline
- Susceptible to frost
  - Winter frost (in nursery)
  - Spring night frost



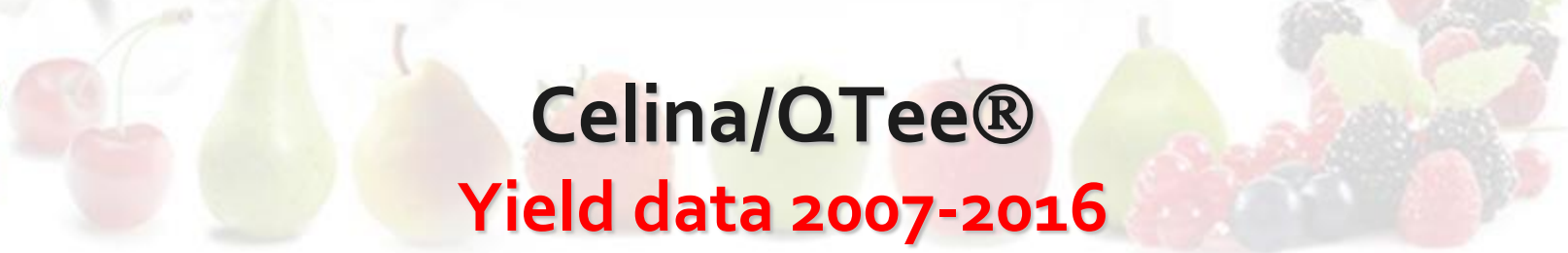


# Frost damage

## April 2<sup>nd</sup> 2012

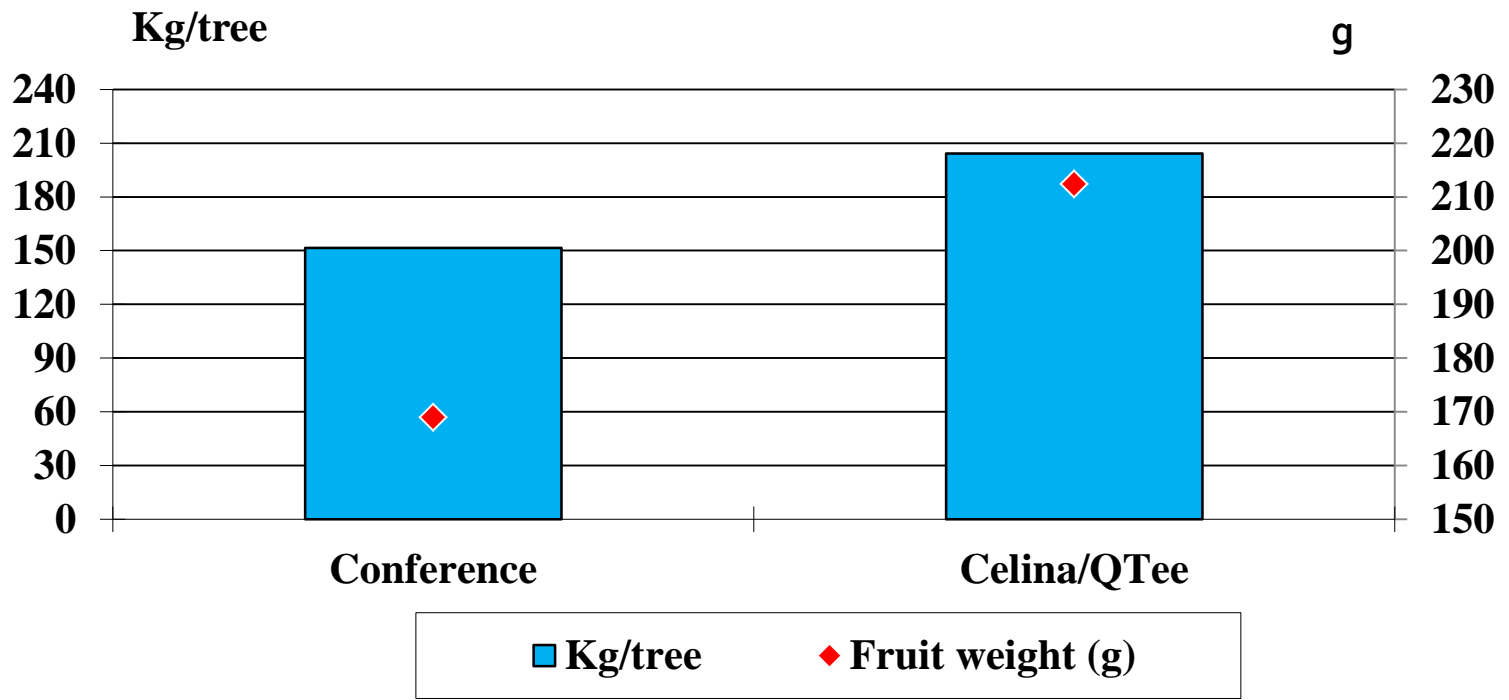
Variety	% good	% slightly damaged	% black
<b>Celina</b>	<b>15</b>	<b>28</b>	<b>56</b>
<b>Conference</b>	<b>41</b>	<b>18</b>	<b>41</b>
<b>Dicolor</b>	<b>11</b>	<b>21</b>	<b>68</b>
<b>Cepuna</b>	<b>76</b>	<b>0</b>	<b>24</b>
<b>Queen's Forelle</b>	<b>68</b>	<b>0</b>	<b>32</b>
<b>Xenia</b>	<b>47</b>	<b>2</b>	<b>51</b>

The temperature dropped to - 4°C in the night of March 31<sup>st</sup> to April 1<sup>st</sup>.



# Celina/QTee®

## Yield data 2007-2016

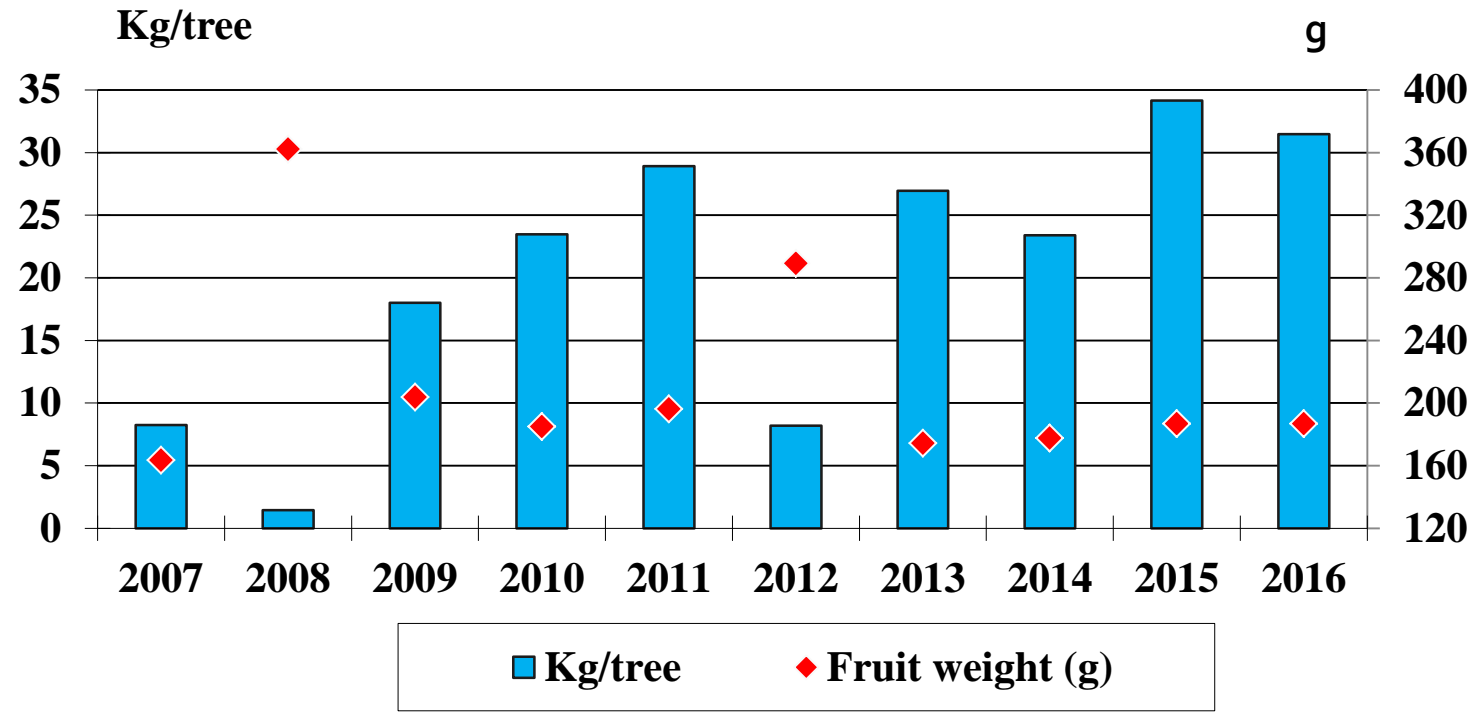


Planting year: 2005-2006  
Rootstock: Quince C (Condo)  
(Conference on Quince Ad. (Condo))



# Celina/QTee®

## Yield data 2007-2016



Planting year: 2005-2006

= 50 to 60 tons/ha

Rootstock: Quince C (Condo)

(Conference on Quince Ad. (Condo))

# Celina/QTee®

## Vigour

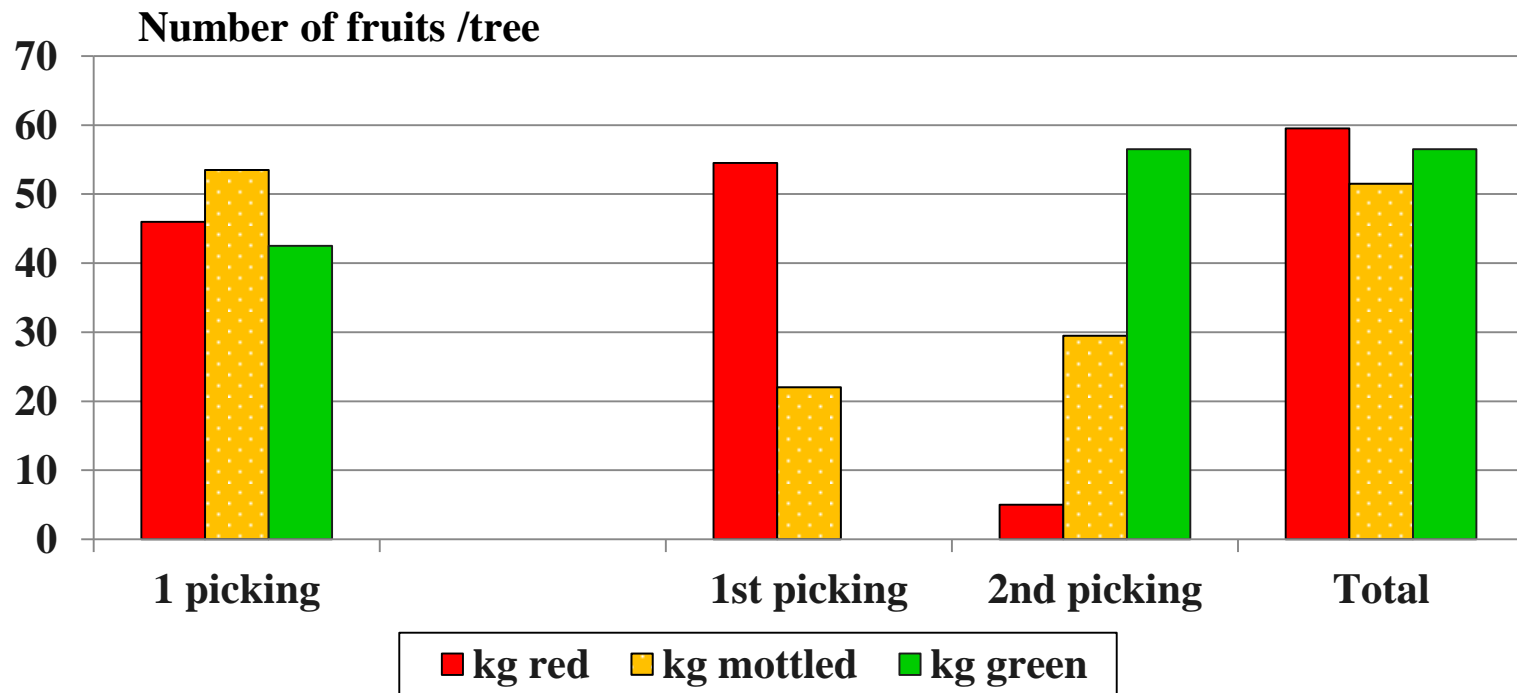
- Moderate to strong vigour
- Plant not too deep
- Fruits must be exposed to the light to have a good colouring  
⇒ open tree
- Summer pruning?







# Celina/QTee® Colouring 2013



Planting year: 2005-2006

Rootstock: Quince C (Condo)

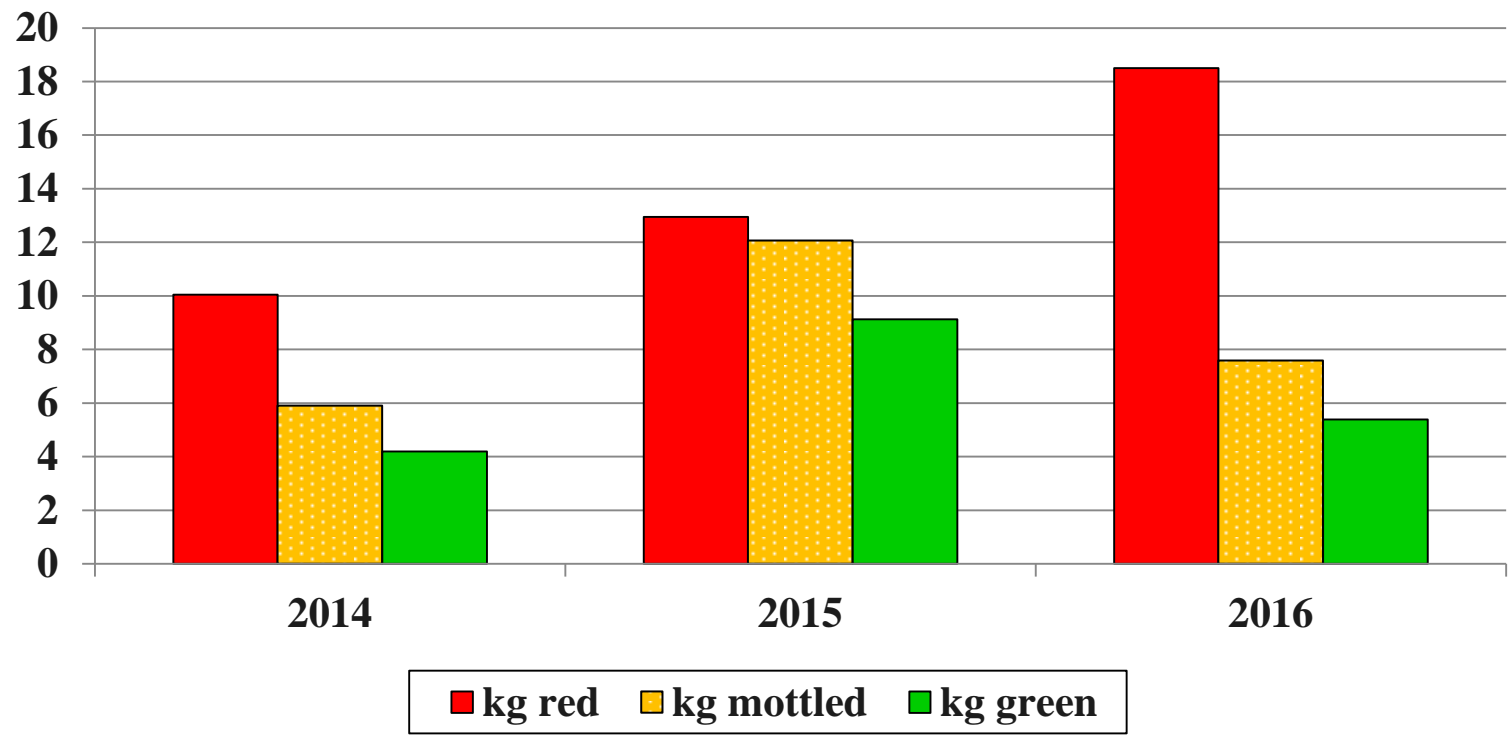
(Conference on Quince Ad. (Condo))



# Celina/QTee®

## Colouring (2014-2016)

**Kg/tree**

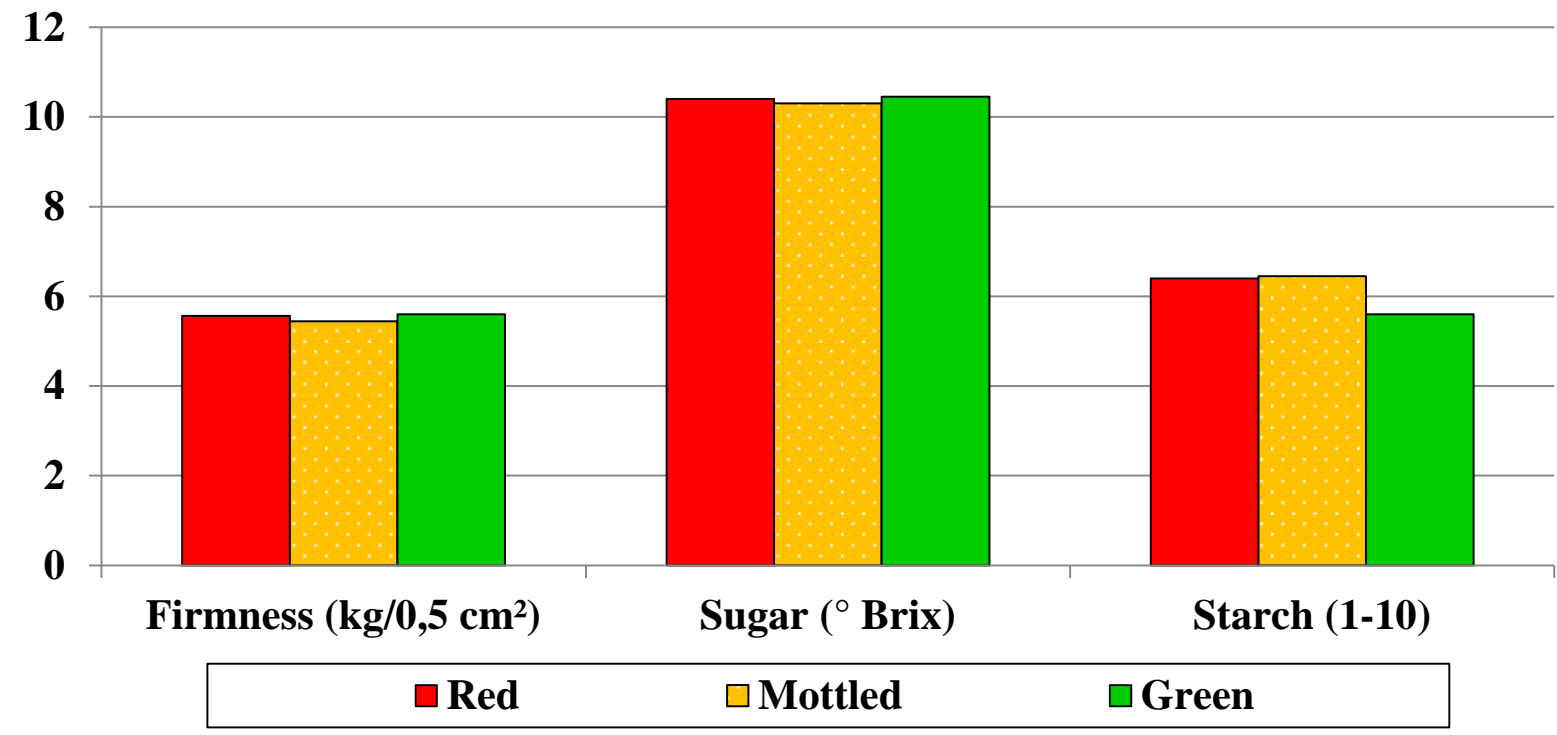


Planting year: 2005-2006  
Rootstock: Quince C (Condo)  
(Conference on Quince Ad. (Condo))



# Celina/QTee®

## Fruit quality 2014



Planting year: 2005-2006  
Rootstock: Quince C (Condo)  
(Conference on Quince Ad. (Condo))



# Celina/QTee®

## Fruit quality



- Sugar content: 12 °brix
  - Starch  $\Rightarrow$  sugar during storage
- Firmness: between 6.5 and 6.0 kg/ 0,5 cm<sup>2</sup>
- Good storability and shelf life
- Internal browning
  - More with larger fruits
  - State of ripening
  - Less in normal cooling compared to ULO (more sensitive to CO<sub>2</sub>)
  - High concentrations of 1-MCP
  - NAA and Topper (Triclopyr)
- Different storage conditions for ULO than Conference





# Celina/QTee®

- Licence: ABCz and Fruithandel Wouters
- Belgium
  - Until 2016: 100 ha 2017: + 30 ha
  - Then stop to see how sails go
- Spain: 71 ha  $\Rightarrow$  300 ha (in period of 10 years)
- Switzerland: 2016: 15 ha  $\Rightarrow$  50 ha (in period of 10 years)
- Slovakia: 2016: 7 ha  $\Rightarrow$  20 ha
- South-Africa: 2016: 110 ha  $\Rightarrow$  300 ha (in period of 10 years)
- Contracts with Austria, Australia, France, Marocco, Italy and Norway
- USA: Test trees 2 years ago in Washington
  - If interest contact Fruithandel Wouters or Willow Drive (Stuart Adams)
- Number of hectares per country can be limited



Source: Fruithandel Wouters



# Conclusion Celina/QTee®

- Harvest time = 2<sup>de</sup> half of August (= Williams B.C.)
- Productive
- Large fruit size, but thinning is important
- Pollenizers are necessary
- Susceptible to spring night frost
- No improvement with GA's after frost damage
- Good storability and good shelf-life
- Good taste, attractive
- Little susceptible to fire blight and not to Stemphylium
- Susceptible to Pseudomonas and Pear Decline
- Seems less susceptible to scab (compared to Conference)



# Demands for a new pear variety

## Consumer

- Good taste ⇒ **Sweet Sensation®**
- Good outlook ⇒ **Cepuna/Migo®** and **Celina/QTee®**
- Earlier available ⇒ **Corina®**
- Green and smooth, less russeting  
⇒ **Cepuna/Migo®**
- Red blush  
⇒ **Celina/QTee®**  
⇒ **Sweet Sensation®**  
⇒ **Dicolor®**



# Other candidates??



*Red Modoc®*



*CH201*





Thank you for your attention!

