European pear varieties

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Proeftuin pit- en steenfruit
• 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

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

2016: Estimation Prognosfruit
## Production of Conference in the EU-28 (x 1,000 tons)

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

*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 - 2007: 7,450 ha
  – 2010: 6,900 ha - 2014: 5,500 ha

• Williams and Dr. Guyot

• Pears are not important

• 54 ha Angelys

• Selena® (Elliot) in organic

• Sweet Sensation®
  – Small interest

(Sandrine Codarin – CTIFL – France)
New pear varieties in The Netherlands

- **Sweet Sensation®**: 200 ha
  - The Greenery
  - $\Rightarrow 420$ 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)

(Marc Ravesloot – WUR – The Netherlands)
Portugal = 99% Rocha
New pear varieties in Belgium
New pear varieties in Belgium

- **Corina®**: 100 ha (plant stop)
- **Sweet Sensation®**: 135 ha (⇒ 180 or 420 ha)
- **Cepuna/Migo®**: 20 ha ⇒ expectation/hope = 140 ha in 2022
- **Celina/QTee®**: 100 ha (+ 30 ha in 2017 / stop)
- **Dicolor**: ± 15 ha (also in CZ and UK)
- **Xenia®/Oksana**: 10 ha (?) ⇒ 100 ha
- **Regal Red® Comice**: 5 ha
- **Dazzling Gold®/Uta**: only trial parcel at BFV
- **Queen’s Forelle®/Thimo**: ± 15 ha (2016) + 1 ha (2017)
- **Early Desire®/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)
# Sweet Sensation Yield data

<table>
<thead>
<tr>
<th>Rootstock</th>
<th>Kg/tree 2016</th>
<th>Fruit weight (g) 2016</th>
<th>Kg/tree (2006-2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quince Ad.</td>
<td>6.3</td>
<td>412</td>
<td>98.8</td>
</tr>
<tr>
<td>Quince C</td>
<td>5.9</td>
<td>399</td>
<td>99.4</td>
</tr>
</tbody>
</table>

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)

Kg/tree

- Quince Adams
- Quince C

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
Planting year: 1999-2000
Rootstock: Quince Adams (B. Hardy)

Since 2009 = 50 to 60 tons/ha
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 Stemphyllum vesicarium (Brown spot)
- Susceptible to Pseudomonas
- Susceptible to pear decline
- Susceptible to frost
  - Winter frost (in nursery)
  - Spring night frost
The temperature dropped to -4°C in the night of March 31\textsuperscript{st} to April 1\textsuperscript{st}.

<table>
<thead>
<tr>
<th>Variety</th>
<th>% good</th>
<th>% slightly damaged</th>
<th>% black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Celina</td>
<td>15</td>
<td>28</td>
<td>56</td>
</tr>
<tr>
<td>Conference</td>
<td>41</td>
<td>18</td>
<td>41</td>
</tr>
<tr>
<td>Dicolor</td>
<td>11</td>
<td>21</td>
<td>68</td>
</tr>
<tr>
<td>Cepuna</td>
<td>76</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Queen’s Forelle</td>
<td>68</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>Xenia</td>
<td>47</td>
<td>2</td>
<td>51</td>
</tr>
</tbody>
</table>
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

Kg/tree

<table>
<thead>
<tr>
<th>Year</th>
<th>Kg/tree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>5</td>
</tr>
<tr>
<td>2008</td>
<td>1</td>
</tr>
<tr>
<td>2009</td>
<td>5</td>
</tr>
<tr>
<td>2010</td>
<td>25</td>
</tr>
<tr>
<td>2011</td>
<td>30</td>
</tr>
<tr>
<td>2012</td>
<td>5</td>
</tr>
<tr>
<td>2013</td>
<td>30</td>
</tr>
<tr>
<td>2014</td>
<td>30</td>
</tr>
<tr>
<td>2015</td>
<td>400</td>
</tr>
<tr>
<td>2016</td>
<td>400</td>
</tr>
</tbody>
</table>

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

Fruit weight (g) = 50 to 60 tons/ha
Celina/QTee® Vigour

- Moderate to strong vigour
- Plant not to deep
- Fruits must be exposed to the light to have a good colouring
  ⇒ open tree
- Summer pruning?
Planting year: 2005-2006
Rootstock: Quince C (Condo)
(Conference on Quince Ad. (Condo))
Celina/QTee®
Colouring (2014-2016)

Planting year: 2005-2006
Rootstock: Quince C (Condo)
(Conference on Quince Ad. (Condo))
Planting year: 2005-2006
Rootstock: Quince C (Condo)
(Conference on Quince Ad. (Condo))
Sugar content: 12 °brix
  - Starch $\Rightarrow$ sugar during storage
Firmness: between 6.5 and 6.0 kg/0.5 cm²
Good storability and shelf life
Internal browning
  - More with larger fruits
  - State of ripening
  - Less in normal cooling compared to ULO (more sensitive to CO₂)
  - High concentrations of 1-MCP
  - NAA and Topper (Triclopyr)
Different storage conditions for ULO than Conference
• Licence: ABCz and Fruithandel Wouters

• Belgium
  – Until 2016: 100 ha  2017: + 30 ha
  – Then stop to see how sails go

• Spain: 71 ha ⇒ 300 ha (in period of 10 years)

• Switzerland: 2016: 15 ha ⇒ 50 ha (in period of 10 years)

• Slovakia: 2016: 7 ha ⇒ 20 ha

• South-Africa: 2016: 110 ha⇒ 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^{de} 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 $\Rightarrow$ *Sweet Sensation*®
- Good outlook $\Rightarrow$ *Cepuna/Migo*® and *Celina/QTee*®
- Earlier available $\Rightarrow$ *Corina*®
- Green and smooth, less russetting
  $\Rightarrow$ *Cepuna/Migo*®
- Red blush
  $\Rightarrow$ *Celina/QTee*®
  $\Rightarrow$ *Sweet Sensation*®
  $\Rightarrow$ *Dicolor*®
Other candidates??

Red Modoc®

CH201
Thank you for your attention!