Testing of sweet cherry varieties in Belgium

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Proeftuin pit- en steenfruit (Belgium)
Sweet cherry varieties in Belgium

• Main varieties
  – Kordia
  – Lapins
  – Regina
  – Sweetheart

• Secondary varieties
  – Burlat
  – Schneiders Sp. Kn. and Summit
  – Sylvia and Karina: Pollenizers for Regina
Picking moment

- Burlat
- Summit
- Sylvia
- Karina
- Sweetheart
- Kordia
- Lapins
- Regina
Disadvantages of the main varieties

- Kordia ⇒ susceptible to spring night frost
- Regina ⇒ difficult fruit set
- Lapins ⇒ susceptible to cracking and rot
- Sweetheart ⇒ susceptible to cracking and rot
Disadvantages of the secondary varieties

- Burlat $\Rightarrow$ small, low firmness
- Summit $\Rightarrow$ difficult fruit set, low firmness
- Sylvia $\Rightarrow$ difficult tree shape
- Schneiders Sp. Kn. $\Rightarrow$ difficult fruit set
- Karina $\Rightarrow$ strong vigour
Demands for a new variety?
The ideal variety

- Early or late picking moment
- Weak vigour
- Good fruit quality
  - Firm
  - Large
  - Good taste
- Productive
- Little susceptible to cracking and rot
- Little susceptible to spring night frost
- Self-fertile
How variety trials are done?
• 3 trees per variety
• If possible on Gisela 5
• Compared to Kordia
• Since 1999 in our station
• Cherry Discriptor List (IBPGR)
• Protection against birds (with nets)
• Annual report to the breeders
Sweet cherries: Level 1

- Yield: kg/tree
- Fruit weight (50 cherries)
- Fruit size
- Firmness (g/mm)
- Sugar content (°brix)
- Taste (1-9)
- Cracking (% on the tree)
- Cracking index (1-100)
New varieties

- 2015: 73 new varieties in level 1
- 2015: 13 varieties grubbed
- 2016: 21 new varieties planted
- 3 trees/variety on Gisela 5 (Ref.: Kordia)
- Interesting varieties planted on larger scale (level 2)
Sweet cherries : Level 2

- 20-25 trees are planted to test the best varieties at orchard level

- Finding solutions for the negative qualities of the new variety

Technical report
Promising new varieties

• Varieties in level 2
  - Grace Star
  - Skeena
  - Korvik
  - Rubin
  - Hertford
  - Samba
  - Poisdel

• Other promising varieties
  - Penny
Poisdel

- France (Delbard Nurseries)
- Middle bloom (S1S3)
- 2nd to 3rd week
- Good fruit size
- Very firm and good taste
- Good storability
- Susceptible to cracking
- Not without plastic covering
- More experience needed
- Pollenizer: Lapins

Planting year: 2006
Samba/Sumste (13S-36-18)

- Canada (Summerland)
- 2S-43-48 x Stella 16A-7
- 3rd week
- Upright growth habit
- Moderate productive
- Good fruit size, firm
- Little susceptible to cracking
- Moderate taste
- **NOT** self-fertile (S1S3)
- Susceptible to Pseudomonas
- Pollenizers: Lapins, Sweeheart, (Bellise)

Planting year: 2003
Samba 2008
Fruit set (%)

Self pollination - = without pollen of Samba
Self pollination + = hand pollination with pollen of Samba
Vanda

- Czech Republic
- Van x Kordia
- Productive
- 3rd - 4th week
- Good fruit size (9-10 g)
- Moderate firmness
- Good fruit quality (taste)
- Little susceptible to cracking
- Early to middle bloom (S1S6)
- Susceptible to spring night frost
- Pollenizers: Grace Star en Korvik

Planting year: 1999
Korvik

- Czech Republic
- Kordia x Vic
- Easy tree shape
- Very productive, good size
- 4th week
- Similar to Kordia
- Moderate firmness
- Good fruit quality/taste
- Little susceptible to cracking
- Early to middle bloom
- Pollenizers: Grace Star (Hertford and Sweetheart)

Planting year: 2004
Grace Star (DCA BO 84.703.003)

- Bologna (Italy)
- Free pollination of Burlat
- Early to middle bloom
- Very productive
- Self-fertile (S4’S9)
- 4th week
- Good taste, good fruit size
- Attractive cherry
- Good pollenizer for Korvik
- Moderate susceptible to cracking

Hertford (JI 13014)

- England (John Innes)
- Early bloom (S1S6)
- 4\textsuperscript{th} - 5\textsuperscript{th} week
- “Productive”
- Pollination is very important
- Good fruit size
- Firm, good taste
- Moderately susceptible to cracking

Planting year: 1999

- Pollenizeres: Samba, Lapins and Sweetheart
Rubin

- Roemenia
- 6th-7th week
- Easy tree shape
- Late bloom (S3S12)
- Very productive
- Good fruit size
- Good taste
- Moderately susceptible to cracking
- Good pollenizer for Regina
- Pollenizer: Regina and Kordia (Penny)

Planting year: 2007
Penny

- Engeland (East Malling)
- 7\textsuperscript{th} week
- Good fruit size
- Firm and good taste
- Easy tree shape
- Late bloom (S6S9)
- Pollenizer for Regina
- Susceptible to cracking $\Rightarrow$ Plastic covering
- Moderate productive
- More experience needed
- Pollenizers: Regina and Rubin

Planting year: 2006
# Total yield data

<table>
<thead>
<tr>
<th>Variety</th>
<th>Year</th>
<th>Week</th>
<th>Kg/tree</th>
<th>Fruit weight (g)</th>
<th>Cracking %</th>
<th>Taste (1-9)</th>
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<tbody>
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* Yield data until 2012 (replanted in 2003)
# New assortment

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<th>Variety</th>
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<td>Penny</td>
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<td>Sweetheart</td>
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Conclusion

- Some promising new varieties
- 3\textsuperscript{rd} - 6\textsuperscript{th} week
- Addition of the assortment
- No replacement of the main varieties
- Looking further for early and late varieties
Some novelties

- Folfer
- Christiana
- Benton/Columbia
- Giorgia
- Areko (92/31-22)
- ...

PROEFCENTRUM FRUITTEELT VZW
Folfer

- France (INRA)
- Middle bloom (S6S9)
- 3\textsuperscript{rd} to 4\textsuperscript{th} week
- Good fruit size
- Good firmness
- Moderate taste
- Very susceptible to cracking
- Only under plastic covering

Planting year: 2007

Pollenizers: Hertford, Lapins and Poisdel
Christiana

- Czech Republic
- Van x Kordia
- 4<sup>th</sup> to 5<sup>th</sup> week
- Early bloom (S₃S₆)
- Very productive
- Small fruit size
- High firmness
- Good taste
- Susceptible to cracking
- More experience needed

Planting year: 2010
Benton / Columbia

- USA - Prosser
- Stella x Beaulieu
- 4th week
- Middle bloom (S4’S9)
- Productive (?)
- Moderate firmness
- Moderate susceptible to cracking
- Moderate taste
- More experience needed

Planting year: 2008
Giorgia

- Italy
- Caccianese x ISF123
- 4th to 5th week
- Late bloom (S1S13)
- Productive (?)
- High firmness
- Susceptible to cracking
- Good taste
- More experience needed

Planting year: 2009
Areko (92/31-22)

- Germany (Pillnitz)
- Kordia x Regina
- 5th to 6th week
- Middle bloom (S1S3)
- Moderate productive
- Large, dark red cherry
- Good firmness (= Kordia)
- Moderate susceptible to cracking
- Tree shape = Regina
- More experience needed

Planting year: 2012
## Total yield data

<table>
<thead>
<tr>
<th>Variety</th>
<th>Year</th>
<th>Week</th>
<th>Kg/tree</th>
<th>Fruit weight (g)</th>
<th>Cracking %</th>
<th>Taste (1-9)</th>
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Grubbed varieties (1)

- Bigalise: very low production
- Coralise: too soft, small fruit size
- Selah: moderate taste, very susceptible to cracking
- Symphony: very susceptible to cracking, bad taste
- Summit: too soft, very short shelf life
- Canada Giant: too soft, susceptible to cracking
- Noire de Meched: short harvest window
Grubbed varieties (2)

- Satin: low production
- Bellise: small fruit size, very susceptible to cracking
- Merchant: susceptible to cracking, too soft
- Ferdiva: low production
- Fermina: small fruit size
- Sumbola: low production
- Vera: very susceptible to cracking
- Simoné: low production, small fruit size
Grubbed varieties (3)

- Sweet Early: low production, too soft
- Vanda: small fruit size, too soft
- Sumbigo: bad taste, very susceptible to cracking
- SPC 207: blushed cherry, low production, bad taste
- SPC 232: blushed cherry, very susceptible to cracking
- Early Red: low production, susceptible to frost
- Firm Red: low production, small fruit size
Thank you for your attention!

(Research done with financial support of CMO)