# Project CAP ReD : Cherry Apricot Plum Reduction of inputs and Sustainability of production systems

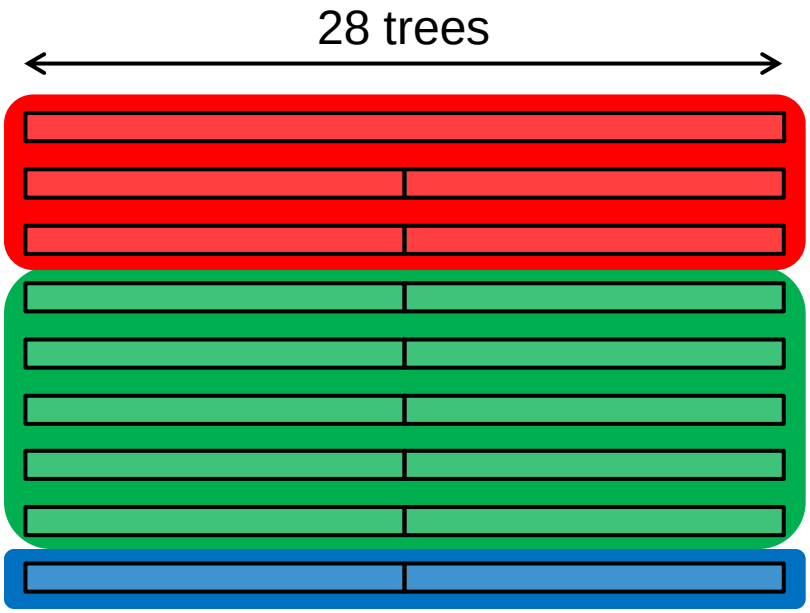
Project led by Ctifl – Partners : AREFE / BIP / CEFEL / CENTREX / INRA Bordeaux / INRA Gotheron / La Pugère / La Tapy / SERFEL

## Results 2015 of a cherry plot under row-by-row nets at La Tapy

# Presentation of the only cherry plot (La Tapy)

**Main objective : reduce the use of inputs by at least 50 %**

**Year of planting** : 2012
**Training system** : Free Axis
**Distance of planting** : 4 x 1,5m
**Varieties** : Belge and Regina
**Rootstock** : Gisela 6




**3 modalities :**

- **PFI, or IPM** (3 rows)
- **ECO50** (5 rows)

Under nets, mechanical weeding

- **Untreated control** (1 row)

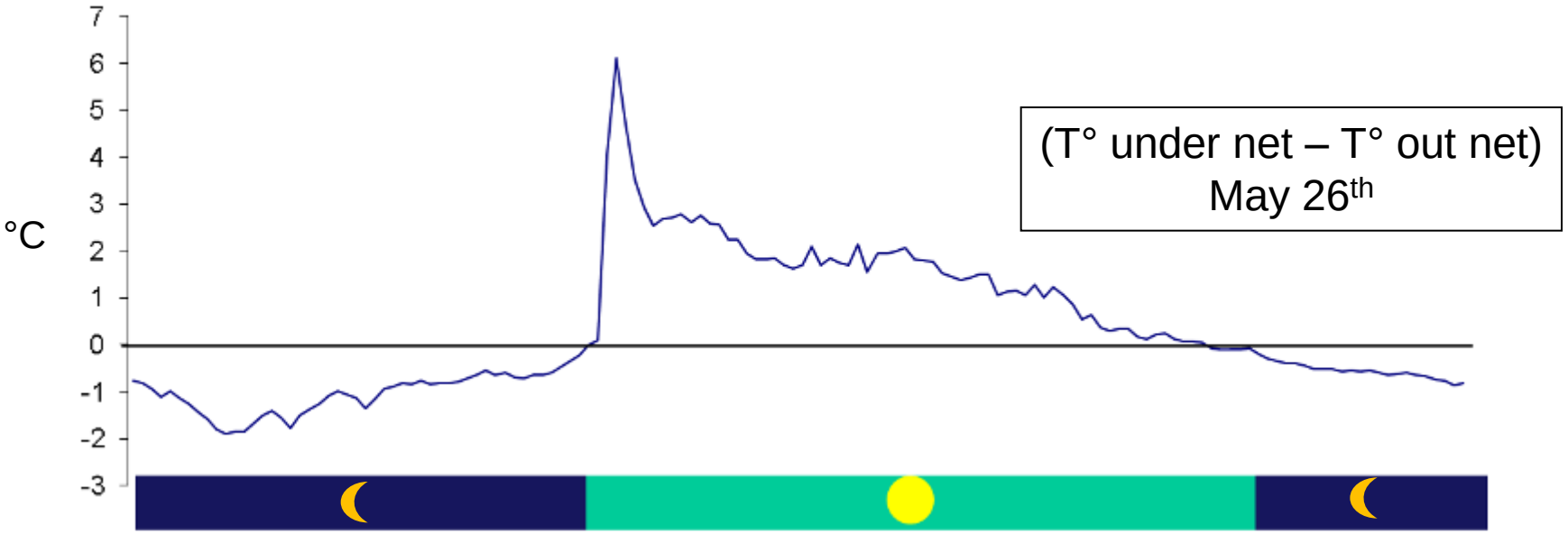
# Net device

**Plastic roof**
Protection against rain and cracking
Width : 1,4m

**Net**
Protection against flies
Mesh : 6 x 6

# Climatic conditions under the net

Recording of temperatures under and out the net from May 21st to June 26th




Average day difference of 0,36°C

Major peak with the first ray of sunlight, ±2°C of difference at midday

Temperature is colder under the nets during the night

# Treatments schedule

| Action | Target | Date | Product(s) | PFI | ECO50 | TNT |
|---|---|---|---|---|---|---|
| FUNGICIDE | Bacteriosis | 09/10 | BB RSR | X | X | X |
| | | 13/11 | BB RSR | X | X | |
| | | 18/03 | BB RSR | X | X | |
| | Monilia flowers | 18/04 | Horizon Arbo | X | | |
| | Monilia fruits | 24/05<br>10/06<br>16/06 | Switch<br>Rovral AF<br>Rovral AF | X<br>X<br>X | | |
| INSECTICIDE | Black aphid | 19/03 | Ovipron plus<br>+ Karaté Zéon | X<br>X | X<br>X | |
| | Flies | 24/05<br>03/06<br>10/06<br>16/06 | RogorPlus<br>Imidan 50WG<br>Decis Protech<br>Karis | X<br>X<br>X<br>X | | |
| WEEDKILLER | Weeds | 24/04 | Glyphosate (3l/ha)<br>Surflan (6l/ha) | X<br>X | | |
| CHEMICAL IFT (Treatment Frequency Index) | | | | 11,24 | 3,24 | 0,48 |
| GREEN IFT | | | | 0,8 | 0,8 | 0 |

LA TAPY

# Interventions phytosanitaires

• The device nets + plastic cover allows to decrease strongly the phytosanitary treatments

• **No treatment from blossom to harvest** on the modality ECO50
Only the 3 treatments against bacteriosis to secure the orchard and 1 preventive treatment against black aphid

• **No chimical weeding** on the modality ECO50, replaced with 2 mechanical weeding

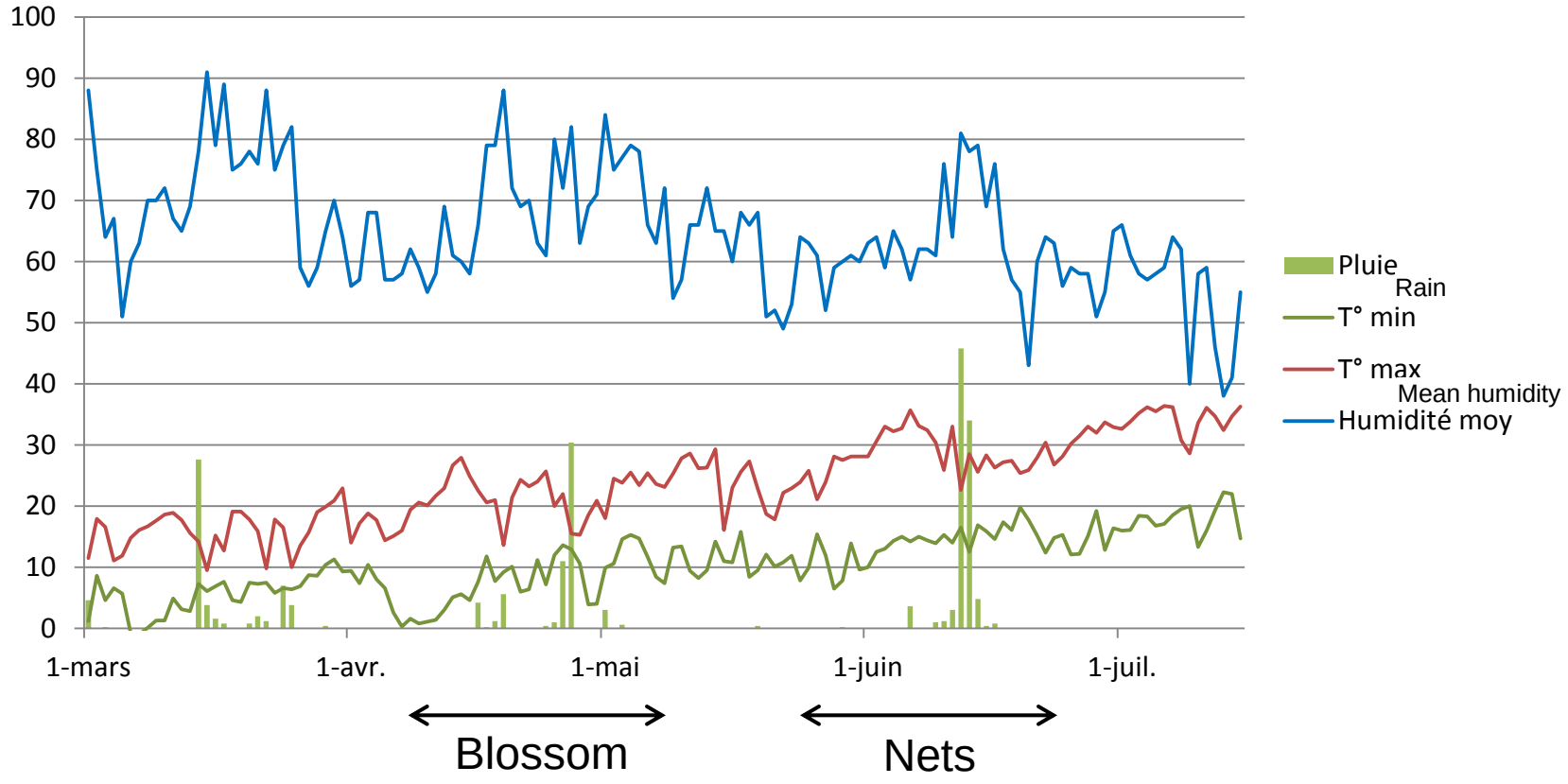
→ **Use of inputs decreased of 71%**

# Climatic conditions and season

- Cherry season hot and dry

Heavy rain (80mm) just before the harvest

- Belge harvest : June 19th / Regina harvest : June 23rd



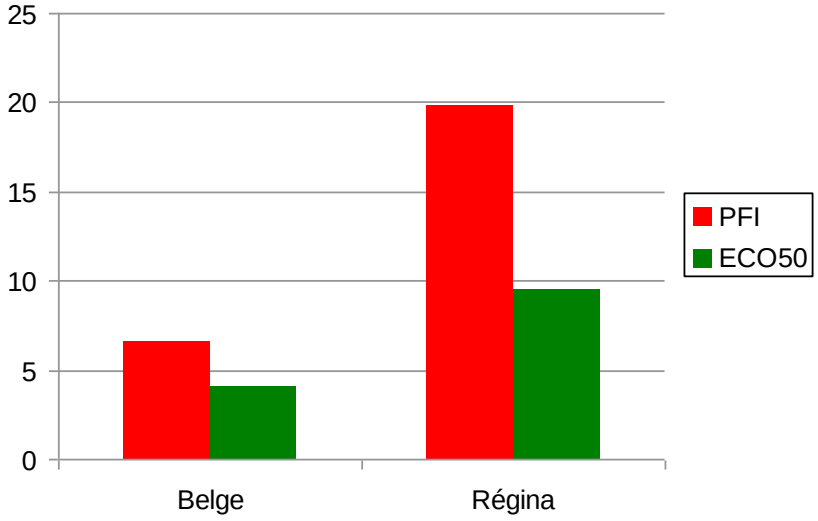
# Production

**Raw production (first year of full production)**

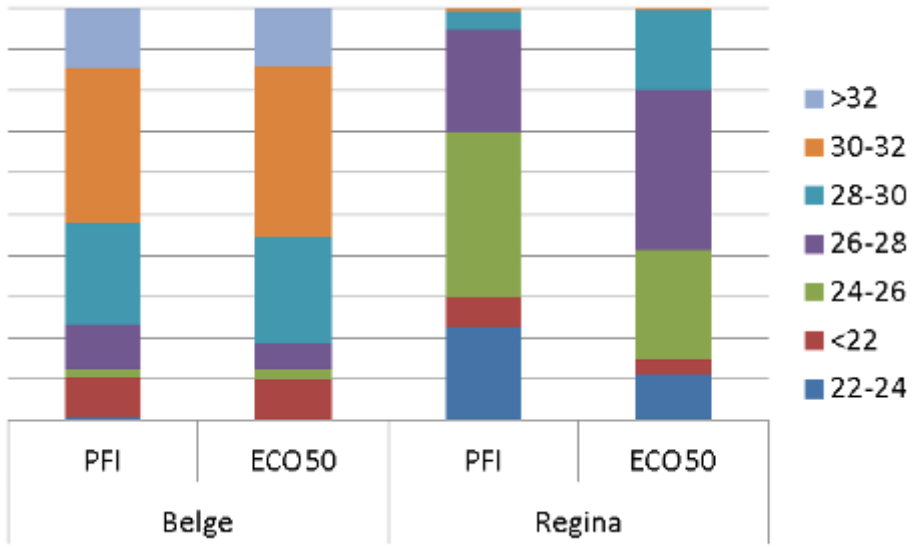
• Lower charge on ECO50 than on PFI, due to a difference of pruning (pruning more severe so that trees hold under the net)

• Higher caliber on ECO50 (in particular Regina), due to lower charge

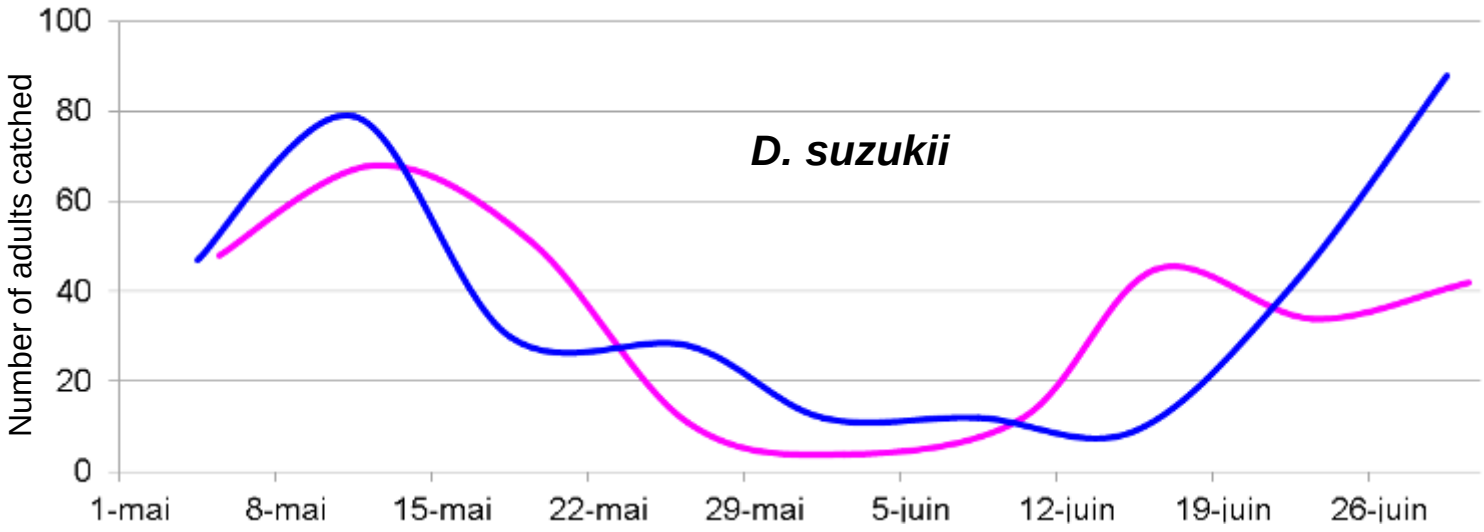
Yield (t/ha)

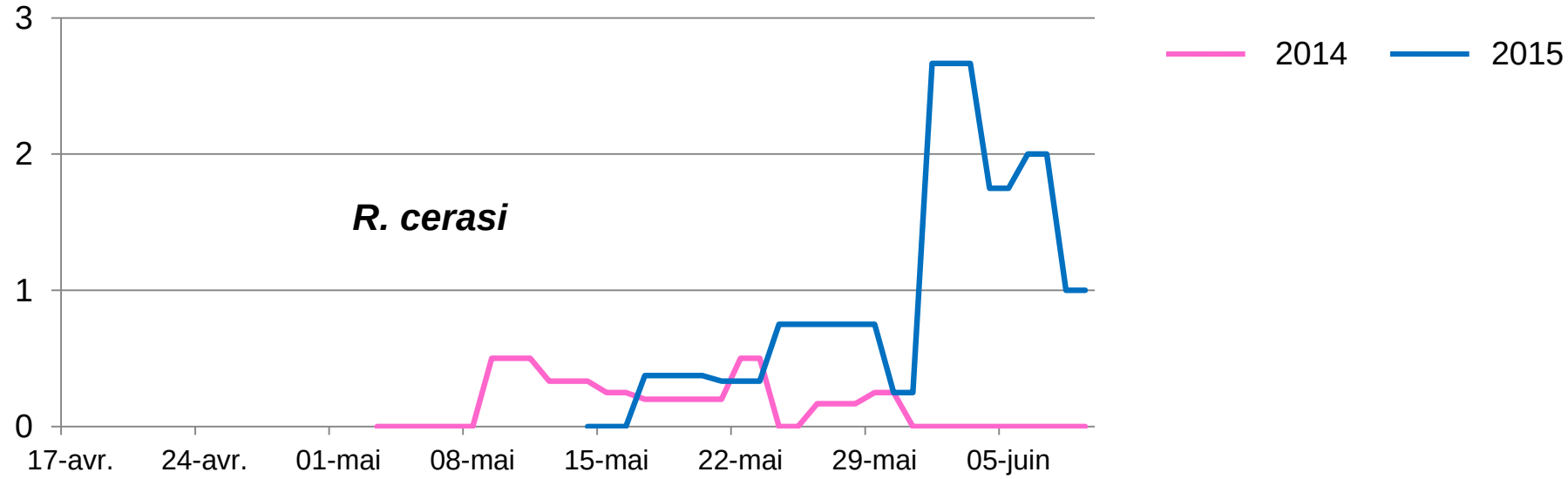



Calibre (mm)



# Flies activity

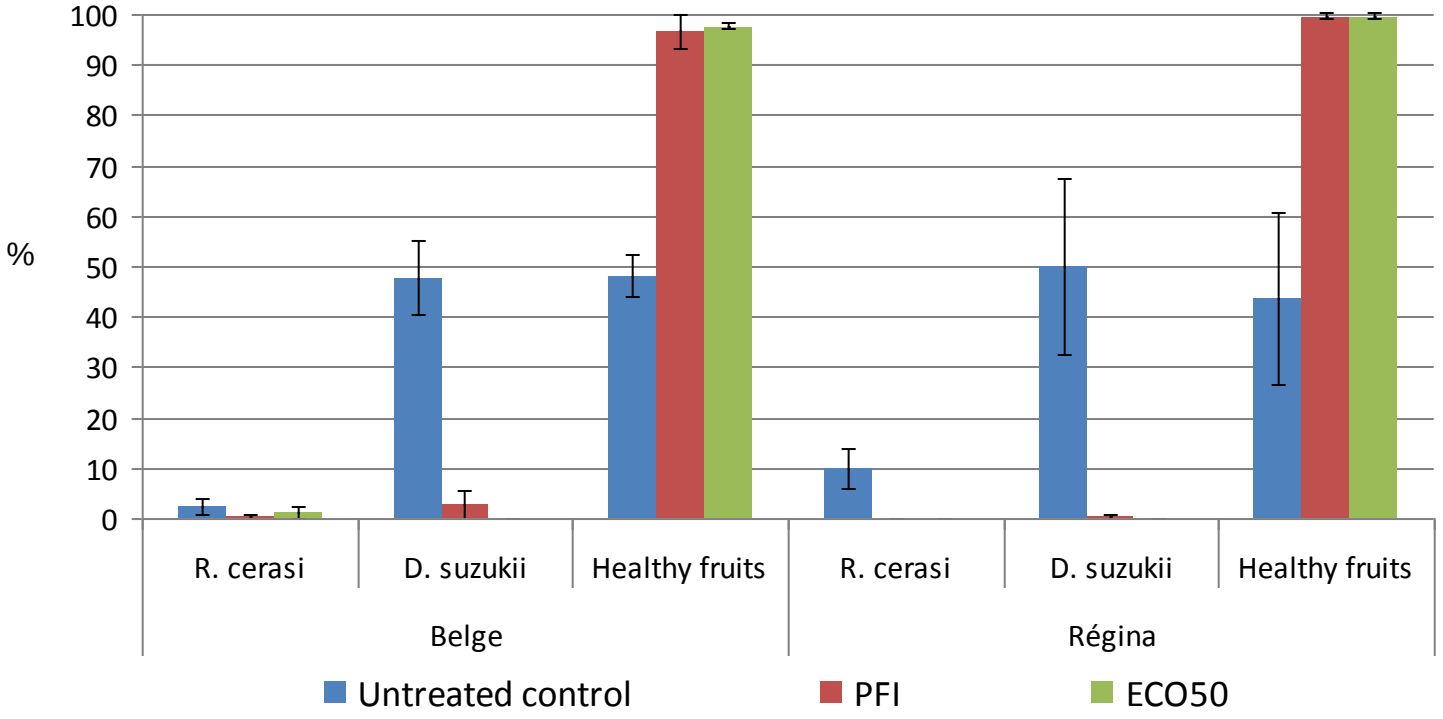


# Flies damage

- Flies damage similar on PFI and ECO50, lower than untreated control

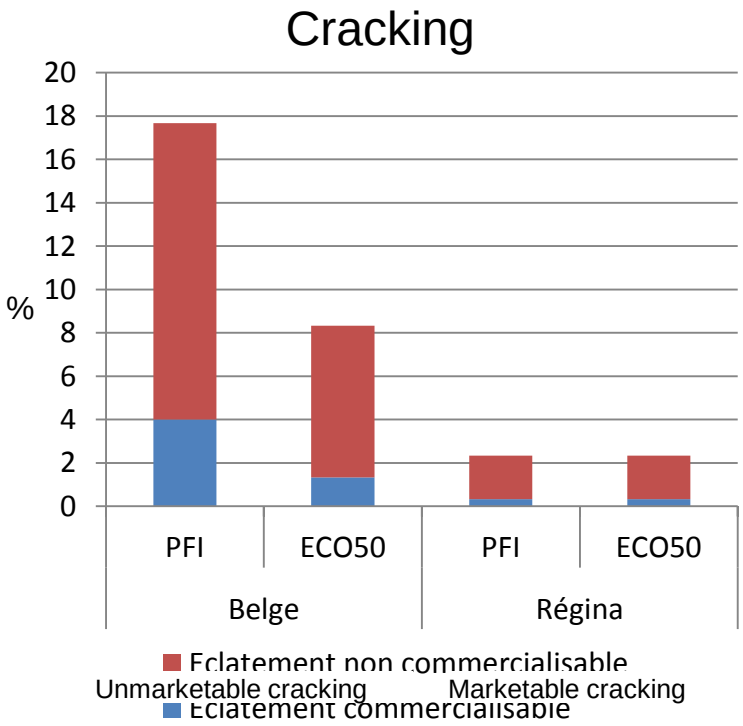
- A few *R. cerasi* damage on ECO50 due to a later closing of the nets. Nets have an efficiency of 100% against *D. suzukii*

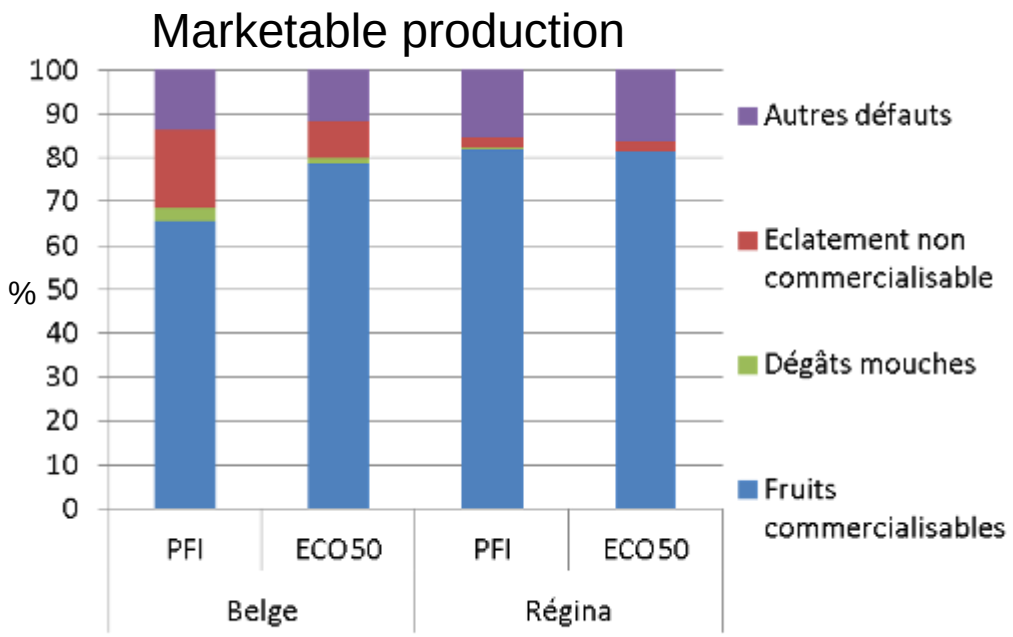


# Quality

- A lot of cracking on Belge, due to the strong thunderstorm on June 13th
The plastic cover allows to decrease cracking of 49%

- Others damage are mainly marking



# Cost of the material

| | Cost € / m² | |
|---|---|---|
| **Net Alt'carpo [4x4]** | 0,32 € | Mature market |
| **Net Alt'fly [4x5]** | 0,54 € | Not mature market |
| **Net *D. suzukii* [6x6]** | 0,70 € | |
| **Net *D. suzukii* [6x6] + plastic cover** | 1,15 € | |

→ For 1ha, device [net + plastic cover] = 35 000 €

For 1ha, net = 23 500€

# Conclusions

- Strong decrease of inputs using, objective of -50% reached
- ECO50 system allows the same protection than PFI system
- ECO50 system need to be evaluated under difficult climatic conditions
- Need of a technic-economical analysis multiannual for validate the profitability of a protection by nets

  Net cost is significant