



Rain covers tested on apple orchards at Ctifl (Lanxade Centre)

Braeburn 2010 - 2014 (1,40 m)



Gala Axe 2011 - 2013 (1,60 m)



Rosy Glow 2014 (1,40 m)



Gala "fruit wall" 2011 - 2013 (0,70 m)



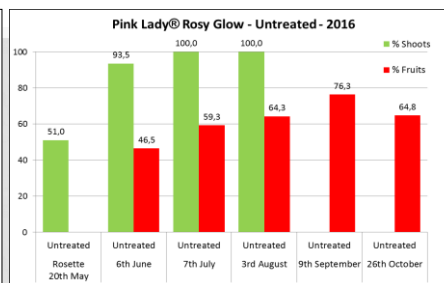
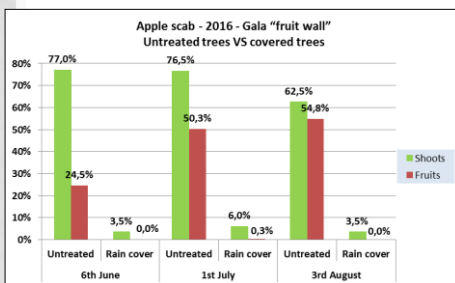
Gala "fruit wall" 2014 (1,40 m)



Rosy Glow 2014 (2,50 m)

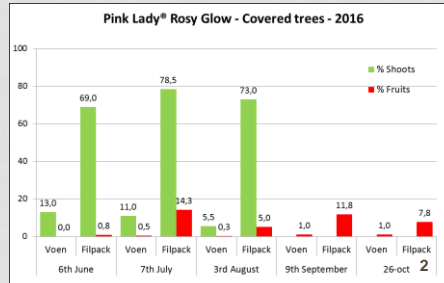


APPLE SCAB 2016: TWO DIFFERENT SITUATIONS



Low pressure
on leaves (between 6 and 13%)
and on fruits (max. 1%)
→ Case of Gala "fruit wall"
and Rosy Glow / Voien

High pressure
on leaves as in 2015 (around 75%)
pressure more important on fruits
→ Case of Rosy Glow / Filpack





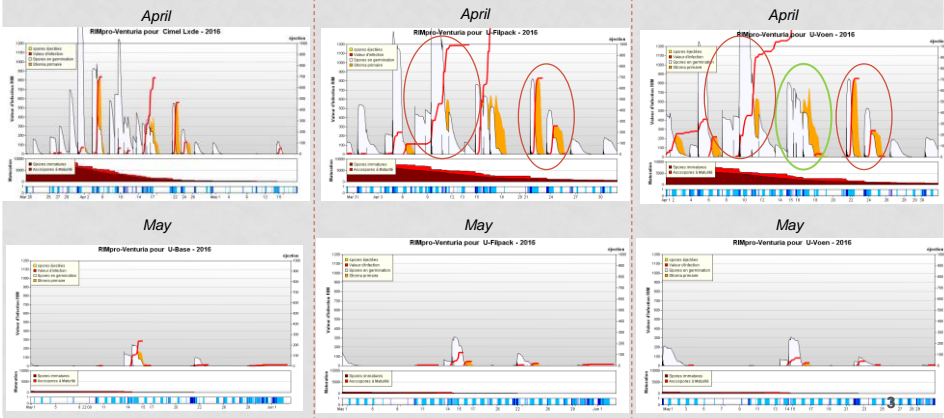
COMPARISON OF THE APPLE SCAB RISK COVERED TREES & UNCOVERED (APRIL - MAY)

Primary contaminations

Uncovered

Filpack rain cover

Voem rain cover



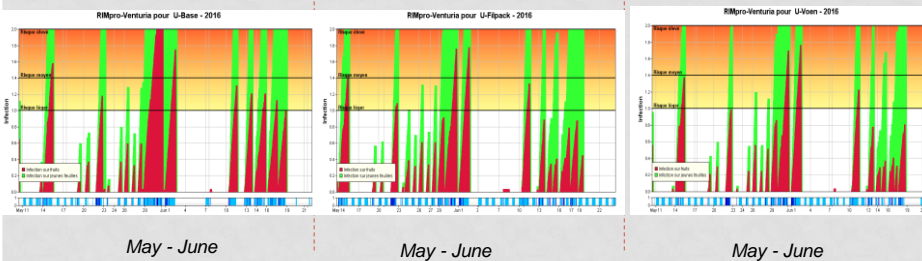
COMPARISON OF THE APPLE SCAB RISK COVERED TREES & UNCOVERED (MAY - JUNE)

Secondary contaminations

Uncovered

Filpack rain cover

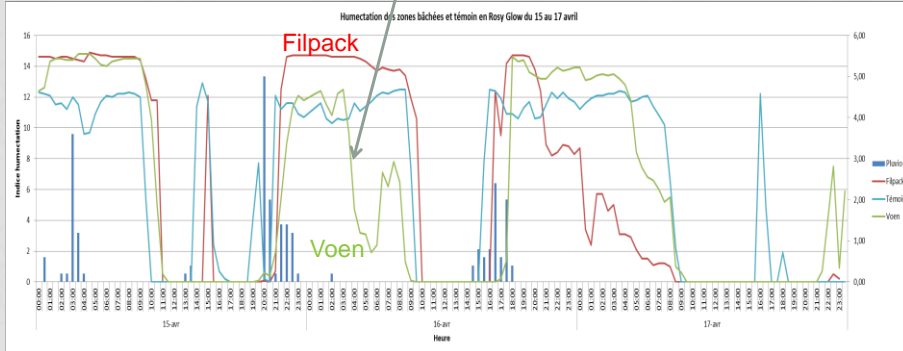
Voem rain cover





Leaf wetness on the apple scab contamination between the 15th and 17th April

Reduced leaf wetness under Voën compared to Filpack
Higher apple scab pressure under FILPACK cover ?

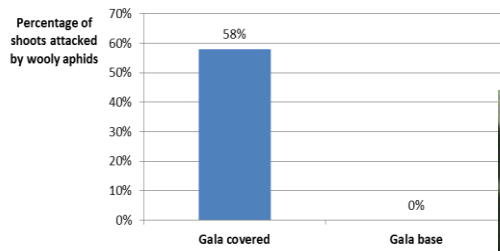


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Incidence on other pests & diseases: woolly aphids

Comparison of the percentage of shoots attacked by woolly aphids between covered and uncovered Gala trees 11st July 2016

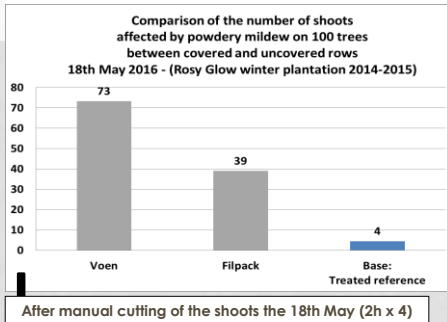


On Gala, high pressure of woolly aphids under rain cover in 2015 (average number of aphids groups per tree: 13,5) and again in 2016.

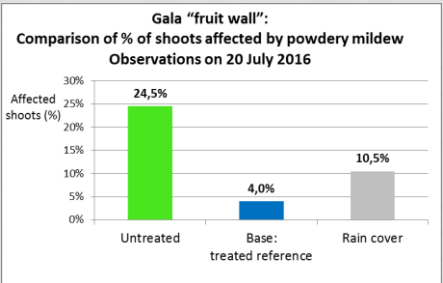
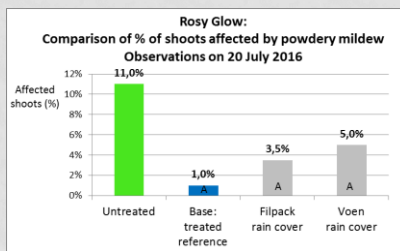
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STRATEGY AGAINST POWDERY MILDEW IN 2016 ON ROSY GLOW & GALA



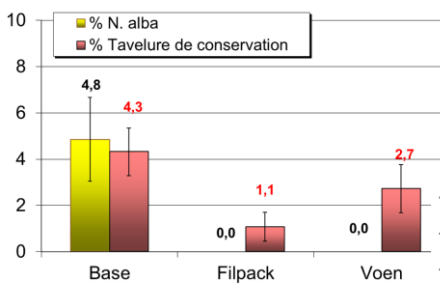
Treatments against Powdery Mildew between 15th March and 23 May under rain cover:
 Rosy Glow: 5 sulphur + 2 IBS
 Gala: 5 sulphur + 2 IBS



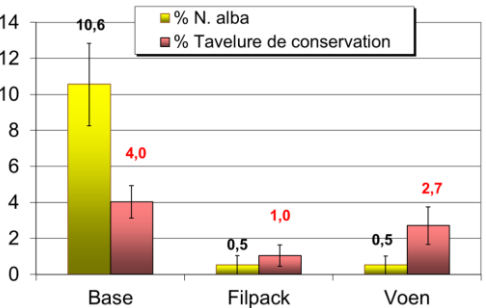
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Post harvest diseases (N. alba & apple scab) (Rosy Glow harvest 27th October 2015)



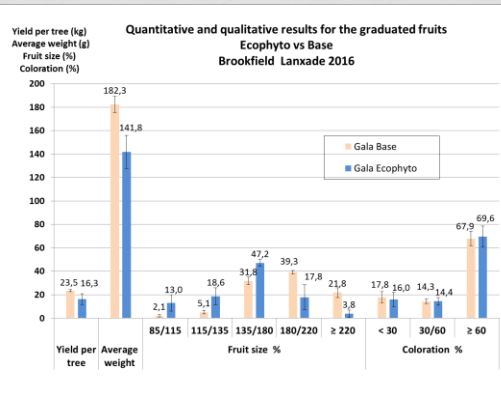
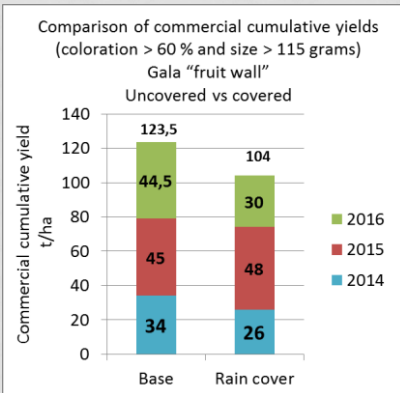
Notation 6th September 2016:
10,5 months for storage



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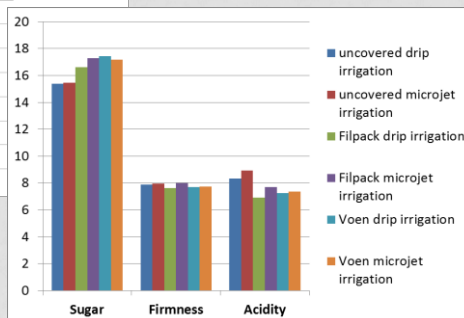
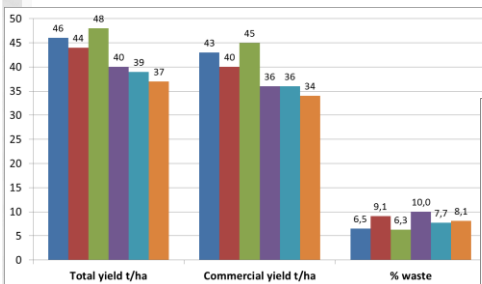
Gala "fruit wall": cumulative yield (2014 - 2016), fruit size, coloration in 2016



Study situation: no adapted irrigation under the rain covered trees



Rosy Glow 2016 (third leave): yield, fruit size, coloration and quality



Refractive index range: 12,5-15
Optimal firmness: 7-8
Range of acidity: 5,5-8



Facts on rain covers in apple orchards

A reduced number of orchards with rain cover in 2016 (26 systems)

Two strategies:

- Half were covered in March. No treatment against apple scab. 2 to 10 fungicides against powdery mildew.
- Half were covered after flowering (mid-April to mid-May). 8 to 12 treatments against apple scab before covering. 50 % had no treatment after.

> **points:**

- 30 to 40 % TFI reduction
- Globally good results, but possible contamination on leaves and fruits
- Interesting results also against *N. alba* (Rosy Glow)
- Quality (sugar, firmness, acidity) seems equivalent.

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Facts on rain covers in apple orchards

< **points:**

- Limited duration of the plastic (lacerations, getting green)
- Bad staying in bad weather condition (wind !)
- Incidence on yield (up to three times)
- Less luminosity (up to 30 %), less coloration (ex. Rosy Glow), more vigour and shoots, less flowers
- Bitter Pit on Golden
- Needs to adapt irrigation. Start earlier – 20 days with a drip irrigation system and 10 days with microjet. Bring more: 25 % with drip irrigation, between 45 to 65 % with microjet.
- Ditches may appear because of the accumulation of rainwater.
- Noise due to the plastic covers when wind is beating
- Costs

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**Damages due to the storm:
20th Septembre 2016**