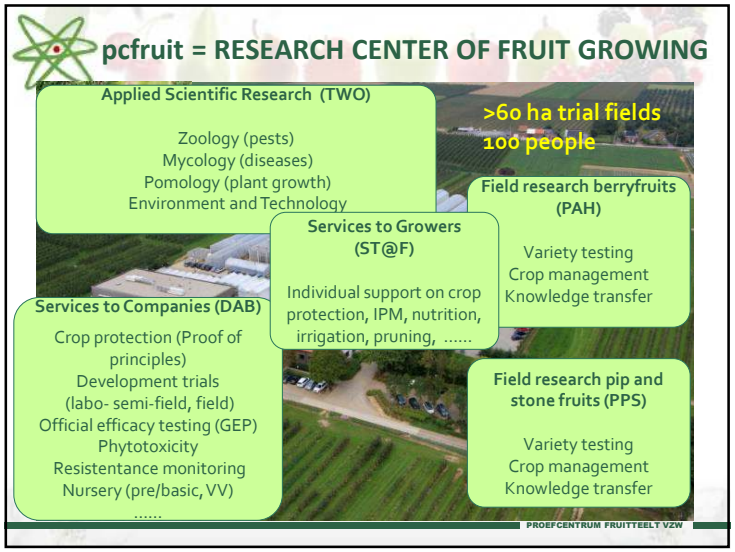
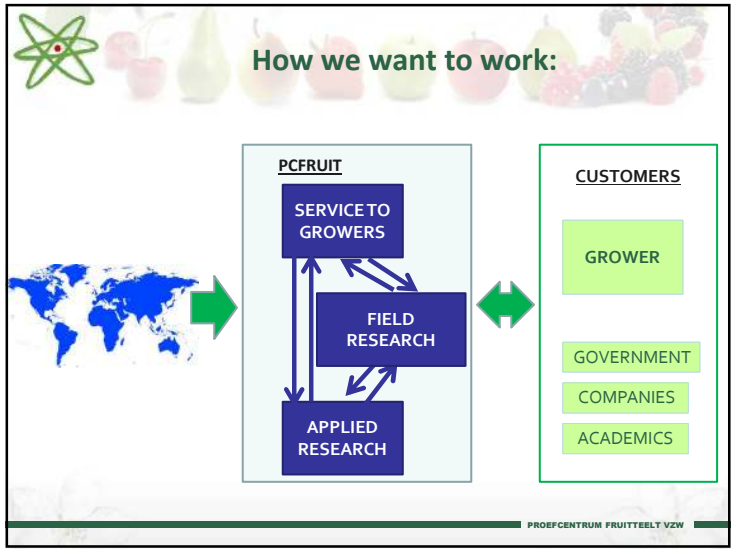

pcfruit
PROEFCENTRUM FRUITTEELT VZW
Blueberries @ pcfruit
miet.boonen@pcfruit.be
piet.putzeys@belorta.be
Europees Landbouwfonds voor Plattelandsontwikkeling: Europa investeert in zijn platteland
Kempen & Maasland
provincie Limburg
met steun van limburg.be
PROEFCENTRUM FRUITTEELT VZW
Fruittuinweg 1, 3800 Sint-Truiden – ondernemingsnummer BE 0878.145.255 – RPR Antwerpen, afdeling Hasselt – www.pcfruit.be – pcfruit@pcfruit.be

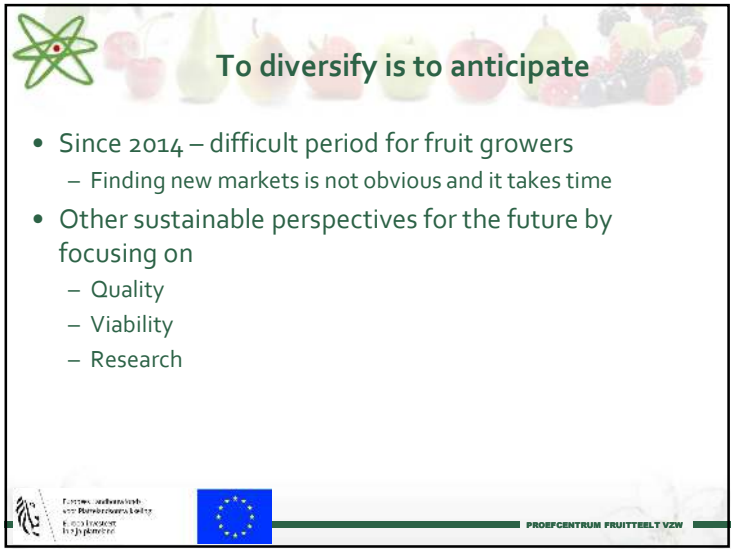
1


pcfruit = RESEARCH CENTER OF FRUIT GROWING
Applied Scientific Research (TWO)
Zoology (pests)
Mycology (diseases)
Pomology (plant growth)
Environment and Technology
>60 ha trial fields
100 people
Field research berryfruits (PAH)
Variety testing
Crop management
Knowledge transfer
Services to Growers (ST@F)
Individual support on crop protection, IPM, nutrition, irrigation, pruning, ...
Services to Companies (DAB)
Crop protection (Proof of principles)
Development trials (labo- semi-field, field)
Official efficacy testing (GEP)
Phytotoxicity
Resistentance monitoring
Nursery (pre/basic, VV)
.....
Field research pip and stone fruits (PPS)
Variety testing
Crop management
Knowledge transfer
PROEFCENTRUM FRUITTEELT VZW

2


How we want to work:
PCFRUIT
SERVICE TO GROWERS
FIELD RESEARCH
APPLIED RESEARCH
CUSTOMERS
GROWER
GOVERNMENT
COMPANIES
ACADEMICS
PROEFCENTRUM FRUITTEELT VZW

3


To diversify is to anticipate
• Since 2014 – difficult period for fruit growers
– Finding new markets is not obvious and it takes time
• Other sustainable perspectives for the future by focusing on
– Quality
– Viability
– Research
PROEFCENTRUM FRUITTEELT VZW

4

To diversify is to anticipate

- Diversification = important factor to beat the crisis
- Climate change
  - New crops
  - New cultivation techniques (f.e. protected crops)

  ➔diversification
- Blueberries as an alternative crop

PROEFCENTRUM FRUITTEELT VZW

5

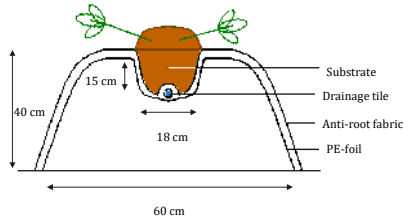
Blueberries as alternative crop

- High density planting
- EC-trial
- Low chill varieties in Belgium
- Substrate trial

PROEFCENTRUM FRUITTEELT VZW

6

High density planting



PROEFCENTRUM FRUITTEELT VZW

7

High density planting

- Traditional soil crop: 3500 pl/ha
- High density:
  - Soil grown: up to 6000 pl/ha
  - Container: up to 10.000 pl/ha
- Why?
  - More efficient use of land (first years)
  - Faster full production/ha
  - Easier to prune ➔ lower pruning & picking costs
  - Possibility of horizontal spraying
- Optimum in density

PROEFCENTRUM FRUITTEELT VZW

8

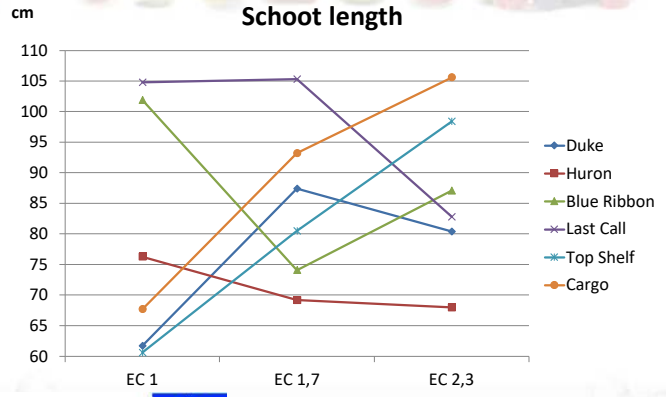
High density planting – EC trial

- Tested varieties:
  Duke – Huron – Blue Ribbon – Last Call – Top Shelf – Cargo
- Step 1 – May 2017:
  - mow down of the plants
- Step 2 – July 2017:
  - 3 EC levels: 1 – 1,7 – 2,3
- Step 3 – 2018:
  - 3 plants/m

PROEFCENTRUM FRUITTEELT VZW

9

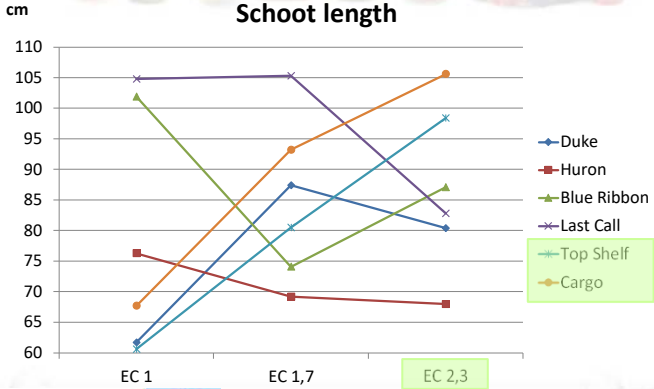
High density planting – EC trial



PROEFCENTRUM FRUITTEELT VZW

10

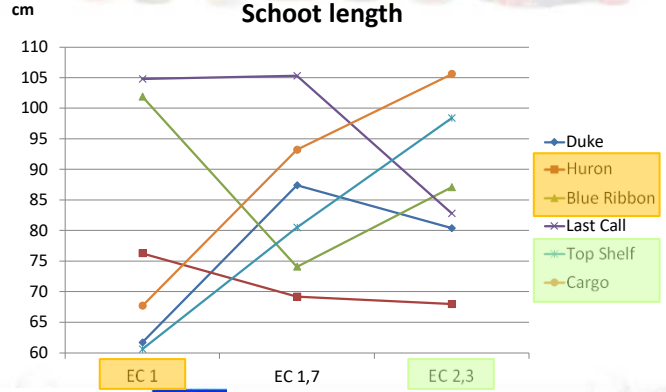
High density planting – EC trial



PROEFCENTRUM FRUITTEELT VZW

11

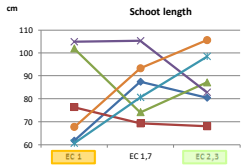
High density planting – EC trial



PROEFCENTRUM FRUITTEELT VZW

12

High density planting – EC trial



Highest production at highest EC level
➔ Less vegetative growth

Highest production at middle EC level
High EC level: too much vegetative growth

PROEFCENTRUM FRUITTEELT VZW

13

High density planting – EC trial

- Suitable for high density planting:
  - Duke & Huron: if pinched in summer
  - Top Shelf & Cargo: at low EC level
- Not suitable for high density planting:
  - Blue Ribbon: production too low
  - Last Call: late variety (not this kind of high density planting)

PROEFCENTRUM FRUITTEELT VZW

14

Low chill varieties in Belgium

- Variety: Ventura FALL CREEK
- Low chill ➔ not frost-resistant
- Planted May 2019 in plastic tunnel
- October 2019 ➔ Glass house
- 12°C (night)/18°C (day)

PROEFCENTRUM FRUITTEELT VZW

15

Low chill varieties in Belgium

PROEFCENTRUM FRUITTEELT VZW

16

Substrate trial

PROEFCENTRUM FRUITTEELT VZW

17

Substrate trial

BVB blueberry mix
25 l/plant (87,5 m³/ha)
no container

BVB Accretio
300 m³/ha

Moss field Finland
No CO_2 production
Regrowth in 15 year
More sustainable with low footprint

BVB blueberry mix
coir/block peat/perlite
300 m³/ha

½ BVB blueberry mix
150 m³/ha + ½ soil
150 m³/ha

PROEFCENTRUM FRUITTEELT VZW

18

Irrigation trial

- Sensible use of water is a hot topic
- Two summers with severe drought
- Using irrigation water as efficiently as possible
  - ➔drip irrigation
  - ➔ monitoring and control of irrigation

PROEFCENTRUM FRUITTEELT VZW

19

Irrigation trial: Monitoring & control

- Two modules of online irrigation monitoring tested:
  - Tensiometer = watermark = suction power of the soil
  - Soil moisture content + EC & soil temperature

PROEFCENTRUM FRUITTEELT VZW

20

Irrigation trial: Monitoring & control

- SOIL/SUBSTRATE BEDS:
  - Tensiometer:
    - Rain ➔ decrease of suction power
    - Visual = OK
    - Compared with soil moisture samples
    - Low correlation
  - Soil moisture content (%):
    - Visual = not OK
    - Compared with soil moisture samples
    - R^2 = 0,9975

➔ **Recalibration is necessary to make the results visually useful for growers**

PROEFCENTRUM FRUITTEELT VZW

21

Thanks for your attention !

miet.boonen@pcfruit.be – piet.putzeys@belorta.be

Financial support:
Demo (2017-15): Diversifiëren is anticiperen
Demo (2017-27): Demonstratie van druppelirrigatie in groenten en fruit
Leader Kempen en Maasland: Irri-WIJS

Partners:

Research Station for Fruit Growing npa – Unit Field Research Berryfruits
Fruittuinweg 1, B-3800 Sint-Truiden – 0032 (0)11 69 70 80 – pcfruit@pcfruit.be

PROEFCENTRUM FRUITTEELT VZW

22