

Optimizing growing strategies soft fruit

Gondy Heijerman

12-1-2023



Worldwide Expertise for Food & Flowers

Content

- ✦ Raspberry
 - Variety demonstration
 - Usage of outdoor screen
- ✦ Blackberry
 - Natural climate circumstances



Trial set up

- ✦ Five varieties planted on May 5 2022.
- ✦ 2,5 pots (2 canes) per m¹.
- ✦ 4,7 liter soft fruit pots.
- ✦ Rain shelters.



White light-diffusing summer screen

- ✦ HARMONY 3015 O E.
- ✦ 30% shading level in direct light.
- ✦ Prevention of light stress / light damage.
- ✦ On warm days, the open structure screen protects and cools while bringing light to the plants from many more angles – stimulating growth and reducing surrounding and plant temperatures.
- ✦ At night it helps to reduce radiated heat loss from the plant.
- ✦ Keeps the stomata on the leaves open.

svensson



Stomata

- ✦ Important role in the water balance and in the photosynthesis of a plant.
- ✦ The position, open or closed, determines the evaporation and photosynthesis.
- ✦ Evaporation is controlled by the difference in relative humidity (RH) between leaf cavities and outside temperature.
- ✦ Due to the screen, the climate is more optimal: plants can retain more water and evaporates less.

Malling Bella



12-8-2022

Yana



12-8-2022

Lagorai



12-8-2022

Vajolet



12-8-2022

Delphy

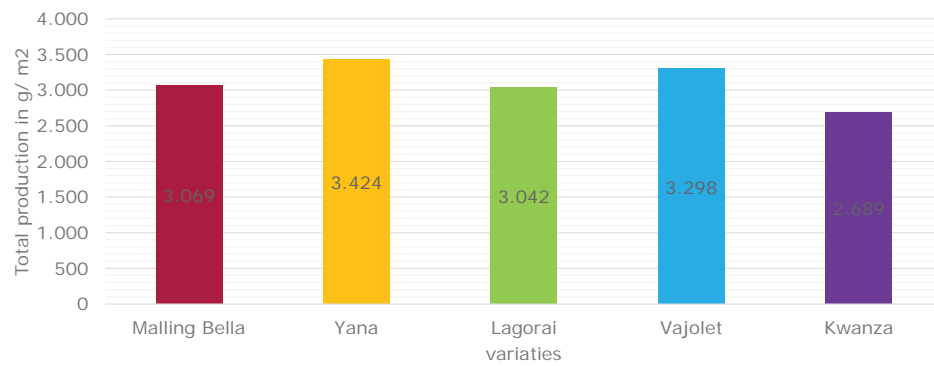
Kwanza



12-8-2022

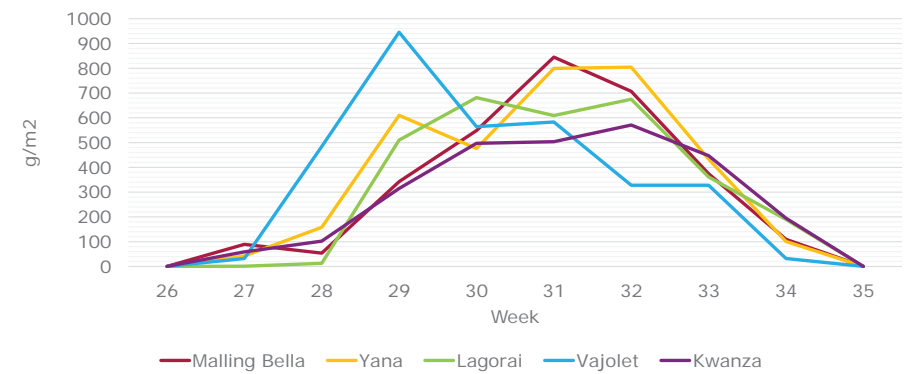
Delphy

Realized production



Delphy

Production pattern



Delphy

Production results

- ✦ Different harvest patterns.
- ✦ Nine weeks after planting first ripe fruits.
- ✦ Vajolet earliest production.
- ✦ Average fruit weight ->
- ✦ Good fruit quality.
- ✦ Yana rather soft fruits.

Variety	Gr/fruit
Vajolet	6.4
Yana	5.8
Lagorai	5.9
Kwanza	5.5
Malling Bella	4.5

Conclusions: raspberry

- ✦ Light diffusing summer screen was quite productive.
- ✦ The variety Yana was promising in terms of production, fruit size and easy-picking.
- ✦ Vajolet was also productive but has a rather small production window.
- ✦ Malling Bella was high productive and is an interesting new variety.
- ✦ Lagorai performed strong on production, labour efficiency and quality.

Blackberry: natural climate circumstances

- ✦ Started in a period of the year with a maximum of light: 29th of June 2022 -> use the natural climate circumstances in an optimal way.



Sweet Royalla 16-9-2022

Trial set up

- ✦ Two tasteful blackberry varieties:
 - Sweet Royalla:
 - 1.66 pots/m¹
 - Von:
 - 2 pots/m¹



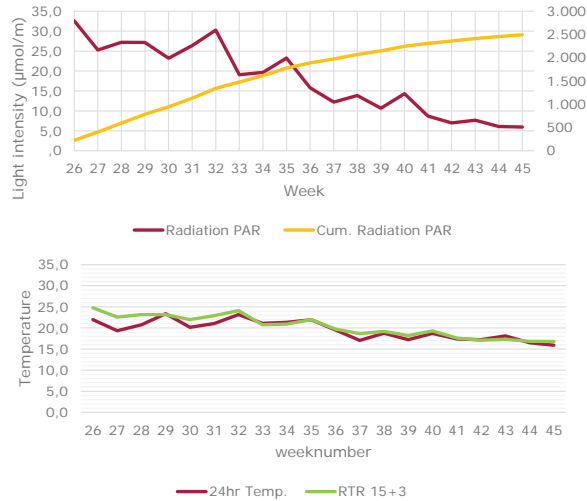
Von 17-8-2022



Sweet Royalla 17-8-2022

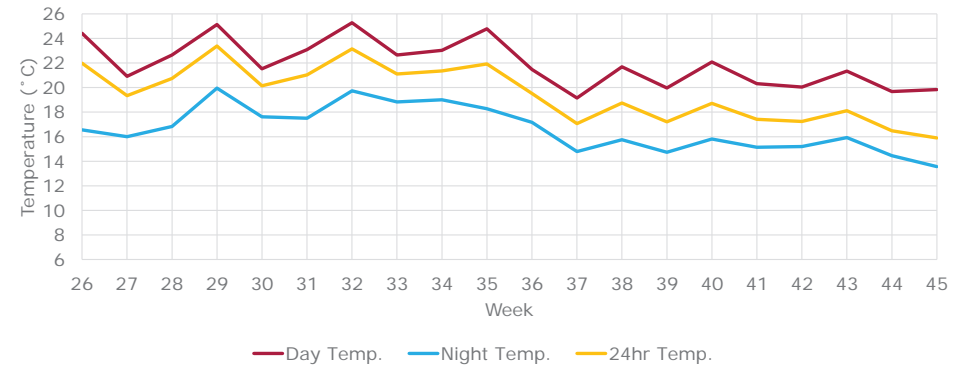
Energy efficient

- ✦ Radiation to Temperature Ratio strategy: 15+3.
- ✦ Temperature rises when radiation increases.



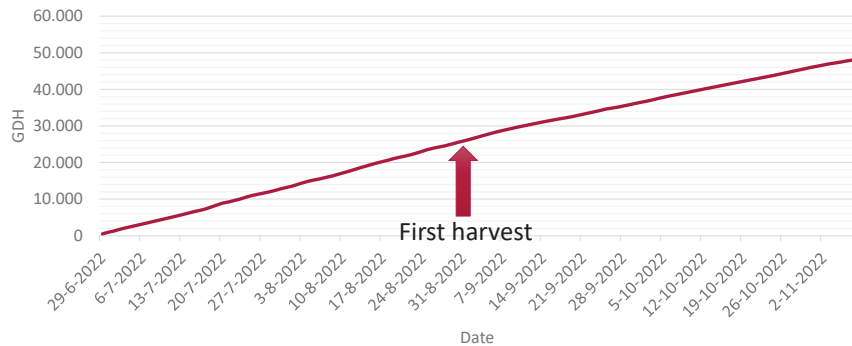
Delphy

Temperature in department



Delphy

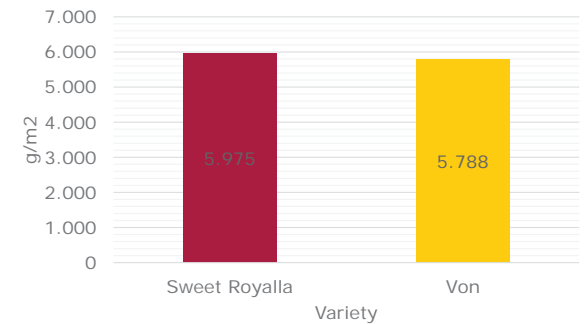
Growing Degree Hours



Delphy

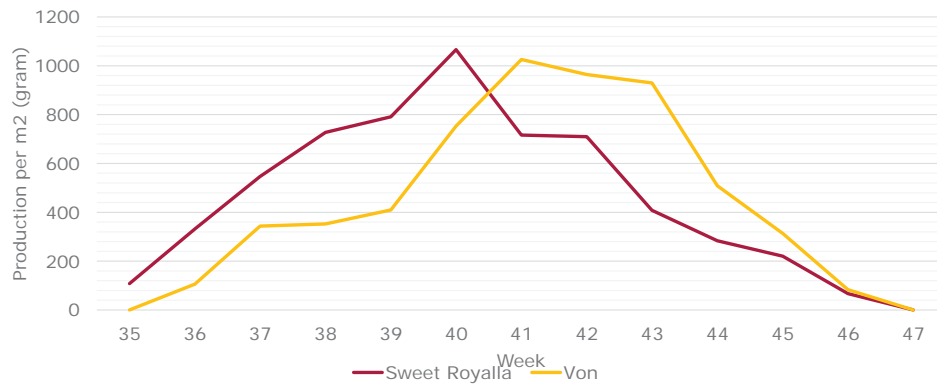
Realized production

- ✦ First harvest 10 weeks after planting.
- ✦ In total 3 m³ of gas was used.
- ✦ Von plants grew really strong.





Delphy

Production pattern



Delphy

Fruits

	Von	Sweet Royalla
° Brix	8.9	10.3
Average fruit weight	9.6	8.0
Flower petals of Von did not drop easily, but did not lead to fruit failure.		

Delphy

Conclusion: blackberry

- ✦ Inside cultivation which starts at the period of the year with the maximum amount of light and therefor the optimal use of the natural growing circumstances and low input of gas, has resulted in high productions and high-quality fruits for as well Sweet Royalla as Von.

Delphy

isfc
INTERNATIONAL
SOFT FRUIT CONFERENCE

Delphy | isfc

THANK YOU FOR YOUR ATTENTION!

Gondy Heijerman, Researcher Softfruit Delphy ISFC
E: g.heijerman@delphy.nl – T: +31 6 82922805



Worldwide Expertise for Food & Flowers