

# Plant resilience

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Johanna Bac-Molenaar, Wageningen University and Research BU Greenhouse Horticulture



# Overview

During presentation write questions/comments in **chatbox**

- What is plant resilience?
- Elicitors and Plant resilience
- Light and Plant resilience
- Conclusion

Questions - discussi

Questions - discussi



# Plant resilience – What is it?

- Plant resilience: Activation of **natural defenses** of the plant
- Irrigation / Fertigation?
- Climate?
- Choice of Substrate?
- Soil composition?



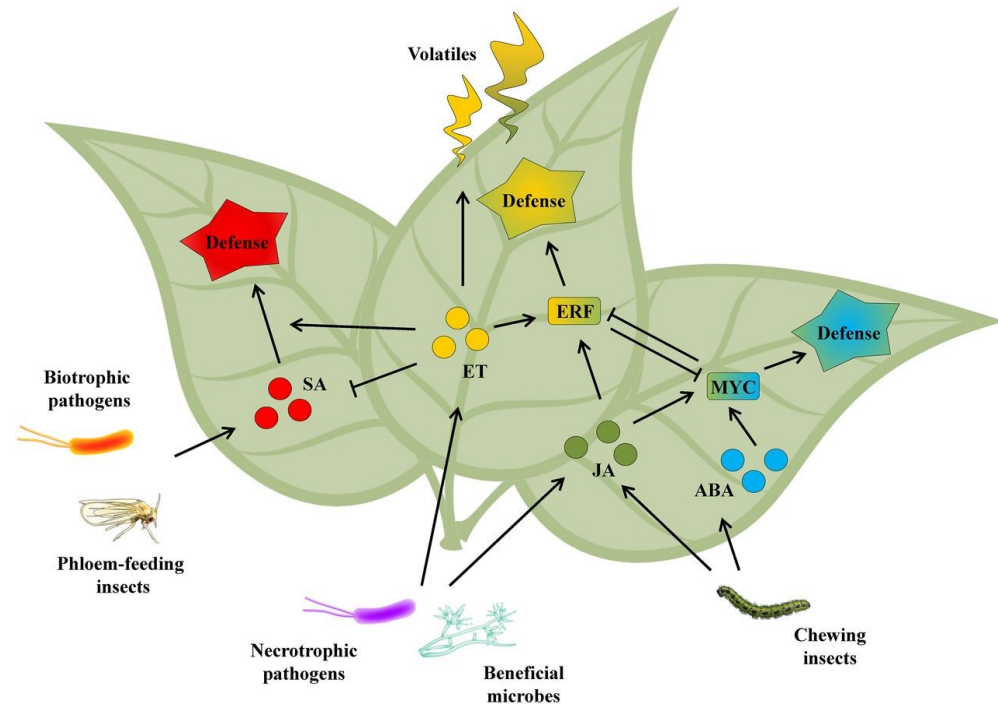
**Resilient  
cultivation sys**



# Plant resilience

## ■ Activation of the natural defenses of the plant by:

- elicitors
- micro organisms
- light
- vaccination

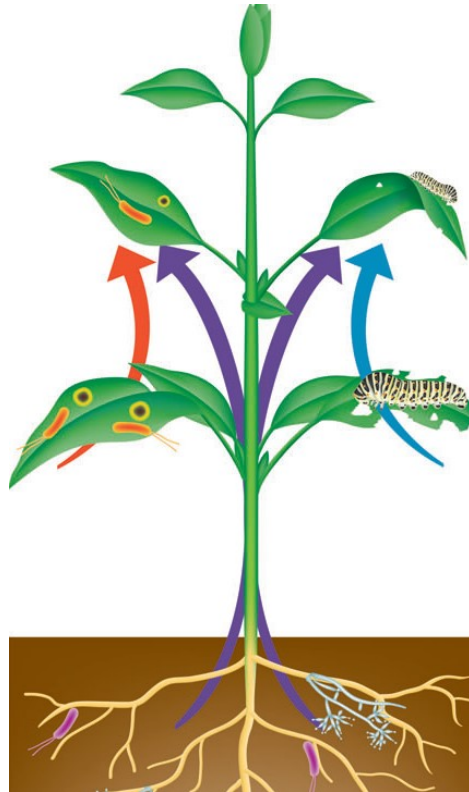


# Natural defenses



**Salicylic acid**

**Pathogens**



**Jasmonic acid**

**Insects**

**Necrotroph pathogens**

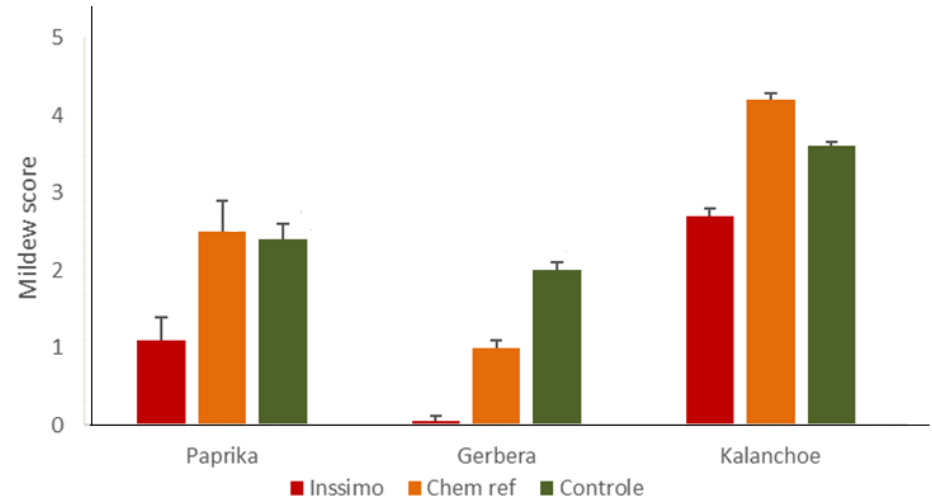
# Activation of natural defenses by elicitors



# Elicitors and resilience

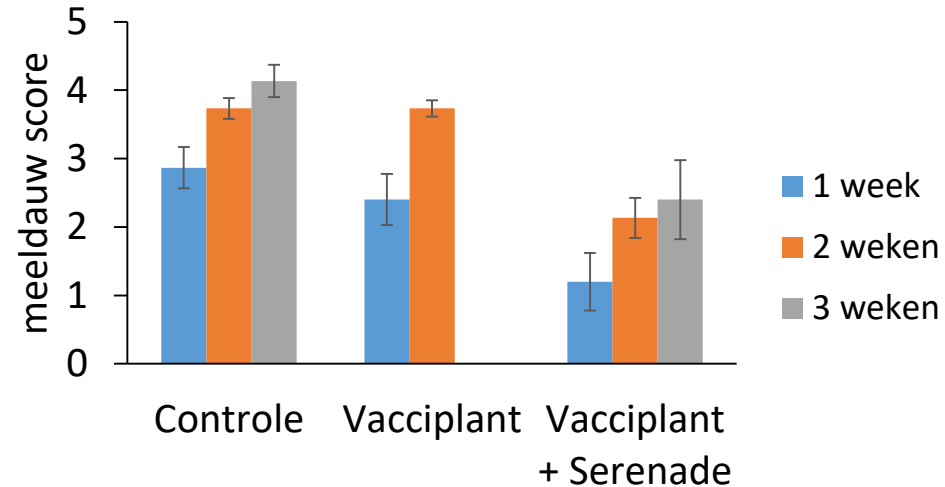


- Inssimo is an analogue of salicylic acid
- Increases resistance to mildew in peppers and gerbera
- Broad effect



# Elicitors and resilience

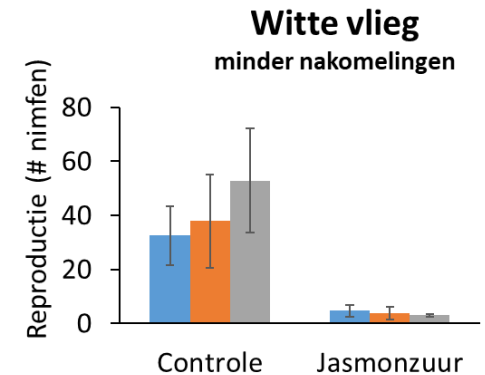
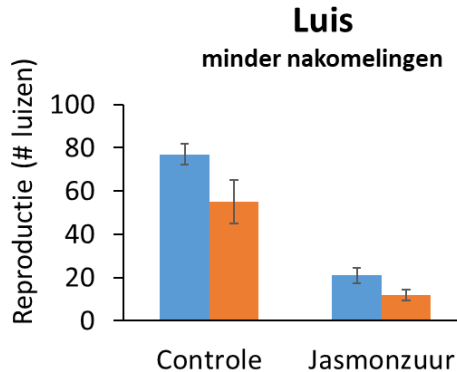
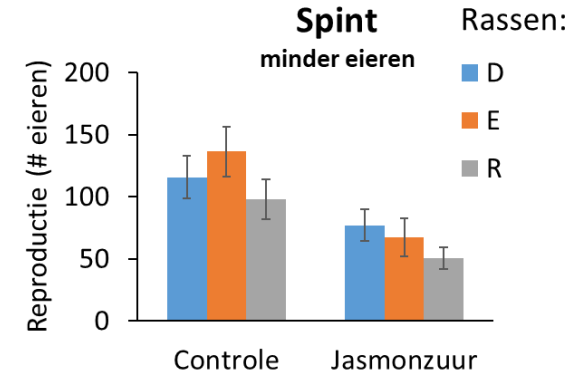
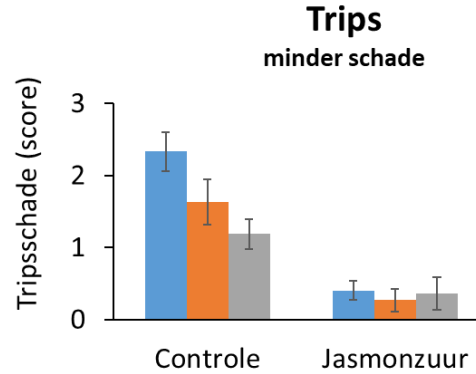
- Vacciplant = elicitor molecule
- Serenade = micro-organism
- Combination has a long-lasting effect on mildew
- Up to 3 weeks after the last treatment



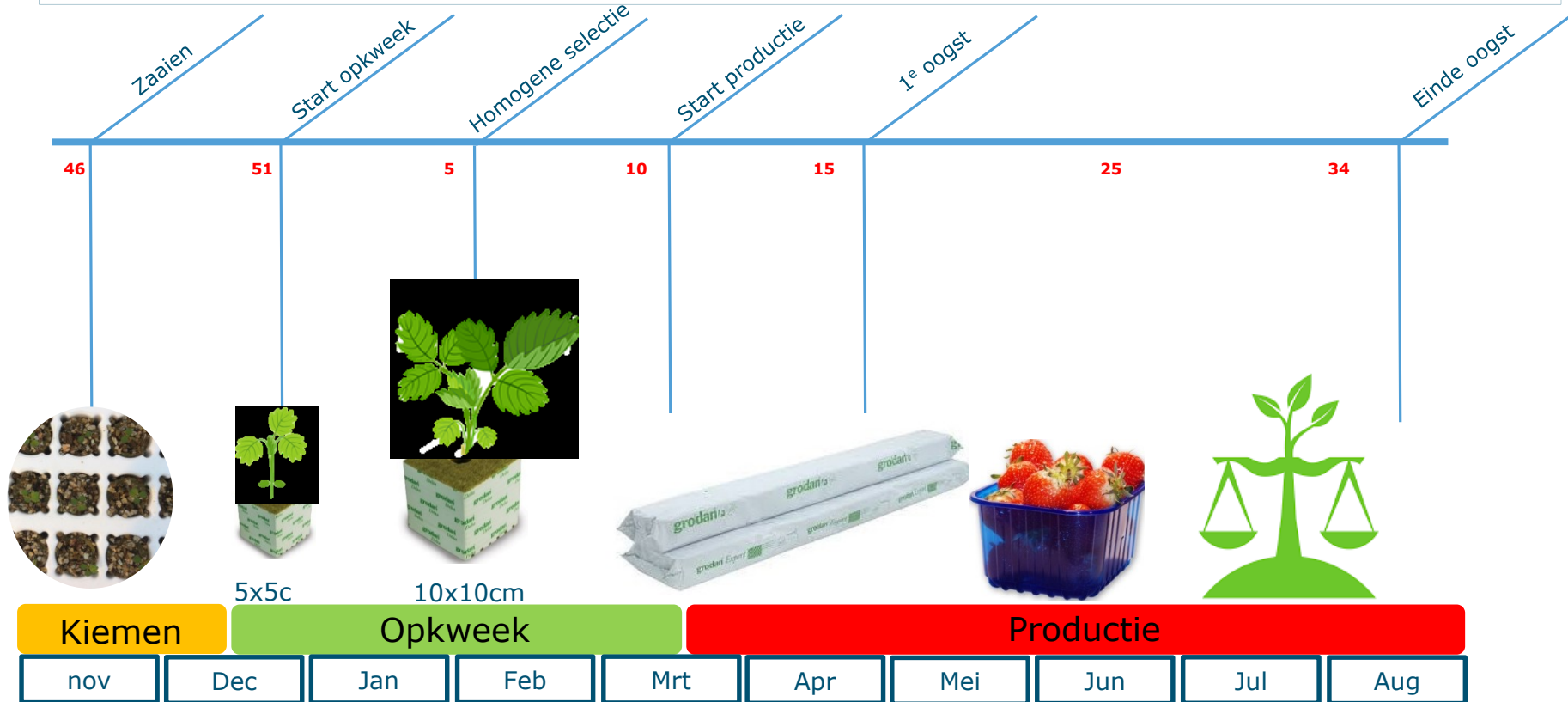


# Elicitors and resilience

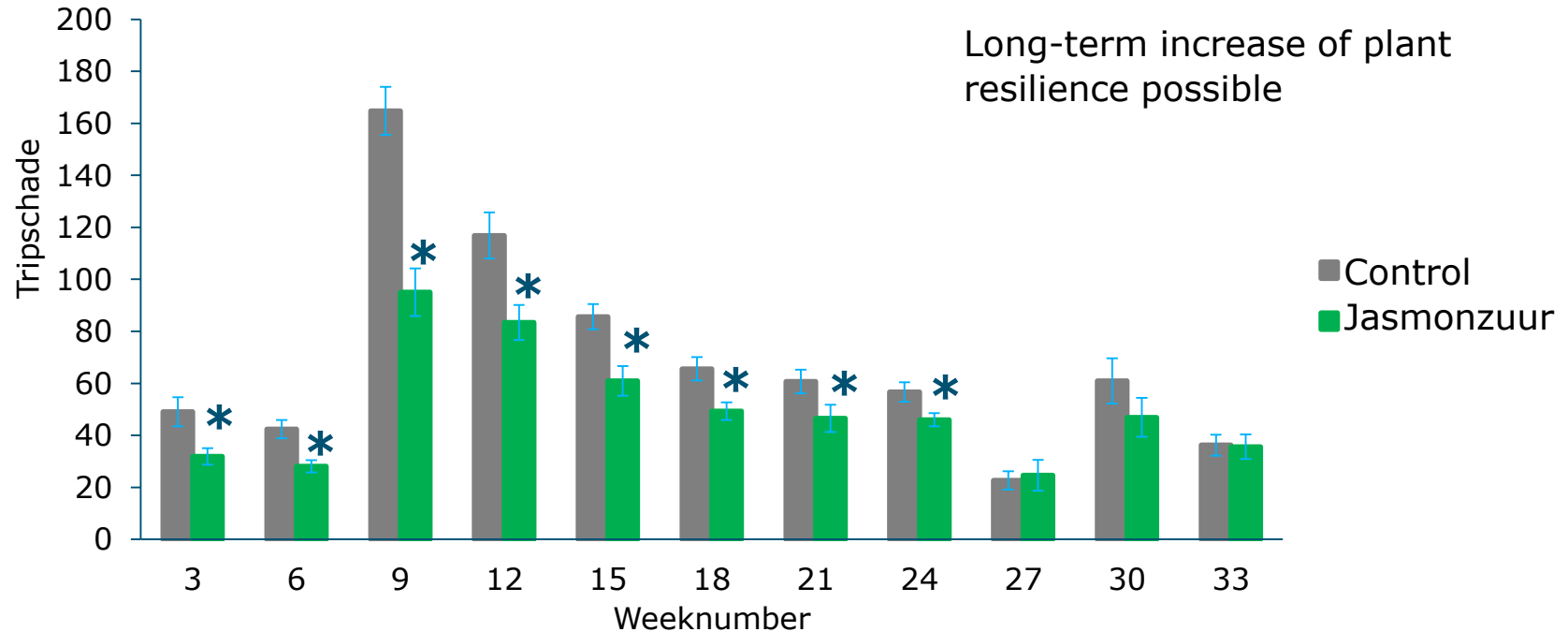
- Effect on thrips, spider mites, aphids and whitefly
- Effect in multiple cultivars
- Broad effect



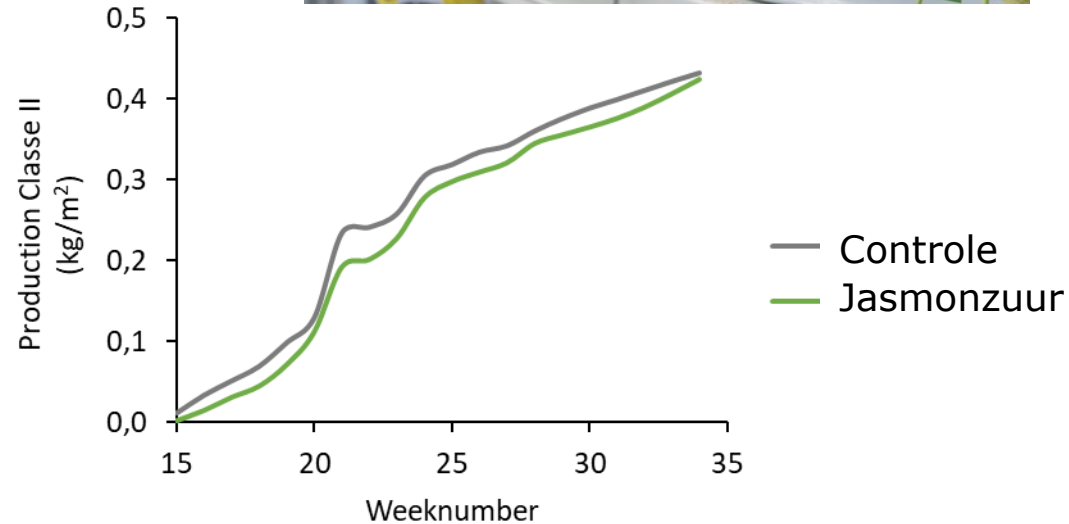
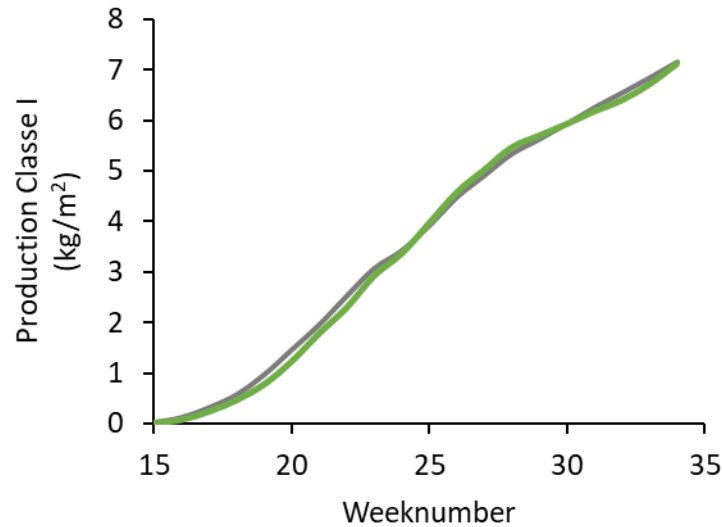
# Plant resilience - entire cultivation cycle



# Apply elicitor every 3 weeks



# No loss of yield or loss of quality



# Questions - Discussion

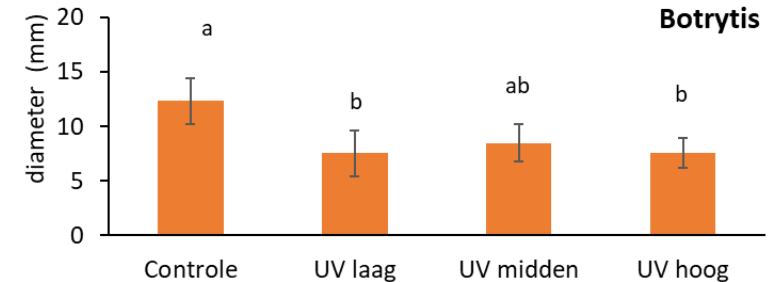
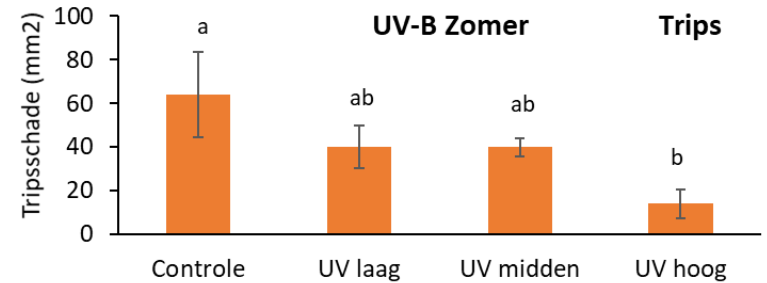


# Activation of natural defenses by light



# UV-B and plant resilience

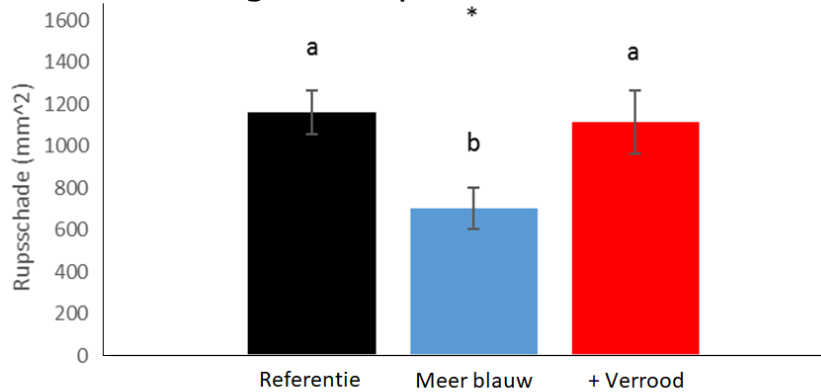
- Increase of resilience by UV-B
  - JA associated
  - thrips and botrytis
- Not ready for application in practice
- Due to variation in sunlight conditions no stable results yet over the seasons



# LED and plant resilience

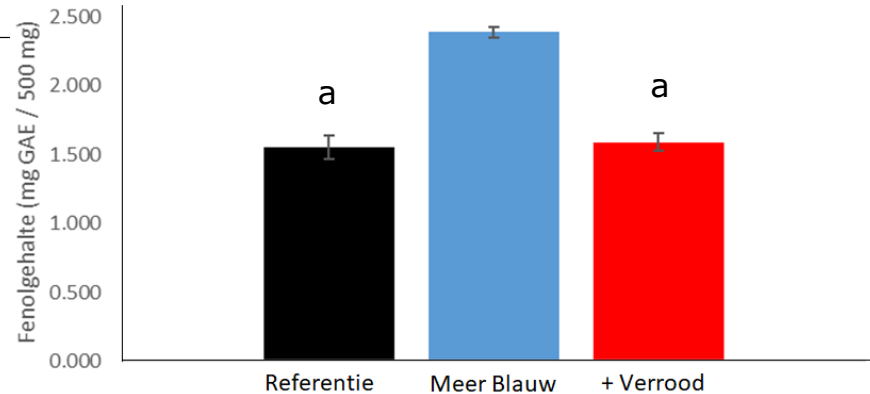


Damage caterpillar



- Interlighting in blackberries
- Less damage, more phenols

Phenol Content



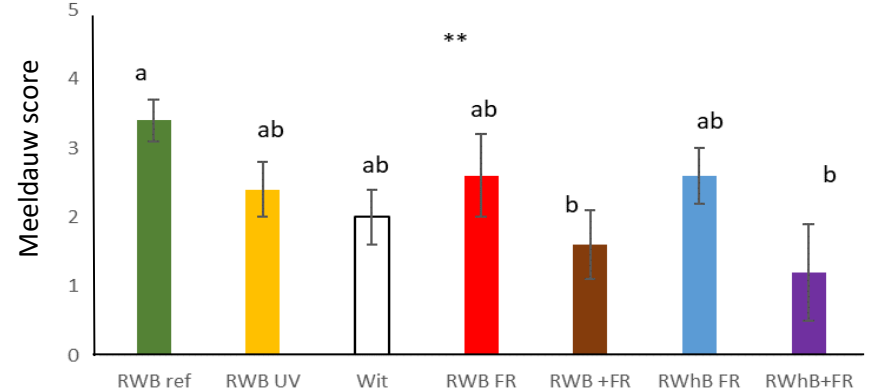


# LED and plant resilience

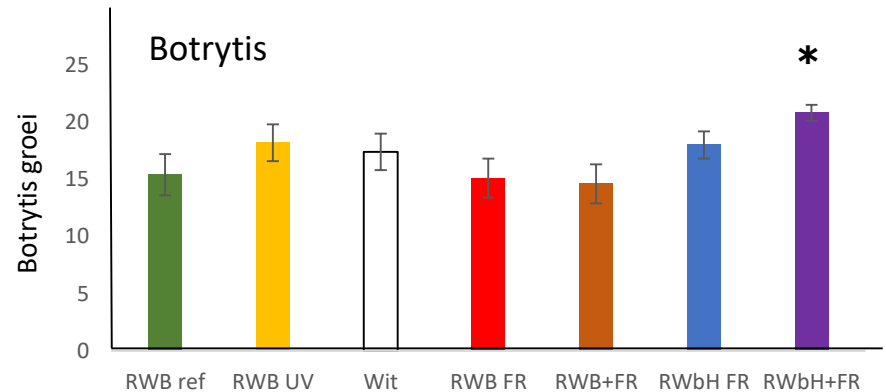
- Additional Farred (FR) suppresses mildew, but not botrytis
- Additional Farred (FR) increases production



## Mildew



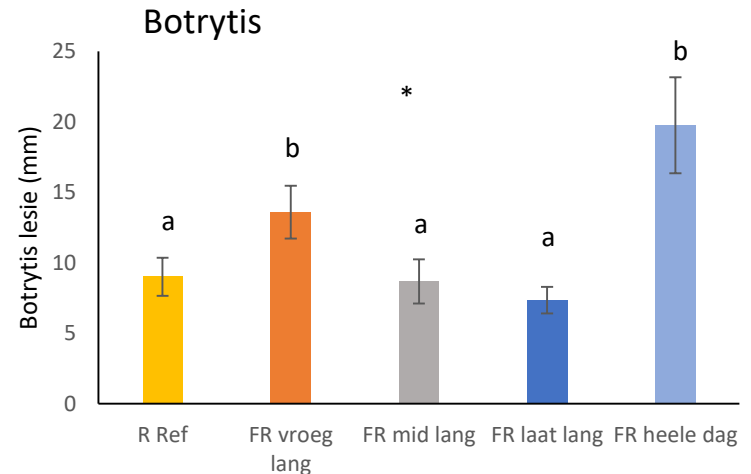
## Botrytis



# LED and plant resilience



- Additional Farred (FR)
  - whole day → extra sensitive
  - 3 hours in afternoon → equal
- Playing with lightspectrum during daytime gives opportunities



# Questions - Discussion



# Conclusion

- Plant resilience is a challenge for all agricultural sectors
- Let's work together!



# Bedankt!



Ministerie van Landbouw,  
Natuur en Voedselkwaliteit



Johanna Bac-Molenaar

Johanna.Molenaar@wur.nl