GreenTech
GLOBAL / AMSTERDAM

IMPACT by T&U through SYNERGY for a
FOOD SECURE, CIRCULAR, CLIMATE NEUTRAL,
SUSTAINABLE & LOCAL Horticulture

IMPACT T&U

11-13 JUNI 2024

3 FUTURE VISION SESSIONS

1
A FOOD SECURE AND CIRCULAR HORTICULTURE

2
A CLIMATE NEUTRAL HORTICULTURE

3
TASTY & HEALTHY HORTICULTURE

JOIN US

GreenTech GLOBAL / AMSTERDAM **VISION STAGE**

TOPSECTOR TUINBOUW UITGANGSMATERIALEN

Resilient cultivation system

Actions below- and above-ground

12th of June, Johanna Bac-Molenaar, Wageningen UR, BU Horticulture

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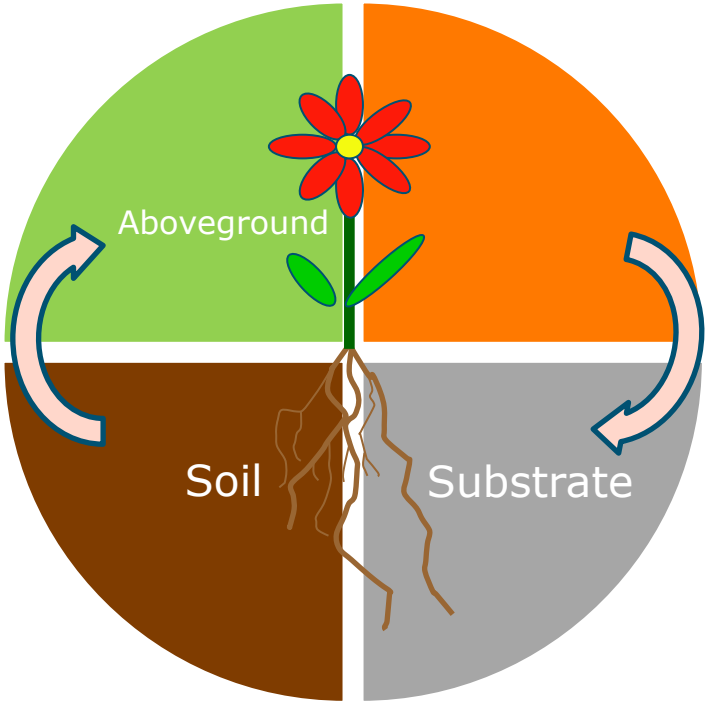
Aim of the project

- Improving Plant resilience
- Improve Soil/Substrate suppressiveness



Focus of the project

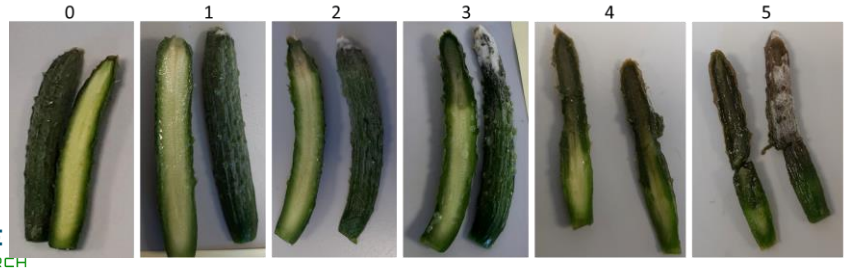
Focus: understanding the mechanism

1. Method to measure plant resilience/soil suppressiveness
2. Mechanism → microbiome and metabolome
3. Plant resilience during the cropping period

Cucumber – Method development

Cucumber - Mycosphaerella

- Measuring plant resilience multiple times during the cultivation cycle without introduction of disease in the greenhouse
- We developed a detached leaf- and detached flower-assay



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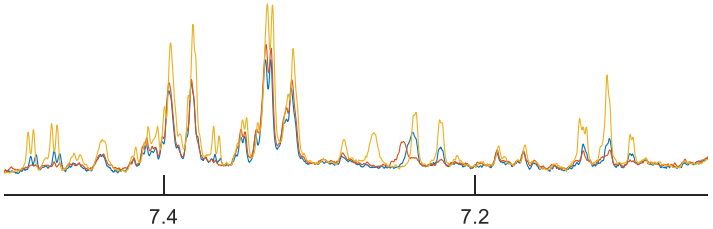
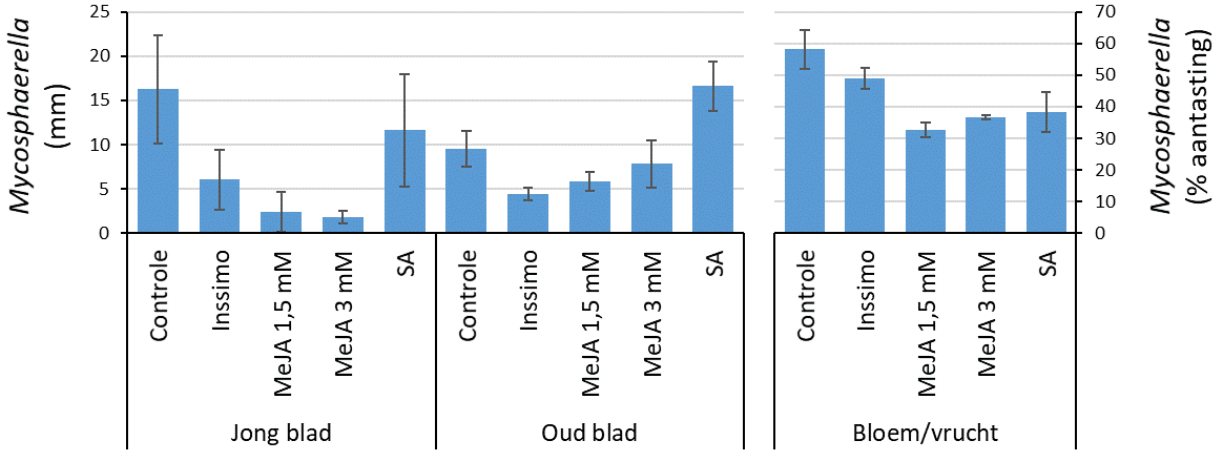
Cucumber – Induced defense

metabolomics



Cucumber – Mycosphaerella

- Detached leaf- and detached flower assay use for measuring induced defenses



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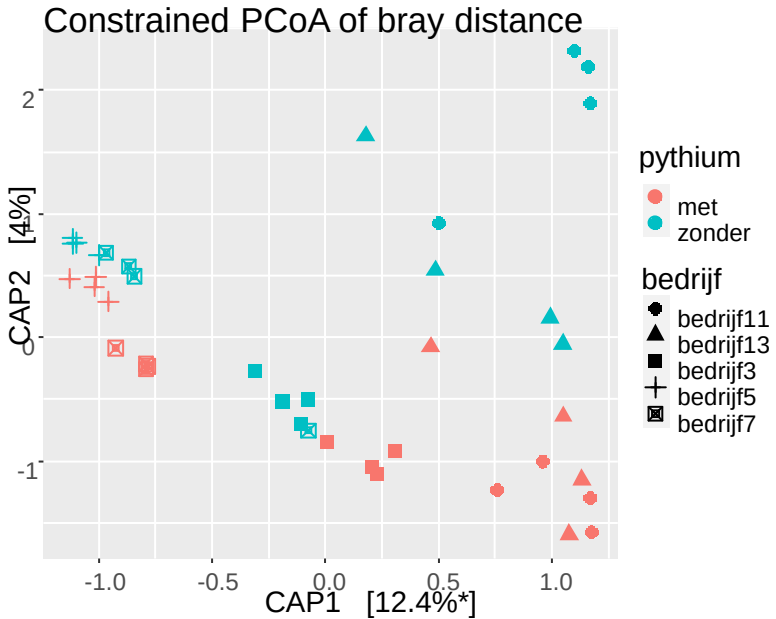
Microbiome – Mechanism

- Sampling at 5 cucumber companies
    - Slabs with and without Pythium symptoms
- Each company has its own microbiome composition
- Similar results for Chrysanthemum



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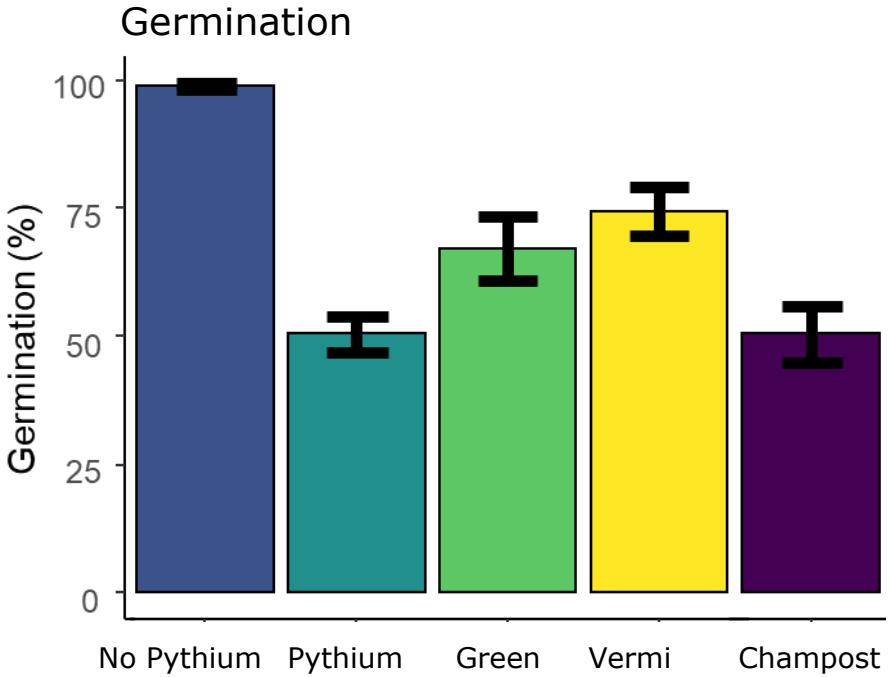
Compost – During cultivation

Cucumber

- Addition of compost to increase substrate suppressiveness against Phytium → stirring start microbiome



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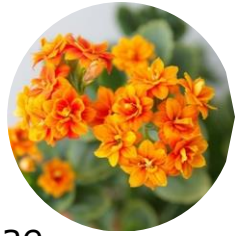
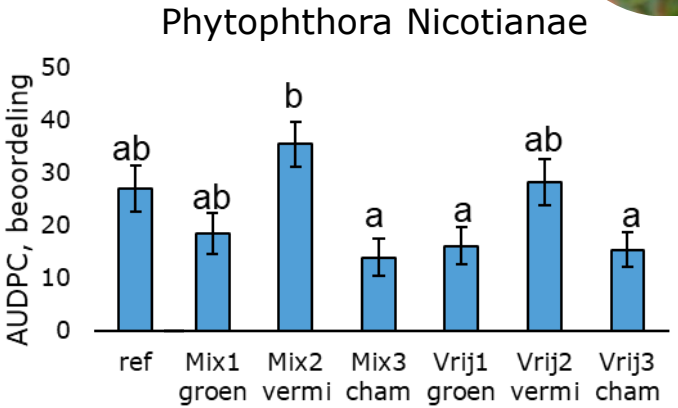
Compost – During cultivation

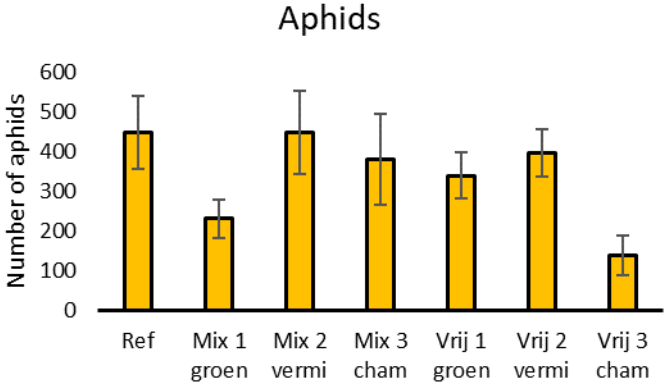


Kalanchoe

- Addition of compost to substrate mixture → stirring start microbiome

- Change of mixture has impact on aboveground resilience (aphids) and soil suppressiveness





Thanks!

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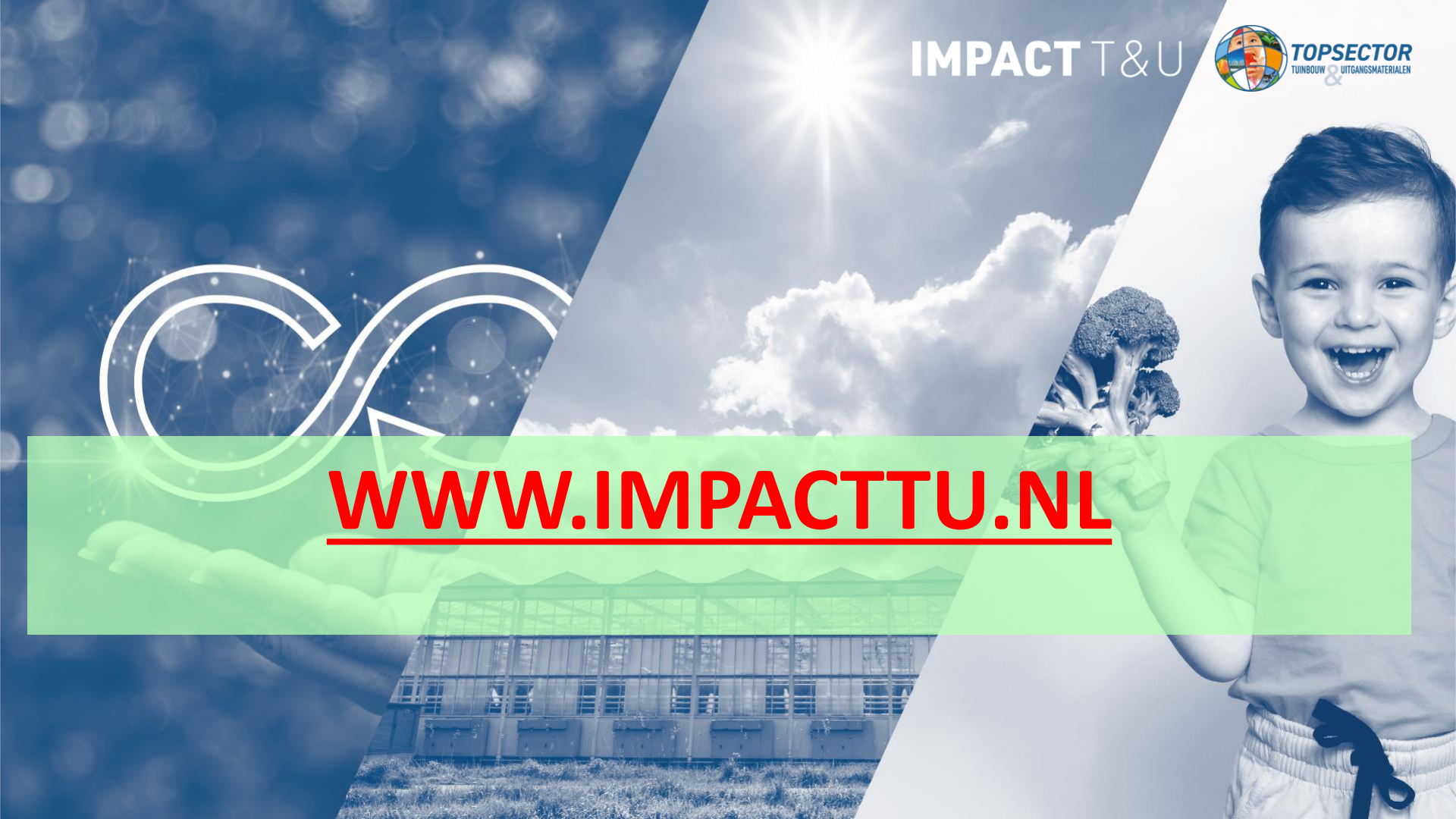
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