# New cultivation systems

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# New cultivation systems

## Vertical Farm; rassen screening paprika

- kunnen we paprika daglichtloos telen?
- Welke rassen zijn het meest geschikt voor de cellen die we hebben gebouwd?

G4P4 Kansen voor West II

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# Nieuwe teeltsystemen

**BEST-kas; energie zuinig telen en nieuwe gewassen**

- Buiten teelten naar binnen halen
- Kwetsbare eigenschappen van gewassen/ rassen minder kwetsbaar
- Rassen screening & teeltsysteem meloen

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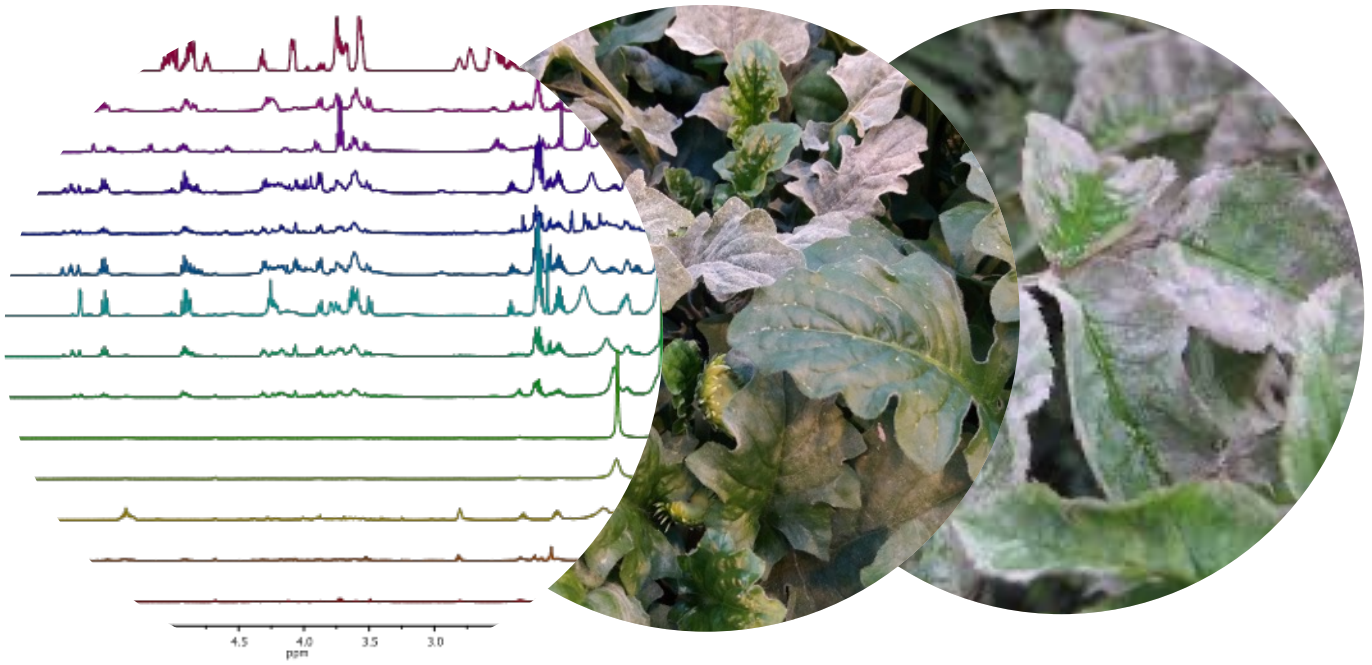
# Natural resilience Mildew

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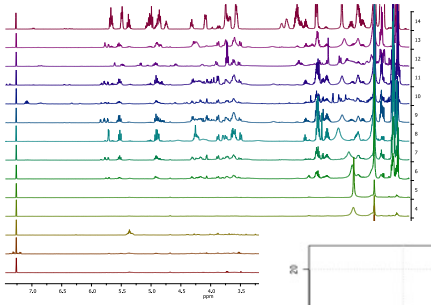
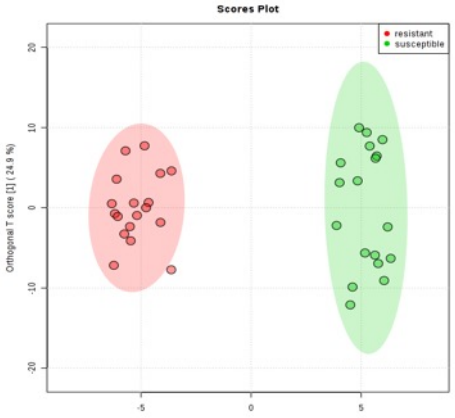
TOPSECTOR TUINBOUW & UITGANGSMATERIALEN

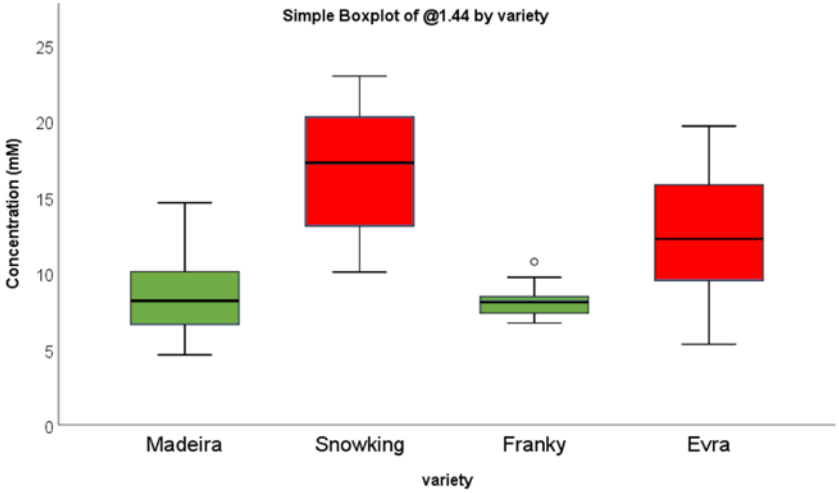
Glastuinbouw Nederland

Royal Flora Holland

# Eco-metabolomics approach






- Collect leaf samples of susceptibel ( green) and less susceptible (red) cultivars in the greenhouse at breeders and growers
- Compareison of profiles using NMR – metabolomics
- Identifying chemical plant compounds (markers) involved in mildew resilience

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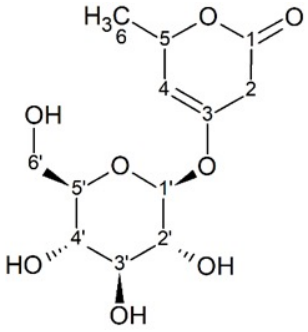
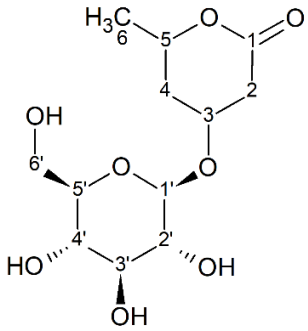
# Resilient - susceptible

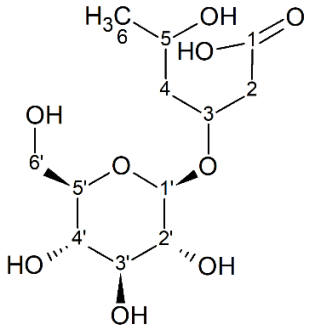
Chemical plant compounds involved in mildew resilience



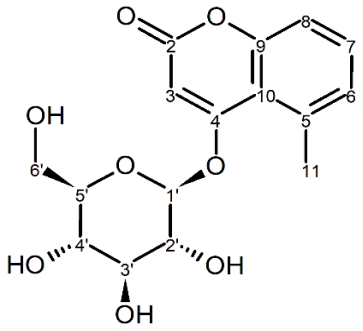
**GERBERIN**



**PARASORBOSIDE**



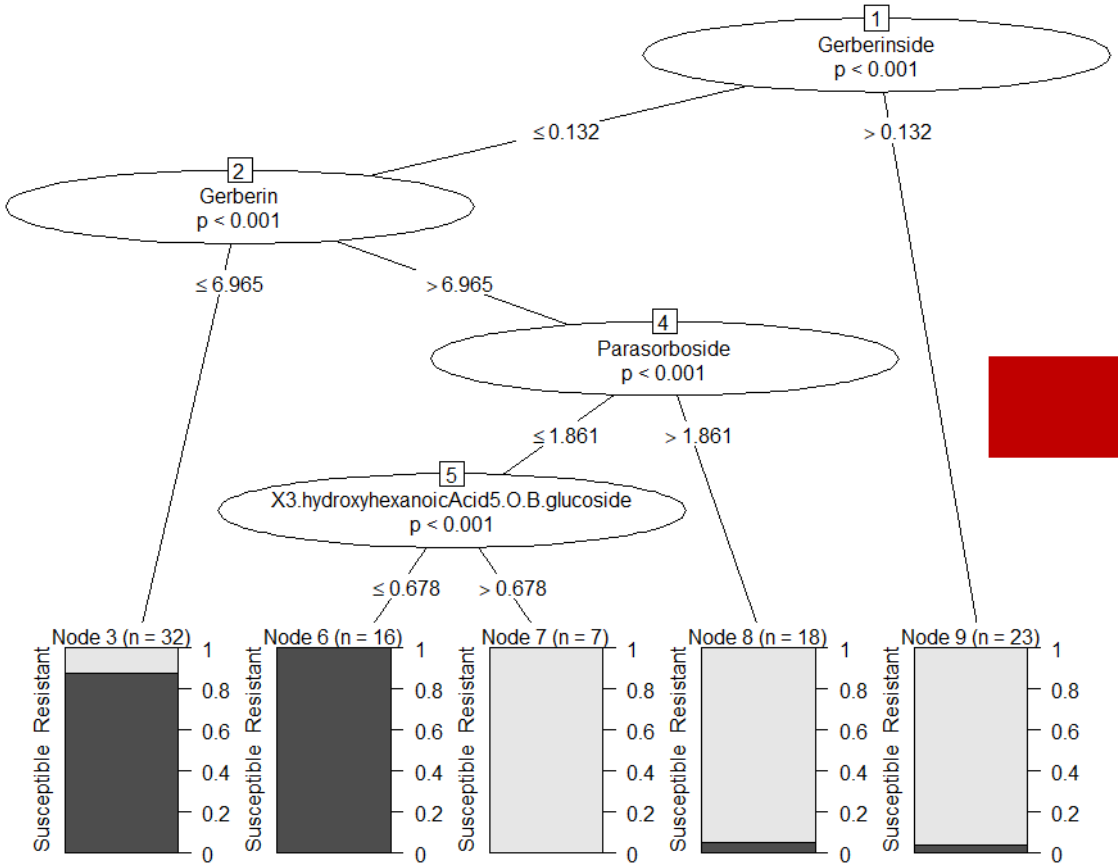
**5-HYDROHEXANOIC ACID 3-O-β-D-GLUCOSIDE**



**GERBERINSIDE**

Mascellani en Leiss et al. 2022 Frontiers in Plant Science 12

# Prediction of Mildew Resilience




development bio- of genetic markers mildew resilience -> breeding

Decision-tree model with concentration in mg/g dry weight

Blocks: probability of resciliance waarschijnlikheid (grey) and suseptability (black)

52 samples of 45 cultivars at 3 locations

Prediction susceptible: 44 % accurate

Prediction resilience: 72% accurate

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