







#### Panel: New Innovations, Vertical farming, Precision Tools + Biological Innovations to Enhance Growers Bottom Line

Panel Chair: Michael Gilbert, CEO & Founder, Semios Panelists: Sarah Placella, CEO, Root Applied Sciences Keren Moshelion, CEO, Plant DiTech





# Dr. Sarah Placella

PhD Soil Microbial Ecology University of California Berkeley
Researcher at Kellogg Biological Station (Michigan State) and
INRA (France)
Scientist in biotech and agtech

Founded Root Applied Sciences in 2018 to

bring useful, accessible tools to growers









# Airborne Pathogens

Current management practices are

- Wasteful, expensive, and still not completely effective
- Prophylactic or require early visual identification

**\$32B** Spent annually on fungicide applications 70%

Crop loss due to disease is from fungi

#### \$90B

Global annual crop loss due to fungi







# **Automated Pathogen Monitoring**





## **Independent Validation**



Full crop cycle with 11 time points

Consistently collected **1-2 orders of magnitude more** spores than the industry standard devices used in airborne pathogen collection

"Your new type of spore traps performed better than the impaction spore traps at almost every date compared with both P. effusa and B. lactucae detection"











## Mrs. Keren Moshelion



Over 25 years in various business management roles in global hi-tech businesses

Entrepreneur and Co-founder of Plant-DiTech

CEO of Plant-DiTech since 2016

Commercialized Plant-DiTech's tech, developed at the Hebrew University of Jerusalem, Israel





# The Phenotyping Bottleneck

- □ Long R&D cycles, at least 2-4 years
- Subjective whole-plant performance
- Profiling plant plasticity in a changing environment
- Quantify nutrients-use-efficiency in different environments (regulations)





#### The PlantArray system – Fully automated







□ Fully automated

Physiology profile

Environment

Shoot & Root

Simultaneous

~500 times a day







#### **Real-time analysis**



#### Well irrigation



Transpiration heat map

plantDitech



#### Distinguished Customers





#### Biostimulants case-study (ICL)

Real-time clear cut quantified and statistically analyzed results, within 2-5 weeks only







