Module 1 – Foundations of Sustainable Agri-Food Systems & Circular Economy

Speaker Card

Video Spotlight: Bridging Academic Research & Practical Applications for Climate-Smart Agriculture

Speaker: Deborah Pagliaccia
Affiliation: Professional Researcher, Department of Microbiology and Plant Pathology

Summary: Dr. Deborah Pagliaccia is a scientist and agricultural leader dedicated to transforming research into practical, climate-smart farming solutions. Drawing from her early experiences on a diversified family farm, she understands the complex balance between productivity, sustainability, and economic viability. As the founder of **Lab to Farm**, she connects cutting-edge agricultural science with the needs of farmers, industry, and policymakers—helping to build resilient, resource-efficient, and circular farming systems.

Websites:
https://www.labtofarm.org/ Initiative
UCR Global Food Initiative Co-Chair

Speaker Background:
Dr. Pagliaccia's career blends scientific innovation with real-world agricultural impact. She leads an interdisciplinary research hub that addresses global challenges in food security, climate resilience, and sustainable food systems. She has spearheaded federally and state-funded projects on drought-resilient crops, microbiome-driven plant health, citrus improvement, molecular diagnostics, and sustainable waste transformation. Her leadership extends to the citrus industry as Executive Director of the California Citrus Nursery Society and a founding architect of the National Citrus Nursery Association, where she helps shape policies that safeguard growers and foster innovation. Over her career, she has mentored more than 45 students in sustainable agriculture, equipping the next generation with both technical knowledge and practical skills.

Social Impact:
Through Lab to Farm, Dr. Pagliaccia is advancing climate-smart agriculture by making science actionable and accessible. Her initiatives support farmer adoption of new technologies, promote youth engagement in agriculture, and strengthen industry–research collaboration. By integrating plant engineering, soil microbiome management, and resource-efficient practices, her work contributes to a more sustainable, resilient, and equitable agricultural future.

Student notes/reflections:

Primary Reflection Prompt

Dr. Deborah Pagliaccia's work focuses on turning agricultural science into real-world solutions that build sustainable, circular food systems. Thinking about what you learned in Module 1, reflect on this question:

How does Dr. Pagliaccia's approach to integrating research, industry, and policy connect to the principles of People, Planet, and Profit, and how could her strategies help redesign our current linear food system into a circular one? Provide at least one concrete example inspired by her work or the case studies from the slideshow.

Alternative Prompts

1. **Systems Thinking Connection**
   Dr. Pagliaccia works to close broken loops in agriculture by using innovations like microbiome-driven plant resilience and waste-to-resource technologies. How could these strategies be applied to a local food system you know (such as your school cafeteria or a nearby farm)? Map one "before" (linear) loop and one "after" (circular) loop to illustrate your idea.

2. **Case Study Link**
   Module 1 showed examples like Sicily's citrus peel loop and bourbon mushroom production. Which of these examples best reflects the type of work Dr. Pagliaccia does? Explain how this example meets the triple bottom line (People, Planet, Profit) and what you might add to make it even more sustainable.

3. **Personal Action Lens**
   Dr. Pagliaccia mentors young scientists and farmers to create climate-smart innovations. If you were part of her Lab to Farm team, what project would you propose to address one sustainability challenge in your community? Describe your idea, the loop it would close, and one potential social, environmental, and economic benefit.