

# THE EMERALD CONFERENCE

Produced by MJBizScience

February 27 - March 1, 2022  
[www.TheEmeraldConference.com](http://www.TheEmeraldConference.com)

## **Lean Cultivation: How AI and a Digital Twin Model Can Revolutionize Cultivation**

**Speaker:** Ian Seiferling, CEO, Adaviv

**Abstract:** McKinsey & Co has recently highlighted that AI and digitally enabled advancements are unleashing value equivalent to 20% plus efficiency improvements across multiple industries, often by building resiliency against uncertainty. Crops are complex, biological systems and growers that want to survive the uncertainty and growing pains as the cannabis industry matures will need to leverage those innovations to leapfrog competition, differentiate and hit sustained profitability. Digital tools that can automate routine tasks, track the status of plants and end-to-end processes in real time, or identify patterns in daily performance (plants and people), will boost team coordination, empower plants to grow to their highest potential and uncover bottlenecks in the cultivation workflows.

We will explore the opportunity to leverage plant-level data and AI to capture opportunities in cannabis cultivation workflows for labor hour reduction, quality yields and harvest-to-harvest production consistency. As a case study, we will deep dive into the Integrated Pest Management workflow.

Pest and disease are responsible for 20-40 % of crop losses. The cannabis industry is especially susceptible to these losses due to its restrictive treatment regulations that leave cultivators with a limited solution set relative to other crops. Human scouting becomes prohibitively costly as cultivation size scales, making the detection and actuation even more challenging. We will discuss how AI-enabled early detection of issues (pest, disease, microclimate hotspots and equipment failures), targeted and preventive treatments and spatio-temporal tracking become paramount and how achieving these efficiencies requires, both, plant-level data and highly coordinated workflows.