Task Force for Cannabis Environmental Best Practice

Grower Panel
Cannabis Cultivation

Outdoor Cultivation

- Most energy efficient
- Least cost prohibitive
- Worst perceived quality
- Higher risks due to climate exposure

Greenhouse Cultivation

- Efficiency, cost and perceived quality range, sometimes drastically
- Still subject to crop risks depending on level of exposure

Indoor Cultivation

- Least energy efficient
- Most cost prohibitive
- Best perceived quality
- Less climate based crop risks
Desired Outcomes

1a) Quality (qualitative and quantitative)

1b) Quantity (lbs. or grams per light)

2) Limited Ops Costs (lower electricity/water bill and payroll)

3) Differentiation/Marketability- importance increasing rapidly with more competition

*** Energy and Water efficiency not only equal lower costs, but also increased marketability and market differentiation ***

Key Questions

➢ Can we link efficiency to better quantity and quality also? Can we prove it with research and information?

➢ How can we help link their efficiency to marketability and market differentiation?
  ➢ Ex. Tax breaks or incentives for dispensaries who source a certain amount of their product from energy compliant or certified production facilities?
Energy and Water Efficiency
Best Practices

Mind of the Machine
- Efficient equipment
- Lighting, fans, pumps
- Intelligent features an added benefit

Mind of the Grow Room
- PLC or “Smart relay”
- More sensors = More data
- System integration
- Maximize process control

Mind of the Designer and Operator
- Cultivation designers are key
- Process improvements
  - Rainwater collection
  - Drip irrigation
- Operators have the most interaction
- INCENTIVIZE!!!!
Barriers to Implementation

• Cost
  • Limited access to financing
  • Market instability

• Capability
  • Dependable information
  • Technical assistance
  • Changing technology

• Culture
  • Limited focus on efficiency historically
  • Indoor is perceived as superior and preferred by most buyers and consumers
  • Few incentives other than savings
# Efficiency Recommendations

## Areas of Improvement

### Mind of the Machine
- Incentivize equipment purchases

### Mind of the Grow Room
- Incentivize efficiency studies/projects

### Mind of the Designer, Owner, Operator
- Feasibility studies
- Design assistance

## Barriers to Improvement

### Cost
- Incentivize equipment purchases
- Increase efficiency studies/projects
- Feasibility studies
- Design assistance

### Capability
- Increase equipment info
- Innovation centers
- Increase tech assistance
- Design assistance
- Information sharing
- Design community

### Culture
- Independent local product comparisons
- Innovation centers
- Promote best practices
- Incentivize dispensaries and producers
- Utilize industry organizations
Questions