



# Uneaten Food

Ed Harwood, Ph.D.

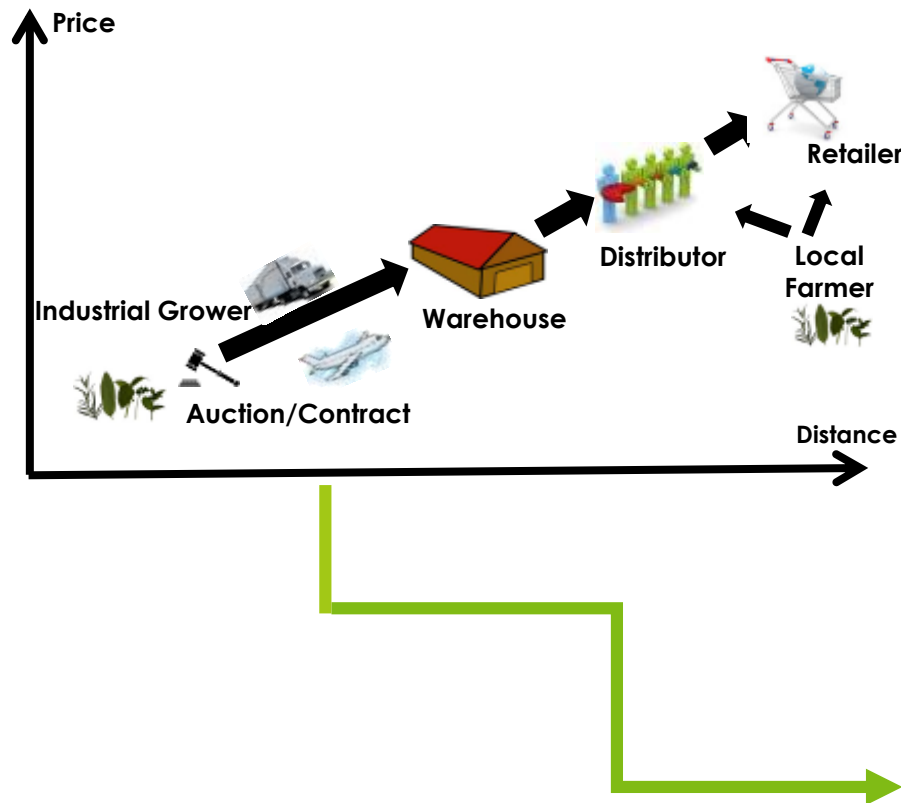
Inventor, Co-Founder, CSO



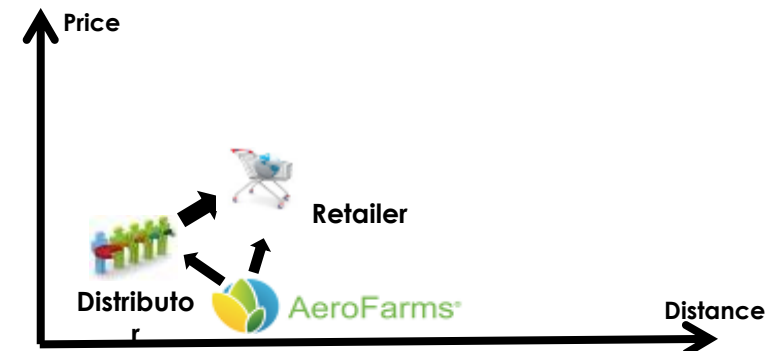


- ✓ No sun, soil, or pesticides
- ✓ 95% less water used
- ✓ All year round
- ✓ Anywhere
- ✓ Local employment
- ✓ 300:1 - floor:land
- ✓ **Control plant inputs for desired outputs**

# We Disintermediate the Supply Chain



- Multi-tier distribution and intensive handling eliminated
- Grown locally**
- From **farm to consumer** in as little as a day
- Product remains **fresh** and **nutritious**



# Manage waste (not found value yet)

Added Value

- ✓ Make it better (last longer, taste better, make more effective)
- ✓ Use it
  - ✓ Food
  - ✓ Ingredient
  - ✓ Raw material
- ✓ Protect it (pkg, temp, RH, MA)
- ✓ Transform it (dry, process, reduce BOD, digest)
- ✓ Dispose of it

## Small plant parts to use



- Secondary metabolites

- Sap

- Sugar

- Starch

- Color & Fragrance

***Molecular  
Farming***

- Shoot

- Flower

- Stem

- Root

- Fruit



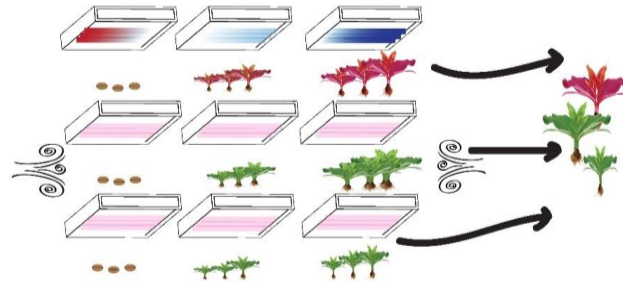


# DEFINING STRESSORS TO MANAGE PLASTICITY AND QUALITY IN LEAFY GREENS

Seed choice narrowed by Cornell and AeroFarms



For each seed planted many Phenotypes expressed at AeroFarms via unique abiotic stressors.



Rutgers provides **PHYTOCHEMICAL** and **SENSORY** analysis, Combined with AeroFarms visual and mechanical analysis.

**RUTGERS**



Correlations calculated between  
1) Stressor inputs,  
2) Sensory outputs, and  
3) Phytochemicals

Optimize on phytochemical content

AeroFarms / Rutgers iterate to create unique and desirable phenotypes



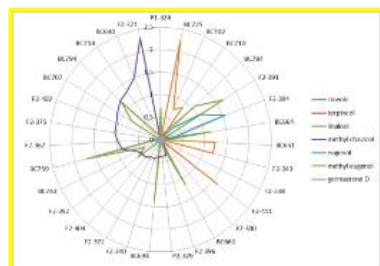
## Project Plan

- Iterative Experiments define abiotic stressors, document phytochemicals produced and confirm sensory desirability
- Enables optimization of growing recipe leading to desired phytochemical concentrations



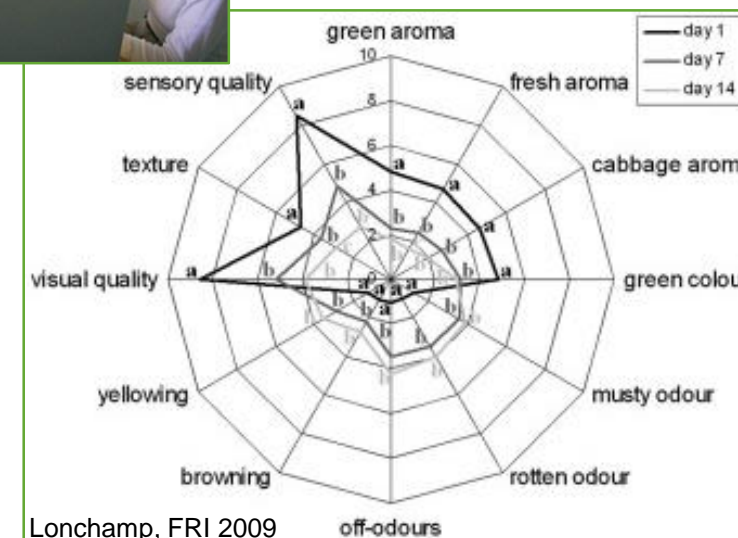
# Correlating Changes with Consumer Demand

## Phytochemical Content Jim Simon Lab, Rutgers Univ



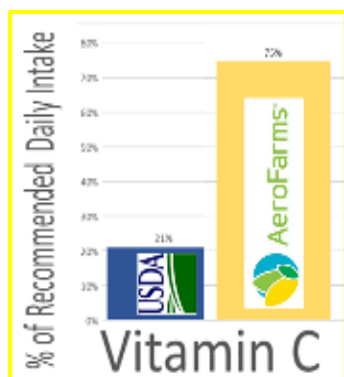
Metabolites

## Sensory Panel Beverly Tepper Lab, Rutgers Univ



Lonchamp, FRI 2009

Organoleptic Profile



Vitamin Content



Kim, FRI 2018

Color, Morphology



Marketing







# Needed

- 🌿 Standards
- 🌿 Grant collaborators
- 🌿 Graduates & Courses
- 🌿 Sensible regulation
- 🌿 Sensors → knowledge
- 🌿 Discovery



# Opportunities with AeroFarms

- 🌱 Internships
- 🌱 Employment
- 🌱 SBIR partners

**AeroFarms.com**