



Uneaten Food

Ed Harwood, Ph.D.

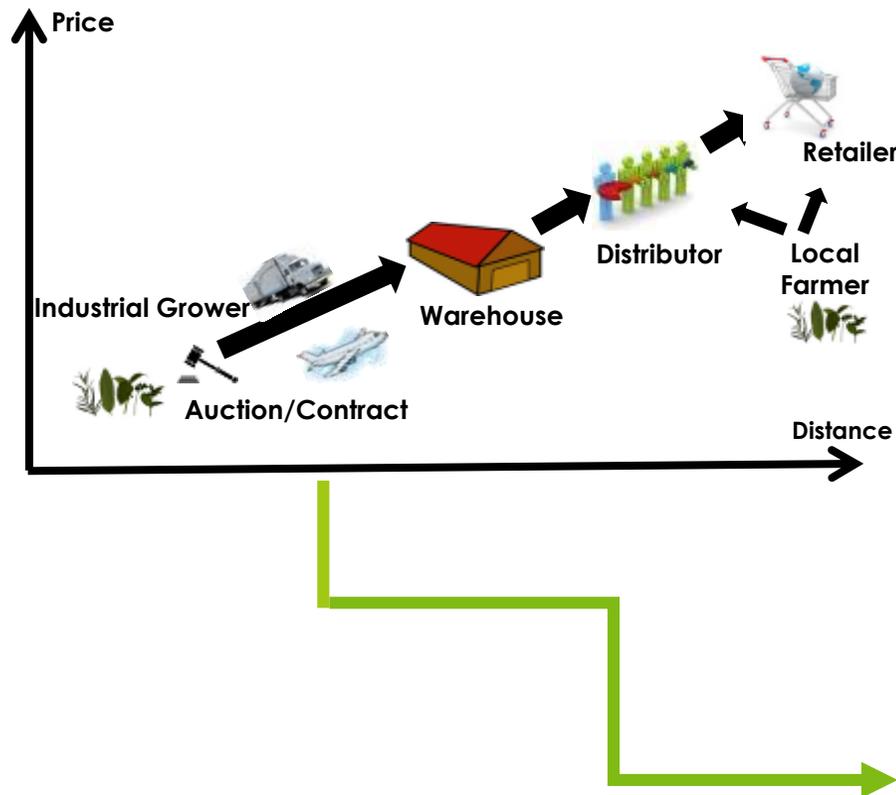
Inventor, Co-Founder, CSO



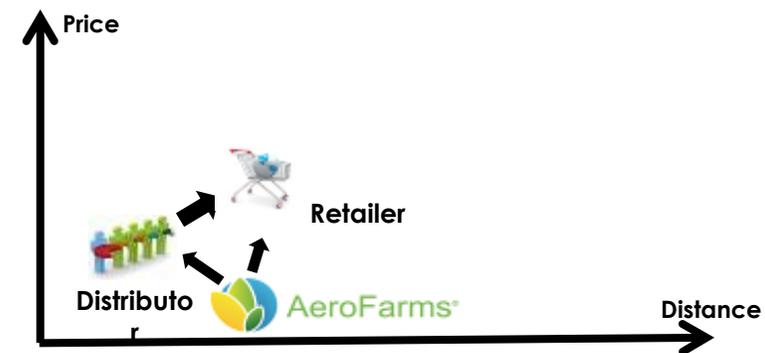


- ✔ No sun, soil, or pesticides
- ✔ 95% less water used
- ✔ All year round
- ✔ Anywhere
- ✔ Local employment
- ✔ 300:1 - floor:land
- ✔ **Control plant inputs for desired outputs**

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

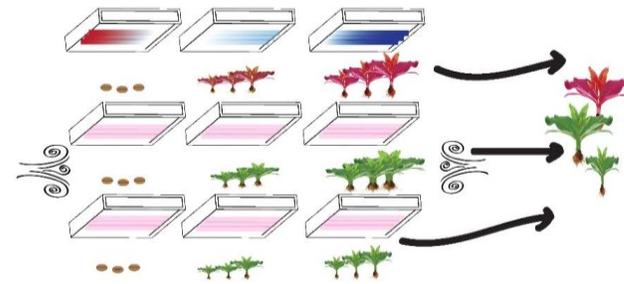


DEFINING STRESSORS TO MANAGE PLASTICITY AND QUALITY IN LEAFY GREENS

Seed choice narrowed by Cornell and AeroFarms

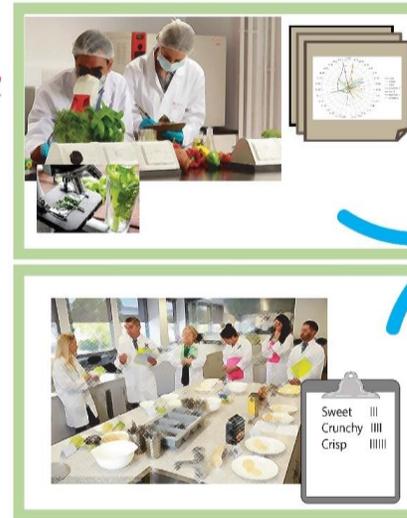


For each seed planted many Phenotypes expressed at AeroFarms via unique abiotic stressors.



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



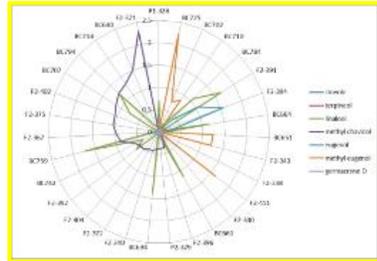
Project Plan

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



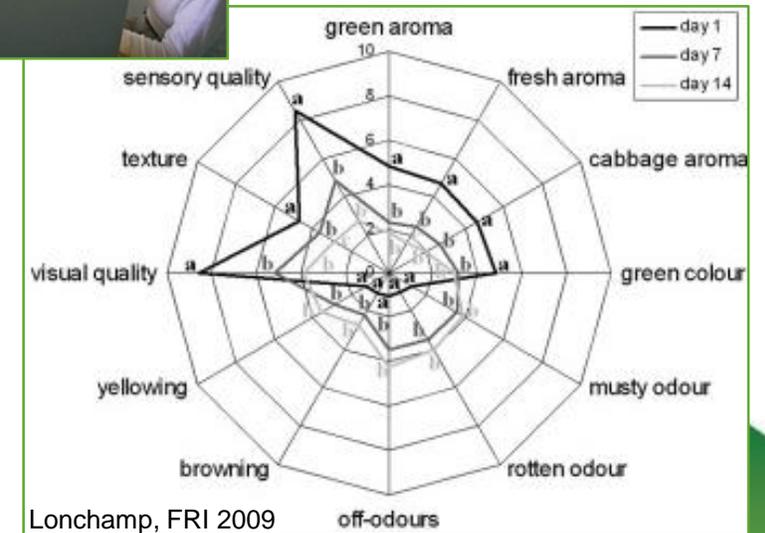
Correlating Changes with Consumer Demand

Phytochemical Content
Jim Simon Lab, Rutgers Univ



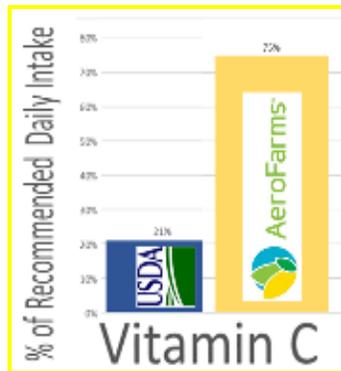
Metabolites

Sensory Panel
Beverly Tepper Lab, Rutgers Univ



Lonchamp, FRI 2009

Organoleptic Profile



Vitamin Content



Color, Morphology



Marketing



Biology

Environment

Operations

Mechanical

Needed

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



Opportunities with AeroFarms

- 🌱 Internships
- 🌱 Employment
- 🌱 SBIR partners

[AeroFarms.com](https://www.aerofarms.com)

