

“Internet of Tomatoes”

Precision Ag System Approach

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Analog Devices Inc.



Why do tomatoes taste like cardboard?

- Growth cycle
- Variety/Type
- DNA
- Weather

Lets determine why!!!

The Challenges



Climate Change



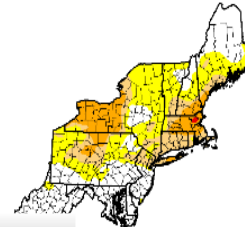
Cost of Resources



Regulatory Compliance



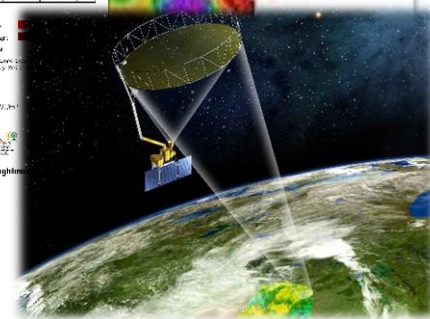
U.S. Drought Monitor
Northeast

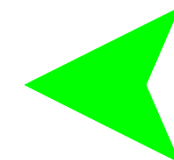
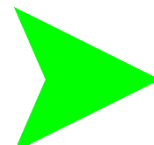
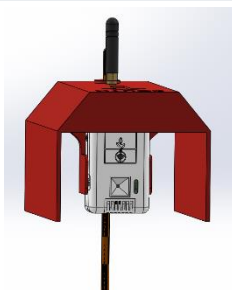


August 9, 2016
(Released Thursday, Aug. 11, 2016)
10:00 A.M. EDT

	SEVERE DROUGHT	EXTREME DROUGHT	MODERATE DROUGHT	NO DROUGHT
Area	1,100	1,100	1,100	1,100
Population	1,100	1,100	1,100	1,100
Area	1,100	1,100	1,100	1,100
Population	1,100	1,100	1,100	1,100
Area	1,100	1,100	1,100	1,100
Population	1,100	1,100	1,100	1,100
Area	1,100	1,100	1,100	1,100
Population	1,100	1,100	1,100	1,100

USDA
http://drought.gov







Field deployment
Large area, lower density

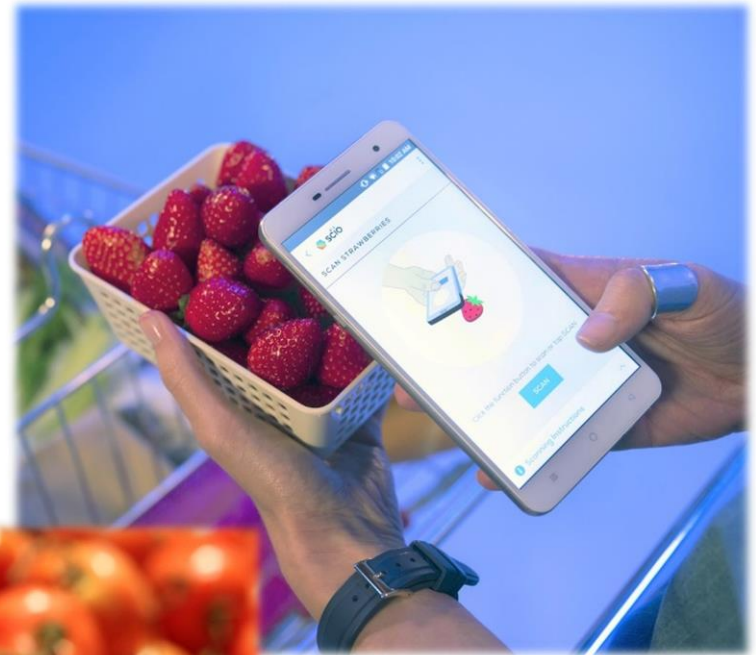


Hoop House deployment
Higher density, lower area

Destructive First



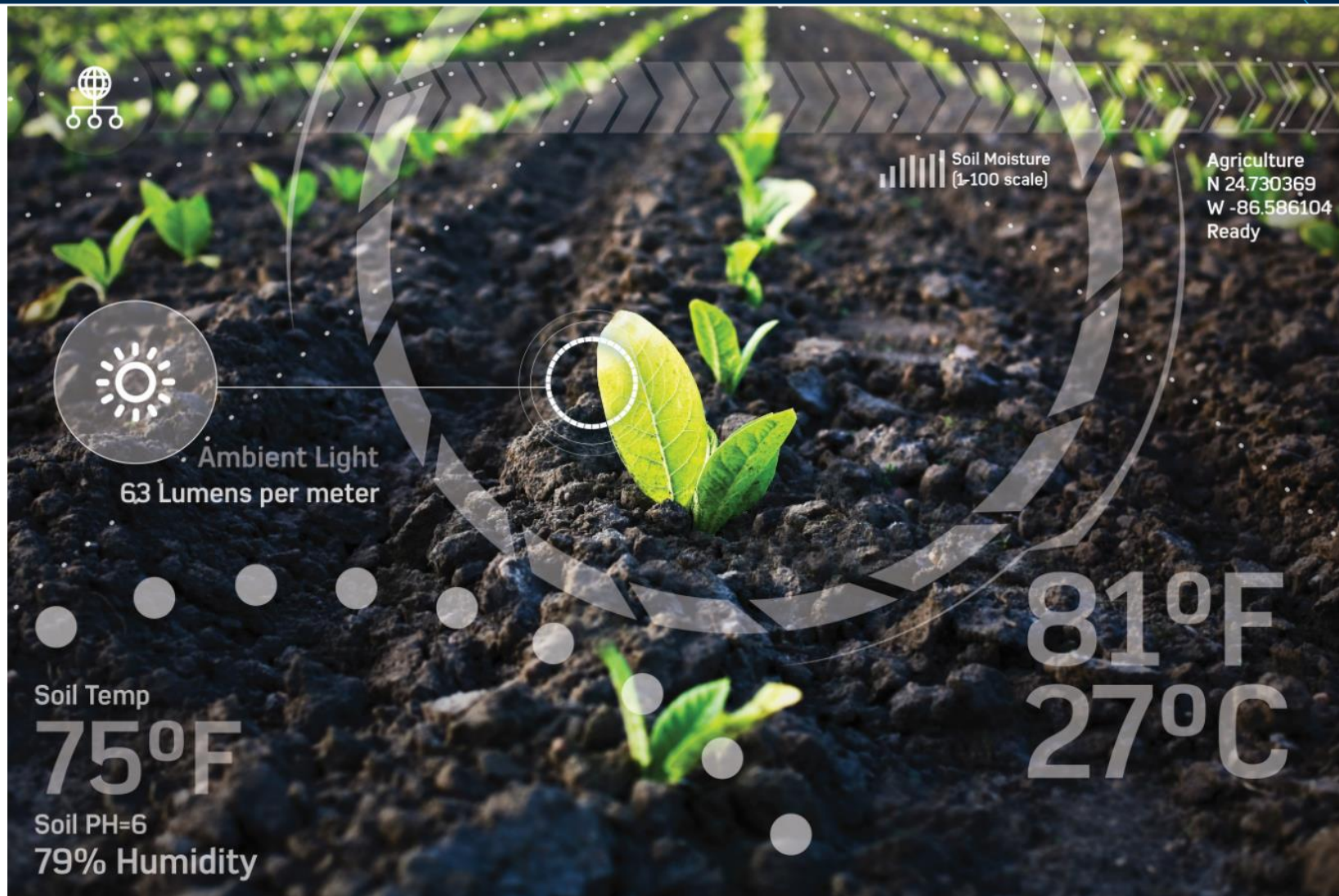
Spectrometer



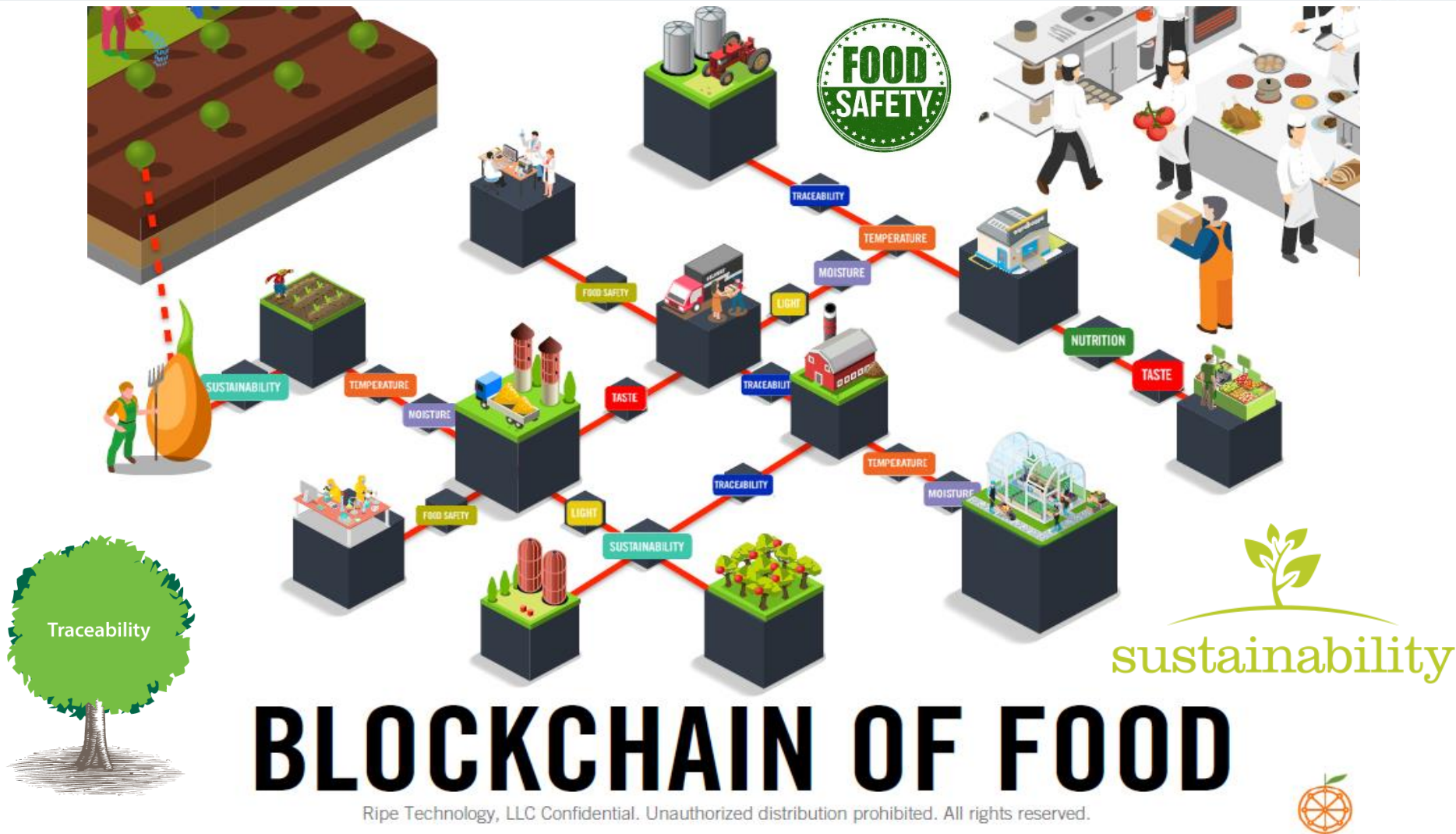
Tomatometer App



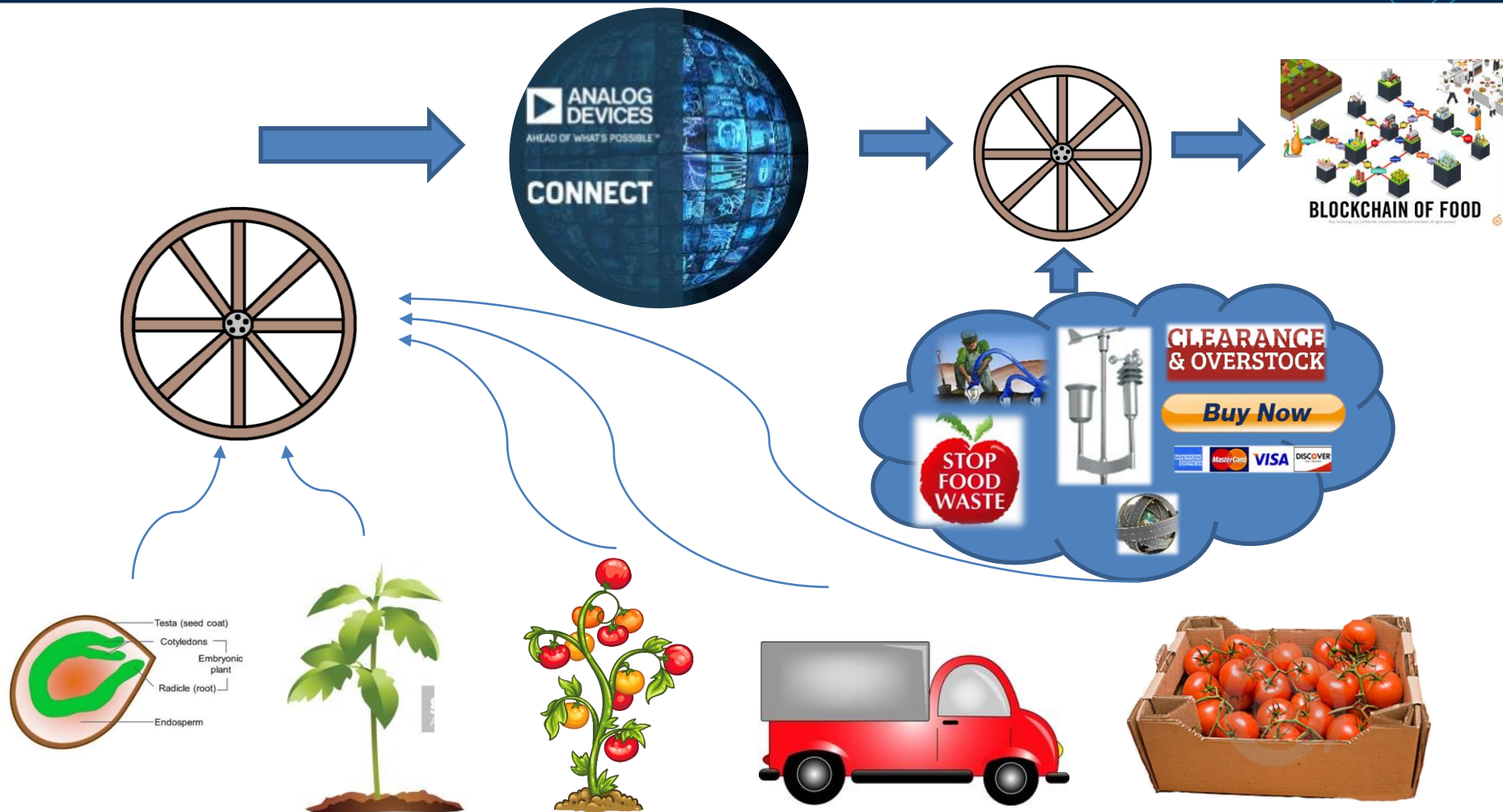
Dashboard Concept



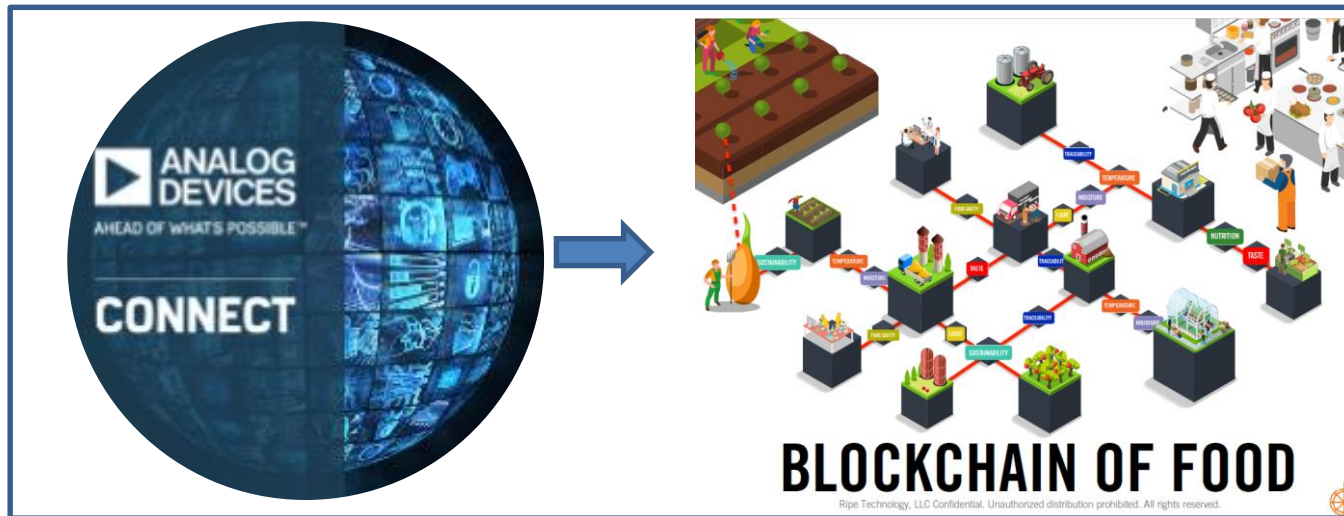
Block Chain - Ripe.IO

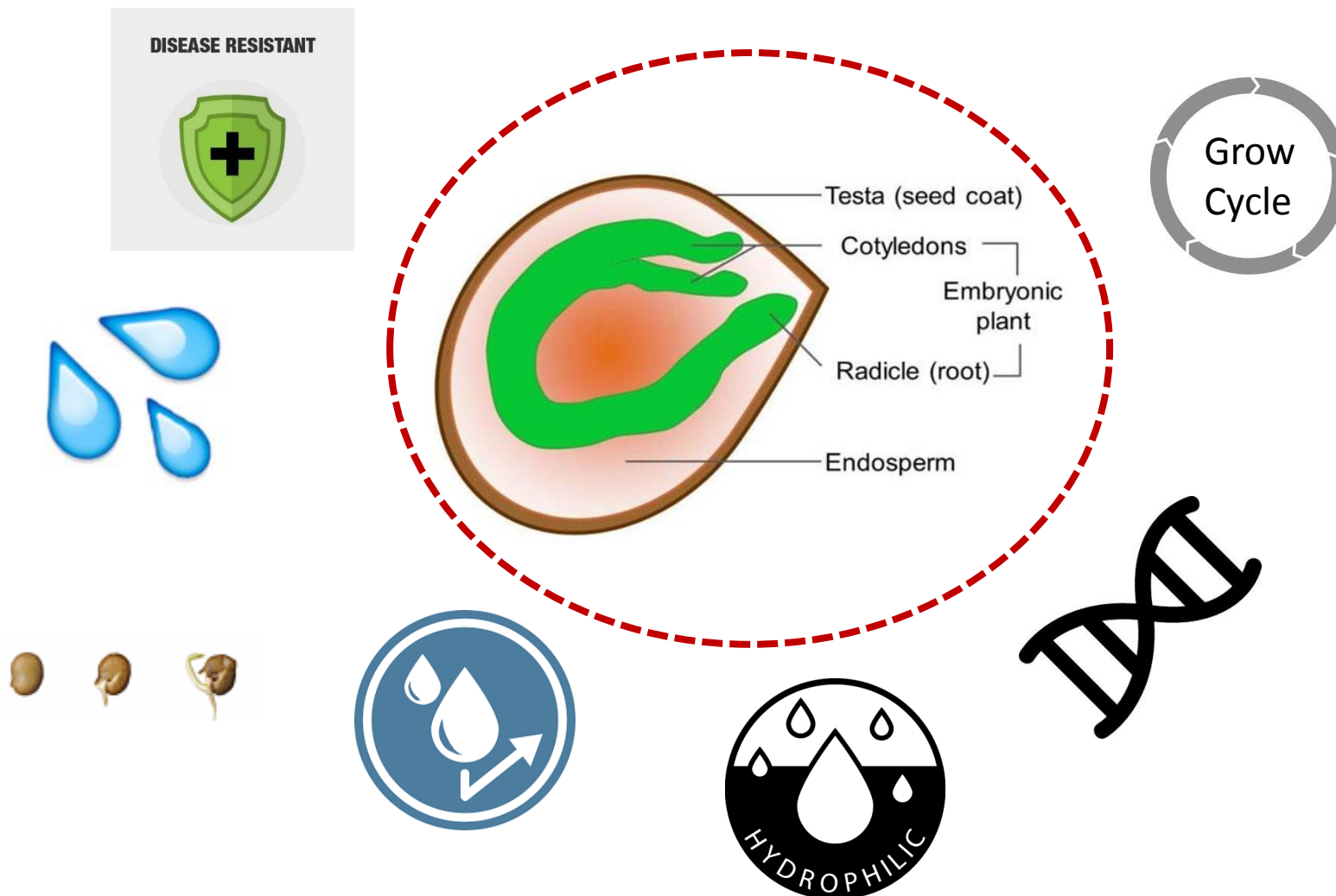


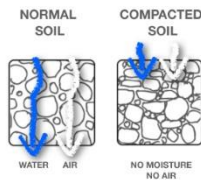
Full Operating System



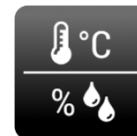
Where/What to Sense?



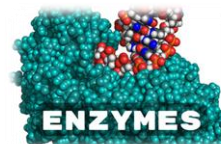




TOC



23
Na
11
SODIUM



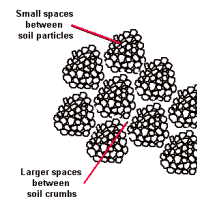
pH



N
Nitrogen

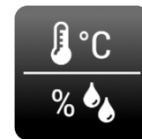
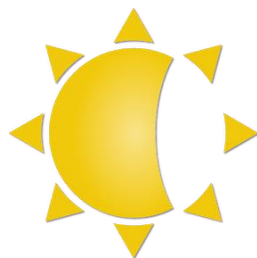
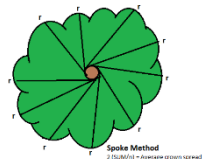
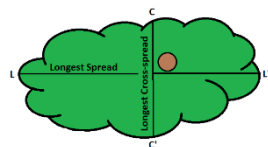
15
P
Phosphorus
30.974

29
Cu
Copper
63.546



19
K
39.098
Potassium





$[\text{kPa} \cdot ^\circ\text{C}^{-1}]$



Fruit Stage Begins



On to Harvest!

Industrial

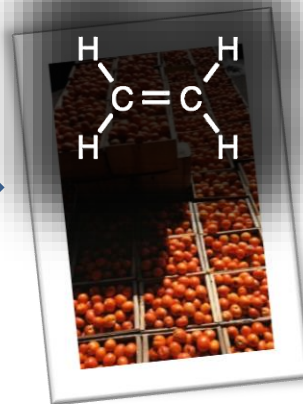


Manual

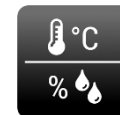




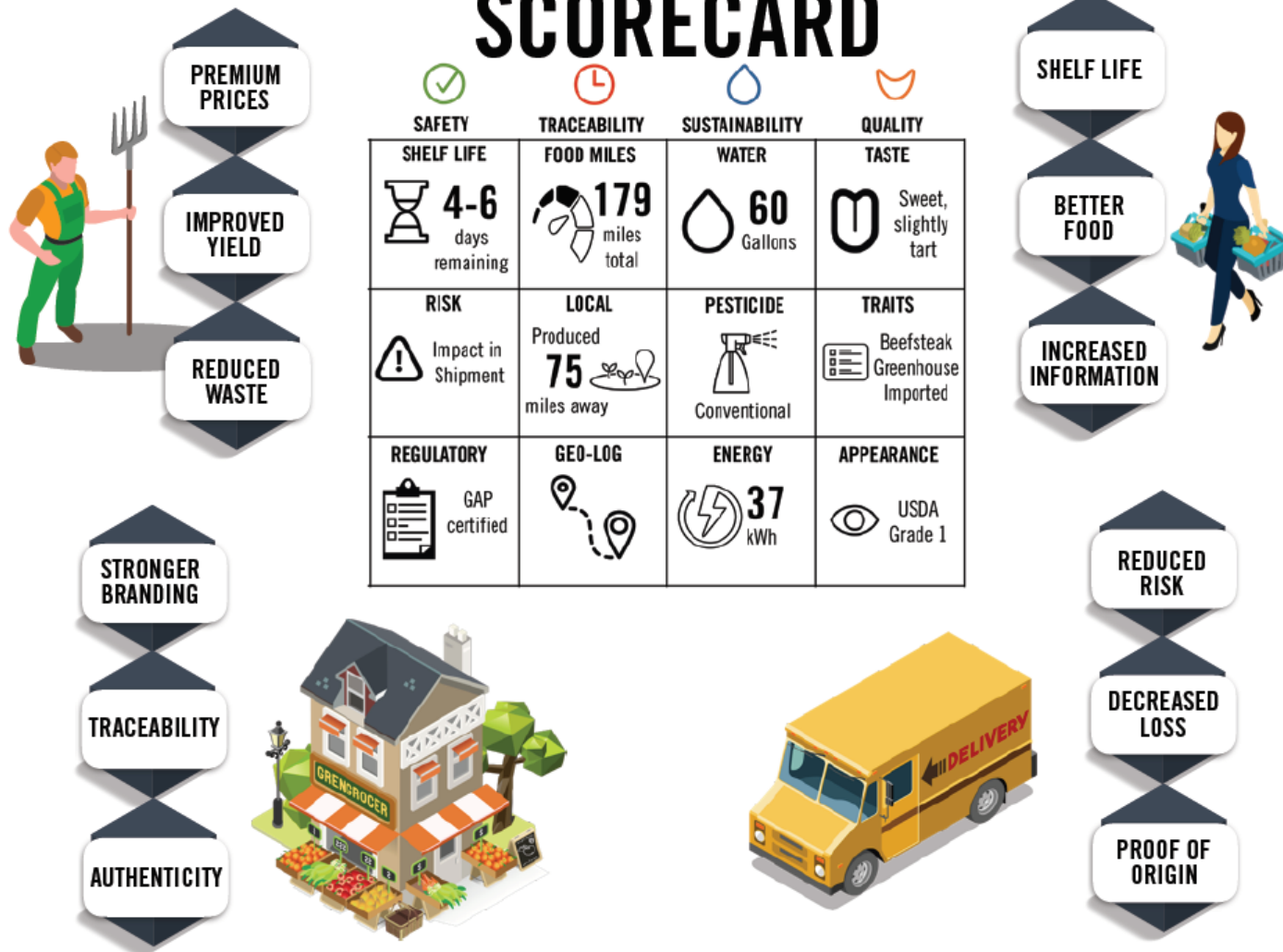
Industrial



Manual



Scorecard



System Review

Block Chain

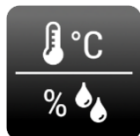


Where?

- Water



- Air



- Soil



- Plant



- Fruit or Vegetable



- Transportation



- Storage



- More.....

Technology

- Optical



- EC



- Impedance



- Inertial



- Audio



- Gas



- Chemical



- More.....

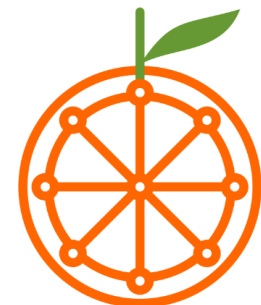




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