How to Increase Technology Adoption in Industry?

Krishna Nemali

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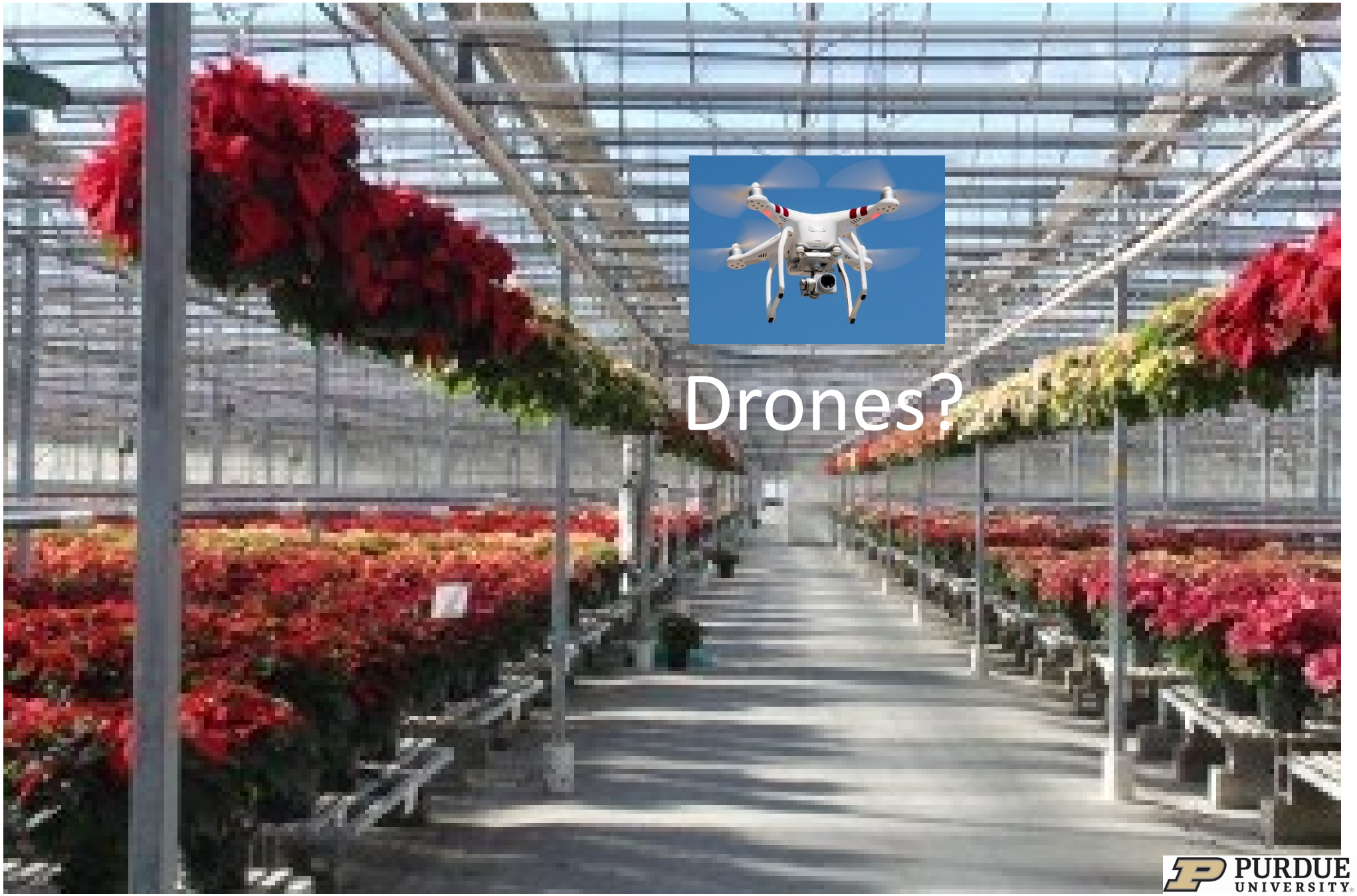
Technology is pivotal to bring a desired change in any system

In floriculture industry, some examples of desirable changes include

- Increased profits
- Increased productivity/quality
- Improved resource and environment management
- Reduced production costs

Problem Identification

- Flower growers in Indiana produce thousands of chrysanthemum and poinsettia plants in containers
- They measure substrate EC to ensure plant quality
- This measurement which is slow and labor intensive when there are thousands of containers
- Growers expressed an interest in technology that is less labor intensive and aid in fertilizer management



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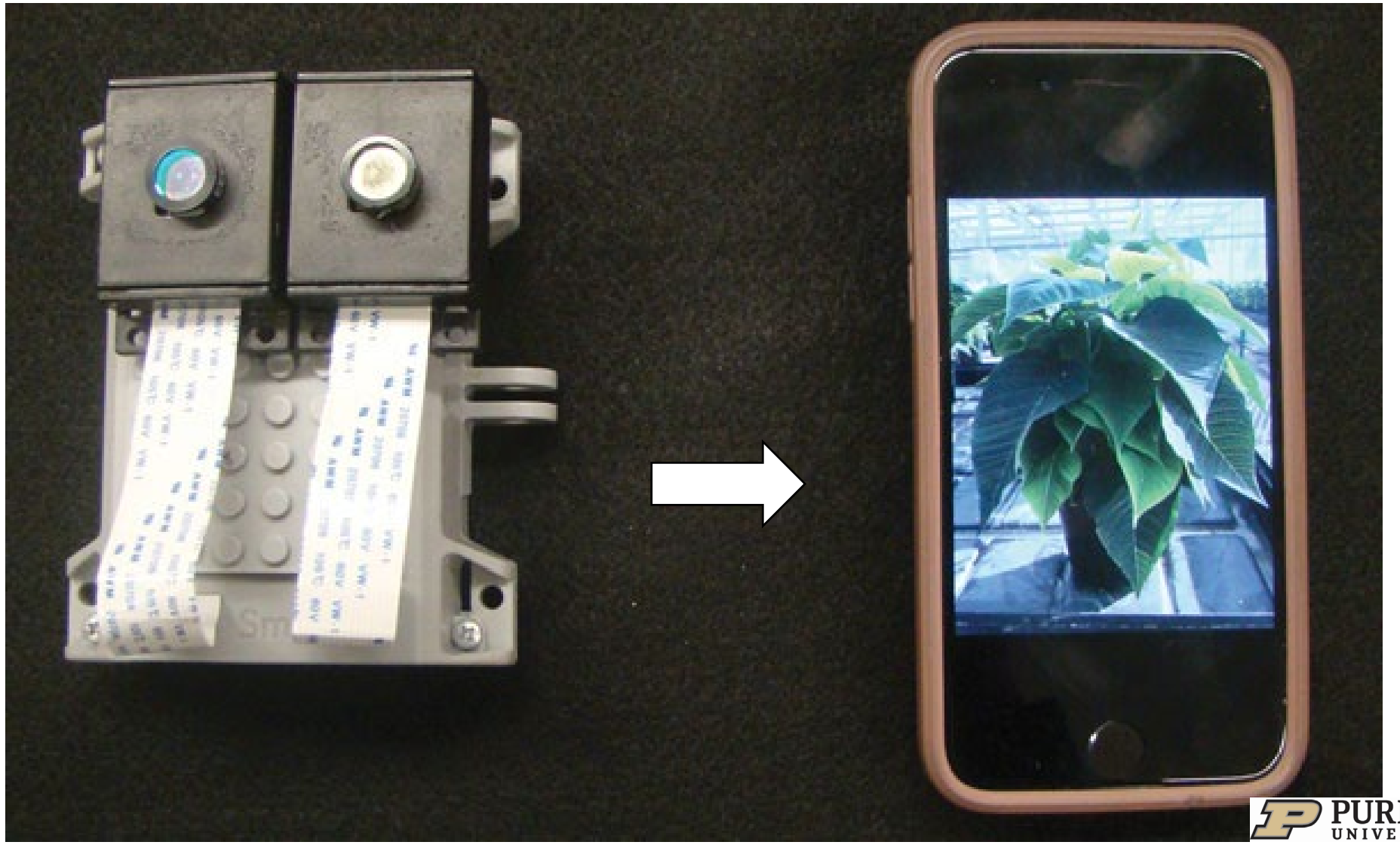
Develop simple and affordable technologies



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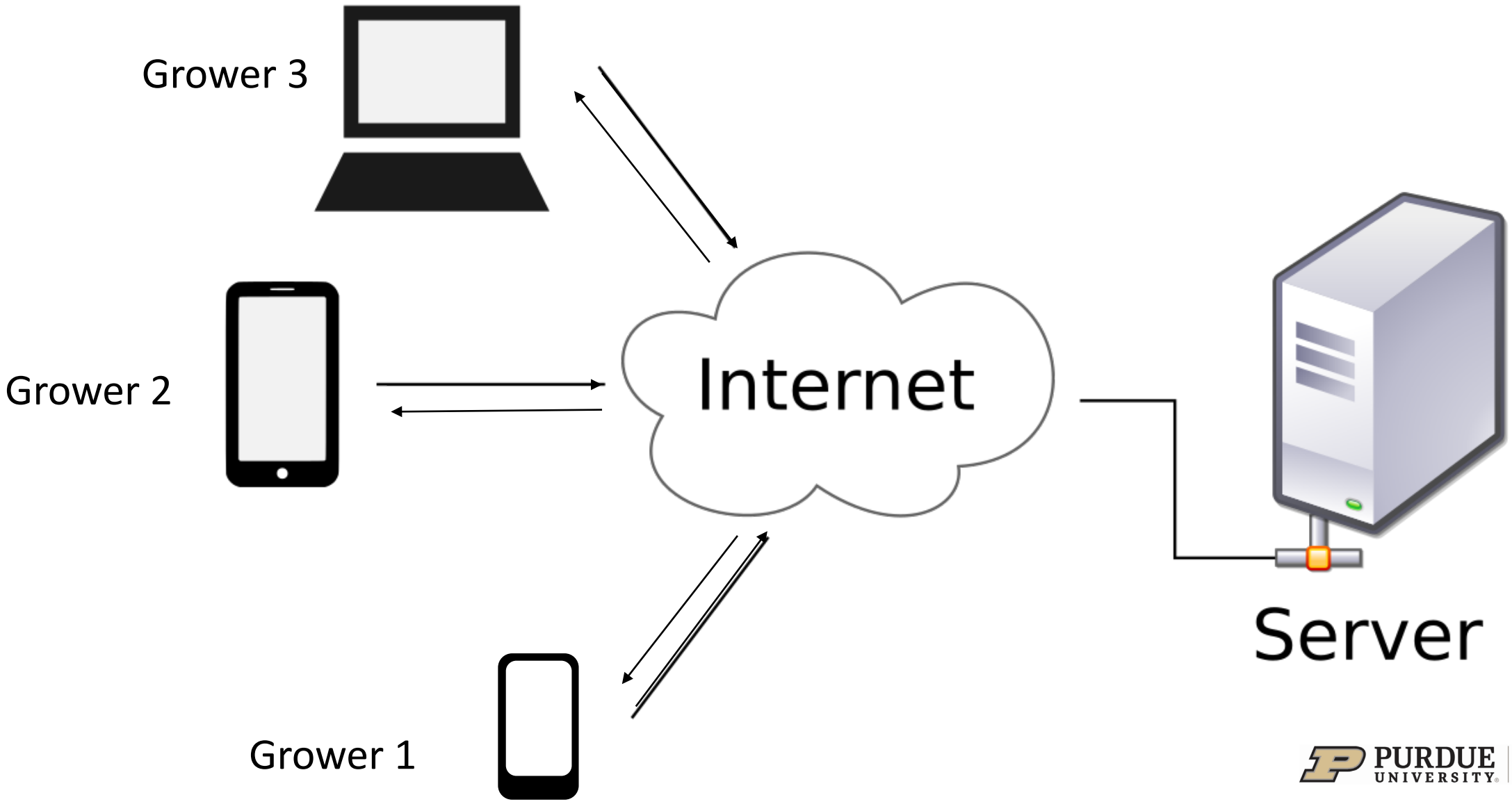
Intellectual Property Rights

- **Weak IPR:** Spill-over of knowledge
- **Strong IPR:** Slow technology adoption

Protect software for future licenses



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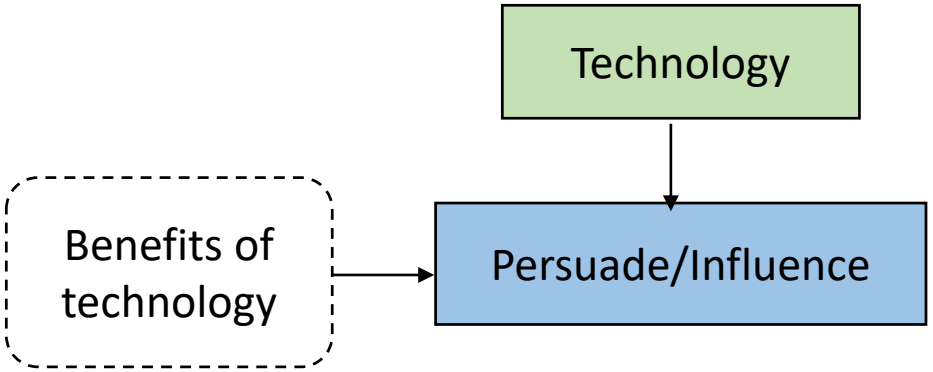
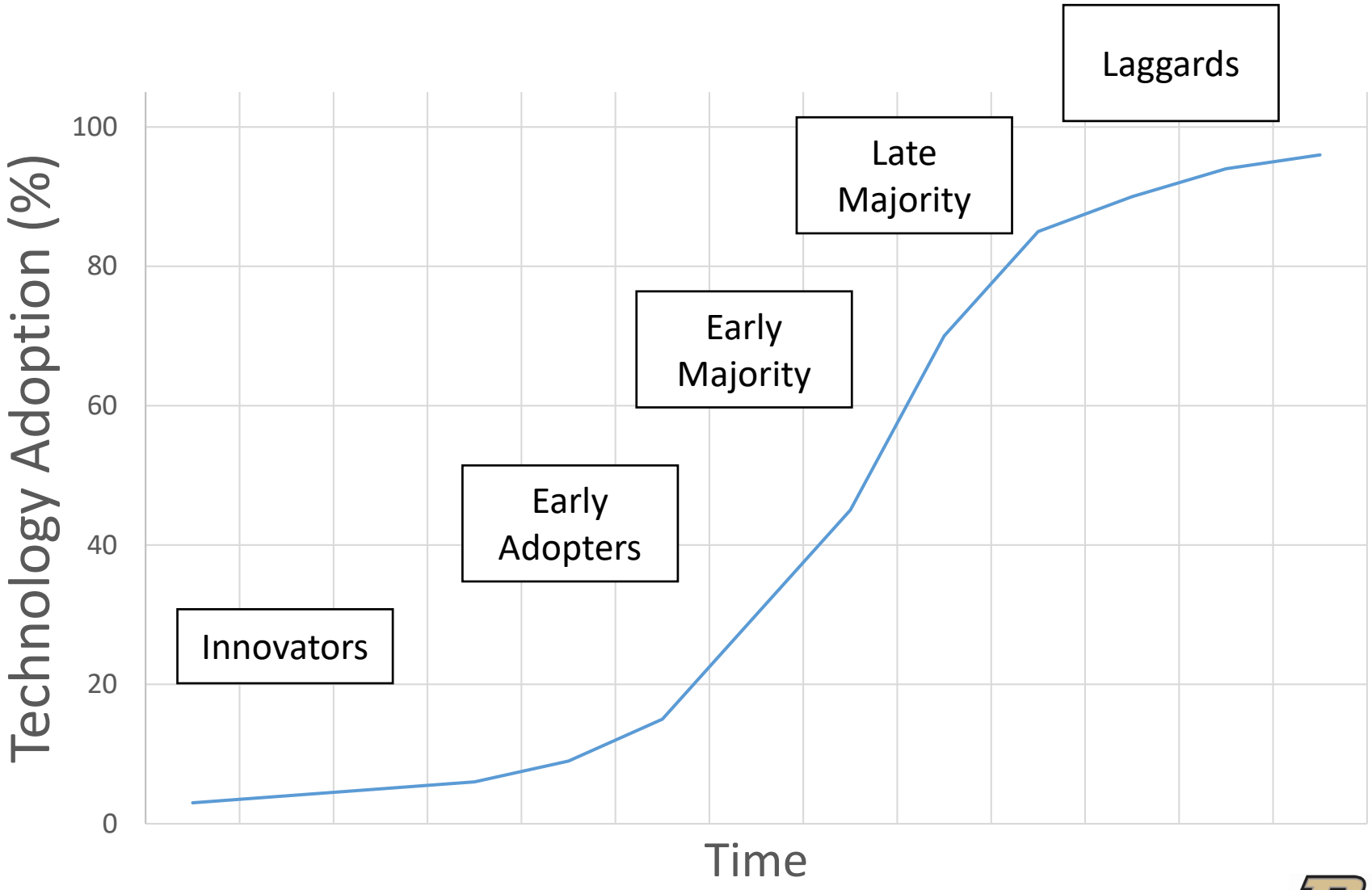
Technology Adoption Model



Identify Innovators and Early Adopters



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Persuade growers to test technology

PURDUE EXTENSION | LOCAL FACES COUNTLESS CONNECTIONS

Purdue Greenhouse Newsletter

Issue: 6

May 23, 2017

In This Issue

- Wait! Did You Say 'Smartphones Can Measure Plant Nitrogen Status'?

Wait! Did You Say 'Smartphones Can Measure Plant Nitrogen Status'?

(Krishna Nemali, knemali@purdue.edu, (765) 494-8179)

Nitrogen (N) deficiency results in stunted plants that are chlorotic in

Therefore, plant images have information on the amount of light that is reflected from them. Key is develop software that can extract this information from images. Smartphones can be used to take images of plants. We are developing free software that can process Smartphone images and output N content of plants in the image. Of course, this requires research work on developing algorithms, image processing and the right wavelength of light that is most useful for N analysis. The work is in progress at Purdue but we anticipate to develop a *beta* version for testing in the Fall of 2018. Our plan is to make free software for growers that can be downloaded on Smartphones or computers to

Monitor plant quality with next-gen sensors

A Purdue University team has developed software and a system to help growers use image-based monitoring.

July 14, 2019

Matt McClellan

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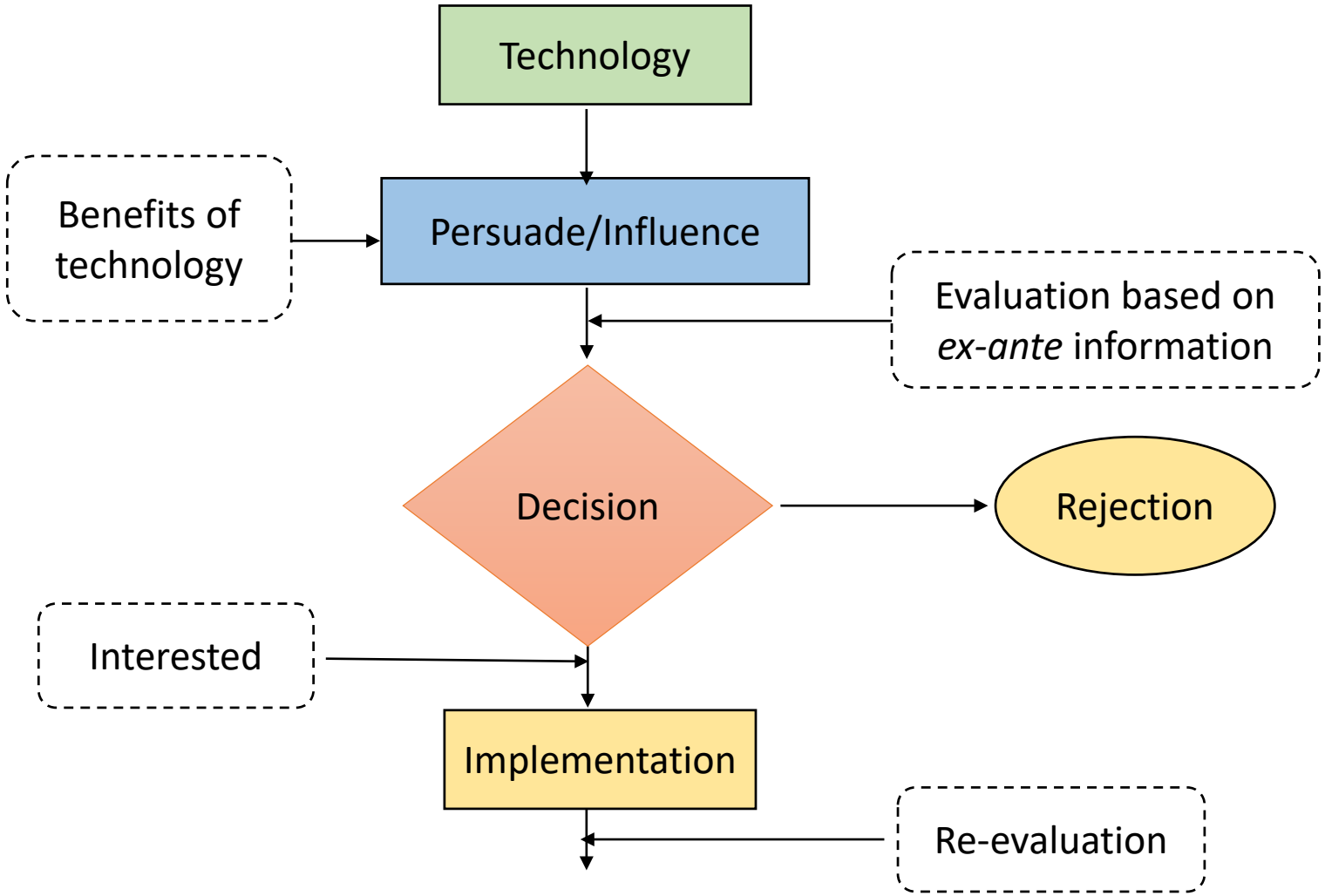
Technology
Benefits of technology
Persuade/Influence
Evaluation based on *ex-ante* information
Decision
Rejection
Interested
Implementation
Re-evaluation

Re-evaluation of technology by grower

Support Grower Costs During Re-evaluation

- Plan to include $$ for support to cover costs of re-evaluation in your budget
- This includes payment to growers for time, space and plant materials

- Ensure that satisfied growers share their story to other growers
- Growers trust other growers more!

Horticultural Research Institute
The AmericanHort Foundation

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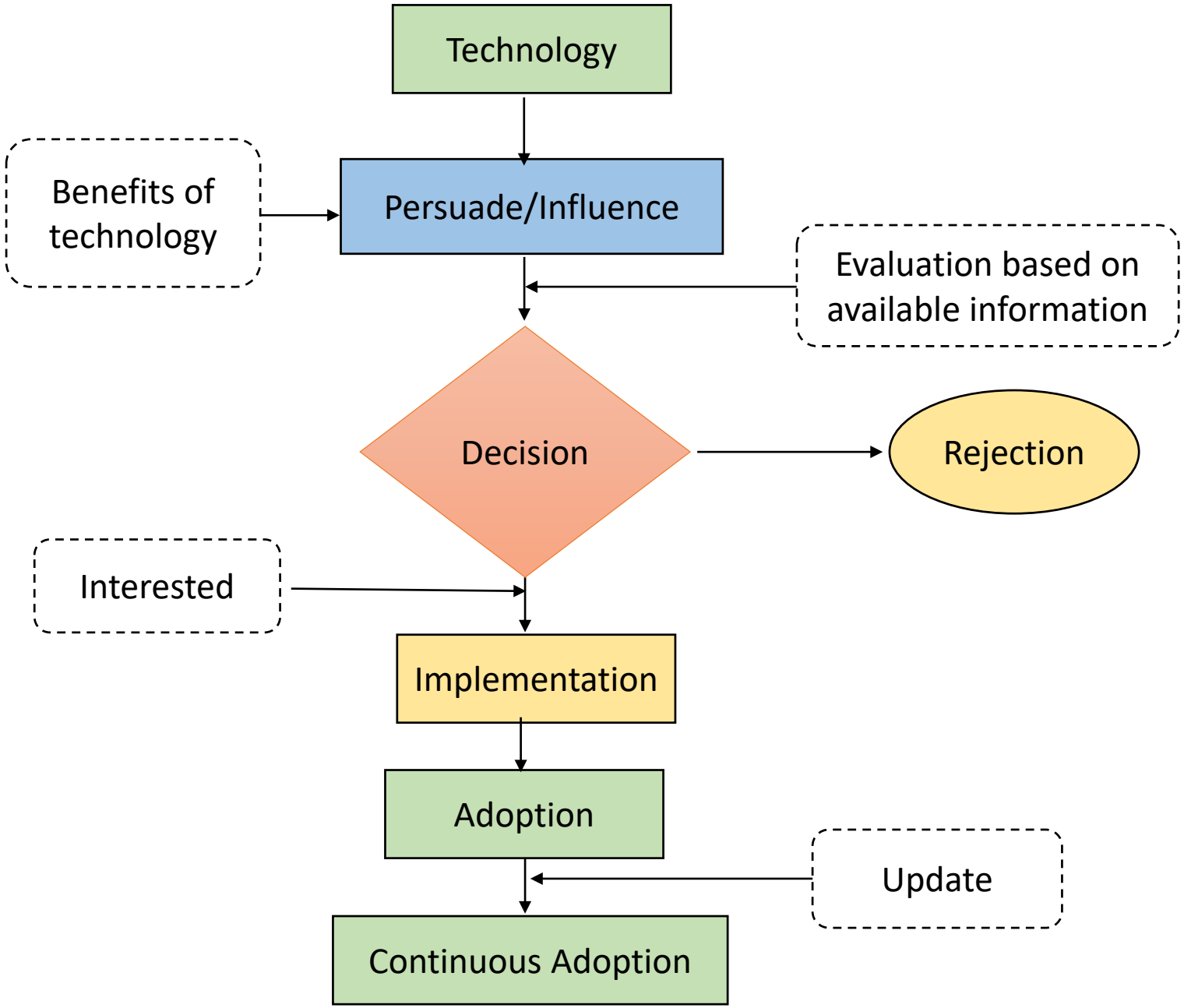
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Update
Continuous Adoption

Regularly Update Technology for Continuous Adoption

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