

New Drying Methods for Improved Efficiency

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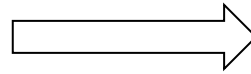
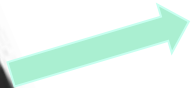


Prune Drying

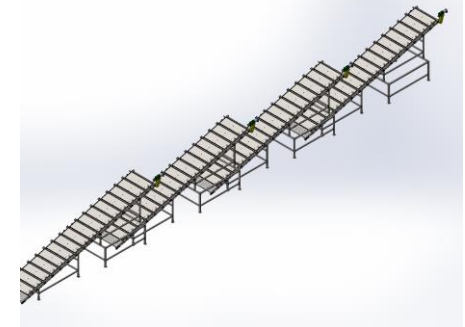
Heat



Moisture



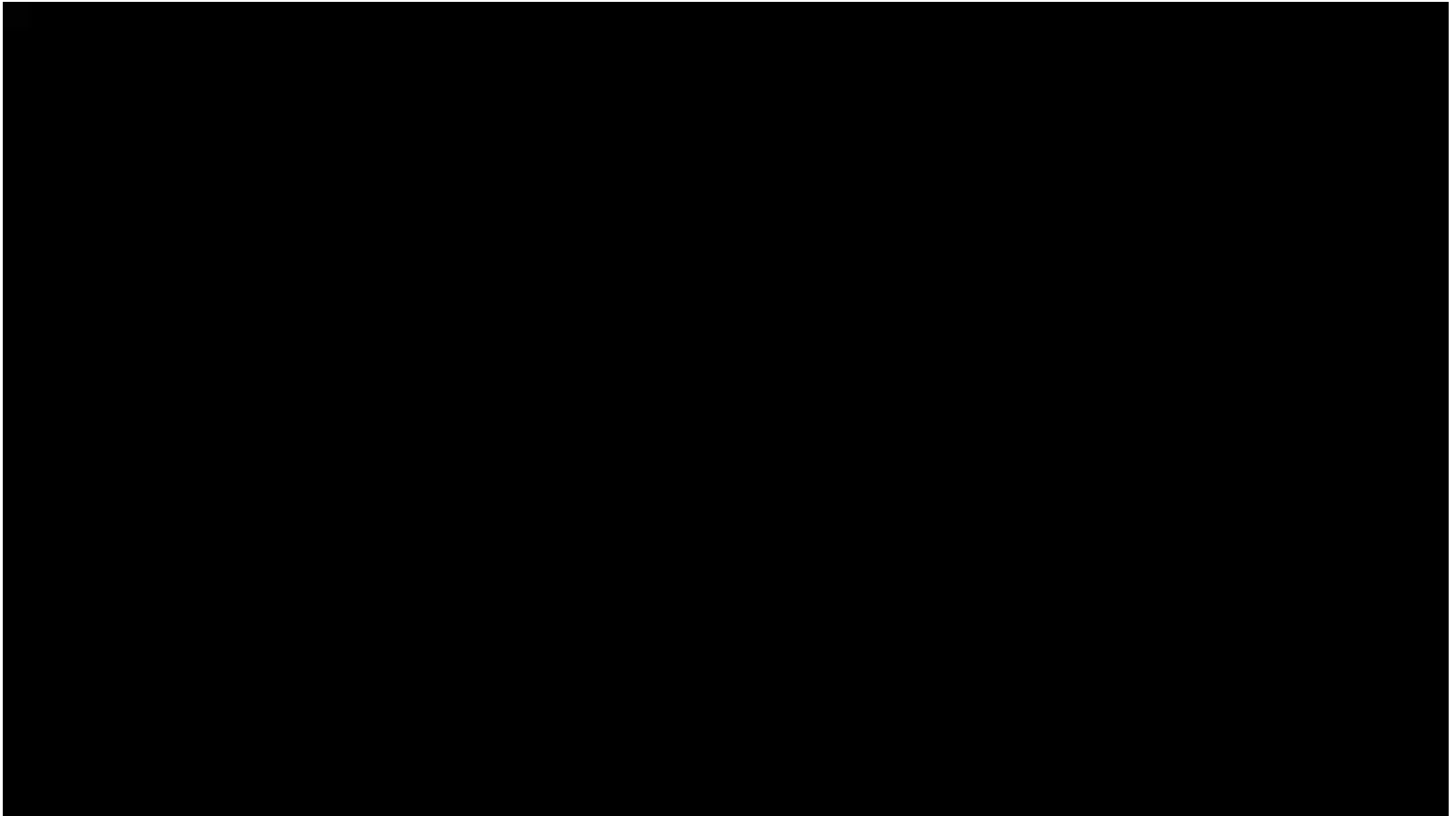
Walnut - Commercial Scale IR Dryer



4 x 16 = 64
Emitters



Infrared Walnut Drying



Infrared for Producing Crispy Snacks

- Commercial Demonstration of Innovative, Energy Efficient Infrared Processing of Healthy Fruit and Vegetable Snacks.
- Treasure Brands Inc.,





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HEAT AND COOL

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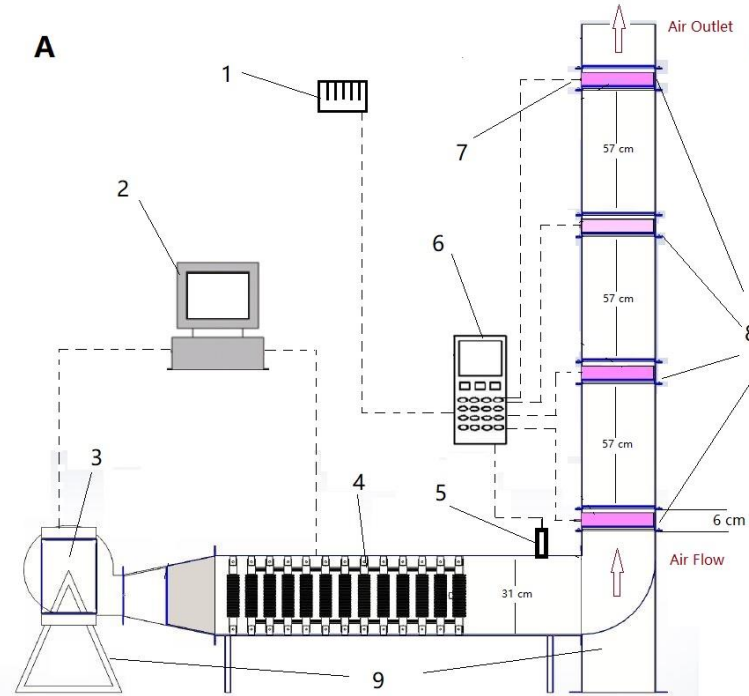
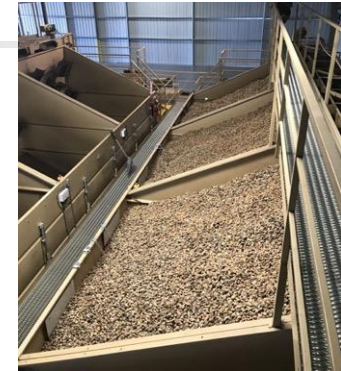
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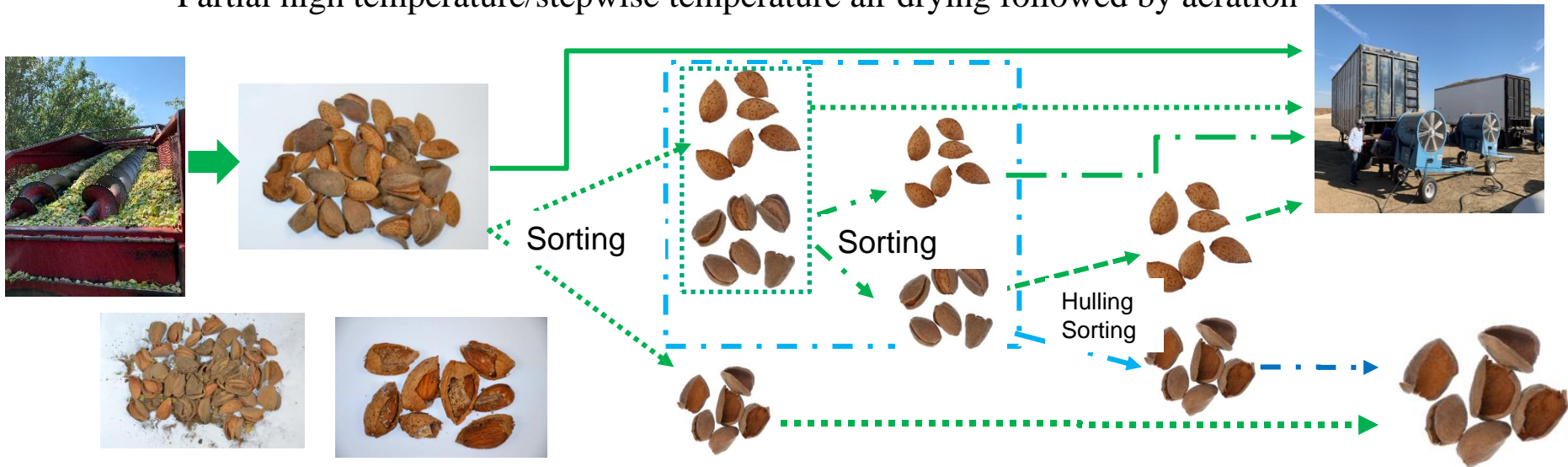
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Drying of Off-Ground Harvested Almonds



Proposed Almond Drying Method

- Pre-sorting and dehulling prior to drying to reduce drying time and energy cost, and improve quality
- Partial high temperature/stepwise temperature air drying followed by aeration



Development of a sequential microwave and hot air drying method for prune production with reduced natural gas use

Zhongli Pan Ph.D.

Pramod Pandey



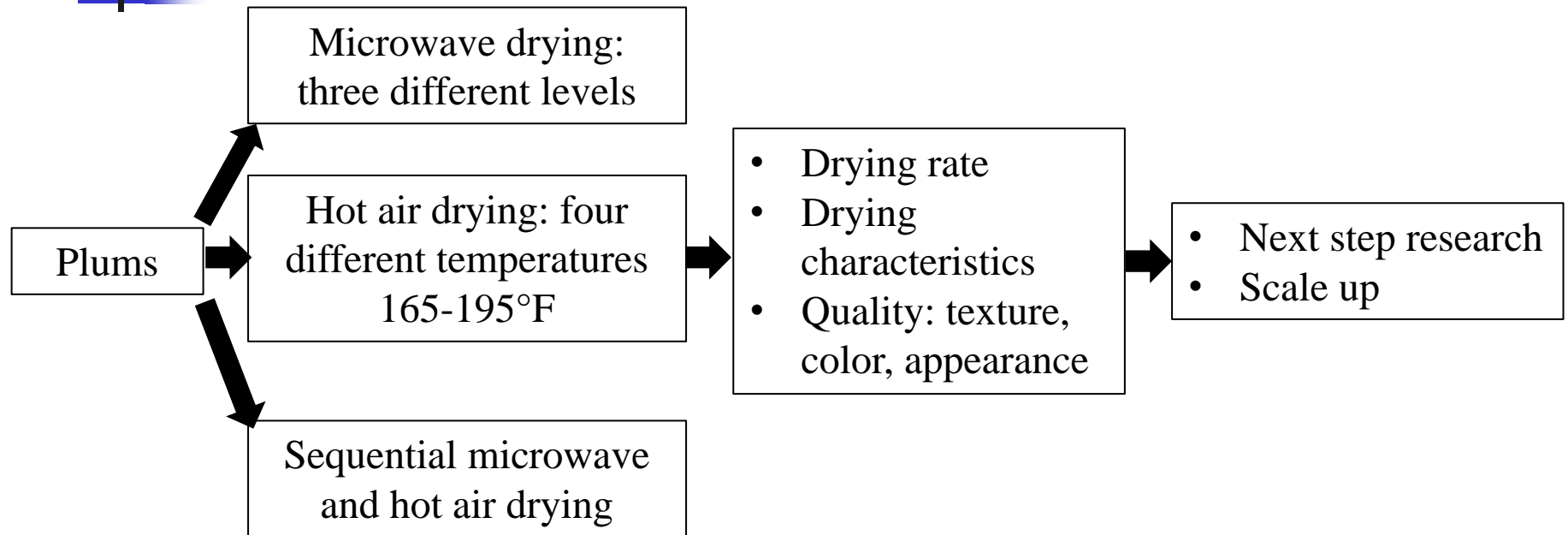


Objectives

- Study the heating and drying rates and characteristics of plum under microwave drying and hot air drying, separately, and sequential microwave and hot air drying.
- Determine and compare the product qualities of prunes from different drying methods.
- Provide research directions and recommendations for the next step of more comprehensive study and scale up.



Research Methods and Expected Results



Advanced SmartProbe technology



Award winning technology



Detect pest insects early
Monitor environmental conditions

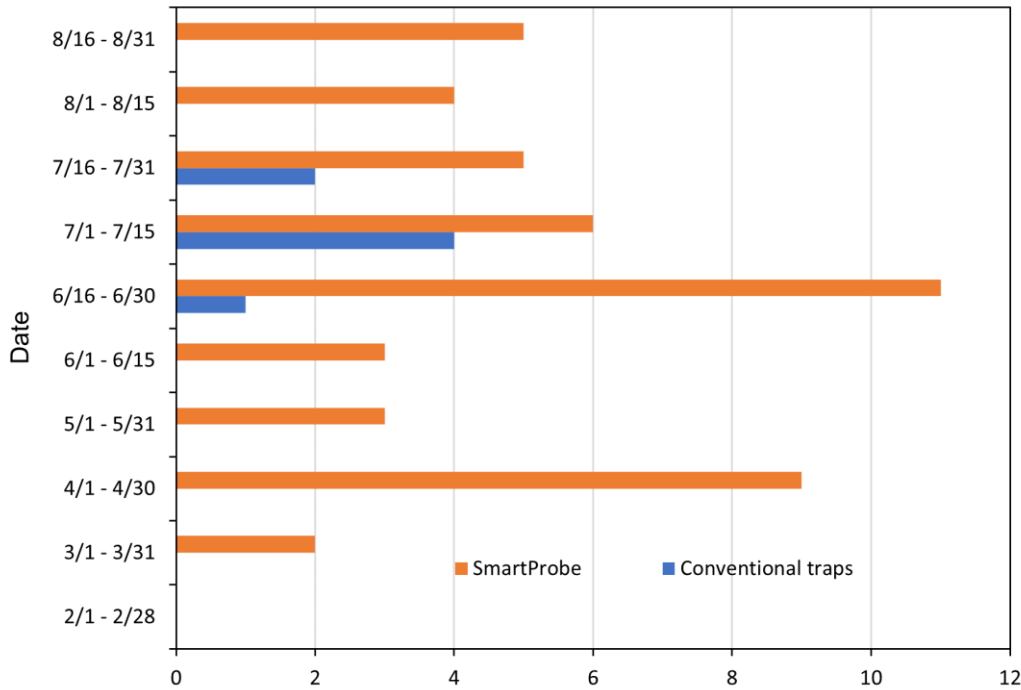


Fully demonstrated at a number of companies
For storage, processing and transportation



www.app.aivisionfood.com

SmartProbe effectiveness vs. conventional traps

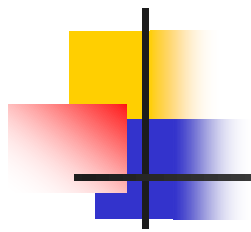


Comparison of the numbers of detected red flour beetles by **three** smart probes vs. **seven** conventional traps in a tree nut packaging room in 2023



Vector light trap

Protecta trapper



Thank you

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