Equipment and Technology Needs for Small and Midsized Farmers Emerging for the Local Market

National Value Added Agriculture Conference
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Major Challenges

• Labor Cost, Availability, Quality
• Efficient Use of Inputs
• Appropriate Equipment Solutions
• Local Processing/Packaging
• Environmental Footprint
• Product Quality/Safety

Technologies

• Sensors
• Automated Systems
• Economic and Bio-Growth Models
• Internet and Social Networks
STS Series Combines
High-Octane Harvesting
Small-Scale Combine Harvester

“A small combine harvester of a compact and light weight design realizes efficient harvesting of crops even in small fields. These harvesters have contributed to labor saving for farmers. The design has been fully reviewed and revised in order to achieve quick harvesting with ease.”

Small-Scale Rice Transplanter

“A small rice transplanter is useful when moving along narrow pathways and working in small fields. The compact and light weight design allows for easy operation by beginners and the aged.”
With the ROPS folded, the 20A is only 49 in. tall to the top of the seat, making it easy to fit under low canopies or in greenhouses.
Double arm amputee Christian Kandlbauer shows how realistic prostheses can be.
In the middle of the Computer Science and AI Lab at MIT lies an indoor garden where robots are busy growing tomatoes.
Vermont Mobile Poultry Processing Unit

Fruits and Vegetables
The diagram shows the harvest dates from June 29 to July 11. The dates are as follows:

- June 29 (27-MAR)
- June 30 (10-APR)
- July 1 (24-APR)
- July 3 (8-MAY)
- July 4 (22-MAY)
- July 5 (5-JUN)
- July 10 (19-JUN)
- July 16 (26-JUN)

The graph indicates a trend where the harvest dates move closer together as the month progresses.
Tech Look Forward …

• Small & specialized equipment will be more widely available
• Predicting & Estimating will be more accurate
  – Harvest timing, quantity and quality will be easier and more accurate
  – Vulnerability to pests will be more accurate
  – Field conditions (field readiness) will be more accurate
  – Identifying market needs/opportunities
• Coordinating and planning in complex multi-crop portfolios will be easier
• Monitoring crop conditions will be easier and more accurate
• Extended production seasons
• Labor intensive processes will be reduced
• Packaging and processing will be easier and more timely
• Learning, problem solving, innovation (and commiserating) will be easier
Thank You!

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