



# WSU field day Comprehensive Automation for Specialty Crops

September 23, 2011 4PM  
Sunrise Research Orchard Rock Island, WA  
see back for directions

DEVELOPING A MORE SUSTAINABLE AND PROFITABLE U.S. SPECIALTY CROP INDUSTRY

## AUTONOMOUS ORCHARD PLATFORM



Pace of work is faster than traditional ladder climbing.  
Commercialization in progress with tractor-like steering controls.  
Sanjiv Singh | [ssingh@cmu.edu](mailto:ssingh@cmu.edu)



scan to see video

## DIGITAL TRAP



Growers save time spent manually monitoring traps.  
Up-to-date feedback hastens pesticide decision making.  
Spensa Technology actively pursuing commercial patent.  
Johnny Park | [jpark@purdue.edu](mailto:jpark@purdue.edu)



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## HARVEST ASSIST



Demonstration of apple harvest machine from DBR Conveyor Concepts.  
Harvest 25% faster with no increase in bruising.  
Replaces ladders and bags.  
Chuck Dietrich, Phil Brown, Mike Rasch | [russ@philbrownwelding.com](mailto:russ@philbrownwelding.com)



scan to see video

## ON-THE-FLY TREE COUNTER



Infrared counters in Washington tree fruit nurseries ~85% accurate at 3 mph.  
Designing for sale price of under \$2,000.  
Jim Owen | [jim.owen@oregonstate.edu](mailto:jim.owen@oregonstate.edu)



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## DIRECTIONS

Sunrise Research Orchard is located between Wenatchee and Quincy on Highway 28.

From Wenatchee travel on WA-28 East about 13 miles and turn left on Sunrise Ln.

*Note: use caution as turning left onto Sunrise Ln. crosses highway traffic. Consider turning right, making a U-turn, then crossing the road when traffic is clear.*

From Quincy travel on WA-28 West about 16 miles and turn right on Sunrise Ln.



**C**omprehensive Automation for Specialty Crops (CASC) is funded by the USDA Specialty Crop Research Initiative—established by the 2008 Farm Bill—with 100% matching funds from industry and university partners.

CASC is a flagship project, with \$12 million in total funding, dedicated to developing comprehensive automation strategies and technologies for the \$18 billion U.S. deciduous tree fruit industry and the \$17 billion U.S. nursery and landscape industry.

### We are

- Multi-disciplinary—engineers, scientists, extension educators, growers, manufacturers
- Multi-institutional\*—universities, government labs, companies
- Collaborating with nurseries and orchards—in California, Maryland, Oregon, Pennsylvania, and Washington—representing 74% of U.S. tree fruit production

\*PARTNERING INSTITUTIONS—*Universities:* Carnegie Mellon University (lead), Oregon State University, The Pennsylvania State University, Purdue University, Washington State University; *Government Lab:* USDA Agricultural Research Service Appalachian Fruit Research Station; *Companies:* Vision Robotics, Toro, DBR Conveyor Concepts, Trimble