

system. The new system will feature four vacuum hoses and deceleration devices. These improvements may be enough to make the vacuum assisted harvester not only viable technologically, but also economically profitable for growers.

Acknowledgements

The authors acknowledge the valuable contributions of Phil Brown, Mike Rasch, Chuck Dietrich, Terry Salada, Freeman Showers, and Eric Anderson.

Literature Cited

Baugher, T. A., K. Lewis, J. Schupp, K. Lesser, M. Harsh, C. Seavert, T. Auvil. 2009a. Mobile platforms increase orchard management efficiency and profitability. *ACTA Horticulturae* 824:361-364.

Baugher, T. A., J. Schupp, E. Winzeler, W. Messner, M. Bergerman. 2011. Mechanically Assisted Harvest of Apples. Proc. American Society of Agricultural and Biological Engineering Annual Convention. Abstract.

Bulanon, D.M. and T. Kataoka. . 2010. Fruit detection system and an end effector for robotic harvesting of Fuji apples. *Agricultural Engineering International: CIGR Journal* 12(1):203-210.

Ellis, K., Tara Auxt Baugher, K. Lewis. 2010. Use of survey instruments to assess technology adoption for tree fruit production. *HortTechnology* 20:1043-1048.

Kliethermes, B., A. Leslie, R. Rohrbaugh, J. Koan,

S. Wolford, M. Glenn, K. Lewis, T. Baugher, and W. Messner. 2010. Novel approaches to passive bin filling for apples. ASABE paper 1009399. 16 pp.

Leslie, A., R. Rohrbaugh, J. Koan, B. Kliethermes, W. Messner, T. Baugher, and P. Heinemann. 2008. Performance of energy absorbing materials for passive bulk bin filling. *Proc. Cumberland-Shenandoah Fruit Workers Conference*. Winchester, VA. 9 pp.

Peterson, D. L. 2005a. Development of a harvest aid for narrow-inclined-trellised tree-fruit canopies. *Applied Engineering in Agriculture* 21(5):803-806.

Peterson, D. L. 2005b. Harvest mechanization progress and prospects for fresh market quality deciduous tree fruits. *HortTechnology* 15(1):72-75.

Sarig, Y. 1993. Robotics of fruit harvesting: A state-of-the-art review. *Journal of Agricultural Engineering Research*. 54(4):265-280.

Schmoldt, D. 2007. The interplay of biology and engineering for smarter applications. *Biological Engineering* 1(2):111-125.

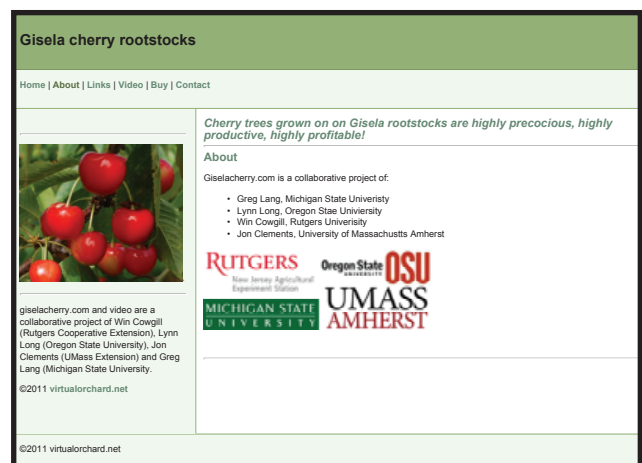
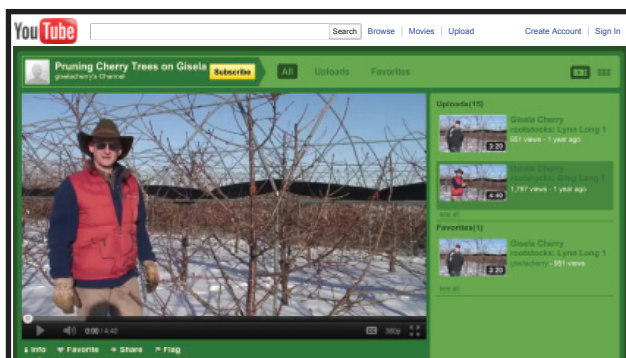
Schupp, J. R., T. A. Baugher, R. M. Harsh, K.M. Lesser, and B.D. Wenk. 2007. Mobile platforms increase orchard labor efficiency. *HortScience* 42:4. (July) Abstract.

Singh, S., M. Bergerman, G. Hoheisel, K. Lewis, T. Baugher. 2011. Comprehensive automation for specialty crops (CASC) – developing a more sustainable and profitable U.S. specialty crop industry. <http://www.cascrop.com/>.

New Cherry Pruning Videos Available Online

<http://giselacherry.com/>

<http://www.youtube.com/giselacherry>



PLAN AHEAD - DON'T BE LEFT OUT!

Are You Prepared for Your Harvest of Tomorrow?

PLAN AHEAD

2013 BUDDING CONTRACTS DUE JUNE 1st!

Order dwarf cherry trees NOW for 2011-2012

Use our **knowledge** and **experience** to secure
your tree needs. **All at no cost to you.**



SUMMIT TREE SALES

REPRESENTING THE COUNTRY'S FINEST NURSERIES

800.424.2765 / 269.674.8866 / Fax 269.674.3758

summit@summittreesales.com



Wally Heuser



Wanda Heuser Gale



Jan Melvin



Helen Classen



Katie Schuld



Dawn Melvin

s u m m i t t r e e s a l e s . c o m

Targit Sales

“Specializing in Farm Market Packaging”
1-800-526-9224

Biodegradable

PLASTIC BAGS



Targit Sales is proud to introduce our line of Biodegradable plastic bags. Our bags use a proprietary additive that renders the plastic ultimately biodegradable.



We are offering the Biodegradable bag program with all of our “Custom Imprinted” plastic bags. Our Biodegradable bags have the “EPI” (the additive company) logo on the bag as proof of its biodegradable properties.

Advertise your business along with a “tag line” to express your company’s efforts to keep your community and planet green.

Targit Sales can fully customize your bags to your specifications. We can make any size, strength, and style of bag to fit your needs. We can assist you with your design, setup, and artwork.

COMMON SIZES OF BAGS:

- 13 x 10 x 24 (Great for pies, cakes and corn)
- 12 x 8 x 24 (Great for your store front)
- 8 x 5 x 21 (Perfect size for tailgate markets)

BIODEGRADABLE PLASTIC BAG BENEFITS!

- * Superior Strength!
- * Less expensive to make and ship versus paper bags!
- * Superior imprinting capability and quality...(looks better)!
- * Easier and more affordable to store (inventory)!
- * Flexibility! (customize the size, thickness, color and style to your specifications)
- * Reusability!
- * Biodegradable..breaks down quickly!

MOST COMMON QUESTIONS asked about biodegradable bags.

Will the bags begin to break down while being stored? No, the bags will retain its strength and integrity while properly stored. The breakdown only begins after it is directly exposed to certain environmental conditions such as: soil/landfill, heat/moisture, and sunlight.

Is this process more expensive? Not really, the cost increase is only a few percentage points higher. You will more than make this up with the goodwill you will be conveying to your community and customers.

Does the bag lose its strength or feel...does it look different? No, it is almost impossible to tell the difference between the Biodegradable bags and the traditional plastic bags. This is why we recommend putting a tag line on your printed biodegradable bags.

Can these bags be recycled and/or reused? Yes, these bags can be recycled and reused.

For more information or to order contact
Targit Sales
1-800-526-9224 • www.targitsales.com

Targit
sales associates
“Specialty Food Packaging”