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.

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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/.

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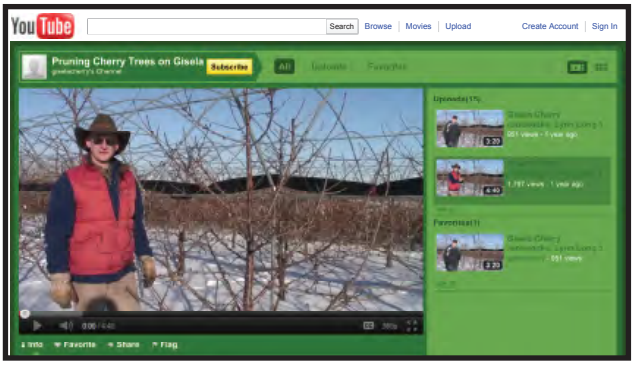
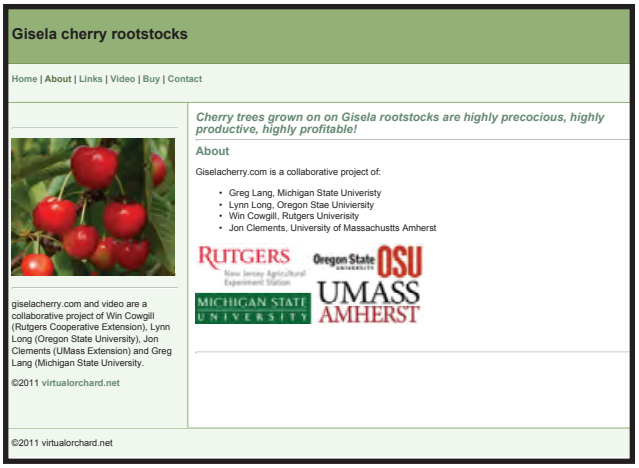
http://www.youtube.com/giselacherry





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