

## TERMINATION REPORT

**PROJECT NO.:** 4452

**TITLE:** Overhead Sprinklers Calcium to Reduce Cracking

**PERSONNEL:**

**Principal Investigators:** G.A. Lang, Assoc. Horticulturist, WSU-Prosser  
Jim Flore, Michigan State University  
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**Cooperators:** D. Allan, Wapato, B. Harris, Moxee  
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**REPORTING PERIOD:** 1996-99

**ACCOMPLISHMENTS AND RESULTS:**

This project has resulted in consistent evidence that rain-induced cracking of sweet cherries can be reduced by the application of 0.5 to 1.0% calcium chloride solutions during rainfall via overtree sprinklers. Calcium chloride is relatively inexpensive, readily available, and has tended to provide better results than other "salts" to modify the osmotic potential of pure rainwater. Sprinkler design, injection methods, and electronic control of the overtree sprinkler systems vary between orchards, depending on acreage, water availability, etc. Complete analysis of results is still on-going at the time of proposal submittals; a comprehensive report will be made available in time for the Cherry Research Review.

**PUBLICATIONS:**

Lang, G., C. Guimond, J. Flore, S. Southwick, T. Facteau, F. Kappel, and A. Azarenko. 1998. Performance of calcium/sprinkler-based strategies to reduce sweet cherry rain-cracking. *Acta Horticulturae* 468:649-656.

Lang, G. and D. Hayden. 1997. Overhead sprinkler calcium application can reduce rain-cracking. *Proc. Washington State Hortic. Assoc.* 92:283-288.

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Rupert, M., S. Southwick, K. Weis, J. Vikupitz, J. Flore, and H. Zhou. 1997. Automated overtree application of calcium chloride reduces rain cracking in California sweet cherries. *California Agriculture* 51(5):35-40.

Lang, G., J. Flore, S. Southwick, A. Azarenko, T. Facticeau, and F. Kappel. 1997. Overtree sprinkler calcium shows widespread potential to reduce cherry rain-cracking. *Good Fruit Grower* 48(12):27-30.

Flore, J., T. Fernandez, and G. Lang. 1996. Cherry cracking - causes and possible solutions. *Proc. Wash. State Hort. Assoc. and Northwest Cherry Institute* 91:311-314.

Lang, G.A. 1996. Overhead sprinkler calcium to reduce cherry cracking. *Proc. Oregon Hortic. Society* 87:16-17.

Lang, G. and J. Flore. 1996. Rain-splitting in cherries: overhead sprinklers. *Good Fruit Grower* 47(10):28-31.