

**2008 APS CENTENNIAL MEETING
MINNEAPOLIS CONVENTION CENTER, MINNEAPOLIS, MN
JULY 26-30, 2008**

<http://www.apsnet.org/meetings/abstracts.asp>

Parke, J.L.; Grunwald, N.; Lewis, C.; and Fieland, V. 2008. A systems approach for managing *Phytophthora* diseases in production nurseries. *Phytopathology* 98:S121.

Nursery plants are susceptible to several diseases caused by *Phytophthora* species. Nursery plants are also important long-distance vectors of non-indigenous pathogens such as *P. ramorum*. Pre-shipment inspections have not been adequate to ensure that shipped plants are free from *Phytophthora*, nor has this method informed growers about sources of contamination in their nurseries. We applied a new approach based on Hazard Analysis of Critical Control Points (HACCP) for systematically detecting sources of *Phytophthora* contamination in four Oregon nurseries. We identified critical control points (CCPs) in commercial production systems and sampled bimonthly over a 15-month period. Plants, potting media, containers, irrigation water, and can yard substrates were sampled at all stages of production. Putative *Phytophthora* isolates were tested with genus-specific PCR and identified to species by direct sequencing of the internal transcribed spacer (ITS) rDNA. The most frequently encountered species were *P. cinnamomi*, *P. syringae*, *P. citricola*, *P. cryptogea*, *P. gonopodyides* and *P. citrophthora*. Results showed that healthy container plants often became contaminated when set out on contaminated can yard substrates. Used containers were sources of contamination at all four nurseries, as was water from irrigation ponds at two nurseries. After identifying CCPs where contamination occurred, we worked with nursery managers to develop best management practices (BMPs) specific for each nursery. Sampling will continue after BMPs are implemented to determine if this approach is successful in reducing *Phytophthora* contamination.