

## HIGHLIGHT

### New Molecular Lab helps WSDA track DNA changes



(Above left: Becca Humphries (left) and Alexandra Montano (middle) with Katie Coats; (middle) *Phytophthora ramorum* on grand fir; (at right) inside the molecular lab.)

As DNA research unravels some of life's complexities, laboratories like the new molecular lab at WSU Puyallup apply the knowledge to solve problems. For molecular geneticist Katie Coats, that means working with the WSDA and WSU Puyallup Plant Pathologist Gary Chastagner to understand the genetics of the exotic plant pathogen *Phytophthora ramorum*, which causes sudden oak death. This fungus-like pathogen has killed more than a million oak trees in California and has been found in a number of Puget Sound nurseries. If uncontrolled, this pathogen can spread through air and water to other trees and plants in nurseries and into the surrounding landscapes. It has the potential to create substantial financial losses to the horticultural and timber industries due to resulting quarantines and trade restrictions.

"The WSDA is providing plant samples that have tested positive," says Coats. "Their tests," she explains, "show that the pathogen is present. We take it one step further, using the molecular lab to determine the genotype (genetic profile, or genetic fingerprint) of the pathogen in an attempt to identify different strains of the pathogen. We can determine if they are persisting in nurseries or if new strains of the pathogen are being regularly introduced into nurseries. If we can track how the strains are spreading, we can more effectively eradicate them."

The WSU- Puyallup molecular lab is also helping Sumner High School sophomore students Becca Humphries and Alexandra Montano increase their knowledge in microbiology as they conduct real-life experiments. Both students consider themselves emerging microbiologists. They look at this experience as an opportunity to become more involved in science. They are working with Coats as part of the Future Farmers of America program under the direction of Advisor Greg Pile.

### WSU Puyallup: Solutions for the Region; Programs for Its People

Highlights is provided every two weeks by the people and programs of WSU Puyallup from January through November. For story ideas for upcoming Highlights, please contact Tanyalee Erwin, [terwin@wsu.edu](mailto:terwin@wsu.edu), 253-445-4504. Extension programs and policies are consistent with federal and state laws and regulations on nondiscrimination regarding race, sex, religion, age, color, creed, national or ethnic origin; physical, mental or sensory disability; marital status, sexual orientation, or status as a Vietnam-era or disabled veteran. Evidence of noncompliance may be reported through your local Extension office.