Newsletter June 29, 2017

PNWTIRC

PACIFIC NORTHWEST
TREE IMPROVEMENT RESEARCH COOPERATIVE

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Contact

Personnel

Glenn Howe

Scott Kolpak

Susan McEvoy

Anna Magnuson

Jennifer Kling

Oguz Urhan

Erda Celer

Mike Albrecht retires from Roseburg Forest Products!

Mike Albrecht began his tree improvement career in 1976 at Weyerhaeuser's Rochester Seed Orchard, and then moved to their Centralia Research Center in Washington. In 1978, he moved to International Paper, where he was on the 'ground floor' of their Western Region Research Center in Lebanon, OR. As Mike puts it, "I was called a research technician, and did all kinds of work installing, measuring, and maintaining various field studies." Eventually, he was promoted to seed orchard manager. In 1996, Mike began working for Roseburg Forest Products (RFP) when they bought International Paper timberlands in Oregon. Over the years, Mike's work for RFP included tree breeding, seed orchard management, seedling testing, and operating their greenhouse. During this time, Mike worked closely with the PNWTIRC, helping enormously with our early flowering studies, investigations of miniaturized seed orchards, and tissue collections for our research on Douglas-fir genomics. Mike concludes, "And here I am 40-odd years later." And, we say, congratulations on that—and enjoy your retirement!

Erda Celer published her M.S. thesis based on the Douglas-fir Drought Hardiness Study

Erda recently defended her M.S. thesis, entitled ***Douglas-fir Seedlings in the Pacific Northwest: The Genetics of Drought Adaptation***. Her thesis research focused on the Drought Hardiness Study, which was established in March 2015, as a joint project between the Northwest Tree Improvement Cooperative, Bureau of Land Management, Plum Creek Timber Company (now Weyerhaeuser), and Silver Butte Timber Company. More than 400 families from Oregon and Washington breeding programs were planted on three hot and dry sites in southern Oregon. Erda measured and analyzed first-year survival, damage, and height growth in 2015, and then measured the timing of bud flush in the spring of 2016. Her thesis objectives were to (1) obtain baseline measurements and climate data to help in the analysis and interpretation of future measurements in the Drought Hardiness Study; (2) characterize the quantitative genetics of drought adaptation traits; and (3) determine whether drought adaptation traits are associated with the climatic origin of the seedlings. What's next? Later this summer, we'll visit the sites to judge whether we'll take measurements at the end of the third growing season. Although the study will be monitored long-term, early measurements will be valuable for understanding the causes of early mortality—is it drought? We thank Erda for all her hard work, and the Turkish government, who provided a scholarship that made this research possible. To read the full thesis, **click here**

Scott Kolpak reported on the Douglas-fir SNP 'chip' at a recent conference, *Forest Genetics 2017*

Scott recently described progress on the Douglas-fir SNP chip at *Forest Genetics 2017: Forest Health and Productivity in Changing Environments.* His talk, entitled ***Development of a high-density Affymetrix Axiom genotyping array for genomic selection in Douglas-fir***, was presented at the joint meeting of the Western Forest Genetics Association and the Canadian Forest Genetics Association in Edmonton, Alberta. Scott described the performance of 55,776 potential SNPs that were tested on ~2,300 related and unrelated Coastal Douglas-fir trees from Oregon and Washington. Of these, as many as ~26K SNPs were successfully genotyped. Scott also reported population genetic statistics for two populations of Coastal Douglas-fir, and results from a small number of Interior Douglas-fir trees. The Axiom genotyping array will serve as an excellent foundation for studying the population genomics of Douglas-fir and for implementing genomic selection. The talk's co-authors included Keith Jayawickrama, Jennifer Kling, Matt Trappe, Valerie Hipkins, Terrance Ye, Stephanie Guida, Richard Cronn, Sam Cushman, Susan McEvoy, and Glenn Howe. To read the full abstract, **click here**.

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