Phytoremediation of landfill leachate using *Populus*

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Proper genotype selection is required for successful phytoremediation. We selected eight *Populus* clones (NC13460, NC14018, DM115, NC14104, NC14106, DN5, NM2, NM6) of four genomic groups after three cycles of phyto-recurrent selection for a field trial that began June 2005 at the Oneida County Landfill in Rhinelander, WI, USA (45.6 ˚N, 89.4 ˚W). During the 2005 growing season, we irrigated the trees with 3.8 L wk^{-1} of landfill leachate or water and evaluated survival, height, and diameter. We are irrigating the trees in 2006 with 22.8 L wk^{-1} of leachate or water and will test for inorganic element concentrations (N, P, K, Ca, Mg, S, Zn, Mn, B, Cu, Fe, Na, Al, Cd, Cr, Co, Mo, Ni, Pb, and Cl^-) in the leaves, stems, and roots. Biomass, height, diameter, leaf area, and root architecture also will be tested. Given broad clonal variation in survival, height, and diameter in 2005 and similar results from our previous studies, we anticipate similar variation in soil-to-root transfer of elements and subsequent root-to-stem and root-to-leaf translocation. We will present 2006 results at the conference. Nevertheless, our results to date have supported the need for further testing and selecting of specific clones for various phytoremediation needs.

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Red Lion Hotel, Pasco, Washington, USA
25 to 28 September 2006

Monday, 25 September 2006

1700-2000 Registration and reception with snacks and no host bar. Posters will also be on display. Dinner on your own

Tuesday, 26 September 2006

0700-0800 Breakfast buffet (provided) and registration

0800-0810 Welcome, Jake Eaton

0810-0855 Keynote speaker: Dr. Ed White, **Wood Biomass Feedstock for Bioenergy and Bioproducts-A Solution for the United States**

Bioenergy: feedstocks, economics, production

0855 Smart, Lawrence B., Cameron, K.D., Volk, T.A. and Abrahamson, L.P. **Breeding, Selection, Testing, And Commercialization Of High-Yielding Varieties Of Shrub Willow For Bioenergy, Biofuels, And Bioproducts**

0915 Strauss, Steven H. **Value And Obstacles In Use Of Tree Genetic Engineering For Short-Rotation Woody Crops**

0935 Thevathasan, Naresh, Gordon, A., Clinch, R., and Volk, T.A.. **New Dimension In Agroforestry: Trees Within Trees For Bioenergy Production In Southern Ontario, Canada**

0955-1015 Break