

Environmental Applications of Poplar and Willow International Poplar Commission - Working Party 6

Meeting 26th to 29th May 2005 – Sweden & Estonia

The first meeting of the International Poplar Commission (IPC) Working Party on Environmental Applications of Poplar and Willow to take place following its formal ratification as a new working party, in December, 2004 at the 22nd Session of the IPC, was hosted jointly by the Swedish University of Agricultural Sciences, Uppsala and the Estonian Agricultural University, Tartu in May, 2005. The meeting was held in co-operation with the IPC Working Parties on Diseases and Production Systems.

The event started in Sweden with a visit to the Enköping sewage treatment works (STW) and district heating plant (DHP). This facility is a good example of intergrated resource management. Water from the sludge dewatering stage of sewage treatment is stored in lagoons for application to 75 ha of willow coppice during the growing season. This decant water is diluted using treated effluent to ensure that both the crop water and nutrient requirements are being met. An average of 3mm of effluent is irrigated daily over five months supplying in the region of 150kg nitrogen per hectare. The wood harvested from the plantation is subsequently used in the district heating plant, which has been converted to burn wood. The quality of the effluent discharged to the neighbouring river is greatly improved and biomass yield is greater than would be achieved without wastewater irrigation. Following a tour of the STW, plantation and DHP, fourteen papers were presented, primarily on topics of phytoremediation and willow diseases. Extended abstracts for these and papers and those presented in Estonia, will be available on the IPC website.

The meeting then moved to Tartu, Estonia where papers from staff and graduate students from the Agricultural University were given, and a visit was made to several willow and hybrid aspen plantations. Researchers in Estonia have been using willow vegetation filters for wastewater for some years now. In most situations willow has been installed where other systems have been failing to deliver satisfactory water treatment. In 2002, an EU Life funded project was developed to demonstrate to local authorities and engineers how willow may be employed within wastewater treatment systems, and to collect data illustrating efficacy. The tour visited Kambja, one of the three sites established for the Life project, where domestic wastewater from 2000 people is irrigated to about 10 ha of willow. This site provided a good contrast in scale and technology to the facility at Enköping and illustrated that willow based vegetation filters may be employed in a wide variety of circumstance. Details of this project may be found at <http://www.zbi.ee/life/>.

The meeting was conceived at the IPC Session in Chile as a small local meeting where practitioners and researchers working on similar topics and in comparable geographical conditions would come together to exchange information and ideas. As it transpired, 27 people attended the Swedish sessions and 22, the Estonian. It is hoped that this meeting will be one of a series that will take place at a local level to address specific topics and facilitate frequent communication between working party members. Small meetings should require less organiation and hence be easier to host, thereby reducing the period of time between meetings and promoting a more continuous flow of information. Anyone interested in hosting or attending a future Working Party meeting should contact the Chair, Kurth Perttu (kurth.perttu@lto.slu.se).



Delegates viewing young hybrid aspen plantation



Kambja domestic sewage facultative ponds with willow plantation in background



Wastewater valve within the Enköping willow plantation



Overview of Enköping sewage treatment works with storage lagoons in the middle ground and willow plantation in the background centre and left.