

Multi-Purpose Poplar Plantations – Targeting at Low Carbon and Wide Economy

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Poplar has been widely acknowledged as a fast-growing and high-yield tree species. China, being the top country in the world in terms of its planted area of poplar with up to approximately 7 million hectares, is increasingly aware of the importance of the multiple functions of poplar from the traditional wood production to the emerging hotspots of forestry development such as bio-energy and carbon sequestration.

More than 120 participants from 8 countries including Canada, Italy, USA, Korea, Japan, Germany, Switzerland and China convened in Siyang County, Jiangsu Province, the home of poplar in China, for the IUFRO International Conference on Sustainable Management of Multi-purpose Poplar Plantations, which was jointly organized by the Chinese Academy of Forestry and Ecological Society of China, and Siyang County Government on 29-30 May. There were 18 presentations covering the following four thematic subjects: genetic breeding and intensive cultivation; plantation health and sustainable management; wood bio-materials and bio-energy utilization; and ecological services.

Prof. Don Koo Lee, President of IUFRO, Dr. Stefano Bisoffi, President of the International Poplar Commission, and Dr. Jim Carle, Leader of Forest Management of FAO honoured the conference with opening remarks, which provided an overview of the poplar development in the world.

In the session on **genetic breeding and intensive cultivation**, scientists from Canada, Italy, USA, China and Korea presented progress and results on the association genetics and natural genetic variation of *Populus trichocarpa*, gene controls in wood formation, bio-technology application and genetic engineering for productivity improvement, bio-energy and climatic and environmental challenges. The session on **health and sustainable management** provided a wide range for the discussions in an open way. Representatives of FAO, Germany, Italy, USA and China talked about their ideas and prospects on the management of poplar plantations from site selection, nutrient management, and silvicultural improvements to the integration of poplar and willow in agroforestry, and low impact environment practices and the farmers' livelihood improvement by ensuring a wide range of poplar products and services. Poplar **ecological services** were focused by addressing developing phyto-remediation, carbon sequestration and BVOCs emissions by using the great variety of



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poplar species, genotypes and cultivars. The last session on **poplar wood, bio-materials and bio-energy utilization** combined the experience and knowledge both from circles of scientific research, education and industry. Major achievements are being made in the production process and fiber attributes identification for biomaterials utilization and bio-energy production as well as their prospects of the market tendency. Poplar wood-based bio-materials and bio-energy utilization are increasingly becoming new emerging and promising research priorities.

The conference was a great success in terms of representation and width and depth of the covered themes. Participants shared their ideas, viewpoints, research results and experience. The outcomes of the conference can be summarized as follows:

- (1) Knowledge and experiences in the proper utilization, genetic breeding and cultivation as well as management of poplar plantation were shared.
- (2) Achievements and progress after the Fourth International Poplar Symposium in 2006 which was held in Nanjing were shared.
- (3) Linkages among circles of research, education and industry and between national and international scales were established or tightened.
- (4) Conference proceedings were available and a directory of poplar experts was formed.

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