REPORT

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26-30 October
2008

23rd Session of the International Poplar Commission and 44th Session of its Executive Committee

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INTERNATIONAL POPLAR COMMISSION

Report of the 23rd Session of the Commission

and of the 44th Session of its Executive Committee

Beijing, China, 26 – 30 October 2008

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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PART I. REPORT OF THE 44TH SESSION OF THE EXECUTIVE COMMITTEE OF THE INTERNATIONAL POPLAR COMMISSION

ORGANIZATION

1. The 44th Session of the Executive of the Executive Committee of the International Poplar Commission (IPC) was jointly hosted by the Government of China, the Beijing Forestry University, the Chinese Forestry Society and the Chinese Academy of Forestry, and was held in Beijing, China, on 26 October 2008. Dr. Stefano Bisoffi, Chairperson of the Executive Committee, chaired the meeting. It consisted of a closed session of nine members, the Secretary of the Commission and 12 Chairpersons, Vice-Chairpersons or Technical Secretaries of the six Working Parties and of the Sub-Committee on Nomenclature and Registration.

THE SESSION

2. The Session was opened by the Dr. Stefano Bisoffi, Chairperson of the Executive Committee. The Provisional Agenda was adopted (see *Annex I(a)*).

3. Formal apologies were acknowledged from Marijke Steenackers (Chairperson, Working Party on Poplar and Willow Diseases), John Charles (Vice-Chairperson, Working Party on Poplar and Willow Insect and Other Animal Pests), Teresa Cerrillo (Chairperson, Working Party on Poplar and Willow Genetics, Conservation and Improvement), Kurth Perttu (Chairperson, Working Party on Environmental Applications of Poplars and Willows).

4. Dr. Stefano Bisoffi stressed that the work of the Commission was not so much on the scientific research but to facilitate more effective ways to transfer Poplar and Willow scientific knowledge and technology to strengthen institutional capacity in policy, planning and management practices, particularly twinning between industrialized and developing countries.

5. Dr. Stefano Bisoffi, Chairperson, Sub-committee on Nomenclature and Registration (http://www.fao.org/forestry/3765/en/), advised that National Poplar Commissions were not respecting or registering cultivars in accordance with established procedures. He proposed revitalization of the Sub-Committee and of the website to encourage greater use. He recommended that Willow registration be initiated because of the new opportunities and increased interest in Willow species.

6. Dr. Sylvie Augustin, Chairperson, Working Party on Poplar and Willow Insect and Other Animal Pests (http://www.fao.org/forestry/3769/en/), reported that the e-book on "Damaging Poplar Insects: Internationally Important Species" was completed and available on the IPC website (http://www.fao.org/forestry/38255/en/). She advised that the draft Chapter on Insects and other Animal Pests for the book "Poplars and Willows in the World" had been completed and was now available for peer review. She stressed that the focus of the Working Party needed to increasingly be towards achieving greater outreach and greater participation by more entomologists from around the world.

7. Dr. Mauritz Ramstedt, Vice-Chairperson of the Working Party on Poplar and Willow Diseases (http://www.fao.org/forestry/3768/en/), advised that the Working Party was contributing to the Chapter on Poplar and Willow Diseases in the book "Poplars and Willows in the World". He advised that a focus would be to encourage more pathologists from around the globe to become involved with the Working Party, particularly from China.

8. Dr. Sasa Orlovič, Vice-Chairperson, Working Party on Poplar and Willow Genetics, Conservation and Improvement (http://www.fao.org/forestry/3770/en/), reported completion of an inventory of 23 Poplar and Willow breeding institutions to ascertain breeding programmes and pollen collections in which a comparison of breeding programmes and opportunities for improved collaboration were evaluated. These would be shared on the web. It was highlighted that bridging the gap between the traditional tree breeders and those adopting advanced molecular biotechnology techniques, had become a high priority. The major advances of China in these fields were acknowledged. The Working Party prepared the final draft of the Genetic Resources Chapter for the book "Poplars and Willows in the World".

9. Dr. Theo Verwijst, Chairperson, Working Party on Poplar and Willow Production Systems (http://www.fao.org/forestry/3771/en/), reported participation with other Working Parties in joint activities in Sweden and Estonia (May 2005), Northern Ireland (May 2006) and Canada (June 2007). It was stressed that the Working Party had been involved in activities associated with the IUFRO-coordinated International Poplar Symposium in Nanjing, China, 2006 and proposed to be involved with the planned IUFRO International Poplar Symposium (IPS) meeting in Orvieto, Italy, 2010. It was reported that the Working Party was coordinating the Chapter on Industrial Applications of Poplars and Willows for the book "Poplars and Willows in the World". It was highlighted that Poplar and Willow coppice management had demonstrated potential for becoming a viable bioenergy feedstock alternative. It was reported that the Working Party maintained close links with IEA-Bioenergy initiatives.

10. Dr. Jud Isebrands, Vice-Chairperson and Dr. Drusilla Riddell-Black, Technical Secretary, Working Party on the Environmental Applications of Poplars and Willows (http://www.fao.org/forestry/26214/en/), reported the successful hosting of cross-cutting inter-Working Party events in Sweden and Estonia (May 2005), Northern Ireland (May 2006) and Canada (June 2007). It was indicated that the proposal submitted by the Working Party to the European Union (EU) had not been successful, but valuable experience had been gained for future submissions. The web portal on the IPC website was reported as being the principal mode of communication for publications, projects, activities, lists of institutions, experts, references, links and contacts. It was stressed that the focus of the Working Party had been to transfer technical knowledge to field applications. It was also reported that the Working Party had prepared the draft Chapter on the Environmental Benefits of Poplars and Willows in the book "Poplars and Willows in the World".

11. Dr. Joris Van Acker, Chairperson, Working Party on Harvesting and Utilization of Poplar and Willow Wood (http://www.fao.org/forestry/3767/en/), reported revitalization of activities. It was indicated that the pre-Session Conference in Nanjing (21-24 October) on "Engineered Wood Products Based on Poplar/ Willow Wood", co-hosted with the Nanjing Forestry University, had attracted strong support from the private sector, both internationally and from China. A book containing all papers presented to the Conference had been published in hard copy. It was advised that the Working Party was preparing the Chapter on Harvesting and Utilization of the book "Poplars and Willows in the World". It was also highlighted that the Field Handbook on Poplar Harvesting had been completed (http://www.fao.org/docrep/011/k3305e/k3305e00.htm).

12. The Secretariat reaffirmed the potential of the IPC website in providing portals for Working Parties and National Poplar Commissions.

13. Dr. Jim Richardson and Dr. Jud Isebrands advised on the status in preparation of the book "Poplars and Willows in the World: Meeting the Needs of Society and the Environment" (http://www.fao.org/forestry/32608/en/). Two chapters had been peer reviewed and were uploaded to the IPC website as working papers, with the aim to have remaining chapters uploaded to the web as working papers by March 2009. Options for publishing the book through a publishing house were being investigated by FAO.

14. The Secretariat informed the Committee of the heads of delegations and names of the candidates proposed by member countries from which its members would be elected for the period 2008-2012.

15. Dr. Bisoffi provided guidelines for Working Party Concurrent Sessions and Working Party Business Sessions to stimulate discussions towards the theme of the 23rd Session and mandate of the IPC. The Working Parties were given guidelines for reporting outputs and recommendations to the plenary session and for preparation of the programmes of work for the next four years. He highlighted the need for Working Parties to collaborate in addressing topical themes such as climate change, bioenergy and sustainable land-use and livelihoods. He stressed more effective use of the Working Party web portals on the IPC website

16. The Secretariat informed the Committee that India had reconfirmed its offer to host the 46th Session of the Executive Committee.

17. The Secretariat informed the Committee of the FAO-Italy supported project "Poplars and Willows for Sustainable Livelihoods and Land-use in the East Mediterranean and Central Asian Countries" and encouraged participation in the proposed International Workshop in mid-2009. He introduced Dr. Alberto Del Lungo, Technical Advisor to the project.

18. The Secretariat advised the Committee of the programme, documentation, election of officers, technical and logistical arrangements for the 23rd Session of the IPC as well as associated study tour and social events (http://www.fao.org/forestry/ipc2008/en/ and http://www.ipc2008bj.com.cn/). Chairpersons, Vice-Chairpersons and Rapporteurs were identified for all sessions. Meetings were confirmed for Chairpersons of National Poplar Commissions and Heads of Delegation for a briefing on the Executive Committee elections, and of Chairpersons and Rapporteurs of Sessions to clarify arrangements.

19. Dr Bisoffi requested full support to revitalize National Poplar Commissions. In this regard, it was highlighted that formal invitations to IPC Sessions from FAO were directed to senior Government representatives who may or may not be conversant with the National Poplar Commission. It was requested, in future, that the Secretariat alert the Chairperson of the National Poplar Commission when invitations were issued, so that appropriate follow up could be initiated.

20. The Secretariat reported that Uzbekistan and the Russian Federation were still in the process of obtaining Government support for membership to the IPC. Estonia and the Czech Republic had expressed interest to become members and requested details to initiate the process.

21. Dr. Patrick Mertens advised of the Pro-*populus* initiative in Europe to share knowledge and technology to more efficiently and effectively grow, process, market and trade in poplar species. It was highlighted that the initiative should build upon, rather than compete with, the activities of the IPC.

22. The Secretariat advised that IUFRO planned to hold its International Poplar Symposium in Orvieto, Italy, in September 2010. It was agreed that the 45th Executive Committee would be programmed to coincide with these dates, in either Rome or Orvieto.

23. Dr. Bisoffi and Executive Committee Members acknowledged the work of the Secretariat (Jim Carle, Secretary; Alberto Del Lungo, Technical Advisor; and Graciela Andrade and Michèle Millanès, Administrative Support). He encouraged National Poplar Commissions and Working Parties to more effectively use the IPC website maintained by the Secretariat.

POST-SESSION INFORMAL MEETING OF THE EXECUTIVE COMMITTEE

24. The newly-elected members of the Executive Committee for 2008-2012 met informally on 30 October 2008 to elect the Chairperson and Vice-Chairperson of the Committee and to discuss general business. Dr. Stefano Bisoffi (Italy) was re-elected Chairperson and Dr. Jud Isebrands (USA) was re-elected Vice-Chairperson of the Executive Committee, both unanimously. Dr. Bisoffi welcomed Dr. John Doornbos (Canada), Dr. Jagdish Kishwan (India) and Dr. Meng Zhu Lu (China) as newly-elected members to the Executive Committee. Dr Jim Richardson (Canada), Prof. Dr. Yin Weilun (China) and Dr Martin Weih (Sweden) were co-opted to the Executive Committee. In recognition of the need to better integrate the outputs and activities of the Working Parties, Dr Weih was elected to coordinate these linkages. It was announced that the 45th Executive Committee Meeting would be held to coincide with the IUFRO International Poplar Symposium event in Orvieto, Italy, from 20 to 25 September 2010.

PART II. REPORT OF THE 23rd SESSION OF THE INTERNATIONAL POPLAR COMMISSION

ORGANIZATION

1. The 23rd Session of the International Poplar Commission (IPC) was jointly hosted by the Government of China, the Beijing Forestry University, the Chinese Forestry Society and the Chinese Academy of Forestry, and was held in Beijing, China, from 27 to 30 October 2008.

2. The Session was attended by 185 delegates and advisers from 29 countries, including 23 member countries of the Commission: Argentina, Austria, Belgium, Canada, Chile, China, Croatia, Finland, France, Germany, India, the Islamic Republic of Iran, Italy, the Netherlands, New Zealand, the Republic of Korea, Romania, Serbia, Spain, Sweden, Turkey, United Kingdom and the United States of America. Observers attended from Australia, Bosnia and Herzegovina, Brazil, Czech Republic, Estonia and the Russian Federation, the International Union of Forest Research Organizations (IUFRO) and the Beijing Forestry University (staff and students). The List of Participants is in *Annex III*.

OPENING OF THE SESSION

3. Hon. Vice Minister Zhang Jianlong, State Forest Administration, Beijing, China, opened the 23rd Session as the host Government and as a beneficiary of the services provided by the International Poplar Commission. He outlined the critical importance that the 7 million hectares of plantations, agroforestry systems and shelterbelts of Poplars and Willows played in China. He highlighted that they provided a valuable feedstock for industries for a diverse range of forest products for domestic and export trade, but also non-wood forest products such as fodder for livestock and valuable medicines. He stressed that Poplars and Willows also provided shelter, shade and protection of soil, water, crops, livestock and dwellings; played an important role in phytoremediation of severely degraded sites, rehabilitation of fragile ecosystems (including combating desertification), forest landscape restoration; and as fast growing species, were effective at sequestering carbon. He further stressed that they created employment, boosted exports and contributed to social and economic development and sustainable livelihoods in rural areas. He outlined that Poplars and Willows also beautified urban and peri-urban parks, schools, lakes, waterways, recreational areas and highways as green buffers. He highlighted the crucial roles that international cooperation had played in the transfer of science and technology of Poplar and Willow into rural and urban development in China. He thanked the International Poplar Commission and FAO for facilitating transfer of knowledge and technology and especially referred to the GCP/CPR/009/BEL Project (1990-2002) in the Three North Shelterbelt region as a good example.

4. Prof. Dr. Yin Weilun, on behalf of the joint hosts, welcomed participants. He highlighted that China had the largest planted Poplar and Willow resources in the world, particularly in the Three North and Central China regions. He highlighted that Poplars and Willows were grown in a range of mechanisms integrated with agriculture, livestock, poultry, viticulture, apiculture and aquaculture interwoven in meeting peoples' wellbeing. He reiterated that Poplars and Willows were grown for commercial production of wood and non-wood forest products in some instances, whilst in others for flood control, to combat desertification or rehabilitation degraded lands and in others to beautify city infrastructure and recreational areas. He stressed the importance of the transfer of knowledge and technology, not only internationally but also within a large country like China. He recalled that China had imported Poplar germplasm, knowledge and technology in recent decades, assisted by the International Poplar Commission. Chinese scientists, policy makers and managers had applied Poplar and Willow science and technology to suit their own unique social, cultural, environmental, economic,

technical and organizational contexts. This had resulted in a rich diversity in growing, uses and users of Poplar and Willow products. He highlighted the major industries (pulp, paper, plywood, veneer, panels, reconstituted boards, flooring, sawn timber, packing crates, pallets, furniture manufacturing and increasingly for bioenergy/biofuel production) had developed in China in recent years.

5. Mr Jim Carle, Secretary of the IPC, in welcoming participants on behalf of the Director-General of FAO, drew attention to the scale, role and social, environmental and economic importance of Poplars and Willows globally. He emphasized the crucial role that Poplars and Willows played in China in combating desertification, flood control, rehabilitation of degraded lands and in provision of a wide range of forest products and environmental and social services. He reaffirmed the role of the IPC as a Statutory Body of FAO and requested participants to explore new initiatives in deriving achievable programmes of work and in making sound recommendations to FAO and Governments that would be directly relevant for Poplars, Willows and peoples' well-being. He also stressed the importance of Poplars and Willows in meeting the targets of the Millennium Development Goals (MDG), the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention to Combat Desertification (UNCCD), the Convention on Biological Diversity (CBD), the United Nations Forum for Forestry (UNFF) and other international processes.

6. Participants were welcomed by Dr Stefano Bisoffi, Chairperson, IPC who stressed the unprecedented changes in China in general and Poplar and Willow culture in particular, since the 18th Session of the IPC, hosted by China in 1988. He outlined that the theme then was "Poplar Cultivation Towards 2000", but stressed that it would not have been possible to have imagined the changes in Poplar and Willow culture since that time. He reaffirmed that China now led the world in scale and diversity of planted Poplars and Willow end uses and in advanced biotechnology, genomic research and molecular breeding and development of Poplars. He noted that the 23rd Session was the largest in terms of number of participants, papers submitted and the range of activities within the Session and pre- and post- Session study tours to Inner Mongolia, and Henan and Nanjing Provinces respectively. He also recalled the successful pre-Session Conference on "Engineered Wood Products Based on Poplar and Willow Wood". He reminded participants that the International Poplar Commission needed to translate outputs into development outcomes and to assist FAO in serving their member country needs. Revitalization of Working Parties and mobilization of National Poplar Commissions were highlighted as a focus of this Session. He outlined the format and the intent for full participation in the 23rd Session and requested decisive and achievable recommendations.

7. Prof. Dr. Yin Weilun (China) was elected as Chairperson, and Messrs Sven M.G. De Vries (the Netherlands) and John Alvin Stanturf (United States of America) were elected joint Co-Chairpersons.

8. The Provisional Agenda was adopted without amendment (see *Annex 1(b)*).

SYNTHESIS OF COUNTRY PROGRESS REPORTS

9. Country Progress Reports for the period 2004 through 2007 were received from the National Poplar Commissions of 19 member countries (see *Annex V*). The contents of the National Reports were synthesized into two IPC Working Papers:

- IPC/6 – "Synthesis of Country Progress Reports, Activities Related to Poplar and Willow Cultivation and Utilization, 2004 through 2007, prepared for the 23rd Session, International Poplar Commission, 2008". The Synthesis was made available in:

  English (http://www.fao.org/docrep/011/k3380e/k3380e00.htm)
  French (ftp://ftp.fao.org/docrep/fao/011/k3380f/k3380f.pdf)
  Spanish (ftp://ftp.fao.org/docrep/fao/011/k3380s/k3380s.pdf)

- IPC/7 – "Publications Listed in Country Progress Reports" prepared for the 23rd Session, International Poplar Commission, 2008 (http://www.fao.org/docrep/011/k3333e/k3333e00.htmm).

10. These Working Papers were available on the Internet prior to the 23rd Session and distributed to all participants in hard and electronic copies. Additionally, the Synthesis was presented as a Keynote Address by the Secretary to the plenary session – "Synthesis of Country Progress Reports: Highlights, 30 October 2008".

11. Selected highlights extracted from the Synthesis included:

- In the vast majority of countries reporting, poplar and willow cultivation and uses are well established in the national economy and most countries express objectives towards an increase of those activities.
- Government policies are generally positive towards poplar and willow cultivation and use.
- The cultivation of poplars and willows is seen in many countries as part of the integrated rural landscape in which it can contribute to sustainable livelihoods and integrated rural development, including agriculture, with livestock and cash crop production, horticulture and viticulture. Agroforestry systems using intercropping, mostly with poplars, are common and generally seen as very positive for the farmers because they provide regular and relatively secure economic returns.
- Many countries still experience organizational and technical challenges. For example, the regulatory mechanisms to ensure a supply of certified nursery planting materials to the growers are reported to be insufficient in some cases. This has major effects on growth and yield performance and a significant impact on wood quality for the processing industries.
- Whereas poplar has been grown and used for a longer period of time, interest for willow cultivation and wood processing is definitely gaining momentum. In some countries, it is noted that farmers are still hesitant to plant willows, as future demand is uncertain and prices difficult to predict.
- There is continued awareness regarding the value of natural stands and species of poplars and willows for tree improvement possibilities.
- Programmes for the conservation of natural poplar and willow stands are generally strong in most countries, but are proving difficult in some.
- Insect and disease infestations and damages continue to have major impact on forest health, growth and stem quality for both poplars and willows.
- Programmes concerning the genetic modification of poplars are being actively pursued, both in developed and developing economies, and the poplar genome has been mapped. Many countries report significant progress in genetic characterization and manipulation to provide resistance against pests, diseases and other stresses, namely drought or flooding, improve technical properties as well as growth and yield.
- The utilization of poplars and willows is diversifying into a wide range of solid and engineered wood and fibre products.
- The use of poplars and willows as a source of renewable energy is accelerating in several countries.
- The contribution of poplars and willows cultivation systems and products to carbon sequestration is also gaining major interest.
- Phytoremediation of polluted soil and water using poplars and willows is being implemented in several countries, essentially on all continents.
- Poplars and willows are increasingly used for forest landscape restoration, rehabilitation of degraded lands, and combating desertification.

- Forest certification has been applied to poplar cultivation in some countries to demonstrate social, environmental and economic sustainability.
- Research has continued to be very active although financial constraints are identified by most countries.
- The great amount of literature produced in the last decade on willow and poplar cultivation and use indicates not only research interest (and gaps) but also that many countries see these species as valuable solutions to major issues such as sustainable social and economic development, energy needs, biodiversity protection, etc.
- The number of contacts and exchanges between and within member countries of the IPC confirm strong interest in the growing and utilization of poplars and willows and the need for strong transfer mechanisms, both from a technical and policy-making perspective. In this context, the IPC continues to provide value for participating countries.

The issues and trends noted in the Synthesis reports that could impact future technical or policy making developments include:

- In some countries, innovative policies are needed to better integrate the development of technology-based poplar and willow plantations and wood-based industries, as a means to increase social benefits, including employment opportunities, environmental protection and economic returns.
- Some countries are clearly in a transition period towards a significant increase in poplar and willow cultivation and use. One of the key conditions for success will be in the quality and level of training all along the value chain.
- The development of agroforestry opportunities using poplars and willows will need to overcome certain barriers, namely the absence of tradition for such projects, poor knowledge and technical transfer, restricted financial support (major investment costs are upfront whereas returns occur some years later) or unorganized markets for the wood produced, often in rural areas.
- The pathways to establish compatibility between poplar and willow cultivation and protected areas networks have not yet been clearly identified in most countries.
- The current precarious status of *P. nigra* points to the importance of establishing and maintaining global monitoring systems to ensure that genetic biodiversity is protected. The use of non-indigenous poplar and willow species will in all likelihood continue, at least in most countries, but increasingly, the recourse to indigenous species will be favoured, particularly in areas presenting high biodiversity or ecological sensitivities.
- Genomics is generally seen as the key for making poplars and willows a feedstock of choice for bioenergy. New findings are occurring and communicated frequently. One of the challenges, from a global perspective, will be in ensuring that the gains from energy consumption using such biomass will not be overshadowed by unforeseen negative environmental, social or economic benefits. For example, striking the balance between using hectares for biomass production and for agricultural purposes has already become a global issue. It must be ensured that poplar and willow cultivation is part of integrated solutions.
- Biosafety issues are being raised in the context of genomics research and applications. Given that an increasing number of transgenic poplar and willow plants are being tested and produced, much work is needed to examine their short- and long-term effects on the environment, including gene flow with other species, gene stability, etc. Additional efforts are also essential in regards to containment strategies.
- In many countries, social opposition to genetically modified organisms remains high. All local and global strategies to further develop poplar and willow cultivation systems will need to address these concerns, provide solutions and identify scientifically-sound responses in guiding forest management policies. This has become particularly important in today's globalized world.

- The role of poplar and willow cultivated systems within carbon credit equations is still unclear. The carbon mitigation potential coming from willow and poplar plantations, for instance in restoration of degraded lands or unused agricultural lands, is immense. The fact that poplars and willows can be used as substitutes to greater carbon emission sources for energy purposes also holds tremendous promise to support greenhouse gas emission reductions. Adaptation to climate change was rarely mentioned as such in the various country progress reports but the fast-growing profile of poplar and willow short-rotation plantations would appear to be a significant asset because practices and approaches can be more easily changed in response to climate, over short periods of time. For the vast majority of countries, there is a strong need for policy development support in these areas.
- Bioenergy producers are now competing with more traditional industries for the same fibre material. Some countries mentioned that this may already be creating an imbalance between supply and demand as well as additional pressures on price. It can also have a profound effect on how forest stands are tended because wood product manufacturing and biomass production do not necessarily require the same approach and the value chains can be quite different.
- In all likelihood, the emerging industries of nano-materials and nano-enabled products offer tremendous potential for poplar and willow. This area is just beginning to be explored. Here again, genomics may play a significant role.

23rd SESSION THEME: POPLARS, WILLOWS AND PEOPLE'S WELLBEING

12. The theme of the 23rd Session was "Poplars, Willows and People's Wellbeing". There were 247 papers submitted for the 23rd Session, of which 42 percent were contributed by China. Developing countries, or those with economies in transition, contributed 19 percent of the papers. Although many papers were inter-disciplinary, the distribution by principal Working Party was: Poplar and Willow Genetics, Conservation and Improvement (91); Poplar and Willow Production Systems (54); Environmental Applications of Poplars and Willows (20); Poplar and Willow Insects and Other Animal Pests (7); Harvesting and Utilization of Poplar and Willow Wood (42); and Poplar and Willow Diseases (8). Seven papers addressed cross-cutting issues.

13. The paper summaries submitted to the 23rd Session of the IPC were published in Working Paper, IPC/5 - "Poplars, Willows and Peoples' Wellbeing: Abstracts of Papers submitted to the 23rd Session, International Poplar Commission, 2008" (ftp://ftp.fao.org/docrep/fao/011/k3334e/k3334e.pdf). The Working Paper was available on the Internet prior to the 23rd Session and was distributed in hard and electronic copies to all participants on registration.

14. The detailed programme can be referenced in *Annex II (b)* and the authors and titles of papers presented are in *Annex IV*. The sessions at a glance can be viewed below.

Opening Plenary Session

15. The following keynote addresses were delivered in the opening plenary in support of the theme:

- Jim Richardson – *FAO/IPC Publication "Poplars and Willows in the World": A Progress Report*
- Brian Liu – *An International Investor's Perspective on Timberland Opportunities in China*
- Joris Van Acker – *Future Impacts of Poplar and Willow on the Evolving European Forestry-Wood Industry Chain*
- Liu Lv – *Present Status of Development of Plywood Industry Cluster in China*
- Domenico Coaloa – *Forest Certification for Poplar Plantations: a New Market Opportunity*
- Gulshan Ahuja Kumar – *Poplars Outside Forests (POFs) in India: a Potential Resource for Socio-Economic Development and Ecological Restoration*

- Yin Weilun – *Effects of Different Pruning Intensities on Photosynthetic Characters, Growth and Yield of Crops in Agroforestry*
- Edgardo Casaubon – *Silvopastoral Systems with Poplar in the Lower Delta of the Paraná River, Argentina*
- J.G. (Judson) Isebrands – *Environmental Uses of Poplars and Willows: A Worldwide Overview*
- Katrin Heinsoo – *Factors Limiting Use of Short Rotation Coppice for Wastewater Purification and Sewage Sludge Utilization*
- Brian Stanton – *Populus Hybridization for the Renewable Transportation Fuels Industry: Integration of Genomic Tools into a Varietal Development Program*
- Kyung-Hwan Han – *Understanding the Transcriptional Regulation of Wood Formation in Poplar: A Step Toward Optimizing Ligno-Cellulosic Feedstock for Biofuel Productivity and Processing*
- Martin Weih – *Breeding for High and Sustainable Biomass Production of Salix: Bridging Molecular Genetics, Ecophysiology and Ecology*
- Matthias Fladung - *Elimination of Marker Genes and Targeted Integration of Transgenes via the FLP/FRT-Recombination System*
- Xueqing Wan – *An Overview of Populus Genetic Resource in Southwest China*

Closing Plenary Session

16. The following keynote addresses were delivered in the closing plenary:

- Jim Carle - *Synthesis of Data Reported in Country Progress Reports 2008*
- Sas Biswas - *Livelihood Studies of Willow-Dependent Communities of the Indian Trans-Himilayan Region, with Emphasis on Sustainable Management of the Bioresource and Improved Well-being*
- Pedro Garnica - *Engineered Wood Products from Poplar Wood*

17. The following announcements were delivered in the closing plenary:

- Brian Stanton - *5th International Poplar Symposium, Italy 2010*
- Alberto Del Lungo - *Poplars and Willows for Sustainable Livelihoods and Land-use in the East Mediterranean and Central Asian Countries, an Italy-FAO Project*
- Jagdish Kishwan - *Proposal to host the 24th IPC Session, 2012*
- Mirta Rosa Larrieu - *13th World Forestry Congress, Argentina, October 2009*

18. The following business reports were presented in the closing plenary:

- Julia Kuzovkina (Chairperson) - *Sub-Committee on Nomenclature and Registration*
- Mauritz Ramstedt (on behalf of Sylvie Augustin, Chairperson) – Working Party on *Poplar and Willow Insects and other Animal Pests*
- Mauritz Ramstedt (Vice-Chairperson) – *Working Party on Poplar and Willow Diseases*
- Sasa Orlovič (Vice-Chairperson) – *Working Party on Poplar and Willow Genetics, Conservation and Improvement*
- Theo Verwijst (Chairperson) – *Working Party on Poplar and Willow Production Systems*
- Jud Isebrands (Chairperson) – *Working Party on Environmental Applications of Poplars and Willows*
- Joris Van Acker (Chairperson) – *Working Party on Harvesting and Utilization of Poplar and Willow Wood*

19. Dr. Bisoffi, Chairperson, IPC, presented the conclusions and recommendations from the IPC 23rd Session to the FAO Committee on Forestry (COFO).

Concurrent Sessions

20. The organization and scheduling of concurrent and joint meetings were arranged to encourage interlinkages between the Working Parties. The concurrent session themes included:

Poplar and Willow Genetics, Conservation and Improvement
- Genome Analysis and Gene Function
- Genetic Diversity Understanding and Conservation
- Breeding Selection
- Breeding Selection Tools
- Genetic Transformation
- Sexual Reproduction and Polyploidization

Poplar and Willow Production Systems
- Poplars in Economic and Social Development
- Short Rotation Forestry and Biomass Production
- Cultivation of Poplars and Willows

Environmental Applications of Poplars and Willows
- Poplars, Willows and the Environment

Poplar and Willow Protection
- Insects and Other Animal Pests and Diseases of Poplars and Willows

Harvesting and Utilization of Poplar and Willow Wood
- Wood Technology

BUSINESS REPORTS

Report of the Sub-Committee on Nomenclature and Registration

21. Dr. Julia Kuzovkina (USA) was elected as the Chairperson for the 2008-2012 period, Dr. Stefano Bisoffi (Italy) as the Vice-Chairperson and Dr. Lorenzo Vietto (Italy) as the Technical Secretary.

22. The Sub-Committee remained the International Cultivar Registration Authority (ICRA) for the genus *Populus*. As such the IPC maintains the Register. This entails collection of information on new cultivars and checking congruence with nomenclature rules. The Register has been maintained by the Breeding and Selection Department, ISP-Casale Monferrato, Italy in close collaboration with the Working Party on Poplar and Willow Genetics, Conservation and Improvement. The current version of the Register is available at the IPC Web site www.fao.org/forestry/site/ipc

23. The aims of the Register are to: promote uniformity, accuracy and stability in the naming of cultivars; avoid possible sources of ambiguity in communications and records; and seek consensus among users.

24. Critical constraints identified that have prevented the Sub-Committee fulfilling its ICRA role effectively, included:

Poplars

- Weakness of the structure of the Sub-Committee with the workload falling on a few individuals;
- Lack of awareness of the scope and importance of Registration of cultivar names among breeders, nurserymen and even National Poplar Commissions or other authorities that oversee the trade of propagation material; and
- As a consequence there have been difficulties in keeping the Register updated. The National Reports to the IPC are proof that many cultivars are reported as being widely planted but not listed in the Register.

Willows

- No ICRA has been appointed by the International Society for Horticultural Science (ISHS);
- *Salix* is not included in legislation that, in some parts of the world (e.g. EU), regulate the trade of forest propagation material;
- Thus far, commercial breeders do not appreciated the advantages of a registration procedures and consider it bureaucratic;
- The huge number of species (10 times that of *Populus*), broader geographic distribution and immense possibilities of interspecific crossing make the possibility of mis-identification very high; and
- The growing interest of commercial trade in willows, due to their use in short rotation forestry for the production of energy, landscaping, phytoremediation and restoration of degraded lands poses an increasing risk of complete loss of control of cultivar identity.

25. The programme of action for the next four years included:

- Reinforce the Sub-Committee by re-constituting a network of contact persons in as many countries as possible;
- Raise awareness of the different actors, starting with the National Poplar Commissions and other Authorities. The network of contact persons will be essential as the official channels failed to produce tangible results. A new attempt will be made to approach the National Poplar Commissions through the FAO Secretariat;
- The *Populus* Register will be updated in two ways:
  - Forms and guidelines appearing on the IPC website will be checked against the current edition of the International Code of Nomenclature for Cultivated Plants, and in the future, against the new edition (expected in 2009), and amended accordingly;
  - Literature and other reports will be scanned in order to locate cultivars that are not listed in the Register and seek information on them;
- The IPC will apply to the ISHS to be appointed ICRA for the genus *Salix* and the first steps of the establishment of a Register will be initiated that is the compilation of a checklist of names for the possible identification of homonyms, synonyms, trade designation, conserved epithets, unacceptable names, etc;
- Provided volunteers are forthcoming, a standard portfolio of photos of registered cultivars will be prepared; and
- Together with the Working Party on Genetics, Conservation and Improvement, a database and living gene bank of registered cultivars will be prepared.

26. Recommendations to the IPC Secretariat included:

- The IPC give full support to the establishment of a Register for the genus *Salix* and the Secretariat submit an application to the International Society for Horticultural Science (ISHS) to be appointed as the International Cultivar Registration Authority (ICRA).
- The "Dichotomous Key for Nursery Identification of the Main Poplar Clones Cultivated in Europe" should be translated into English (and possibly other languages) and be published as a Working Paper by the Secretariat and posted on the IPC website.

Working Party on Poplar and Willow Diseases

27. Dr. Marijke Steenackers (Belgium) was elected as the Chairperson for the 2008-2012 period, Dr. Mauritz Ramstedt (Sweden) as the Vice-Chairperson and Dr. Edilene Machado (Brazil) as the Technical Secretary.

28. Constraints identified for the Working Party to be more effective included:

- Lack of awareness by researchers in the field of the IPC and Working Party activities;
- Insufficient young scientists involved;
- Insufficient involvement of the private sector;
- Insufficient networking and use of the Working Party web portal maintained by the IPC Secretariat; and
- Weak linkages with other Working Parties.

29. The programme of action for the next four years included:

- Conduct a joint meeting between the Diseases and Insects Working Parties (and possibly others), to coincide with the 45th Executive Committee Meeting and the International Poplar Symposium, Orvieto, Italy, September 2010;
- Collaborate with the EU Treebreedex Project to conduct the International Workshop on "Development of Screening Methods for Disease Resistance", Belgium, September 2009. First call, July 2009;
- Update the membership list of active researchers on Poplar and Willow diseases and to the Directory of Poplar and Willow Specialists and the IPC website by July 2009;
- Routinely post an annotated bibliography of Poplar and Willow disease publications and upload these to the IPC website. A first version of publications for the last four years to be uploaded by July 2009;
- Prepare a database of Poplar and Willow disease projects and other relevant web links;
- Coordinate a common international collaboration project on *Melampsora* rust. Questionnaire to be sent out by early 2009;
- Coordinate the Chapter on Poplar and Willow Diseases in the book "Poplars and Willows in the World" by March 2009;
- Prepare during 2009 a Newsroom as an informal forum and fast information, to include short notes on Poplar and Willow diseases and to encourage contributors to add new information and ideas; and
- Link the new "Forpath" network through the IPC website.

Working Party on Poplar and Willow Insects and Other Animal Pests

30. Dr. Sylvie Augustin (France), Chairperson and Dr. John Charles (New Zealand), Vice-Chairperson retained their positions for the 2008-2012 period.

31. Some insects and other animals pose a demonstrable threat to the world forests, including an increasingly one to both endemic and exotic Poplars and Willows. The Working Party can assist in increasing awareness and reducing the incidence and impacts of invasive insects and other animal pests for Poplar and Willow production and products trade. The aim of the Working Party is to provide international connectivity (networks, websites, publications, lists of experts, etc.) between researchers on, and producers of, Poplars and Willows through National Poplar Commissions, the International Poplar Commission and other relevant institutions (International Poplar Symposium, IUFRO).

32. The constraints identified for the Working Party to be more effective, included:

- Too many insect problems, too few entomologists;
- Low participation in activities, dependence on dedicated few;
- Limited duration of research contracts limits voluntary work;
- Lack of funding for research in this field; and
- Shortage of taxonomic expertise.

33. The opportunities identified included:

- Increased contact with IUFRO entomologists and pest management teams within countries (e.g. China) and regions to extract information of relevance for Poplars and Willows;
- Broaden entomology contact lists, including through FAO and existing networks;
- Better use of the IPC Working Party portals to improve communications and outreach; and
- Identify and integrate common projects within or between Working Parties.

34. The programme of action for the next four years included:

- Complete the Chapter on Poplar and Willow Insects and Other Animal Pests in the book "Poplars and Willows in the World";
- Strengthen the Insects and Other Animal Pests web portal on the IPC website (update list of entomologists and contact details, publications, main research areas, etc.); and
- Conduct a joint meeting with the Working Party on Poplar and Willow Diseases, to coincide with the IUFRO International Poplar Symposium, Orvieto, Italy, September 2010.

Working Party on Harvesting and Utilization of Poplar and Willow Wood

35. Dr. Joris Van Acker (Belgium) was elected as the Chairperson for the 2008-2012 period, with Prof. Dr. Yukun Hua (China, representing Asia), Mr. Pedro Garnica (Spain, representing Europe), Prof. Dr. Ahmed Koubba (Canada, representing North America) and Mr. Raúl Suárez (Argentina, representing Latin America) as the Vice-Chairpersons, and Mr. Patrick Mertens (Belgium) as the Technical Secretary.

36. Constraints identified for the Working Party to be more effective, included:

- Current IPC member countries and National Poplar Commissions have limited knowledge and commitment to actions of the Working Party;
- The voluntary nature of contributions can limit the time and inputs that Working Party members can make; and
- The Poplar and Willow forest grower/supplier – wood industries processing – end user chains can be complex and vary markedly between member country contexts.

37. The programme of action for the next four years included:

- The Working Party Chairperson, Vice-Chairpersons and the Technical Secretaries will be redefined to strengthen regional networking for China, Asia, Latin America, North America, Africa and Europe;
- Better use be made of the IPC Working Party website to inform members of the action plans, needs and results; update the Harvesting and Utilization Section of the Global Directory of Poplar and Willow Experts;
- Organize a dedicated workshop/conference on technical aspects of producing Poplar and Willow wood products, including topics on harvesting and utilization, to be organized back-to-back with other conferences (e.g. International Poplar Symposium, Italy, September 2010);
- Preparation of a database of publications related to harvesting, utilization and forest products properties;

- Examine current research and initiate new priority research collaborative projects to advance the utilization of Poplars and Willows (e.g. comparison of biomass for energy with other forest products options);
- Set up a support systems for young scientists and students (PhD and post graduate) with grants for short-term scientific missions, conference participation, etc.;
- Set up a database on Poplar and Willow harvesting, utilization industries and wood technology in IPC member countries and those countries with significant Poplar and Willow utilization, in a similar way as COST E44 of the European Union (Wood Processing Strategy);
- Contribute to the Chapter on Poplar and Willow Properties and Utilization in the book "Poplars and Willows in the World"; and
- Support, with Harvesting and Utilization inputs, to the proposal/justification for a new Working Party on Socio-economic Issues of Poplar and Willow Development (sustainable land-use and livelihoods, climate change mitigation and adaptation and bioenergy/biofuel).

Working Party on Poplar and Willow Genetics, Conservation and Improvement

38. Dr. Teresa Cerrillo (Argentina) was elected as the Chairperson for the 2008-2012 period, Dr. Sasa Orlovič (Serbia) and Dr. Zhang Qiwen (China) as the Vice-Chairpersons, and Dr. Ian McIvor (New Zealand) as the Technical Secretary.

39. The Working Party mandate encompasses conservation of natural genetic resources and ecosystems as well as genetic improvement by conventional breeding and application, molecular genetic tools and techniques, genetic transformations and new cultivars for a range of purposes (bioenergy, phytoremediation, water treatement, etc.).

40. The programme of action for the next four years included:

- Complete the database on Poplar and Willow breeding programmes and collections;
- Prepare a database on Poplar and Willow clones collection and gene banks;
- Apply standard designs for Poplar and Willow breeding programmes;

41. Recommendations to the IPC Secretariat included:

- Sustainability criteria of Poplars and Willows balance the dimensions between production and economics, livelihoods of people and communities and the ecological factors, including the conservation of genetic diversity;
- Reinforce the need for greater genetic diversity and new genetic materials in planted Poplar and Willow breeding programmes (particularly commercial plantations) to spread biological and economic risks; and
- Strengthen the understanding, linkages and information flows between traditional breeding programmes and molecular genetic tools and technologies for Poplar and Willow integrated breeding programmes.

Working Party on Poplar and Willow Production Systems

42. Prof. Dr. Theo Verwijst (Sweden) was elected as the Chairperson for the 2008-2012 period, Dr. Tim Volk (USA) as the Vice-Chairperson, and Ms. Mirta Rosa Larrieu (Argentina) as the Technical Secretary.

43. The scope of the Working Party includes the technical, social, environmental/ecological and economic dimensions of Poplar and Willow production systems, whether to provide biomass or other products or services to society.

44. The programme of action for the next four years included:

- Update and maintain the Working Party web portal on the IPC website, including list of experts, meetings schedule and links to associated sites;
- Strengthen links with the other IPC Working Parties on matters pertaining to production systems;
- Document and display cases of sustainable management of production systems;
- Encourage Governments and National Poplar Commissions to address such Poplar and Willow issues as sustainable cropping systems and public education/awareness of their importance for mitigation of climate change;
- Strengthen outreach and mailing lists with the International Energy Agency (IEA) and IUFRO; and
- Conduct a Working Party side event at the IUFRO International Poplar Symposium, Orvieto, Italy, September 2010.

45. Recommendations to the IPC Secretariat included:

- Raise awareness about the important role of Poplar and Willow production systems in mitigation of, and adaptation to, climate change; and
- Strengthen cooperation between the IPC Working Parties to address the adaptation of Poplar and Willow growing systems in anticipation of the on-going climate change.

Working Party on Environmental Applications of Poplars and Willows

46. Dr. Jud Isebrands (USA) was elected as the Chairperson for the 2008-2012 period, Dr. Jannis Dimitriou (Sweden) and Dr. Sharon Doty (USA) as the Vice-Chairpersons, and Dr. Drusilla Riddell-Black (UK) as the Technical Secretary.

47. The Working Party purpose is to better share the knowledge and technology on the implementation of cost-effective environmental applications of Poplars and Willows to contribute to sustainable livelihoods and rural development. Within the scope of site and landscape improvement the Working Party includes ecosystem services, urban and rural amenity, combating desertification and salinization, shelterbelts and windbreaks, riparian bank and slope stabilization and soil rehabilitation/restoration. Within the scope of phytoremediation of polluted soils and waters, the Working Party includes buffer zones, contaminated sites, wastewater treatment/management and organic waste management.

48. The main achievements for the 2004-2007 period included:

- Conducted three technical, inter-Working Party meetings in Sweden and Estonia (May 2005), Northern Ireland (May 2006) and Canada (June 2007);
- Contributed to the Environmental Applications Chapter in the book "Poplars and Willows in the World";
- Prepared promotional poster and leaflet in English, French, Spanish and Italian; and
- Upgraded and updated the Working Party portal on the IPC website.

49. The programme of action for the next four years included:

- Conduct two inter-Working Party meetings to consider topics not addressed in previous meetings, prior to the 24th Session of IPC:
  - the first to coincide with IUFRO's International Poplar Symposium meeting, Orvieto, Italy, September 2010;
  - the second, venue and date to be confirmed;

- Reorganize and rationalize the Environmental Applications web portal including revision of case studies, directory of specialists and institutions by April 2009;
- Prepare information notes to introduce and explain "state-of-the-art" applications of Poplars and Willows in slope stabilization/erosion control and waste water management by September 2010; and
- Prepare information notes on two other topics (to be decided) before the 24th Session of the IPC in 2012.

50. Recommendations to the IPC Secretariat included:

- Retain the scope of the Working Party on Environmental Applications as is;
- Planned technical meetings should retain a strong field visit component, jointly with other Working Parties;
- Material on the Working Party web pages should be expanded with contributions from more participants with broader geographic coverage;
- Future emphasis should be on topics not already addressed; and
- Wastewater treatment and re-use technology using Poplars and Willows should be encouraged for their economic and environmental benefits.

CONCLUSIONS AND RECOMMENDATIONS OF THE COMMISSION

Conclusions

51. It was reported that Poplars and Willows accounted for at least 80 million ha of natural and planted forests globally (natural forests 90 percent, planted forests 7 percent, and agroforestry systems 3 percent). Of the global Poplar and Willow resources in planted forests and agroforestry systems, 85 percent were grown in China. Poplars and Willows were among the fastest-growing trees in temperate regions, are easy to cultivate and form an important component of forestry and agricultural systems, often for small-scale farmers.

52. It was highlighted that Poplars and Willows provided a valuable feedstock for industries for a diverse range of forest products for poles, pulp and paper, panel boards, plywood, veneer, sawn timber, packing crates, pallets, furniture manufacturing and increasingly for bioenergy/biofuel production. They also provided a range of non-wood products such as fodder for livestock and valuable medicines. Poplars and willows also provided valuable environmental and social services. They provided shelter, shade and protection of soil, water, crops, livestock and dwellings; played an important role in phytoremediation of severely degraded sites, rehabilitation of fragile ecosystems (including combating desertification), forest landscape restoration (often integrated with agriculture, horticulture, viticulture and apiculture); and as fast growing species, were effective at sequestering carbon. They created employment, boosted exports and contributed to social and economic development and sustainable livelihoods in rural areas. They were also used to beautify urban and peri-urban parks, schools, lakes, waterways, recreational areas and highways as green buffers. Poplars in particular, were leading the way in application of advanced biotechnology, genomic research, molecular breeding and development.

Recommendations

53. The International Poplar Commission, through the Secretariat, Working Parties and National Poplar Commissions, recommended:

- Strengthening transfer of science, policy, planning and management knowledge and technology to support implementation of Phase I of the FAO-Italy supported project *"Poplars and Willows for*

Sustainable Livelihoods and Land-use in the East Mediterranean and Central Asian Countries" and assist in preparation of Phase II of the project.

- Recognition of the Chinese Academy of Forestry, Beijing Forestry University, Nanjing Forestry University, State Forest Administration as international centres of excellence in forestry education, training and outreach and be welcomed into the international networks to transfer knowledge and technology, particularly with regards to the research, development and management of Poplars and Willows.
- Supporting networks and partnerships between researchers, academics, policy makers, planners, managers (including the private sector and smallholders) to achieve sustainable management of Poplar and Willow resources in natural and planted forests, agroforestry systems and trees outside forests, to better integrate forestry and agriculture in more diversified landscapes, with emphasis on developing countries.

STUDY TOURS

54. A pre-Commission study tour hosted by the Forestry Bureau, Tongliao and the Beijing Forestry University, was conducted in Tongliao, Inner Mongolia from 23 to 25 October to view the activities related to combating desertification, including the follow up to the FAO-Belgium-China project (1990-2002) that supported conservation and ecological planting in the area. The study tour included technical meetings, briefings and debriefings with forestry authorities and visits to *ex-situ* poplar gene bank for conservation (*Populus simonii*), various hybrid clonal field tests (*P. simonii* × *P. nigra* and *P. deltoids* × *P. somonii*), plantings in plantation, shelterbelt and agroforestry systems, various site preparation and silviculture techniques and forest industries and wood products factories. The Three North Shelterbelt Programme applied the science and technology pioneered by the FAO-Belgium-China project and was expanding into larger afforestation programmes in a range of growing mechanisms to combat desertification and restore degraded landscapes in this harsh ecological zone.

55. A post-Commission study tour (50 people) hosted by the People's Government and Forestry Bureaux of Puyang City and Siyang County, and the Jiangsu Academy of Forestry, Nanjing and Beijing Forestry University, was conducted to the environs of Puyang City (Henan Province), Siyang County and Nanjing City (Jiangsu Province) during the period 31 October to 4 November. The study tour included technical meetings, briefings and debriefings with forestry authorities and field visits to view the integration of poplars and willows in a diverse range of planting mechanisms with agricultural crops, livestock, poultry, aquaculture, urban beautification and flood control within the flood plains of the Yangtze, Huai and Yellow Rivers. The unique Chinese models of family-based plantings and village-based wood industries linked to large scale wood industries that produced a wide range of poplar-based forest products were demonstrated. A highlight was a visit to the Siyang Poplar Museum where the history and applications of poplar in China, import of germplasm from Europe (particularly from Italy), the transfer of knowledge and technology assisted by the IPC and the commercial and ecological importance of poplars were displayed. The study tour not only highlighted the poplar and willow culture but also the rich historical culture of Central China, of which our hosts were justly proud.

MAJOR INITIATIVES

Book on Poplars and Willows in the World

56. Dr Jim Richardson and Dr. Jud Isebrands, Coordinating Editors, advised the status in preparation of the book "Poplars and Willows in the World: Meeting the Needs of Society and the Environment" (http://www.fao.org/forestry/32608/en/). The audience will include the public and private sectors, decision makers and policy makers in forestry, agriculture and environment ministries and foresters, ecologists, botanists, agronomists and environmental engineers. The scope would be global, increased

focus on willows, recognize the new focus on environmental uses and sustainable rural development, provide a sourcebook and information guide and contain a comprehensive bibliography, index, contacts and links to Internet resources. The content of the publication will include chapters as an Introduction; Poplars and willows in the world; Natural ecosystems; Genetic resources; Industrial plantations; Environmental uses; Abiotic stresses; Diseases; Animal pests; Wood properties and utilization; Markets, trends and outlook; Sustainable rural development; Conclusions; Appendices; Research agencies, institutions and organizations; Bibliography; Index; and Glossary.

57. It was outlined that each chapter was being prepared as a stand-alone FAO working paper uploaded in e-format to the IPC website in PDF format. The advantage is that maps, graphics and photographs were able to be used extensively to illustrate points. The e-format also allowed ready updating and peer feedback. Two chapters had been peer reviewed and were uploaded to the IPC website as working papers, with the aim to have remaining chapters uploaded to the web as working papers by March 2009.

58. Options for publishing the book through a publishing house were being investigated by FAO. Discussions would explore the commercial viability of publication in English, French and Spanish.

Revitalizing National Poplar Commissions

59. At a meeting of National Poplar Commission Chairpersons and Heads of Delegation to the 23rd Session, held on 28 October, Dr. Bisoffi stressed the importance of revitalizing National Poplar Commissions and requested feedback on how this could be achieved. He highlighted the availability of the IPC website portals that were available to promote the activities of the National Poplar Commissions.

60. The Secretariat advised that formal FAO communications regarding IPC activities were from the Office of the Director General of FAO to the member country appointed Ministry. In some, but not all instances, the Chairperson of the National Poplar Commission is consulted. The meeting requested that the Secretariat ensure that copies of formal communications also be sent to the Chairperson of the National Poplar Commissions for follow up.

61. The meeting highlighted that a significant proportion of the dynamic innovations and investment in Poplar and Willow tree improvement, growing and wood industries was from the private sector, whilst the National Poplar Commissions remained housed in Government agencies, often with Heads of Forestry as Chairpersons. There was potential for a disconnection between the Government and the private sector that needed to be avoided. Successful National Poplar Commissions depended heavily on champions who recognized and supported Poplar and Willow culture and use. The participation of the private sector in activities of the National Poplar Commissions was to be encouraged.

62. The meeting requested that the Secretariat prepare Guidelines for National Poplar Commissions to detail objectives, outcomes, outputs, activities, institutional issues, responsibilities, etc.

ELECTION OF THE EXECUTIVE COMMITTEE, 2008-2012

63. From 14 candidates representing 11 countries, 12 were elected to the Executive Committee for the period 2008-2012. An election was held by secret ballot involving 18 country delegates authorized to represent their respective governments (Argentina, Belgium, Canada, China, Croatia, France, Germany, India, Islamic Republic of Iran, Italy, New Zealand, Republic of Korea, Romania, Serbia, Spain, Sweden, Turkey and USA). The elections were monitored by a ballot committee including Messrs Jim Richardson (Canada), Jaime Ulloa (Chile) and Ms Drusilla Riddell-Black (UK).

64. The 12 elected members of the Executive Committee for the period 2008-2012 were Teresa Cerrillo (Argentina), Marijke Steenackers (Belgium), Patrick Mertens (Belgium), John Doornbos (Canada), Meng Zhu Lu (China), Catherine Bastien (France), Jagdish Kishwan (India), Stefano Bisoffi (Italy), Yeong Ban Koo (Republic of Korea), Sasa Orlovič (Serbia), Theo Verwijst (Sweden), and Judson Isebrands (USA).

65. At a subsequent informal meeting of the Executive Committee, Dr. Stefano Bisoffi was re-elected as Chairperson and Dr Judson Isebrands as Vice-Chairperson. Dr Jim Richardson (Canada), Prof. Dr. Yin Weilun (China) and Dr Martin Weih (Sweden) were voted as co-opted members to the Executive Committee

DATE AND PLACE OF THE NEXT SESSION

66. Dr. Jagdish Kishwan (India), presented the proposal of his country to host the 24th Session of the IPC in 2012 at the Forest Research Institute in Dehradun to view the application of Poplar and Willow culture in Northern India, particularly smallholder production systems, agroforestry and uses.

OTHER MATTERS

IUFRO 5th International Poplar Symposium

67. Dr Brian Stanton reported that the Session on the IUFRO-Nanjing Forestry University joint hosting of the successful 4th International Poplar Symposium held in Nanjing, China from 5 to 9 June 2006. He announced that the 5th International Poplar Symposium would be held in Orvieto, Italy, from 20 to 25 September 2010, hosted by IUFRO, the National Research Council/Institute of Forest and Environmental Biology, University of Tuscia and the Agricultural Research Council. The theme would be "Meeting the needs of a low-carbon, bio-based society by utilizing the genetic and ecological potentials of poplar and willow". The science programme would include genomics, proteomics and metabolomics; natural germplasm collection and riparian ecology; physiology and biotic/abiotic stress interactions; phytoremediation of polluted sites; carbon sequestration and atmospheric chemistry interactions by poplar plantations; and bioenergy plantations.

FAO-Italy Poplar Project

68. Dr Alberto Del Lungo reported that in mid-2009, there would be an international workshop in the preparatory process for formulating a Phase II proposal for the FAO-Italy Project "Poplars and Willows for Sustainable Livelihoods and Land-use in the East Mediterranean and Central Asian Countries". The dates and location were to be confirmed.

World Forestry Congress

69. Ms Mirta Rosa Larrieu invited the International Poplar Commission participants from around the world to participate in the 13th World Forestry Congress, to be held in Buenos Aires, Argentina, from 18 to 25 October 2009. The theme of the Congress would be "Forest Development: A Vital Balance".

CLOSING OF THE SESSION

70. Dr. Stefano Bisoffi and Mr Jim Carle expressed grateful thanks to the Chinese Forestry Society, Beijing Forestry University, Chinese Academy of Forestry, the State Forest Administration and the Ministry of Agriculture, members of the organizing committee and all those providing support services, for a most successful meeting.

71. The session was closed by Prof. Dr. Yin Weilun, Chairperson, recognizing the efforts of the Working Parties in striving to derive programmes of work to serve National Poplar Commissions and Poplar and Willow stakeholders globally.

ANNEX I (a)

INTERNATIONAL POPLAR COMMISSION
FORTY-FOURTH SESSION OF THE EXECUTIVE COMMITTEE
Beijing, China, 26 October 2008

AGENDA

1. Opening of the Session
2. Adoption of the Agenda
3. Activities of the Working Parties and of the Sub-Committee on Nomenclature and Registration of Poplars since the Forty-third Session of the Executive Committee in Rome, Italy, February 2007
4. Status of the Book: Poplars and Willows in the World
5. Proposals for the composition of the Executive Committee for the period 2008-2011
6. Proposals for the date and place of the next session of the Executive Committee
7. Responsibilities of the Working Groups
8. Development of the International Poplar Commission, its Working Parties, and Communications
9. Italian Project: Poplars and Willows for Sustainable Livelihoods and Land-use
10. Other matters

ANNEX I (b)

INTERNATIONAL POPLAR COMMISSION
TWENTY-THIRD SESSION AND RELATED SESSIONS
Beijing, China, 27 – 30 October 2008

AGENDA

1. Opening of the Session
2. Adoption of the Agenda
3. Election of Officers
4. Poplars, Willows and People's Wellbeing
5. Synthesis of Country Progress Reports 2004-2007
6. Sub-committee on Nomenclature and Registration
7. Poplar and Willow Genetics, Conservation and Improvement
8. Poplar and Willow Diseases
9. Poplar and Willow Insects and other Animal Pests
10. Poplar and Willow Production Systems
11. Environmental Applications of Poplars and Willows
12. Harvesting and Utilization of Poplar and Willow Wood
13. Election of Members of the Executive Committee for the four-year period (2008-2011)
14. Date and place of next Session
15. Other matters

ANNEX II (a)

INTERNATIONAL POPLAR COMMISSION, TWENTY-THIRD SESSION
PROGRAMME SUMMARY

	Sunday 26 Oct.	**Monday 27 October**	**Tuesday 28 October**			**Wednesday 29 October**			**Thursday 30 Oct**
07:30		Registration							Elections of new Exec. Committee
08:30	Registration and distribution of materials **Lobby**	Welcome remarks: China, NPCs, FAO, IPC Chair of 23rd Session Adoption of the Agenda	1-A **Poplars in economic and social development** **Mtg Room 5**	1-B **Genome analysis and gene function** **Mtg R. 6**	1-C **Genetic diversity understanding and conservation** **Mtg R. 8**	5-A **Poplars, willows and the environment** **Meeting Room 5**	5-B **Wood technology** **Meeting Room 6**	5-C **Sexual reproduction and polyploidization** **Meeting Room 8**	Synthesis of National Reports Biswas Garnica Vth IPS, 2010 - Italian Project - IPC 24th Session - World Forestry Congress, 2009 Election Results
10:00	Executive Committee Informal meeting **Meet. Room 2**	Break	Break			Break			Break
10:30-		Richardson	2-A **Poplars in economic and social development** **Mtg R. 5**	2-B **Genome analysis and gene function** **Mtg.R.6**	2-C **Breeding and selection** **Mtg.R. 8**	6-A **Phytoremediation** **Meeting Room 5**	6-B **Cultivation of Poplars and Willows** **Meeting Room 6**	6-C **Nomenclature and Registration** **Meeting Room 8**	WP Reports 1-6
10:45		Liu							
11:00		Van Acker							
11:15		Coaloa							Recommendations to COFO
11:30		**Discussion**							Closing remarks
12:00	Lunch	Lunch	Lunch			Lunch			Lunch

13:30 13:45 14:00 14:15 14:30 14:45	Executive Committee Formal Meeting **Meet. Room 2**	Kumar Ahuja Yin Casaubon Isebrands Heinsoo **Discussion**	3-A **Short rotation forestry and biomass production** **Mtg Room 5**	3-B **Genome analysis & gene function** **Mtg.R. 6**	3-C **Breeding and selection tools** **Mtg. R. 8**	Business Genetics E+S+F **Mtg R.5**	Business Prod.Sys E **Mtg.R. 6**	Business Env.Appl E **Mtg.R. 8**	Business Insects E **Mtg.R. 12**	Business Diseases E **Mtg.R15**	Business Harv & Ut.il. E **Mtg.R. 3**	New Ex.Comm. Informal Meeting
15:00	Break	Break	Break			Break						
15:30 15:45 16:00 16:15 16:30 16:45	Executive Committee Formal Meeting **Meeting Room 2**	Stanton Han Weih Fladung Wan **Discussion**	4-A **Short rotation forestry and biomass production** **Mtg Room 5**	4-B **Genetic transformation** **Mtg.R. 6**	4-C **Plant protection** **Mtg.R. 8**	Business Genetics E+S+F **Mtg R. 5**	Business Prod.Sys E **Mtg.R. 6**	Business Env.Appl E **Mtg.R. 8**	Business Insects E **Mtg.R. 12**	Business Diseases E **Mtg.R. 15**	Business Harv & Ut. E **Mtg.R. 3**	Visit to Beijing Olympic Stadium
10:00 17:00			**POSTER DISPLAY**									
18.00		Supper at “Dongyuan” Restaurant	Banquet at “Dongyuan” Restaurant			Supper at “Dongyuan” Restaurant						Supper at Dongyuan Restaurant
19.00	Cocktail hosted by FAO Shangyuan Restaurant											
20.30		Beijing Opera performance										

Please note that Plenary meetings on Monday 27 October and on Thursday morning 30 October will be located in the Gingko Hall

Simultaneous interpretation E+F+S

INTERNATIONAL POPLAR COMMISSION, TWENTY-THIRD SESSION
DETAILED PROGRAMME

Monday 27 October

07:30	Registration and distribution of material
08:30	**Opening Plenary Session** **(Gingko Hall)**

10:00 Coffee

Plenary Session 1 - Poplars, willows and people's wellbeing: perspectives

Time	No.	1st Author	(name)	Title
10:30	57	Richardson	Jim	FAO/IPC Publication '*Poplars and Willows in the World*': A Progress Report
10:45	199	Liu	Brian	An International Investor's Perspective on Timberland Opportunities in China
11:00	184	Van Acker	Joris	Future Impact of Poplar and Willow on the Evolving European Forestry-Wood Industry Chain
11:15	134	Coaloa	Domenico	Forest Certification for Poplar Plantations: a New Market Opportunity
11:30	Discussion			

12:30 Lunch

Plenary Session 2 - Poplars, willows and people's wellbeing: perspectiveS

Time	No.	1st Author	(name)	Title
13:30	1	Kumar Ahuja	Gulshan	Poplars Outside Forests (POFs) in India: a Potential Resource for Socio-Economic Development and Ecological Restoration
13:45	71	Yin	Weilun	Effects of Different Pruning Intensities on Photosynthetic Characters, Growth and Yield of Crops in Agroforestry
14:00	168	Casaubon	Edgardo	Silvopastoral Systems with Poplar in the Lower Delta of the Paraná River, Argentina
14:15	122	Isebrands	J.G. (Judson)	Environmental Uses of Poplars and Willows: A Worldwide Overview
14:30	138	Heinsoo	Katrin	Factors Limiting Use of Short Rotation Coppice for Wastewater Purification and Sewage Sludge Utilisation
14:45	Discussion			

15:00 Coffee

Plenary Session 3 - Poplars, willows and people's wellbeing: perspectives

Time	No.	1st Author	(name)	Title
15:30	87	Stanton	Brian	*Populus* Hybridization for the Renewable Transportation Fuels Industry: Integration of Genomic Tools into a Varietal Development Program
15:45	109	Han	Kyung-Hwan	Understanding the Transcriptional Regulation of Wood Formation in Poplar: A Step Toward Optimizing Ligno-Cellulosic Feedstock for Biofuel Productivity and Processing
16:00	21	Weih	Martin	Breeding for High and Sustainable Biomass Production of *Salix*: Bridging Molecular Genetics, Ecophysiology and Ecology
16:15	171	Fladung	Matthias	Elimination of Marker Genes and Targeted Integration of Transgenes via the *FLP/FRT*-Recombination System
16:30	179	Wan	Xueqing	An Overview of *Populus* Genetic Resource in Southwest China
16:45	Discussion			

Tuesday 28 October

Concurrent Session 1-A: Poplars in economic and social development (Meeting Room 5)

Time	No.	1st Author	(name)	Title
08:30	163	Mertens	Patrick G.	Needs and Opportunities for Vertical Organisation of the European Poplar Production and Transformation Chain
08:45	18	Bangarwa	Kulvir Singh	Production Potential, Market Fluctuations and Present Status of Exotic Poplar in India
09:00	210	Hua	Yukun	Development of Fast-Growing Poplar Industry: Plantation, Application and Replantation
09:15	212	Castro	Gaetano	Poplar Cultivation in Italy: History, State-of-the-Art, Perspectives
09:30	15	Toplu	Ferit	Poplar Development in Turkey
09:45	Discussion			

Concurrent Session 1-B: Genome analysis and gene function (Meeting Room 6)

Time	No.	1st Author	(name)	Title
08:30	158	Du	Juan	Role of *ARBORKNOX2* in Regulating Secondary Growth in *Populus*
08:45	250	Lu	Meng-Zhu	Profiling of Genes Involved in the Regeneration of the Secondary Vascular System in Poplar
09:00	36	Zhang	Hechen	Ca^{+}/Calcineurin B-Like Signal Pathways in *Populus*
09:15	166	Chen	Jinhua	Genome-Wide Search and Expression Analysis of Poplar DR.EB2 Transcription Factor Genes
09:30	Discussion			

Concurrent Session 1-C: Genetic diversity understanding and conservation (Meeting Room 8)

Time	No.	1st Author	(name)	Title
08:30	23	Vanden Broeck	An	Interspecific Crossability Studies Provide Insight into the Risk of Genetic Extinction of European Black Poplar (*Populus nigra* L.)
08:45	107	Vietto	Lorenzo	Rehabilitation of the European Black Poplar (*Populus nigra* L.): Case Studies from Italy, Belgium and Germany
09:00	82	Tullus	Hardi	Hybrid Aspen (*Populus tremula* L. × *P. tremuloides* Michx.) Complex Study Programme in Hemiboreal Estonia
09:15	56	Fussi	Barbara	Tandem Repeats in a Group II Intron Provide Resolution in Phylogenetic and Phylogeographic Studies of the Genus *Populus*
09:30	Discussion			

10:00 Coffee

Concurrent Session 2-A: Poplars in economic and social development (Meeting Room 5)

Time	No.	1st Author	(name)	Title
10:30	27	Dhiman	Ramesh Chand	Evolution of Poplar-Based Agroforestry in India
10:45	16	Sharma	S.K.	Backyard Planting - A Vital Production System of Social Forestry in North-East India
11:00	74	Zhao	Yandong	A Precision Water-Saving Automatic Irrigation System Controlled by the Needs of Poplars
11:15	243	Hussain	Showkat	Indian Willows-Based Cricket Bats of International Significance of Trade and Income
11:30	126	Kuzovkina	Julia	*Salix* Production for the Floral Industry in North America
11:45	Discussion			

Concurrent Session 2-B: Genome analysis and gene function (Meeting Room 6)

Time	No.	1st Author	(name)	Title
10:30	153	Huang	Qinjun	Analysis of SNPS Linked to Wood Properties of *Populus nigra* L. Gene Resources
10:45	193	Zheng	Huiquan	Isolation of a TIR-NBS-Like Gene Promoter from Triploid White Poplar and its Characterization in Transgenic Tobacco Plants
11:00	204	Yang	Xiaohan	Genome-Wide Identification of Lineage Specific Genes in *Arabidopsis, Oryza* and *Populus*
11:15	65	Xia	Ye	Genomic Survey and Gene Expression Analysis of the Cobra Gene Family in *Populus trichocarpa*
11:30	Discussion			

Concurrent Session 2-C: Breeding and selection (Meeting Room 8)

Time	No.	1st Author	(name)	Title
10:30	202	Sabatti	Maurizio	Adaptive Traits And Productivity of European Poplar Species
10:45	84	Zhang	Qiwen	Selection and Extension of New Poplar Varieties for Industrial Wood Plantation in China
11:00	88	Li	David, Shanwen	Development of the *Populus* ×*canadensis* Taxon for Poplar Plantation Cultivation in China's Yellow River Basin
11:15	3	Tsarev	Anatoli P.	Long-Term Testing of Poplars in Russia
11:30	118	Kumar	Dinesh	Genetic Improvement of Exotic and Indigenous Poplars in India
11:45	39	Fang	Shengzuo	Effects and Mechanism of Exogenous Silicon in Alleviating Salt Stress in Poplar Seedlings
12:00	Discussion			

12:00 Lunch

Concurrent Session 3-A: Short rotation forestry and biomass production (Meeting Room 5)

Time	No.	1st Author	(name)	Title
13:30	22	Dimitriou	Ioannis	Reducing Environmental Impacts of Short Rotation Coppice through Evidence-Based Integrated Decision Support Tools
13:45	81	Verani	Stefano	Traditional and Advanced Mechanization in Poplar Plantations: Analysis of Nine Logging Systems
14:00	79	McIvor	Ian	Energy Farming for Lake Taupo District, New Zealand: A New Mitigation Land Use?
14:15	113	Weger	Jan	Research on Native Species of Fast-Growing Trees (Poplar and Willows) for Short Rotation Coppice
14:30	167	Verwijst	Theo	The Effects of Pre-Emergence Variation in Willow Cuttings on the Development of Size and Weight Hierarchies in Willow Short Rotation Coppice
14:45	Discussion			

Concurrent Session 3-B: Genome analysis and gene function (Meeting Room 6)

Time	No.	1st Author	(name)	Title
13:30	141	Wang	Yuanxiu	Comparative Genome Mapping of *Populus adenopoda* × *P. alba*, *P. deltoides* × *P. euramericana* and *P. trichocarpa*
13:45	69	Yan	Dong-hui	*In silico* Identification of Nuclear Factor Y Subunit B Genes with Potential Drought Tolerance in the Poplar Genome
14:00	64	Cheng	Zong-Ming (Max)	Concurrent Divergence in Coding and Promoter Regions of the Poplar Gene Family Encoding Xyloglucan Endotransglucosylase/Hydrolases
14:15	189	Li	Bo	Constructing a Transcriptome Map of *Populus tomentosa* Carr. with a Backcross Using CDNA-AFLP
14:30	Discussion			

Concurrent Session 3-C: Breeding and selection tools (Meeting Room 8)

Time	No.	1st Author	(name)	Title
13:30	181	De Boever	Lieven	Procedures for Evaluating Occurrence of Tension Wood in Relation to the Industrial Processing of Poplar and Willow Wood
13:45	183	De Boever	Lieven	Potential of Wood Colour Measurements as a Tool for Early Selection of Genetically-Related Willow Clones
14:00	25	Mertens	Patrick G.	Possibilities for Identifying Veneer Peeling Quality in Still-Standing Trees
14:15	182	De Boever	Lieven	Stem Form and Internal Wood Quality of Selected Willow Clones
14:30	Discussion			

15:00 Coffee

Concurrent Session 4-A: Short rotation forestry and biomass production (Meeting Room 5)

Time	No.	1st Author	(name)	Title
15:30	247	Paris	Pierluigi	Comparing *Populus* Clones for Short Rotation Forestry in Italy After Two Two-year Rotations: Survival, Growth and Yield
15:45	95	Werner	Astrid	The Use of Fast-Growing Woody Energy Crops for Bioremediation of Sewage Effluent
16:00	85	Facciotto	Gianni	Studies of Poplar and Willow Short Rotation Coppice Establishment
16:15	86	Eaton	James A. "Jake"	Renewable Energy from Sustainable Poplar Tree Farms
16:30	92	Heinze	Berthold	Selection of *P. deltoides* Clones for Biomass Production in Eastern Austria
16:45	Discussion			

Concurrent Session 4-B: Genetic transformation (Meeting Room 6)

Time	No.	1st Author	(name)	Title
15:30	155	Jiang	Jing	Differential Proteomic Analysis of LEA-Transgenic and Non-Transgenic *Populus simonii* × *P. nigra* Under Salt Stress
15:45	170	Fladung	Matthias	Activation Tagging in Aspen Using an Inducible Two Component *Ac*/DS-Enhancer Element System
16:00	172	Fladung	Matthias	Faster Evaluation of Induced Floral Sterility in Transgenic Early Flowering Poplar
16:15	150	Su	Xiaohua	Salt Tolerance of Poplar Trees Transformed with the JEFRS Gene
16:30	12	Carlson	John	*P.×euramericana* cv. 'Neva ' Transformation with a Tyrosine-Rich *HRGP* Gene
16:45	Discussion			

Concurrent Session 4-C: Plant protection (Meeting Room 8)

Time	No.	1st Author	(name)	Title
15:30	132	Giorcelli	Achille	Emerging Pests and Diseases in Poplar Cultivation in Italy
15:45	206	Ramstedt	Mauritz	Importance of Resistance Screening in Willow and Poplar Biomass Plantations
16:00	42	Anselmi	Naldo	Pathogenic Endophytic Fungi in Poplar Nursery Plants
16:15	59	Lucero	Gabriela Susana	Susceptibility of Leaves of Different *Populus* Clones to *Septoria musiva* in Mendoza, Argentina
16:30	24	Mertens	Patrick G.	Impact of Poplar Water Status on Leaf-Beetle (*Chrysomela populi*) Survival and Feeding
16:45	Discussion			

Wednesday 29 October

Concurrent Session 5-A: Poplars, willows and the environment (Meeting Room 5)

Time	No.	1st Author	(name)	Title
08:30	173	Casaubon	Edgardo	Forest Eco-Certification and Environmental Performance in the Low Buenos Aires Delta of the Paraná River, Argentina
08:45	105	Zhang	Xudong	Turbulent Flux of Carbon Dioxide Over Poplar Forest in Eastern China
09:00	98	Toljander	Ylva	Effects of Mycorrhizal Inoculations on Willow Foliar Chemical Resistance to Insect Herbivory: A Carbon Economy Perspective
09:15	106	Borodowski	Esteban D.	Cover of Fallen Tree Leaves Reduces Herbaceous Productivity Under Poplars in Silvopastoral Systems
09:30	4	Thomaes	Arno	Ecological Restoration: A New Market for Poplars
10:00	Discussion			

Concurrent Session 5-B: Wood technology (Meeting Room 6)

Time	No.	1st Author	(name)	Title
08:30	237	Van Acker	Joris	Development of Decay in Preservative Treated Poplar Plywood
08:45	207	Cao	Yongjian	Effect of Heat Treatment on Properties of Chinese White Poplar
09:00	Discussion			

Concurrent Session 5-C: Sexual reproduction and polyploidization (Meeting Room 8)

Time	No.	1st Author	(name)	Title
08:30	162	Zhang	Jinfeng	Mechanisms of 2n Pollen Formation of Poplar in Section *Aigeiros*
08:45	143	Wang	Jun	Advances in Triploid Breeding of *Populus*
09:00	Discussion			

10:00 Coffee

Concurrent Session 6-A: Phytoremediation (Meeting Room 5)

Time	No.	1st Author	(name)	Title
10:30	35	Laidlaw	W.S.	Phytoextraction of Cadmium, Zinc and Nickel from Contaminated Biosolids by Willows Grown Under Field Conditions
10:45	53	Pilipovic	Andrej	Crude Oil Phytoremediation Investigation with Different Poplar and Willow Clones
11:00	125	Kuzovkina	Julia	Lead Uptake and Translocation in Twelve *Salix* Taxa
11:15	9	Doty	Sharon Lafferty	Enhancing Phytoremediation and Plant Growth in Poplar and Willow
11:30	139	Chen	Shaoliang	Enhancement by Hydrogel Polymers of Salt Resistance in Poplar
11:45	Discussion			

Concurrent Session 6-B: Cultivation of poplars and willows (Meeting Room 6)

Time	No.	1st Author	(name)	Title
10:30	169	Yin	Weilun	Effects of Pruning on Growth of Poplar (*Populus* ×*euramericana* cv. '74/76')
10:45	161	Liu	Wen-guo	Study of Water Consumption Mechanisms in Poplar Plantations
11:00	117	Guarnaschelli	Ana Beatriz	Physiological Responses to Shade and Drought in Young Willow Plants
11:15	177	Jia	Liming	Productivity and Benefits of Fast-Growing and High-Yield Plantations of Poplar Under Subsurface Drip Irrigation
11.30	197	Picchi	Gianni	Harvesting Poplar Medium-Rotation Coppice with Light Equipment
12:00	Discussion			

Concurrent Session 6-C: Nomenclature and registration (Meeting Room 8)

Time	No.	1st Author	(name)	Title
10:30	110	Nervo	Giuseppe	Application of SSR Markers for DNA Fingerprinting of Commercial Poplar Clones
10:45	97	Nervo	Giuseppe	A Dichotomous Key for Nursery Identification of the Main Poplar Clones Cultivated in Europe
11:00	124	Kuzovkina	Julia	The Registration of *Salix* Cultivars
11:00	Subcommittee on Nomenclature and Registration – Business Meeting			

12:00 Lunch

Business meetings of Working Parties

13:30	Insects and other Animal Pests	**(Meeting Room 12)**
	Diseases	**(Meeting Room 15)**
	Harvesting and Utilization	**(Meeting Room 3)**
	Genetics, Conservation and Improvement	**(Meeting Room 5)**
	Production Systems	**(Meeting Room 6)**
	Environmental Applications	**(Meeting Room 8)**

15:00 Coffee

15:30	Insects and other Animal Pests	**(Meeting Room 12)**
	Diseases	**(Meeting Room 15)**
	Harvesting and Utilization	**(Meeting Room 3)**
	Genetics, Conservation and Improvement	**(Meeting Room 5)**
	Production Systems	**(Meeting Room 6)**
	Environmental Applications	**(Meeting Room 8)**

Thursday 30 October

Plenary Session 4 (Gingko Hall)

Time	No.	1st Author	(name)	Title
08:30		Carle	Jim	Synthesis of National Reports
09:00	13	Biswas	Sas	Livelihood Studies of Willow-Dependent Communities of the Indian Trans-Himalayan Region With Emphasis on Sustainable Management of the Bioresource and Improved Well-Being
09:15	164	Garnica	Pedro	Resources and Market Balances in Poplar Plywood Manufacturing: The Outstanding European Experience of Garnica Plywood
09:30	Announcements			• Vth International Poplar Symposium – Italy, 2010 (B. Stanton/S. Bisoffi) • Italian Development Project (A. Del Lungo) • Proposals for hosting the 24th Session of the IPC (India) • World Forestry Congress, Argentina, 2009 • Election results

10:00 Coffee

Closing Plenary Session (Gingko Hall)

Time	Title
10:30	Working Party Reports (1-6)
11:30	Recommendations to the FAO Committee on Forestry (COFO)
11:45	Closing Remarks

12:00 Lunch

Informal Executive Committee Meeting (newly-elected members + WP Chairs/Secretaries)

Time	Title
13:30	Informal Executive Committee Meeting **(Meeting Room 2)**

ANNEX III

LIST OF PARTICIPANTS

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ANNEX IV

INTERNATIONAL POPLAR COMMISSION
TWENTY-THIRD SESSION
ABSTRACTS SUBMITTED[1]

CROSS-CUTTING ISSUES

Isebrands J.G. and Richardson J. - FAO/IPC Publication '*Poplars and Willows in the World*': A Progress Report

WORKING PARTY ON POPLAR AND WILLOW GENETICS, CONSERVATION AND IMPROVEMENT

Abedini W., Adema M., Amado Cattaneo R., De Francesco A., Ciccioni H. and Sharry S. - *In Vitro* Regeneration of *Populus deltoides* Cv. Australia 129-60

Alba N., Macaya D., Maestro C., Climent J. and González-Martínez S.C. - Occurrence of Hermaphroditism in *Populus alba* L., a Mostly Dioecious Riparian Tree

Alba N. and Sixto H. - Evaluation of *Populus alba* L. Clones for Biomass Production for Energy

Alimohammadi A., Asadi F., Adeli E., Tabaie-Aghdaei S.E. and Mataji A. - Using Morphological Traits for Identification of *Populus nigra* Clones

Asadi F. and Mirzaie-Nadoushan H. - Path Analysis of Poplar Different Attributes in Early Stages of Growth

Bai Shan-shan, Kang Xiang-yang and Jing Yan-chun - Induction of Calli and Establishment of Suspension Cultures in *Populus alba* L. Var. p*yramidalis*

Ballian Dalibor - An Overview of Poplars in Bosnia and Herzegovina
Ballian Dalibor and Mekić Faruk - The Clone Archive of Black Poplar *(Populus nigra* L.*)* in Žepče, Bosnia and Herzegovina

Bangarwa Kulvir S. - Growth Performance of *Populus deltoides* Clones in Salt-Affected and Normal Soils of Arid India

Bi Yufang, Qin Mingyan and Zhuge Qiang - Genetic Transformation of Poplar (*Populus tremula* × *P. tremuloides* cv. T89) Using Stress-Resistance Genes

Cai Xiao and Kang Xiangyang - Isolation and Purification of Mesophyll Protoplasts from *Populus pseudo-simonii* Kitag.

Calagari M. – Growth Comparison of Sixteen *Populus euphratica* Provenances at the Research Station of Karadj, Iran

Calagari M. and Abbas-Azimi R. - Variation in Leaf Anatomy among Nine Provenances of *Populus euphratica* in Iran

Calderón A., Bustamante J., Perez S., Zanetti P. - Behavior of Chinese Clones of *Populus* spp. in Lavalle, Mendoza, Argentina

Calligari Paolo, Collot Tiziano, Zelasco Samanta and Nervo Giuseppe – Genetic Transformation of Elite Poplar Clones for Useful Traits

[1] Copies of papers can be requested directly from authors.

Cao Guanlin, An Xinmin, Wang Dongmei, Bo Wenhao and Zhang Zhiyi - Genetic Transformation of Poplar Sterile Gene Constructs in Tobacco and Poplar

Cerrillo Teresa - Willow Breeding for Industrial Uses in Argentina

Cerrillo Teresa, Facciotto Gianni and Vietto Lorenzo - Biomass Production of Willow Clones from Different Species Combinations - Preliminary Results

Chen Jinhuan, Xia Xinli and Yin Weilun - Genome-Wide Search and Expression Analysis of Poplar DR.EB2 Transcription Factor Genes

Cheng Qiang, Cao Youzhi, Pan Huixin, Wang Mingxiu and Huang Minren - Isolation and Characterization of Two Polygalacturonase-inhibiting Protein Genes from *Populus deltoids*

Cortizo S., Bozzi J. and Mema V. - A New Clone of *Populus deltoides* Recently Released in Argentina

De Boever Lieven, Vansteenkiste Dries, Van Peteghem Pierre and Van Acker Joris - Potential of Wood Colour Measurements as a Tool for Early Selection of Genetically-Related Willow Clones

Ding Ming-Ming, Huang Qin-Jun and Su Xiao-Hua - Analysis of SNPS Linked to Wood Properties of *Populus nigra* L. Gene Resources

Du Juan and Groover Andrew - Role of *ARBORKNOX2* in Regulating Secondary Growth in *Populus*

Fladung Matthias and El-Sherif Fadia - Activation Tagging in Aspen Using an Inducible Two Component *Ac*/DS-Enhancer Element System

Fladung Matthias and Hoenicka Hans - Faster Evaluation of Induced Floral Sterility in Transgenic Early Flowering Poplar

Fladung Matthias, Schenk Tobias, Lörz Horst and Becker Dirk - Elimination of Marker Genes and Targeted Integration of Transgenes via the FLP/*FRT*-Recombination System

Fu Gui-Sheng - *Ex situ* Gene Bank Establishment of *Populus simonii* and Biological Feature Analysis of its Seedlings

Fussi Barbara, Aleksic Jelena and Heinze Berthold - Tandem Repeats in a Group II Intron Provide Resolution in Phylogenetic and Phylogeographic Studies of the Genus *Populus*

Galović Vladislava, Orlović Saša, Kovačević Branislav and Pilipović Andrej – Determination of Polymorphisms of Microsatellite Primers in Serbian Germplasm

Garay M. Romina, Noseda Pablo A., Cortizo Silvia, Mujica Gerardo and Ríos Raúl D. - A Regeneration System for a Hybrid Poplar (*Populus nigra x Populus deltoides*)

Heinze Berthold, Frank Norbert and Nebenführ Wilfried - Selection of *P. deltoides* Clones for Biomass Production in Eastern Austria

Hou YingJie, Su XiaoHua, Jiao RuZhen, Huang QinJun and Chu YanGuang - Preliminary Study of the Effects of Transgenic Poplars on Soil Micro-Organisms

Huang Jiang, Shen Hai-Long and Liu Chang-Li - Factors Influencing *In Vitro* Storage of *Populus alba* Var. *pyramidalis*

Jiang Xibing, Li Bo, Ma Kaifeng, Bo Wenhao and Zhang Zhiyi - Studies of Growth Traits and Photosynthetic Physiology of Hybrid Clones of *Populus deltoides* and *P. ussuriensis*

Kang Xiangyang, Wang Jun, Li Yanhua, Zhang Pingdong and Zhang Zhenghai - Advances in Triploid Breeding of *Populus*

Koo Yeong-Bon, Yeo Jin-Kie and Woo Kwan-Soo - Growth Performance at Age Five of Progeny of Aspen (*Populus davidiana* Dode) Clones from Artificial Mating Among Selected Trees

Kovacevic Branislav, Orlovic Sasa, Galovic Vladislava, Pilipovic Andrej and Katanic Marina - Utilization of Early Shoot and Root Growth in Black Poplar Rooted Cuttings for Selection Test Improvement

Kumar Dinesh - Genetic Improvement of Exotic and Indigenous Poplars in India

Kuzovkina Julia - The Registration of *Salix* Cultivars

Li Bo, Jiang Xibing , Zhang Deqiang, Wang Zeliang and Zhang Zhiyi - Constructing a Transcriptome Map of *Populus tomentosa* Carr. with a Backcross Using CDNA-AFLP

Li David and Liu Brian - Development of the *Populus* ×*canadensis* Taxon for Poplar Plantation Cultivation in China's Yellow River Basin

Li Jin-hua and Zhang Qi-wen - Comprehensive Assessment of Section Aigeiros Clones for Pulpwood in Western Liaoning Province, China

Li Lisa, Xu Lina, Lin Yunan, Wang Weidong, Jiang Jinlai and Zhuge Qiang - Cloning and Functional Analysis of a Specific Promoter in Photosynthetic Tissues of Poplar

Li Shanwen, Yu Zhishui, He Chengzhong, An Xinmin, Li Bailian and Zhang Zhiyi - Correlation Between Molecular Genetic Distances Among Parents and Growth Traits of Progenies in *Populus*

Li Shanwen, Zhang Youhui, An Xinmin, He Chengzhong, Li Bailian and Zhang Zhiyi - AFLP Analysis of Some *Populus* Species and Hybrids

Li Yiliang, Su Xiaohua, Zhang Binyu, Huang Qinjun, Zhang Xianghua, Zhang Zhiyi and Huang Rongfeng - Salt Tolerance of Poplar Trees Transformed with the JEFRS Gene

Liu Tingting, Long Cui, Pang Xiaoming, Takaya Moriguchi and Zhang Zhiyi - Primary Study on Transgenic *Populus tomentosa* with the *MdSPDS1* Gene

Lu Meng-Zhu, Wang Min-Jie, Zhao Shu-Tang and Hu Jian-Jun - Profiling of Genes Involved in the Regeneration of the Secondary Vascular System in Poplar

Macaya D., Alba N., López-de-Heredia U., Maestro C., Heuertz M., Alía R. and González-Martínez S.C. - Spatial Genetic Structure of Natural White Poplar (*Populus alba* L.) Populations *a*t Regional and Local Scales

Maestro C. and Alba N. - Germplasm Collections of Native Poplars (*Populus nigra a*nd *Populus alba*) in Spain: Management and Use

Man Shengjun, Wang Shengdong, Yang Zhiyan, Liu Wei and Wang Zhiying - Controlled Breeding Techniques to Accelerate Rooting of Poplar Floral Cuttings by Warming the Soil

Meng F.J. and Wang Q.Y. - Comparison of Gas Exchange and Chlorophyll Fluorescence Characteristics of Introduced and Native Poplar

Nervo Giuseppe, Calligari Paolo, Acquadro Alberto, Portis Ezio and Lanteri Sergio - Application of SSR Markers for DNA Fingerprinting of Commercial Poplar Clones

Nervo Giuseppe, Picco Franco and Giorcelli Achille - A Dichotomous Key for Nursery Identification of the Main Poplar Clones Cultivated in Europe

Potočić Nenad, Ćosić Tomislav, Kajba Davorin, Pecina Marija, Vrbek Boris and Seletković Ivan - Differential Response of Ten Poplar Clones to Fertilization and Climate Effects under Conditions of Low Groundwater Table

Riu N., Perez S., Naves N. and Bustamante J. - Identification of Six Clones of *Populus s*pp. in a UPOV Plant Nursery in Mendoza, Argentina

Sabatti Maurizio, Gaudet Muriel, Paolucci Isabella, Beritognolo Isacco, Fabbrini Francesco, Bastien Catherine and Scarascia Mugnozza Giuseppe - Adaptive Traits And Productivity of European Poplar Species

Shen Yanhua, Xu Xizeng and Fang Shengzuo - Effects and Mechanism of Exogenous Silicon in Alleviating Salt Stress in Poplar Seedlings

Stanton Brian J. and Shuren Richard A. - *Populus* Hybridization for the Renewable Transportation Fuels Industry: Integration of Genomic Tools into a Varietal Development Program

Su Xiao-Hua, Huang Qin-Jun, Li Yi-Liang, Zhang Bing-Yu and Zhang Xiang-Hua - Effects of Parental Genetic Composition on Breeding Compatibility of Poplars

Toplu Ferit – Poplar Development in Turkey

Toplu Ferit, Kahraman Teoman and Kucukosmanoglu Filiz - Selecting Poplar Clones for Temperate Regions of Turkey

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Tsarev Anatoly and Tsarev Vadim - Long-Term Testing of Poplars in Russia

Vanden Broeck An, Michiels Boudewijn, Quataert Paul and Van Slycken Jos - Interspecific Crossability Studies Provide Insight into the Risk of Genetic Extinction of European Black Poplar (*Populus nigra* L.)

Wan Xueqin, Zhang Fan, Zhong Yu, Wang Changliang, Ding Yunhai and Hu Tingxing - An Overview of *Populus* Genetic Resource in Southwest China

Wang Jun, Kang Xiangyang, Li Daili, Chen Hongwei and Zhang Pingdong - Induction of Unreduced Eggs via Mitotic Inhibition during Embryo Sac Development and Triploid Breeding in *Populus* (Section Tacamahaca)

Wang Jun, Kang Xiangyang and Zhu Qi - Variation in Pollen and its Cytological Mechanism in an Allotriploid of Chinese White Poplar

Wang Qiuyu and Yang Chuanping - Influence of Endogenous Plant Hormones on Rooting of Hybrid Aspen in Tissue Culture

Wang Yuan-Xiu, Wang Ming-Xiu , Huang Min-Ren and Xu Li-An - Comparative Genome Mapping of *Populus adenopoda* × *P. alba*, *P. deltoides* × *P. euramericana* and *P. trichocarpa*

Wang Zeliang, An Xinmin, Li Bo, Ren Yuanyuan and Zhang Zhiyi - Cloning of Two Highly Similar DR.EB-Related Genes in *Populus hopeiensis* and their Expression Profiles Under Abiotic Stress

Wang Zhanbin, Feng Lianrong and Huang Zhe - Cold Tolerance Factors, The CBF Gene and its Application in Woody Plants

Weih M., Rönnberg Wästljung A-C., Björkman C., Larsson S., Stenlid J., Åhman I. and v. Arnold S. - Breeding for High and Sustainable Biomass Production of *Salix*: Bridging Molecular Genetics, Ecophysiology and Ecology

Xia Ye and Cheng Zong-Ming (Max) - Genomic Survey and Gene Expression Analysis of the Cobra Gene Family in ***Populus trichocarpa***

Xia Ye, Xu Qin, Yuan Suhua (Joshua), Guo Hong, Chen Feng and Cheng Zong-Ming (Max) - Concurrent Divergence in Coding and Promoter Regions of the Poplar Gene Family Encoding Xyloglucan Endotransglucosylase/Hydrolases

Xu Meng, Zhang Bo, Wang Mingxiu and Huang Minren - Research on Gene Expression and Regulation of Adventitious Root Development in *Populus*

Xue Yong-chang and Liu Chang-bin - Sequence Analysis of Cellulose Synthase Gene CesA from Poplar

Xue Yong-chang, Zhao Wen-chao and Wang Xue-xia - Bioinformatics Analysis of Lignin Biosynthesis Genes in Poplar

Yadav Rakesh, Kumar Dharmender, Arora Pooja, Raghuvanshi Saurabh, Dilbaghi Neeraj and Chaudhury Ashok - Genetic Modification in *Populus deltoides*: an Antisense Approach for Lignin Repression

Yan Dong-hui, Zhang Hechen, Ma Hongshuang, Xia Xinlin and Yin Weilun - *In silico* Identification of Nuclear Factor Y Subunit B Genes with Potential Drought Tolerance in ihe Poplar Genome

Yang Cheng-chao, Wang Sheng-dong and Yang Zhi-yan - Breeding Study of *Populus alba* L. × *Ulmus pumila* L.

Yang Chuan-Ping, Ni Rui-Juan, Li Kai-Long, Liu Gui-Feng and Wang Bai-Chen - Phosphoproteomic Analysis of *Populus simonii* × *P. nigra* Chloroplasts

Yang Xiaohan, Jawdy Sara, Tschaplinski Timothy J. and Tuskan Gerald A. - Genome-Wide Identification of Lineage Specific Genes in *Arabidopsis, Oryza* and *Populus*

Yin Wu, Li Lisa, Gong Xindong, Xu Lina, Wang Weidong, Zhu Junfeng, Huang Minren, Wang Mingxiu and Zhuge Qiang - Transgenic Plants of *Populus* ×*euramericana* cv. 'Nanlin 895' with Two Key Genes (PEPC and PPDK) in C4 Plant Photosynthesis

Yu Yajun, Xia Xinli, Yin Weilun, Liang Haiying and Carlson John - *P.*×*euramericana* cv. 'Neva ' Transformation with a Tyrosine-Rich *HRGP* Gene

Yuan Hong-Mei, Wang Bai-Chen and Jiang Jing - Differential Proteomic Analysis of LEA-Transgenic and Non-Transgenic *Populus simonii* × *P. nigra* Under Salt Stress

Zeng Fan-Suo and Zhan Ya-Guang - Microcutting Propagation Technique for Hybrid Aspen (*Populus tremula* × *P. tremuloides*)

Zhan Yaguang, Li Caihua and Qi Fenghui - Transforming *Populus tremula* × *P. tremuloides* with an Insect-Resistance Gene Using the *Agrobacterium tumefaciens*-mediated Method

Zhang Hechen, Xia Xinli and Yin Weilun - Ca^{+}/Calcineurin B-Like Signal Pathways in *Populus*

Zhang Jin-Feng, Wei Zun-Zheng, Li Dan, Li Bai-Lian and Zhu Zhi-Ti – Mechanisms of 2n Pollen Formation of Poplar in Section *Aigeiros*

Zhang Q., Lin S.-Z., Zheng H.-Q., Lin Y.-Z., An X.-M., Li Y., Li H.-X. and Zhang Z.-Y. - Characterization of Resistance Gene Analogs with a Nucleotide Binding Site Isolated from a Triploid White Poplar

Zhang Qiwen and Li Jinhua - Selection and Extension of New Poplar Varieties for Industrial Wood Plantation in China

Zhang Ruiping, Bai Shuang, Jiang Jing, Wang Yucheng, Wang Baichen, Qu Guanzheng and Liu Guifeng - Constitutive Expression of a Lea Gene from *Tamarix androssowii* Confers Salt Tolerance in Transgenic Poplar

Zhang Zhenghai and Kang Xiangyang - Cytological Characterization of the Formation of Unreduced Pollen in *Populus tomentosa* Carr.

Zhao Xiyang, Ma Kaifeng and Zhang Zhiyi - Construction of Hybrid Populations and Embryo Rescue of *Populus tomentosa* Carr.

Zhao Yangling, Qiao Guirong, Chen Yin, Yang Ye, Zhou Jin, Li Haiying, Pan Luanyin, Song Honggai and Zhuo Renying - Salt Tolerance Multigene Assembly Vector Construction and Transformation of *Populus*

Zheng Huiquan, Lin Shanzhi, Zhang Qian, Lei Yang and Zhang Zhiyi - Isolation of a TIR-NBS-Like Gene Promoter from Triploid White Poplar and its Characterization in Transgenic Tobacco Plants

Zhu Yanlin and Cheng Xiangjun - Chinese Red-Leaved Poplar: A New Poplar Variety

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Achinelli Fabio G., Angelinetti Sebastian P., Delgado Maximiano R., Skorupski Eduardo and Luquez Virginia M.C. - Water Availability Limits Early Growth of Poplar (*Populus* spp.) in the Plane Pampas of Central Argentina

Akgul Selda - A Study on Determination of Planting Material Used for Poplar Plantations in Turkey

Asadi F. and Calagari M. - Hedgerow Intercropping of *Populus nigra betulifolia* with Alfalfa in Iran

Bangarwa Kulvir S. - Production Potential, Market Fluctuations and Present Status of Exotic Poplar in India

Baratto Giorgia, Bergante Sara, Facciotto Gianni and Annunziati Manuela - Studies of Poplar and Willow Short Rotation Coppice Establishment

Benetka Vojtěch and Weger Jan - Research on Native Species of Fast-Growing Trees (Poplar and Willows) for Short Rotation Coppice

Berrueco B., Langa E., Maestro C., Urieta J.S. and Mainar A.M. - Potential of Poplar Buds as a Source of Bioactive Compounds: Antioxidant Activity of Supercritical Extracts

Biswas Sas and Hussain S. Showkat - Livelihood Studies of Willow-Dependent Communities of the Indian Trans-Himalayan Region With Emphasis on Sustainable Management of the Bioresource and Improved Well-Being

Bustamante J., Pérez S., Funes D. and Zanetti P. - Cultivation of Poplars for Biomass Production in Mendoza: First-Year Results

Bustamante J., Pérez S., Funes D. and Zanetti P. - Cultivation of *Salix* for Biomass Production in Mendoza: First-Year Results

Calderón A.D., Bustamante J.A., Riu N.E. and Perez S.A. - Behavior of *Populus* spp. in Low Fertility Soil in Junín, Mendoza, Argentina

Casaubon E.A., Cueto G.R., Peri P.L. and González A.C. - Dasometric Response of *Populus deltoides* 'Australia 106/60' to Different Propagation Materials for Plantations in the Delta of the Paraná River, Argentina

Casaubon Edgardo and Adrian González - Silvopastoral Systems with Poplar in the Lower Delta of the Paraná River, Argentina

Castro Gaetano and Zanuttini Roberto - Poplar Cultivation in Italy: History, State-of-the-Art, Perspectives

Chen Lebei, Li Hailing and Fang Shengzuo - Biomass Production and Carbon Storage in Different Poplar Agroforestry Schemes in Jiangsu Province

Chen Shaoliang, Shao Jie, Shi Yong, Wang Ruigang, Li Niya, Shen Xin, Zhou Xiaoyang, Lu Cunfu, Zheng Xiaojiang and Hüttermann Aloys - Enhancement by Hydrogel Polymers of Salt Resistance in Poplar

Chiarabaglio Pier Mario, Allegro Gianni, Facciotto Gianni, Incitti Tiziana, Rossi Andrea Edmondo, Isaia Marco and Chiarle Alberto - Poplar Stands vs. Agricultural Crops: Environmental Implications

Coaloa Domenico and Vietto Lorenzo - Forest Certification for Poplar Plantations: a New Market Opportunity

Dhiman R.C. - Evolution of Poplar-Based Agroforestry in India

Eaton Jake A. - Renewable Energy from Sustainable Poplar Tree Farms

Facciotto Gianni, Nervo Giuseppe, Bergante Sara and Lioia Cesare - New Poplar and Willow Clones Selected for Short Rotation Coppice in Italy

Fraga Alejandro – Growth Performance of Poplar Energy Plantations on Two Different Sites in Central Chile

Fu Gui-Sheng - Results from a Deep Planting Technique Using an Electric Auger

Guarnaschelli A.B., Garau A.M., Caccia A.M. and Cortizo S.C. - Physiological Responses to Shade and Drought in Young Willow Plants

Hu Jianjun, Zhao Zicheng and Lu Mengzhu - Establishment and Management of Willow and Poplar Short Rotation Coppice in China

Hua Yukun, Mei Changtong and Pan Mingzhu - Development of Fast-Growing Poplar Industry: Plantation, Application and Replantation

Jia Li-ming, Wei Yan-kui, Xing Chang-shan and Li Guangde - Productivity and Benefits of Fast-Growing and High-Yield Plantations of Poplar Under Subsurface Drip Irrigation

Karakaş Ahmet - A Study of the Root Systems of One Year Old Poplar Clones I-214 and 77/51 (Samsun)

Kumar Gulshan - Poplars Outside Forests (POFs) in India: a Potential Resource for Socio-Economic Development and Ecological Restoration

Liu Jiujun, Fang Shengzuo, Xie Baodong and Hao Juanjuan - Effects of Biological Mulching on Microbial Populations, Enzymatic Activity in Rhizospheric Soil and Growth of Poplar Plantations in the Southern Upland Area, China

Liu Wen-guo, Liu Ling, Zhang Xu-dong and Yuan Yu-xin - Study of Water Consumption Mechanisms in Poplar Plantations

Lundkvist Anneli, Nordh Nils-Erik and Verwijst Theo - The Effects of Pre-Emergence Variation in Willow Cuttings on the Development of Size and Weight Hierarchies in Willow Short Rotation Coppice

McDonald Daniel W., Michaels Ronald B., Friend Alexander L., Zalesny Ronald S., Mawata Christopher P. and Kodrzycki Robert J. - Non-Destructive Digital Imaging for Genetic Screening of Intact Poplar Root Systems

McDonald Daniel W., Michaels Ronald B., Mawata Christopher P. and Kodrzycki Robert J. - RootViz FS: A New Tool for Non-Invasive Imaging of Root Development

McIvor Ian, Nicholas Ian and Snowdon Kevin - Energy Farming for Lake Taupo District, New Zealand: A New Mitigation Land Use?

Mertens Patrick G. - Nature Conservation and Poplar Growing: Analysis of an Example from the South of Belgium

Mertens Patrick G. - Needs and Opportunities for Vertical Organisation of the European Poplar Production and Transformation Chain

Monlezun S.J., Cornaglia P.S., Pincemin J.M., Zunino H., Clavijo M.P. and Borodowski E.J. - Cover of Fallen Tree Leaves Reduces Herbaceous Productivity Under Poplars in Silvopastoral Systems

Nandal Dharampal Singh - Performance and Economics of Different Agricultural Crops Under Different Spacings of *Populus deltoides* in North-West India

Nervo Giuseppe, Facciotto Gianni and Bisoffi Stefano - Poplar Activities in the Italian Project on Biomass for Energy Use

Nie Li-shui, Dong Wen-yi, Wei An-tai, Li Ji-yue, Zhang Zhi-yi and Shen Ying-bai - Effects of Nitrogen Forms on the Absorption and Distribution of Nitrogen in *Populus tomentosa* Seedlings Using the ^{15}N Trace Technique

Paris P., Mareschi L., Sabatti M., Ecosse A., Nardin F. and G. Scarascia-Mugnozza - Comparing *Populus* Clones for Short Rotation Forestry in Italy After Two Two-Year Rotations: Survival, Growth and Yield

Picchi Gianni - Biomass Estimating Functions for Poplar Short Rotation Coppice

Riu N., Agüero M. and Naves N. - Drip Irrigation of Six-Year-Old Poplar

Riu N., Agüero M. and Robledo S. - Nine-Year-Old Poplar Response to Different Irrigation Regimes

Saska Margaret and Kuzovkina Julia - *Salix* Production for the Floral Industry in North America

Sharma S.K. - Backyard Planting - A Vital Production System of Social Forestry in North-East India

Sixto H., Sanchez M., Aranda I. and Montoto J.L. - Evaluation of the Performance of Clones for Biomass Production in a Plantation in the Madrid Region, Spain

Sun Shangwei, Xia Xinli, Liu Xiaodong, Yin Weilun and Chen Senkun - Effects of Different Pruning Intensities on Photosynthetic Characters, Growth and Yield of Crops in Agroforestry

Tian Liu, Ren Guifang, Li Yong and Piao Chungen – Microflora Analysis of Poplar Plantations in Beijing

Toky Om Parkash - Nutrient Dynamics in Poplar Agroforestry Plantations in North-West India

Toljander Y., Baum C., Fransson P. and Weih M. - Effects of Mycorrhizal Inoculations on Willow Foliar Chemical Resistance to Insect Herbivory: A Carbon Economy Perspective

Toro Jorge, Villacura Luis and Ulloa Jaime - Increasing the Productivity of *Populus* Plantations in the Central Area of Chile

Tullus Hardi, Tullus Arvo, Soo Tea and Vares Aivo - Hybrid Aspen (*Populus tremula* L. × *P. tremuloides* Michx.) Complex Study Programme in Hemiboreal Estonia

Vaario Lu-Min, Yrjälä Kim, Sipilä Timo and Pulkkinen Pertti - Impacts of Genotype of Aspen on Saline Stress Tolerance

Wang Tianxiang and Wang Huafang - Root Growth and Leaf Biochemical Reactions in Response to Soil Drying in *Populus euphratica* Oliv.

Yin Jianting and Zhai Mingpu - Effect of Soil Water Content on Eco-Physiological Characters of *Populus* ×*euramericana* Cv. '74/76' Seedlings

Yin Weilun, Chen Senkun, Liu Xiaodong, Xia Xinli and Sun Shangwei - Effects of Pruning on Growth of Poplar (*Populus* ×*euramericana* cv. '74/76')

Zhang Cunyi, Dong Yushan, Zhou Qing, Zhang Na, Cheng Guohua, Xie Shoujiang, Wang Shuli and Ren Donghuan - A New Afforestation Technology Involving Soaking Poplar Seedlings at Low Temperature

Zhang Huanchao, Zhu Qianggen and Fang Sengzhuo - Soil Respiration Dynamics in Four Poplar Plantation Patterns in the Northern Area of Jiangsu Province

Zhao Yandong, Yin Weilun, Guan Jinfeng and Zhang Junfu - A Precision Water-Saving Automatic Irrigation System Controlled by the Needs of Poplars

WORKING PARTY ON HARVESTING AND UTILIZATION OF POPLAR AND WILLOW WOOD

Cao Yongjian, Lv Jianxiong and Huang Rongfeng - Effect of Heat Treatment on Properties of Chinese White Poplar

Chen Min, Huang Hao and Deng Yuhe - Study on the Properties of Compressed Poplar Veneer
Chen Yong-ping and Wang Jin-lin - Study of the Resin Impregnation Process of Poplar Veneers and its Effect on the Weight Percentage Gain (WPG) of Impregnated Resin

Cui Juqing, Zhou Zhaobing and Zhang Yang - Dynamic Wettability of Pre-Compressed Poplar

De Boever Lieven and Van Acker Joris - Visual and Mechanical Grading of Poplar Wood for Glued Laminated Beams

De Boever Lieven, Van den Bulcke Jan, Vansteenkiste Fries and Van Acker Joris - Stem Form and Internal Wood Quality of Selected Willow Clones

De Boever Lieven, Vansteenkiste Dries and Van Acker Joris - Procedures for Evaluating Occurrence of Tension Wood in Relation to the Industrial Processing of Poplar and Willow Wood

De Boever Lieven, Vansteenkiste Dries and Van Acker Joris - Potential of New Selected Belgian Poplar Clones for the Production of Plywood and Laminated Veneer Lumber Based on *P. deltoides x* (*trichocarpa* x *maximowiczii*) and *P. deltoides* x *maximowiczii*

Fang Guigan and Deng Yongjun - Evaluation of Properties of *Populus* ×*euramericana* Cv. '74/76' for Bleaching Chemi-Mechanical Pulps

Feher S., Molnar S., Koman Sz., Abraham J. and Taschner R. - Relationships of Bending Properties of Poplar Clones with Knots

Garnica Pedro - Resources and Market Balances in Poplar Plywood Manufacturing: The Outstanding European Experience of Garnica Plywood

Han Kyung-Hwan, Ko Jae-Heung, Kim Won-Chan, Kim Sangmin, Zhang Zhongnan and Choi Mia - Understanding the Transcriptional Regulation of Wood Formation in Poplar: A Step Toward Optimizing Ligno-Cellulosic Feedstock for Biofuel Productivity and Processing

Havlíčková Kamila and Knápek Jaroslav - Modeling of Biomass Prices from SRC Plantations in the Czech Republic

Hua Liang, Jiu Zhengwan and Hua Yukun - Research on OSB Panel from Waste Poplar Veneer

Hua Yukun and Jin Juwan - Products and Manufacturing Processes of Poplar Plywood
Huang Rong, Lu Xiaoning and Na Bin - Low-Density Magnesia Wood Wool Panel: Hydration Reaction of Materials

Hussain S. Showkat and Biswas Sas - Indian Willows-Based Cricket Bats of International Significance of Trade and Income

Jia Chong, Wang Siqun and Hua Yukun - Study on Influence of Different Treating Schemes on Performance of Bamboo-Wood Oriented Strand Board

Jin Juwan, Xu Yonglan and Hua Yukun - Properties of Enhanced Laminated Veneer Lumber from Poplar

Lian Hailan, Fang Qin, Meng Hui and Hua Yukun - MOR and MOE of Plastic OSB with Poplar Strand

Lu Xiaoning, Huang Rong and Na Bin - Low-Density Magnesia Wood Wool Panel: Comparison of Manufacturing Techniques

Lu Xiaoning, Huang Rong, Wang Zhiqiang and Na Bin - Low-Density Magnesia Wood Wool Panel: Improvement of Hygroscopicity

Lv Liu, Wang Zhiqiang and Lu Xiaoning - Present Status of Development of Plywood Industry Cluster in China

Mei Changtong, Peng Mingkai and Zhou Dingguo - Study on Laminated Strand Lumber from Poplar

Mertens Patrick G. - Possibilities for Identifying Veneer Peeling Quality in Still-Standing Trees

Miao Ping, Zhu Dianxian, Zhang Lifang and Zhang Qian - The Multifunctional Composite Material Made of Poplar Veneer and Expanded Polystyrene

Na Bin, Huang Rong, Lu Xiaoning and Jin Juwan - Low-Density Magnesia Wood Wool Panel: Manufacturing Technological Parameters of Steam-Pressing Technique

Nemeth R., Ott Á., Oltean L., Takáts P. and Molnár S. - The Effect of Temperature and Relative Humidity to the Colour and Moisture Content of Poplar Clones' Wood

Nuss Jeff and Liu Brian - An International Investor's Perspective on Timberland Opportunities in China

Roig Fidel A., Calderón Alberto, Naves Natalia, Somoza Arturo, Lisi Claudio S. and Tomazello Fo Mario - Poplar Wood Density Assessed by X-Ray Densitometry: New Insights for Inferring Wood Quality

Spinelli R., Nati C., Magagnotti N. and Picchi G. - Harvesting Poplar Medium-Rotation Coppice with Light Equipment

Suárez Raúl O. - *Populus* spp. Used For Plywood in Argentina

Van Acker Joris - Development of Decay in Preservative Treated Poplar Plywood

Van Acker Joris and De Boever Lieven - Future Impact of Poplar and Willow on the Evolving European Forestry-Wood Industry Chain

Verani Stefano, Sperandio Giulio and Nervo Giuseppe - Traditional and Advanced Mechanization in Poplar Plantations: Analysis of Nine Logging Systems

Wang Zhiqiang, Lu Xiaoning and Xiong Guobing - Effect of Plywood Technology on Poplar Veneer Linear Expansion Coefficient

Xia Yan and Lu Xiaoning - Study on Variations of Modifying Poplar Wood with PF Resin

Xiong Guobing, Wang Zhiqiang, Xu Jun and Lu Xiaoning - Research on Technology of Color Uniformity for Inner Dying of Fast-Growing Poplar

Xu Changyan and Hua Yukun - Manufacture of PF Poplar Flakeboard with a Steam-Injection-Vacuum Press

Xu Xinwu, Chen Ling and Xu Haiyan - Manufacture, Performance and Application of Oriented Strandboard Cement Formwork

Yang Rui, Fan Yukai and Hua Yukun - Research on Concrete Formwork from Poplar Plywood

Yue Kong and Lu Xiaoning - Study on Creep Performance of Fast-Growing Poplar Modified with ACQ-D

Zhang Lifang - Manufacture of Laminated Veneer Lumber with Starch-Based Adhesives

Zhang Rui, Wang Zhiqiang, Lu Xiaoning and Yue Kong - Optimizing Design for Glulam Beam Made of Modified Wood of Fast-Growing Poplar

Zhang Yang and Wang Siqun - The Wettability Change of PF Resin on the Surface for Wood Strand Under Different Drying Conditions

Zhou Xiaoyan, Zhou Dingguo, Liang Xianye and Li Jian - Heat Transfer Characteristic of OSB-Strawboard Sandwich Wallboard

Zhou Zhaobing, Zhang Yang and Wang Siqun - Nano-Mechanical Properties of the Pre-Compressed Poplar Cell Wall-Based on Nano-Indentation

WORKING PARTY ON ENVIRONMENTAL APPLICATIONS OF POPLARS AND WILLOWS

Benson Victoria and Hudec Barbara - Wastewater Polishing Using Renewable Energy Crops: Life Cycle Assessment

Dimitriou I., Aronsson P., Weih M. and Perttu K. - Reducing Environmental Impacts of Short Rotation Coppice through Evidence-Based Integrated Decision Support Tools

Doty S.L., Kang J.W., James A., Vajzovic A., Singleton G., Lee K.Y., Strand S.E., Xin G. and Khan Z. - Enhancing Phytoremediation and Plant Growth in Poplar and Willow

Gaudet M., Sabatti M., Beritognolo I., Pietrini F., Iori V., Zacchini M., Massacci A. and Scarascia Mugnozza G. - Molecular and Physiological Characterization of Response to Environmental Pollution Tolerance in Poplar

Gonzalez Adrian, Rosenfeld Adriana and Casaubon Edgardo - Forest Eco-Certification and Environmental Performance in the Low Buenos Aires Delta of the Paraná River, Argentina

Heinsoo Katrin and Holm Bert - Factors Limiting Use of Short Rotation Coppice for Wastewater Purification and Sewage Sludge Utilisation

Isebrands J.G. - Environmental Uses of Poplars and Willows: A Worldwide Overview
Kuzovkina Julia, Morris Tom, Pettinelli Dawn, Schulthess Cristian and Zhivotovsky Olena - Lead Uptake and Translocation in Twelve *Salix* Taxa

Laidlaw W.S., Gregory D., Huynh T.T., Godino M. and Baker A.J.M. - Phytoextraction of Cadmium, Zinc and Nickel from Contaminated Biosolids by Willows Grown Under Field Conditions

Lord R.A. and Atkinson J. - Use of Green-Waste Compost to Establish SRC Willow on Brownfield Sites for Green Remediation: Interim Results of the BioReGen Life and Trail-Blazer Projects

Naghavizadeh Mohammad Reza and Rad Mahmmod Azami - Poplars in the Design of Green Fields in Cities

Paris P., Massacci A., Bianconi D., Ecosse A,, Rauchi G. and Scarascia-Mugnozza G. - Linking Wood Biomass Production and Phytoremediation With Poplars in Italy

Park Jung-Hyun, Yeo Jin-Kie, Koo Yeong-Bon, Lee Won-Woo, Kim Hyun-Chul and Park Chi-Ho - Effects of Slurry Composting and Biofilteration Liquid Fertilizer on Growth Performance of Poplar Clones in a Reclaimed Coastal Area

Pilipovic Andrej, Orlovic Sasa, Nikolic Natasa, Krstic Borivoj and Nemes Karolina - Crude Oil Phytoremediation Investigation with Different Poplar and Willow Clones

Ramstedt Mauritz, Granhall Ulff and Cederlund Harald - Phytoremediation of PAH-Contaminated Soils from a Railroad Site

Riddell-Black D., Isebrands J., Perttu K., Labreque M., Massacci A. and Dos Santos M.N. - 'The Environmental Applications of Poplar and Willow' Poster and Leaflet

Tang Luozhong, Yang Yong, Wang Tian and Fang Shengzuo - Growth Response and Heavy-Metal Accumulation Characteristics of Poplar and Willow Seedlings Exposed to Lead and Cadmium Stress

Thomaes Arno, Verstraeten Arne, De Keersmaeker Luc, Vandekerkhove Kris and Van Slycken Jos - Ecological Restoration: A New Market for Poplars

Vietto Lorenzo, Vanden Broeck An, Van Looy Kris, Tautenhahn Michael and Chiarabaglio Pier Mario - Rehabilitation of the European Black Poplar (*Populus nigra* L.): Case Studies from Italy, Belgium and Germany

Werner Astrid and McCracken Alistair - The Use of Fast-Growing Woody Energy Crops for Bioremediation of Sewage Effluent

Yeo Jin-Kie, Koo Yeong-Bon, Lee Won-Woo, Kim Hyun-Chul, Park Jung-Hyun and Woo Kwan-Soo - Elimination of Swine Wastewater by Evapotranspiration in a 5-Year-Old Poplar Plantation

Zenone Terenzio, Migliavacca Mirco, Montagnani Leonardo, Seufert Guenther and Valentini Riccardo – Carbon Sequestration in Short Rotation Forestry and Traditional Poplar Plantations

Zhang Xudong and Wei Yuan - Turbulent Flux of Carbon Dioxide Over Poplar Forest in Eastern China

Zhang Xudong, Wei Yuan, Qi Lianghua, Tang Yuxi, Wang Zhaoyan, Han Shuai and Huang Lingling - Study of the Seasonal Dynamics of Net Ecosystem Exchange Over a Poplar Plantation in Yueyang City, Hunan Province

WORKING PARTY ON POPLAR AND WILLOW DISEASES

Cortizo S., Mema V., Bozzi J., Graciano C., Abbiati N. and Guiamet J.J. - Impact of Poplar Rust on Foliage Development, Photosynthesis and Growth in Stoolbeds

Giorcelli Achille, Allegro Gianni and Gennaro Massimo - Emerging Pests and Diseases in Poplar Cultivation in Italy

Lucero G., Riu N., Pizzuolo P., Pérez Hurtado R. and Robledo S. - Susceptibility of Leaves of Different *Populus* Clones to *Septoria musiva* in Mendoza, Argentina

Ramstedt Mauritz - Importance of Resistance Screening in Willow and Poplar Biomass Plantations

Riu N., Lucero G., Pizzuolo P., Pérez Hurtado R. and Robledo S. - Susceptibility of Trunks of Different Poplar Clones to *Septoria musiva* in Mendoza, Argentina

Rocco E., Giorcelli A., Gennaro M., Deandrea G. and Anselmi N. - Pathogenic Endophytic Fungi in Poplar Nursery Plants

Uluer Kazim, Selek Fazil, Ozay Faruk S. and Karakaya Ayhan - Determination of Resistance of Some Poplar Clones to Rust Fungi in Turkey

Xie Shou-an and Lv Shu-jie - Poplar Diseases Caused by *Ceratocystis* sensu lato from Incisions of *Anoplophora nobilis* in Poplar Bark in Yangling

WORKING PARTY ON POPLAR AND WILLOW INSECTS AND OTHER ANIMAL PESTS

Achinelli Fabio G., Delgado Maximiano R., Jouanny Marcos and Liljesthröm Gerardo - Dendrochronological Methods Applied to Study Ambrosia Beetle (*Megaplatypus mutatus* (Chapuis)) Population Dynamics in Poplar (*Populuss s*pp.) Plantations of Argentina

Grégoire J.-C., De Cannière Ch., La Spina S. and Mertens Patrick G. - Impact of Poplar Water Status on Leaf-Beetle (*Chrysomela populi*) Survival and Feeding

Phyoe Wai Htun, Wine New New Oo and Moe Kyaw Thu - Biological Control of *Plutella xylostella* (L.) (Lepidoptera: Plutellidae) Using Gamma Radiation and *Bacillus thuringiensis*: Potential for Population Suppression in the Field

Rafiei-karahroodi Zahra, Allahyari Hossein and Sadeghi Ibrahim - A Study of the Antibiosis Resistance of 21 Poplar Clones to *Phloeomyzus passerinii* Sign.

Rafiei-karahroodi Zahra and Sadeghi Ibrahim - A Study of Damage Caused by Three Xylophage Pests on Poplar Clones in Markazi Province, Iran

Rafiei-karahroodi Zahra and Sadeghi Ibrahim - A Study of Antixenosis Resistance of 21 Poplar Clones to *Phloeomyzus passerinii* Sign in Markazi Province, Iran

Selek Fazil - The Importance of *Paranthrene tabaniformis* Rott. and *Cryptorhynchus lapathi* L. in Turkey

ANNEX V

INTERNATIONAL POPLAR COMMISSION
TWENTY-THIRD SESSION

NATIONAL REPORTS

National reports on activities related to poplar and willow cultivation, exploitation and utilization 2004-2007 were received from 22 countries (one of which being an observer country), as follows:

Argentina
Belgium
Bulgaria
Canada
China
Croatia
Egypt
France
Finland
Germany
India
Italy
Morocco
New Zealand
Republic of Korea
Romania
Russian Federation*
Serbia
Spain
Sweden
Turkey
United States of America

* The Russian Federation is not a member of the IPC.

ANNEX VI

INTERNATIONAL POPLAR COMMISSION
TWENTY-THIRD SESSION

EVALUATION OF THE SESSION

1 How would you rate the planning, announcements, pre-registration and access to information prior to the 23rd Session?

1	2	3	4	5	6	7	**8.19**	9	10

Poor → Excellent

Suggestions for improvement in the future

- A Tentative Programme with keynote speakers should be sent in advance.
- Regularly update the programme on the pre-conference website.
- Avoid sharing credit card information by e-mail due to security difficulties
- Receipts needed for on-line registration billing
- Announcements commence a year before the session
- Minimize last minute changes

2 How would you rate the programme and structure of the 23rd Session?

1	2	3	4	5	6	7	**8.34**	9	10

Poor → Excellent

Suggestions for improvement in the future

- Related topics (for example genomics, genetic diversity) should be kept together and sessions held over 1.5 days rather than in concurrent sessions.
- A session be considered to present National Reports
- Tentative Programme be sent before the session, even if presentations to change
- Set aside a specific session for poster presentations
- Provide earlier information to authors whether keynote, oral or poster presentations
- Talks in Plenary session should be in English

3 How would you rate the Poster presentation arrangements at the 23rd Session?

1	2	3	4	5	6	**7.10**	8	9	10

Poor → Excellent

Suggestions for improvement in the future

- Need more poster space, visibility and time
- Each poster, one panel at eye-height
- Separate session with presenters to stand with posters.
- Consider a poster award for students

4 How would you rate the administrative and logistical support by the HOST Secretariat at the 23rd Session?

1	2	3	4	5	6	7	**8.60**	9	10

Poor → Excellent

Suggestions for improvement in the future

- Excellent, impressive and cordial provision of support
- Improve language skills to better serve needs/wishes of participants

5 How would you rate the work of the HOST volunteers at the 23rd Session (registration, powerpoint support, help services etc)?

1	2	3	4	5	6	7	**8.73**	9	10

Poor → Excellent

Suggestions for improvement in the future

- Amazed at how they anticipated and met needs. Wonderful!
- Consideration of wider language skills

6 How would you rate the administrative and logistical support by the FAO Secretariat?

1	2	3	4	5	6	7	**8.70**	9	10

Poor → Excellent

Suggestions for improvement in the future

- Always helpful and tireless

7 How would you rate the technical inputs and documents prepared by FAO to the 23rd Session (Book of Abstracts, Synthesis of Country Reports, Working Papers, Programme, Website)?

1	2	3	4	5	6	7	**8.70**	9	10

Poor → Excellent

Suggestions for improvement in the future

- Include the programme in the Book of Abstracts
- Distribute programme earlier
- Present Book of Abstracts in A-5 format

8 How would you rate the performance of the interpreter services?

1	2	3	4	5	6	7	**8.27**	9	10

Poor → Excellent

Suggestions for improvement in the future

- Provide interpreters for the host country language
- French interpretation does not seem necessary
- Use sound-proof booths (sound from interpreters' booths was loud and disruptive)

9 How would you rate the conference facilities and services?

1	2	3	4	5	6	7	**8.56**	9	10

Poor → Excellent

Suggestions for improvement in the future

- Excellent hotel manager, very good facilities but some language difficulties
- Improved access to transport and internet facilities
- More computers with Internet would have been useful near the Conference Hall
- Air quality and temperatures not ideal in meeting rooms, particularly meeting room 5

10 How would you rate the hotel accommodation, meals and services?

1	2	3	4	5	6	7	**8.34**	9	10

Poor → Excellent

Suggestions for improvement in the future

- Very comfortable facilities and good meals and housekeeping services
- Improve information regarding different room types and costs prior to and at registration
- Diversify meal options to include non-Chinese cuisine (including consideration of vegetarian food)

11 Any other comments to improve IPC Sessions in the future?

- Provide more detail on name tags
- Need for a new working group for genomics and biotechnology if talks are kept in separate sessions. The Genetics Working Group reports are prepared and led only by breeders – or rename Genetics Working Group as Genetics and Genomics Working Group. Otherwise genomics researchers will lose interest in participating and the IPC will eventually be viewed by them as out-of-date.
- Provide pre- and post-study tour documents to all participants so as to get best information about host country's forest area/coverage
- People at registration desk and during study tours should understand IPC languages.
- Video clips could be used during general meals and at front office
- Exempt spouses from registration fee
- Improve ability of chairs of different parallel sessions to keep the time for larger discussion and induce/promote/activate discussions
- Encourage all member countries to provide timely inputs
- Include informal contact points in information flow (e-mail, etc.)
- Some National Poplar Commissions are inactive and country progress reports and facts and figures can be misleading