Poplars and Willows in the World: meeting the needs of society and the environment

J. Richardson & J.G. Isebrands

23rd Session, International Poplar Commission
Beijing, October 27, 2008
Background

- *Poplars in forestry and land use* - FAO 1958
- *Poplars and willows in wood production and land use* - FAO 1980
- Both now out of date & out of print
- A new global publication resource for a new age
Objective

- To produce a major update of the previous (1980) edition of the FAO publication on poplars and willows in an accessible format, providing a practical worldwide overview and guide to their basic characteristics, cultivation and use as well as issues, problems and trends relating to poplars and willows.
Audience

- Public and private sectors
- Decision makers & policy makers in forestry, agriculture & environment ministries
- Foresters, ecologists, botanists, agronomists, environmental engineers
Scope

• World-wide
• More emphasis on willows
• New focus on environmental uses and sustainable rural development
• Sourcebook and information guide
  – comprehensive bibliography, index, contacts, links to Internet resources
## Contents

<table>
<thead>
<tr>
<th>Preface</th>
<th>10. Properties and utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction</td>
<td>11. Markets, trends and outlook</td>
</tr>
<tr>
<td>2. Poplars &amp; willows in the world</td>
<td>12. Sustainable rural development</td>
</tr>
<tr>
<td>3. Natural ecosystems</td>
<td>13. Conclusions</td>
</tr>
<tr>
<td>4. Genetic resources</td>
<td>Appendices</td>
</tr>
<tr>
<td>5. Industrial plantations</td>
<td>A. Research agencies, institutions &amp; organizations</td>
</tr>
<tr>
<td>6. Environmental uses</td>
<td>B. Bibliography</td>
</tr>
<tr>
<td>7. Abiotic stresses</td>
<td>C. Index</td>
</tr>
<tr>
<td>8. Diseases</td>
<td>D. Glossary</td>
</tr>
<tr>
<td>9. Animal pests</td>
<td></td>
</tr>
</tbody>
</table>

October 27, 2008  
IPC 23rd Session
Lead Chapter Authors

- Poplars & willows in the world - Don Dickmann, Julia Kuzovkina, USA
- Natural ecosystems – Jim Ball, UK +
- Genetic resources – Brian Stanton, USA
- Industrial plantations – John Stanturf, USA
- Environmental uses - Jud Isebrands, USA
- Abiotic stresses - Reinhart Ceulemans/N. Marron, Belgium
- Diseases – Mauritz Ramstedt, Sweden
- Animal pests - Sylvie Augustin, France + John Charles, NZ
- Properties & utilization - John Balatinecz, Canada
- Markets, trends and outlook - Qiang Ma, FAO
- Sustainable rural development - Jim Carle, FAO
- Other chapters - Jud Isebrands, Jim Richardson
Format

- Electronic publication as 1st goal
  - chapters on FAO/IPC website in PDF
  - published as completed, after review
  - illustrations & references
- Individual chapters published as FAO Forestry Working Papers
- Future - CD? Printed book?
- English initially → French, Spanish later
Process

- Overall project supervision - Jim Carle
- Editing/coordination - Jud Isebrands, Jim Richardson
- Chapters written by teams of authors with chapter leads
- Peer review
- Production by FAO
  - Chapters on Internet
  - Chapters as FAO Working Papers
  - CD? Book?
## Revised Schedule

- **May 2004** - prospectus accepted by FAO
- **Dec. 2004** - lead authors recruited
- **2005** – lead author changes, building author lists, chapter outlines complete
- **2006** - writing & review – some chapters in complete draft
- **2007** – writing, review and revision
- **Oct. 2008** – **first chapters available on FAO/IPC website**
- **Dec. 2008** – more chapters available on web, in print as FAO Working Papers
- **Mar. 2009** – most chapters on web & in print
- **July 2009** – project completion
Chapter 2

- ‘Poplars and willows of the world, with emphasis on silviculturally important species’
- Don Dickmann (poplars) and Julia Kuzovkina (willows)
- Almost a book in itself
Chapter 2

• Includes:
  – 144 pages
  – 8 pages references
  – 40 range maps
  – 42 photos & figures
  – ‘proposed taxonomic classification of the genus *Populus*’
  – ‘classification of the genus *Salix* by world region’


<table>
<thead>
<tr>
<th>Section</th>
<th>Taxon</th>
<th>English common name</th>
<th>Notes and synonyms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Abaso</strong></td>
<td><em>P. mexicana</em> Wesmael</td>
<td>Yaqui cottonwood</td>
<td>Monotypic section</td>
</tr>
<tr>
<td><strong>Turanga</strong> (Afro-Asian poplars)</td>
<td><em>P. euphratica</em> Olivier</td>
<td>Euphrates poplar</td>
<td>Includes <em>P. diversifolia</em></td>
</tr>
<tr>
<td></td>
<td><em>P. ilicifolia</em> (Engler) Rouleau</td>
<td>Kenyan poplar</td>
<td>Formerly synonymous with <em>P. euphratica</em></td>
</tr>
<tr>
<td></td>
<td><em>P. pruinosa</em> Schrenk</td>
<td>Desert poplar</td>
<td>Formerly synonymous with <em>P. euphratica</em></td>
</tr>
<tr>
<td><strong>Leucoides</strong> (Swamp poplars)</td>
<td><em>P. glauca</em> Haines</td>
<td>Asian swamp cottonwood</td>
<td>Formerly <em>P. wilsonii</em></td>
</tr>
<tr>
<td></td>
<td><em>P. heterophylla</em> Linnaeus</td>
<td>Swamp cottonwood</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>P. lasiocarpa</em> Oliver</td>
<td>Heart-leaf poplar</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 4

• ‘Genetic Resources’
• Brian Stanton + Larry Smart
• Contributions from Bel, Can, Chi, Ind, Ita, Kor, Ser, Tur, USA +
• Poplar section completed, awaiting willow section
• Available on web by December 2008
Chapter 6

• ‘Environmental Uses’
• J.G. Isebrands
• Discussed in subsequent presentation this afternoon
Chapter 7

- ‘Abiotic stresses’
- Nicolas Marron, Reinhart Ceulemans & 8 others
- Covers edaphic (water deficit, desertification, salinity, soil nutrient status) and atmospheric (O₃, CO₂, increased temperature, photoinhibition) stresses
Chapter 7

• Includes:
  – 69 pages text + 13 pages figures
  – 22 pages of references
  – comprehensive annotated list of studies
  – glossary
### Populus species

- **Natural conditions**
  - *P. deltoides*
  - *P. trichocarpa*
  - *P. alba*
  - *P. tremula*
  - *P. tremuloides*
  - *P. fremontii*
  - *P. balsamifera*
  - *P. angustifolia*
  - *P. euphratica*
  - Other *P.* species

- **Controlled conditions**
  - *P. deltoides x P. nigra*
  - *P. trichocarpa x P. deltoides*
  - *P. tristis x P. balsamifera*
  - *P. koreana x P. trichocarpa*
  - Other *P.* hybrids

- **Plantations**
  - *P. deltoides*
  - *P. trichocarpa*

### Populus hybrids

- **Natural conditions**
  - *P. deltoides* and *P. nigra*
  - *P. trichocarpa* and *P. deltoides*
  - *P. Tristis* and *P. balsamifera*
  - *P. koreana* and *P. trichocarpa*
  - Other *P.* hybrids

- **Controlled conditions**
  - *P. deltoides* and *P. nigra*
  - *P. trichocarpa* and *P. deltoides*
  - *P. Tristis* and *P. balsamifera*
  - *P. koreana* and *P. trichocarpa*
  - Other *P.* hybrids

### Salix species and hybrids

- **Natural conditions**
  - *S. gooddingii*
  - *S. nigra*
  - *S. viminalis*

- **Controlled conditions**
  - *S. gooddingii*
  - *S. nigra*
  - *S. viminalis*
  - Other *S.* species
  - *S.* hybrids
Chapter 9

- ‘Insects and other pests of willows and poplars
- John Charles, Sylvie Augustin, Ludovic Nef
- Core text + contributed text boxes on specific pests
- Close to final version just received
- Look for availability in next few months
Chapter 10

• ‘Properties, Processing and Utilization’
• John Balatinecz
• Contributions from Belgium, China
• Draft completed and reviewed
• Final revision underway
• Available by December 2008
Acknowledgements

• Contributors
• Lead chapter authors
• Reviewers
• FAO – Jim Carle, Alberto DelLungo, Roberto Cenciarelli
Thank you!

www.fao.org/forestry/ipc/p-w_book/Ch2
www.fao.org/forestry/ipc/p-w_book/Ch7