

# Biofuels-related activities of the European Technology Platform Plants for the Future



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# **ETP "Plants for the Future"**

<http://www.epsoweb.org/Catalog/TP/>

- sets out a vision for European plant biotechnology and genomics research
- identifies strategic priorities, main activities and a road map
- contributions to high quality, healthy and affordable food, to agricultural and environmental sustainability and to the competitiveness of the agrifood, forestry and related industries

# ETP "Plants for the Future"

- stakeholder initiative:
  - scientists, industry, agriculture
- Strategic Research Agenda (SRA) June 2007
- identifies five challenges for Europe's society and economy
  - to which the plant sector can contribute
- Healthy, safe and sufficient food and feed
- **Plant-based** products – chemicals and **energy**
- **Sustainable** agriculture, forestry and landscape
- Vibrant and competitive **basic research**
- Consumer choice and governance

# SRA Challenge 2:

## Plant-based products – chemicals and energy

- Biochemical production
  - i.a. Fibres – improvement, cell wall biosynthesis, novel fibres
- **Bio-energy production**
- **Enabling research** for plant based products

# Bio-energy production

- Deliverable 1:
- Production of biomass
  - first-generation bio-energy crops
  - **tree crops for bioenergy,**
  - **dedicated energy crops** for lignocellulosic feedstocks,
  - increase yield and improved efficiency
  - improved composition of lignocellulosic feedstocks for biofuel production

# Bio-energy production

- Deliverable 2:
- Innovative concepts for whole-plant utilisation



# Bio-energy Action Plan 2007-2012

- **genetic diversity** established for selected energy crops
- **sequencing** of selected energy crops completed
- transformation technology developed for each of the key energy crops
- plant physiology and **yield screens** developed

# EPSO- the organisation behind the Technology Platform

European Plant Science Organisation

Mission:

Create a future for plant research in Europe

- 57 institutional members
- more than 168 research institutes,  
departments and universities
- from 26 European countries
- supported by industry



# EPSO activities

- position paper: "Sustainable Future for Bioenergy and Renewable Products"
- workshop "Biofuels", London, May 2008
- white paper on biofuels
  - as a result of workshop

# EPSO position paper



European Plant Science Organisation  
[www.epsoweb.org](http://www.epsoweb.org)

## *POSITION PAPER*

### **Sustainable Future for Bioenergy and Renewable Products**

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Venice, 21 September 2007 – With the 2007 report from the Intergovernmental Panel on Climate Change (IPCC) stating the need to reduce the anthropogenic emission of greenhouse gases from fossil fuels and the directive of the European Community calling for biofuels to meet 5.75 percent of European transport needs by 2010, and 10 percent by 2020, an urgent need for action in plant sciences arises to obtain an economically viable and sustainable production of biofuels, renewable chemicals and materials. While other countries already attribute significant research money to this field (e.g. more than \$800 million in recent projects on biofuels in the USA), Europe still lacks concerted action. In response, EPSO, the European Plant Science Organisation, has established a set of recommendations for how Europe can meet this challenge and provide a basis for integrated approaches towards a future bio-economy. EPSO represents more than 140 academic institutions from 25 European countries with over 20 000 people in plant research.

# EPSO workshop

- organizers:
- Michael Bevan, John Innes Centre, UK  
Rishi Bhalerao, Umea Plant Science Centre,  
Sweden
- 2 days in Central London – Royal Academy, May  
2008
- topics:
  - first and second generation feedstocks,
  - genetics and breeding,
  - production conditions and conversion routes

# EPSO workshop



European Plant Science Organisation  
[www.epsoweb.org](http://www.epsoweb.org)

## *WORKSHOP REPORT*

### **EPSO Biofuels Workshop 28-29 May 2008, London**

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The **EPSO Biofuels** workshop, the fourth in the series of **EPSO** workshops, was focused on bringing together scientists, industrialists and funding agencies to discuss current developments in bioenergy research. The outcome of the meeting will be a white paper, developed by **EPSO** scientists, which will help to integrate research in this field in Europe and promote plant science relevant to bioenergy production. **EPSO** is grateful to Syngenta, SweetTree and the Porter Institute for co-sponsoring the meeting.

Nearly 50 delegates attended the workshop. They represented the key disciplines involved in establishing a viable bioenergy research and development sector in Europe, including chemical engineering, microbiology, economics and social science, plant science, and industry. This broad representation of the different disciplines was an important factor in determining the success and influence of the workshop.

# EPSO workshop



# joint partnering event of the ETPs

**Technology Platform "Plants for the Future"**

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SRA IMPLEMENTATION < [TECHNOLOGY PLATFORMS](#) < [EPSO WORK](#) < [EPSO](#)

**Implementing the Strategic Research Agenda**

**At European level**

- *Under FP7*

**15 September 2008 - Partnering event FP7 calls on KBBE and Biorefinery**

The European Commission published on 03 September 2008 the 3rd call for KBBE and a joint call on Biorefinery. The call has a budget of 57 million Euro targeted at the funding of a limited number of large, multidisciplinary, Collaborative Projects.

[Preliminary information on the biorefinery call](#) 

[Call fiche for the biorefinery call](#) 

As great emphasis is being put on the multidisciplinary nature of the projects which will be funded under this call, four European Technology Platforms SusChem, Plants for the Future, Forest-based sector and Biofuels, active in the four themes covered by the call, are holding a joint brokerage and partnering event on Monday 15 September 2008 (10.00-13.00) at the [Hotel Bloom](#) in Brussels. The aim of the event is to aid the formation of multidisciplinary consortia to submit proposals under the call.

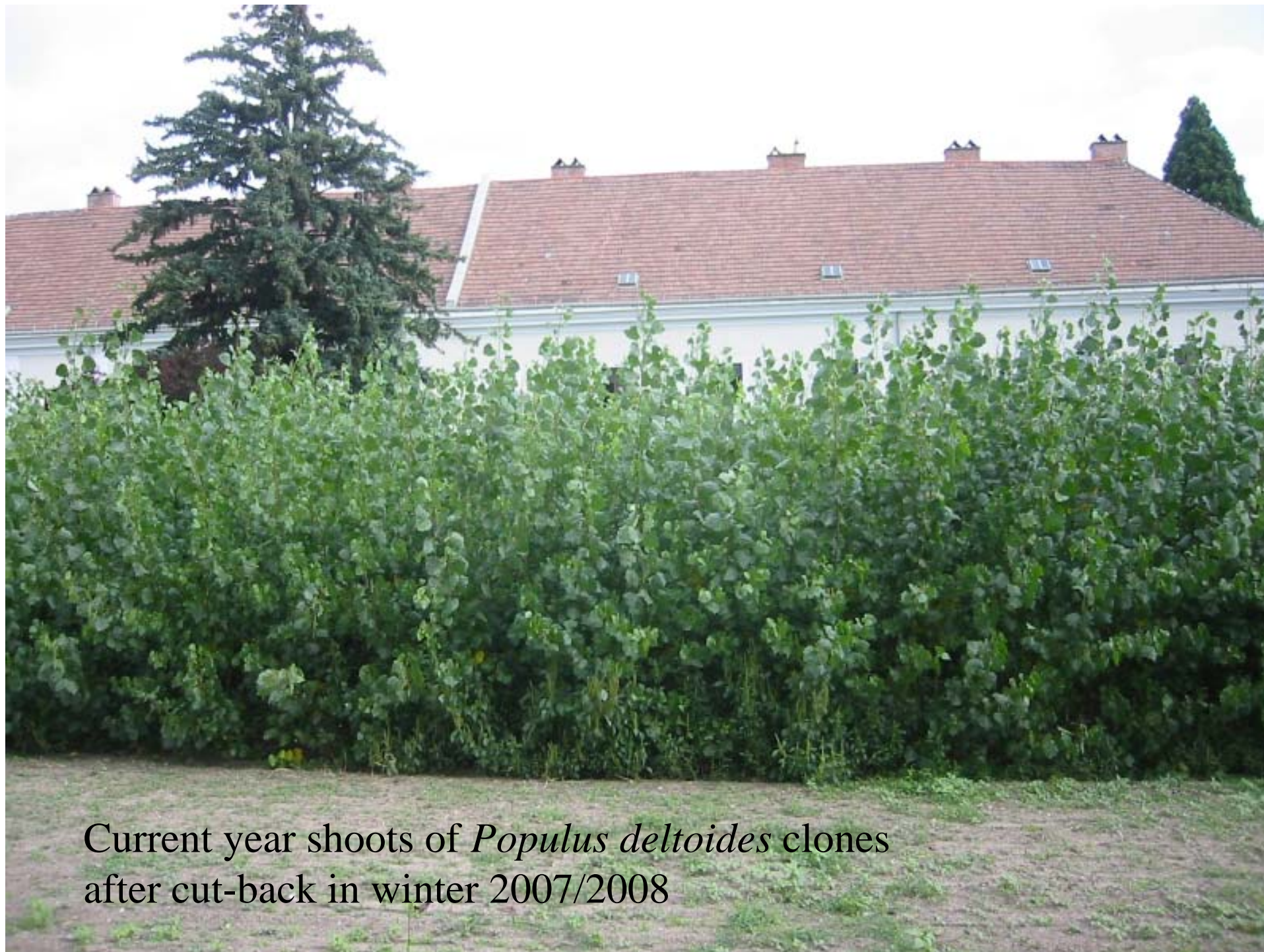
**Implementation of the Strategic Research Agenda of the Technology Platform Plants for the Future**

[At European level](#)

[At multinational level](#)

[At national level](#)





Current year shoots of *Populus deltoides* clones  
after cut-back in winter 2007/2008

# BFW research – clones and varieties

## Biomassegewinnung durch Pappel und Weide im Kurzumtrieb – eine Frage der Sorte

Wilfried NEBENFÜHR

**D**as Angebot an Pappel- und Weidenklonen ist groß, deshalb stellt sich vor jeder Neuanlage die Frage, welche Sorte für die Biomasseproduktion im Kurzumtrieb besonders geeignet ist. Verschiedene Methoden bei der Ernte erfordern unterschiedliche Anlageformen und Umtriebszeiten. Nicht alle Klone verhalten sich dabei gleich.

Pappeln und Weiden gehören botanisch gesehen zur gleichen Familie – den *Salicaceae*. Die Gattung *Populus* ist auf der Nordhalbkugel mit etwa 40 Arten vertreten, drei Sektionen sind auch in Österreich für die Biomasseproduktion von Interesse. Neben *Leuce* (Weiß- und Zitterpappel) sind dies besonders die Sektionen *Aigerios* (bestehend aus Europäischer und Amerikanischer Schwarzpappel) und *Tacamahaca* (Amerikanische und Asiatische Balsampappel). Die meisten der im Handel erhältlichen Sorten sind künstliche Hybride. Kreuzungen der Sektion Balsampappel mit der Sektion Schwarzpappel werden als intersektionelle Hybride

**Tabelle 1:**  
Laut Forstlichem Vermehrungsgutgesetz 2002 dürfen nur diese Pappelsorten in Österreich für forstliche Zwecke vermehrt werden.

Klon	Botanischer Name	Kategorie
Florence Biondi	<i>P. x euramericana</i>	qualifiziert
Jacometti 75 A	<i>P. x euramericana</i>	qualifiziert
Pannonia	<i>P. x euramericana</i>	qualifiziert
Kopecky	<i>P. x euramericana</i>	qualifiziert
I-45/51	<i>P. x euramericana</i>	qualifiziert
Donk	<i>P. deltoides x P. trichocarpa</i>	qualifiziert
Kamabuchi-1	<i>P. nigra x P. maximowiczii</i>	qualifiziert
Rochester	<i>P. maximowiczii x P. nigra</i>	qualifiziert
Oxford	<i>P. maximowiczii x P. berolinensis</i>	qualifiziert
Muhle Larsen	<i>P. trichocarpa</i>	qualifiziert
Androscoggin	<i>P. maximowiczii x P. trichocarpa</i>	qualifiziert