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## Press Release

# CLIB2021: Green light for white biotechnology

**plantdustrial – linking plant and industrial biotechnology**

Cologne, Germany, June 18<sup>th</sup> 2007

**CLIB2021**, the **Northrhine-Westfalian Cluster of Industrial Biotechnology**, has been awarded the first prize in the German research ministry competition “BioIndustry 2021”. Thereby, the efforts of Phytowelt GreenTechnologies GmbH, a founding member of CLIB2021, to establish green biotechnology as support for the chemical industry in processing of sustainable resources has been rewarded eventually. CliB2021 aims at a sustainable development of lead products and core technologies in the field of polymer chemistry and at a strengthened competitiveness of both the chemical industry and the SMEs associated with the cluster. The crucial factor for winning the 60 million Euro endowed competition (of which 20 million Euros will be distributed by the BMBF to CliB2021) is the excellent and strong network activity of the participants and the broad knowledge in plant biotechnology, fermentation and chemical engineering that benefits all partners evenly.

As the only ag-biotech company in the cluster, Phytowelt brings in its competence to exploit tailor-made plant raw materials for the requirements of the chemical industry. *“It is a long known fact that plants can produce many raw materials that until now have only be produced commercially by using petrochemical means.”* explains Peter Welters, CEO of Phytowelt. *“As plant specialists we can show our partners in the cluster completely new ways of sustainable and ecologically sound production of chemical raw materials and precursor compounds and help to develop them until they have reached market maturity. As founding member of CLIB2021 we see our task in opening up the potential of plants for white biotechnology and enable the use of an industrial biotechnology over the whole value chain.”*

The aim of the cluster is the development of intermediates and technologies for polymer chemistry. Many of the key precursors that are until now derived from petrochemistry can be produced either directly or by simple enzymatic reactions from renewable resources like wood, maize or sugar beet. The cooperation of plant biotechnology, microbiology and chemistry can develop the optimal combination of starting material, processing, and purification in order to find the best ecological solution for a sustainable production of polymers. Dr. Andreas Müller, research director at Phytowelt GreenTechnologies GmbH comments: *“The present approach in considering only microbiological enzymes, completely disregards that plants possess the best tools to change and process their own raw materials. With our **phytomining** technology we aim to push forward the use of this valuable source and to integrate microbiologically produced plant enzymes in chemical production processes.”*

Further information on the cluster can be found at [www.clib2021.com](http://www.clib2021.com).

**Phytowelt GreenTechnologies** is a worldwide company whose core business is agricultural science and plant biotechnology.

Our tissue culture and genetic engineering know-how assists our clients' plant improvement R&D. For example, we can modify the amount, the quality or the composition of different compounds in a plant for sustained production of renewable primary products or alter other features like the morphology or the colour of flowers. Especially, our core competence - **somatic hybridisation** - is used to generate improved plants for conventional variety registration.

Phytowelt GreenTechnologies has mastered key biotechnologies such as *in vitro* cultivation of plants, cell fusion (somatic hybridisation), cryopreservation, transformation technologies as well as plant analysis and molecular marker assisted breeding (**ISTR**).

Our ability to **link plant science and industrial biotechnology** is reflected in our newly created department "Plant-dustrial Services" which supports the chemical industry. For example, through "**phytomining**", we identify, isolate and express genes encoding plant enzymes to be introduced into microorganisms to provide new enzyme activities for fermentation processes.

Another key capability involves the **transfer of knowledge and technology**. We provide plant biotechnology studies and scientific consultancy, assist our clients in finding appropriate partners for their projects and, as an external partner, offer services in project coordination and in the organisation of plant biotechnology congresses and exhibitions.

Phytowelt GreenTechnologies was founded in January 2006 as a merger of **Phytowelt GmbH**, and **GreenTec GmbH**, which originated as a spin-off company from the Max Planck Institute for Plant Breeding Research in Cologne in 1997. The CEO is Dr. Peter Welters. The head office is based in Nettetal, whereas the R&D facilities are located in the premises of the Max Planck Institute for Plant Breeding Research in Cologne. Shareholders of Phytowelt GreenTechnologies are the directors and leading scientists of the institute.

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