Press Release – Science

Ghent – September 24, 2008

VIB Poplar Research Gains International Recognition

Ghent –VIB gains international recognition for its poplar research program thanks to a considerable financial injection of 1.6 million dollar from Stanford University, the world-renowned American research university. The research contributes to the development of sustainable 'second generation' biofuels. VIB is working on trees with a modified wood composition that renders them more suitable for the production of bio-ethanol.

International Recognition for Poplar Research

By now, VIB research on trees with reduced lignin quantity, destined for the production of bio-ethanol, has entered the public eye. Currently, however, apart from working on trees with less lignin, researchers intend to produce trees with modified lignin, since these have proven to cause lesser interference with the bio-ethanol production process. To this purpose, the researchers have now been granted 1.6 million dollar, to be spread over three years, from the American Global Climate and Energy Project, managed by Stanford University. Sustainable biofuels, such as poplar ethanol, may play an important part in fighting global climate warming.

In a Nutshell: Modified Poplars as Source for Bio-Ethanol

VIB is developing trees with a modified wood composition that makes them more suitable for bio-ethanol production. Biofuels can make a valuable contribution to the environment. Still, there has been quite some criticism on the 'first generation' biofuels, such as bio-ethanol gained from mais or biodiesel from colza. These biofuels still need relatively much energy to produce and are, in addition, competing with food production.

As a source for biofuel, wood has a far greater potential, and it can be put to use for the so-called **'second generation' biofuels.** Despite their fast growth, poplars barely require energy or fertilizers, being able to grow on marginal grounds that do not qualify for food production. Today, however, it remains relatively difficult to produce bio-ethanol from wood in an efficient manner. Of particular concern is the presence in wood of the adhesive lignin, interfering with the first step in the conversion to bio-ethanol. In order to convert wood into bio-ethanol more easily, VIB researchers are adopting two strategies: reducing the quantity of lignin, on the one hand, and modifying its composition, on the other hand. Glasshouse tests have already demonstrated that the first strategy results in an increase of 50 percent in bio-ethanol. The second strategy is now getting a solid financial boost, and it will soon become clear whether this strategy can equally lead to a more sustainable production of second generation biofuels.

Note for the editor
VIB has recently opened an extensive background file on its website. You can now access more background information about biotechnology, biofuels, genetically modified poplars, and legislation on genetically modified organisms. We kindly invite you to take a look at www.vib.be/populier.

Heading the research group Bio-energy in the VIB department Plants Systems Biology, UGent (managed by Dirk Inzé) is **Wout Boerjan**. (for more information, please see: www.vib.be/Research/EN/Research+Departments/Department+of+Plant+Systems+Biology/Wout+Boerjan)

VIB, the Flanders Institute for Biotechnology, is a non-profit research institute in the life sciences. Some 1100 scientists and technicians conduct strategic basic research on the molecular mechanisms that control the functioning of the human body, plants, and micro-organisms. Through a close partnership with four Flemish universities – Ghent University, the Katholieke Universiteit Leuven, the University of Antwerp, and the Vrije Universiteit Brussel – and a solid investment program, VIB unites the forces of 65 research groups in a single institute. Their research aims at fundamentally extending the frontiers of our knowledge. Through its technology transfer activities, VIB strives to convert the research results into products for the benefit of consumers and patients. VIB also develops and distributes a broad range of scientifically substantiated information about all aspects of biotechnology. More info at: www.vib.be.

After more than twenty years of uninterrupted growth, **Ghent University** is now one of the most important institutions of higher education and research in the Low Countries.Ghent University yearly attracts over 30,000 students, with a foreign student population of over 2,200 EU and non-EU citizens. Ghent University offers a broad range of study programmes in all academic and scientific branches. With a view to cooperation in research and community service, numerous research groups, centres and institutes have been founded over the years. More info: www.UGent.be

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