

## Butalco announces it is to produce its first cellulosic ethanol in summer 2010

This summer, Butalco will use its proprietary new yeast technology to produce biofuel from agricultural waste in a pilot plant in Southern Germany. Butalco's new microbial catalysts will enable up to 30% increased yields in cellulosic ethanol production.

Cellulosic biomass, like plant waste materials, contains different kinds of sugars like glucose (C6) and pentoses (C5). Traditionally, yeasts are used in bioethanol production as they can efficiently ferment glucose into ethanol, but they are unable to digest the C5 sugars. "Our new technology now tells the yeast cells to also ferment the C5 waste sugars into ethanol which makes the production of cellulosic ethanol much more efficient and cheaper", says Butalco's co-founder Eckhard Boles. "Together with the new commercially viable enzymes launched last week by the enzyme companies Danisco and Novozymes, Butalco's yeast technology will enable cellulosic ethanol as a competitive alternative to gasoline." The enzymes are necessary to first break the plant biomass into the C6/C5 sugar mixtures. Compared to conventional bioethanol, cellulosic ethanol significantly reduces greenhouse gas emissions. Moreover, as it can be produced from plant waste materials like straw or wood, it does not compete with the production of food and feed.

Butalco will use Hohenheim University's (Stuttgart, Germany) newly built pilot plant for the production of its first amounts of cellulosic ethanol. Last year, Butalco signed a research and development contract with the Institute of Fermentation Technology within the Department of Food Science and Biotechnology at Hohenheim University. The institute has been concerned with questions on the production of bioethanol for almost 30 years. The concept of the plant allows both starch and lignocellulosic based raw materials to be processed.

### About Butalco GmbH

Butalco develops new production processes for second generation biofuels and biochemicals based on lignocellulose. The core technology based on genetically optimised yeasts enables increased yields in bioethanol production and the production of biobutanol. Butalco is currently finalising the technology to use C5/C6 sugars for bioethanol production. Furthermore, Butalco is working together with partners to develop an integrated lignocellulose-based bioethanol/biobutanol production process. The development covers the whole process chain including all production steps from lignocellulose hydrolysis to downstream processing.