

PRESS RELEASE

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Yeast to Replace Raw Materials Based on Oil, limited Plant Resources or Endangered Species

Contribution to journal CHEManager reveals specific examples and models for success

Every day, the manufacturing industry processes and consumes hundreds of tonnes of fine chemicals which are not only extremely expensive, but often are also made from limited resources or endangered species or plants. In many cases, production processes relying on specific yeast strains offer a cheap, resource-conserving substitute. In an article published in the current issue of the trade journal CHEManager, Dr. Klaus Pellengahr of the biotechnology firm Organobalance uses specific examples to explain where yeasts may be used as an eco-friendly and economical alternative.

Last year, Artemisinin – a drug used to treat malaria – became available on the market as a yeast-based product. Also Squalene, among others produced from shark liver oil, could be made using yeast. More than 2,000 tonnes of squalene are ordered annually, demand is estimated to increase by ten percent year-over-year. "Both squalene and other terpenes and terpenoids could be manufactured in yeast-based processes", the article states. These processes not only conserve valuable resources, they also – by contrast to many chemical reactions – run at low temperatures and require reduced energy inputs and production costs.

Biotechnological production of larger quantities for industrial production relies "simply the right yeast strain", Pellengahr writes. Organobalance proprietary collection includes several hundred strains of wild-type yeast, "each with the potential of becoming the producer of a fine chemical in the future".

In this light, a "feasibility study to examine which yeast strain is best suited for solving a chemical synthesis problem looks more promising than ever", writes Pellengahr in conclusion. The current situation is very promising for industrial biotechnology. "The scarcity of natural resources is increasing, demand for alternatives rises." Companies in the chemical, pharmaceutical, cosmetics, or food industries are patenting microbial production processes and secure "their very own production strains".

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