

In this issue

- **Pichia pastoris for manufacture of enzymes and proteins.**
- **Biosurfactant production using *S. bombicola***
- **Magnetically coupled mixers**



Pichia pastoris for manufacture of enzymes and proteins.

This bioreactor line is for the cultivation of *Pichia pastoris* to manufacture enzymes and proteins.

The system is fully closed and automated, consisting of following key elements:

1. 50, 500 and 2x5000 litre bioreactors (total volumes);
2. Stationary CIP/SIP for automated cleaning and sterilization of bioreactors, reactors and connecting pipelines;
3. Circulation sterilizer for sterilization of substrate;
4. Feeding reactors for glycerol and methanol;
5. Connecting heat-insulated pipelines and the group of pneumatically controlled membrane valves.

[Read More](#)

Biosurfactant production using *S. bombicola*

In cooperation with the Institute of Microbiology and Biotechnology of the University of Latvia we are participating in an ERDF project to process used vegetable oils into Biosurfactants through fermentation.

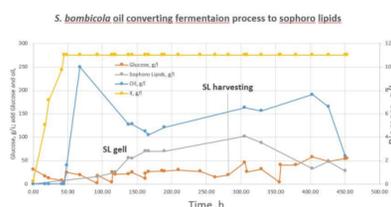
We carry out this process in our [5-liter bioreactor](#).

The yeast *Starmerella bombicola* was used for this purpose to produce biosurfactants – specifically, Sophorolipids. The mixture of two substrates, 50% glucose solution and pure rapeseed oil, were used as feedstock at such a rate as to maintain the concentration of glucose at 30 g/l and oil at 100 g/l in the cultivation media.

We first used fed-batch fermentations to achieve the highest possible concentration of Sophorolipids. We found that at increased biomass concentrations, the biosynthesis of the prodinnoatiouct was hindered. This encouraged us to apply a semi-continuous process, resulting in successful biosynthesis. See the cultivation results in the graph below.

We plan to change the direction of the project to the recycling of automotive waste oil (as part of the lipophilic substrate), and crude glycerol as the hydrophilic substrate. This will enable the technology to be used more widely with better expected profitability, as crude glycerol and automotive waste oil are both relatively cheap raw materials.

[Read More](#)



	Total added, g	Consumed g
Glucose	742	487
Oil	1700	512
Produced, g		
SL		710

Magnetically Coupled Mixers

Our novel magnetically coupled mixers have proven themselves in a wide variety of mixing applications, by providing high purity, high power, low maintenance and robust mixing at a range from 1L - 20 000L production scales.

Our design provides several advantages compared to conventional mechanically sealed mixers:

- Easy installation and handling
- Application in large scale stirred vessels
- Can be mounted as bottom-placed or top-placed
- Reduced power requirements & lower energy consumption

Magnetically coupled mixers and other bioreactor components can be ordered separately as replacements to upgrade or maintain your current bioreactor or for self-assembly.

Check out the video below on our youtube channel for a quick in depth introduction!

[Watch now](#)



Youtube LinkedIn Email Facebook

Our mailing address is:

info@bioreactors.net

Want to change how you receive these emails?
you can [update your preferences](#) or [unsubscribe from this list](#).