



Recycling brewers' spent yeast in innovative industrial applications

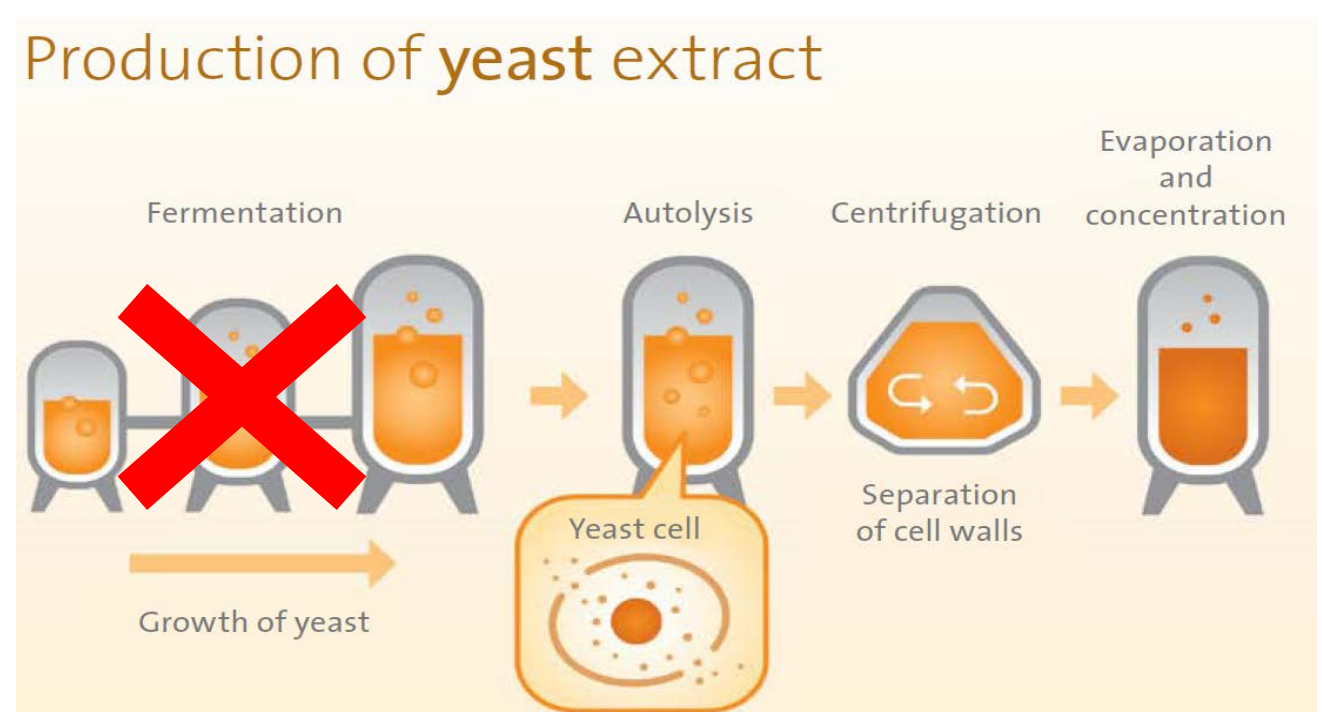


Brewers' spent yeast (BSY) is the second most important by-product of the brewing industry, accounting for nearly 10% of the total by-products generated. For AB InBev this corresponds to a yearly production of approximately 95 000 tons of spent yeast on a dry matter basis. Due to the high content of nutrients present in the yeast it is an attractive industrial co-product and several technologies already exist to turn this by-product into a valuable resource. However, to date its industrial utilization is very limited because of the fast spoilage due to microbiological contamination of BSY.

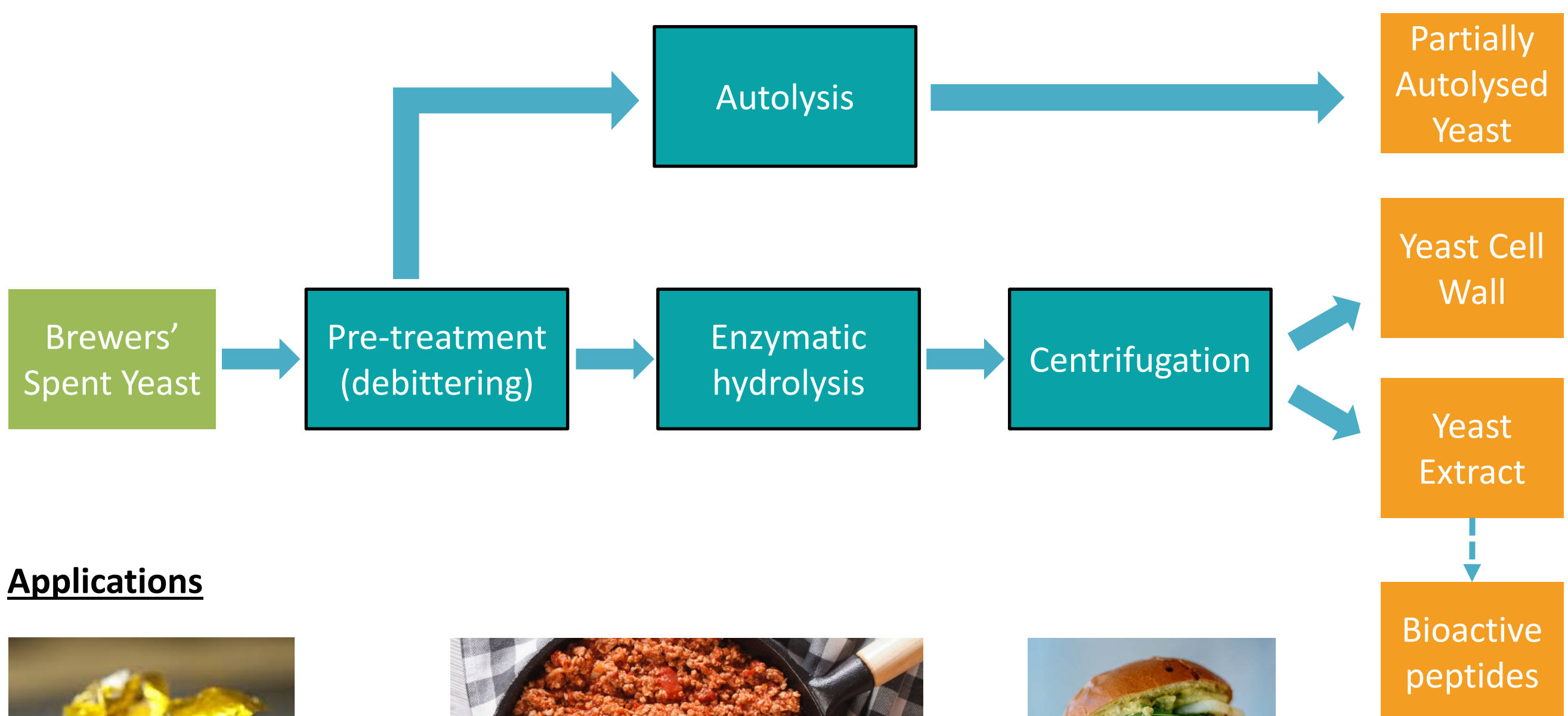
Re-use of spent yeast

The objective of the LIFE YEAST project is to develop a new and innovative method to use BSY as a raw material. Commercially, fresh yeast is grown to further process into other ingredients which have a lot of interesting applications in a **wide variety of industries**, for example flavor enhancer, fermentation booster, nutritional supplement, emulsion stabilizer, fat replacer etc.

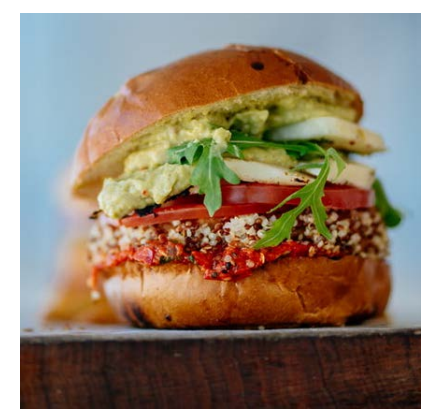
Project LIFE YEAST aims to valorize the BSY and **use it as a resource** for the production of these types of products. By using BSY instead of freshly grown yeast, the first step (growth of the yeast) of the standard production process is avoided.



Development of new products



Applications



PAY	YCW	YE	Active Peptides
Partially Autolysed Yeast: Protein source (50-70%) together with components from YCW	Yeast Cell Wall: Solid separated fraction with high content of prebiotic components	Yeast Extract: Soluble fraction with hydrolysate protein with high nutritional value	Active peptides, extracted from valuable for their application in nutrition and health
Fermentation activator (wine, beer)	Fermentation activator	Food/beverage fortification (+ lysine)	Food/beverage supplementation Antioxidant activity (CHP)
Fish nutrition	Feed: Immunomodulatory effect (b-glucan source)	Microbiological growth (Nitrogen source)	Hypoglycemic activity (active beverages)
	Feed: Pre-biotic effect	Brewer's malt fortification	Hypotensive activity (active beverages)
		Flavoring: taste enhancing power	

Partners

BDi Biotechnology

BDi Biotechnology provides process development and contract production services to the biotech industry to bring complex biological products from bench to reality. In the LIFE YEAST project, their goal was to bring the technology from lab scale to pilot scale.



AB InBev

AB InBev

As the first global beer manufacturer, AB InBev will demonstrate that CYE and YCW can be recycled into the brewery to enhance efficiency of the fermentation process.

VLP Bio

VLP Bio is a biotechnology company that produces VLP (Virus Like Particles) for use as vaccines. They will demonstrate that CYE can be used as nitrogen source in the pharmaceutical fermentation industry.

