

New range of unique multifunctional yeast extracts!



With high levels of proteins, peptides, amino acids and nucleotides resulting in:

- ◆ Increased feed intake/palatability (Figure 1)
- ◆ Increased attractability (Figure 2)
- ◆ Masking of off-flavours
- ◆ High natural content of glutamic acid and nucleotides as well as distinct umami perception

Our Leiber NuTaste® products, based on natural brewers' yeast, are suitable for a wide range of applications and offer: flavour profiles, numerous additional functions and special properties.

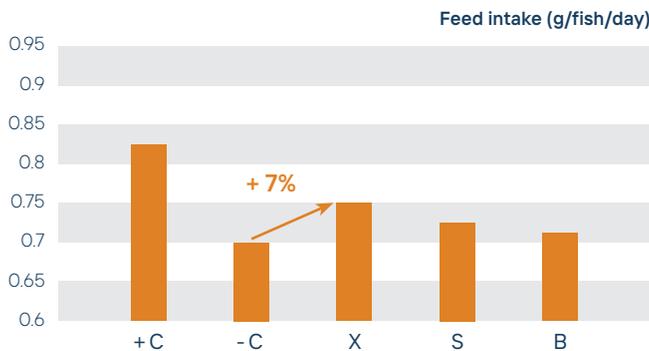


Fig. 1: Effect of yeast extract supplemented diets (-C: low fish meal/FM and fish oil/FO) on feed intake of juvenile rainbow trout (3 tanks per treatment). +C is a positive control high in FM/FO.



Fig. 2: Effect of yeast extract supplemented diets on attractability for shrimp. Bars represent the average number of shrimp feeding on the respective diet over 40 feedings (C = control diet).

Well – established specialties promoting animal health and welfare...

- ◆ **Leiber® Beta-S** Highly-purified β -glucans boosting immune competence
- ◆ **Biolex® MB40** Prebiotic yeast cell wall/MOS improving gut health
- ◆ **Leiber® Beta-S Plus** Combination of **Leiber® Beta-S** and **Biolex® MB40** with synergistic effects
- ◆ **CeFi® pro** Yeast autolysate containing cell walls and highly-nutritious cell contents

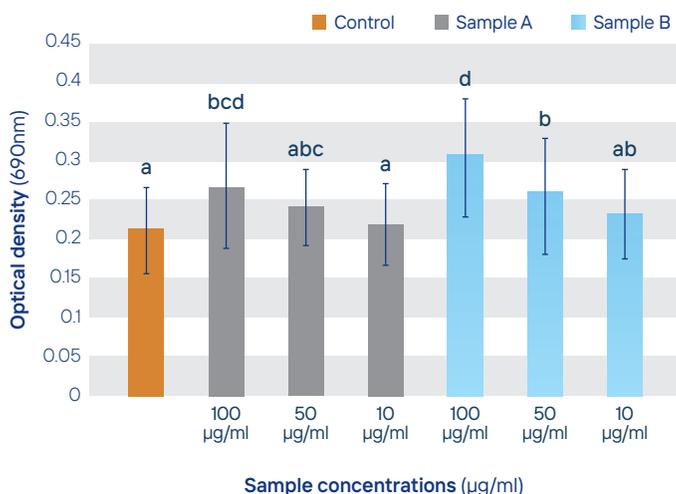


Fig. 3: *In vitro* effect of Leiber® Beta-S (sample B) and a competitor (sample A) on respiratory burst of carp head kidney cells ($n = 3$). Different superscripts indicate a significant difference ($p < 0.05$).

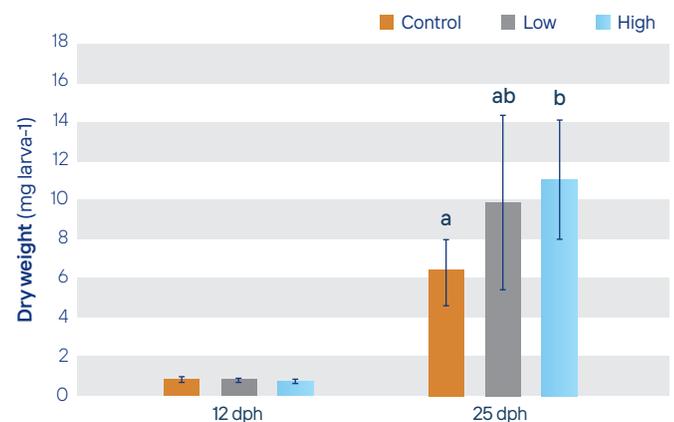
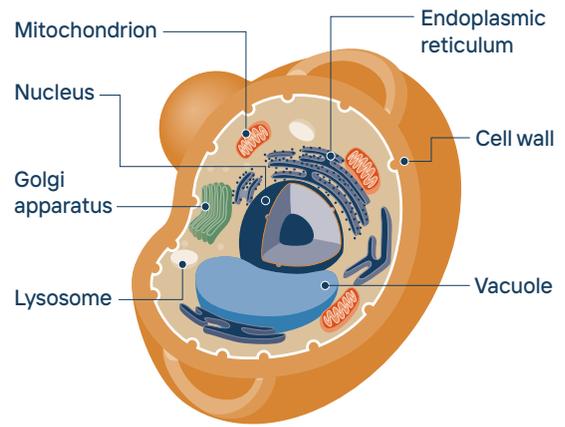


Fig. 4: Effect of CeFi® pro enriched rotifers on growth performance of turbot larvae ($n = 4$). Different superscripts indicate a significant difference ($p < 0.05$).

From Yeast to Taste.

What are Yeast Extracts?

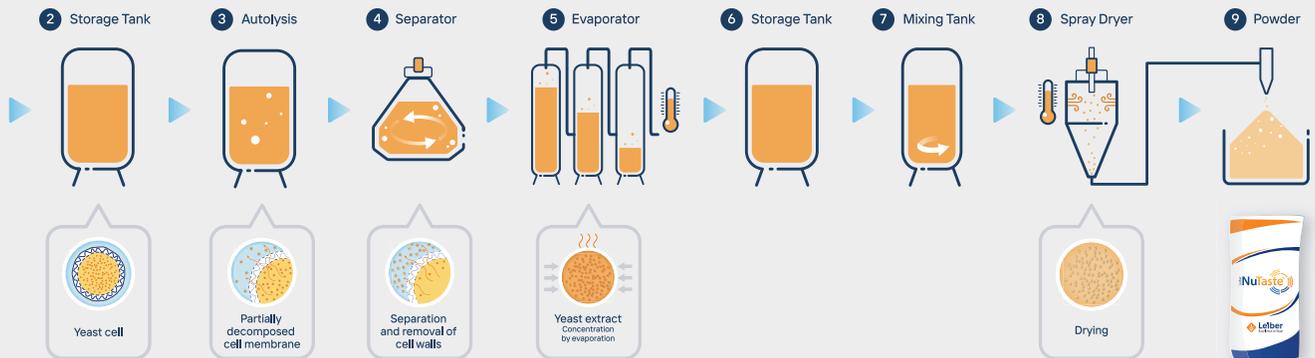
Yeasts are small fungi, consist of only one cell and are therefore also unicellular microorganisms (average cell size 5 to 13 µm, cell wall ca. 200 nm thick, 25 to 40% of overall dry mass). The raw material Brewers' yeast used by Leiber belongs to the genus *Saccharomyces cerevisiae*. Through the use of gentle, self-developed production processes, the soluble cell interior (yeast extract) is released and separated from its natural yeast cell wall compound. Only in this way the individual cell components can optimally unfold their effect.



Schematic representation of Brewer's Yeast cell

Each yeast extract has its own unique taste profile.

This creates a huge variety of taste nuances – alone or as a combination of different yeast extracts. Some yeast extracts are characterised by extra functions like colouring and nutritional effects.



Quality meets Innovation

Yeast extracts are flavour and taste enhancers consisting of a combination of nucleic acids, peptides, polypeptides, amino acids and other constituents. Leiber is specialised in refining natural, pure brewers' yeast. The innovative in-house autolysis process guarantees high-quality, standardised products without any adverse effects (e.g. metallic taste). The hallmarks of our own Leiber R&D labs are:

- 1 individual scientific advice
- 2 new and patented technology
- 3 continuous product quality improvement



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