



# YEAST NUTRIENTS FOR BREWING

Whether you're brewing all-malt or adding adjuncts, yeast health and performance is critical for a successful fermentation and consistency from batch to batch. Nutrient additions are an effective method to ensure yeast health. Servomyces™, YeastLife Extra™ and Yeastlife O™ are the three different yeast nutrition options provided by Lallemand brewing function of wort conditions and objectives.

## SERVOMYCES™

Servomyces™ is an active, naturally zinc-enriched *Saccharomyces cerevisiae* yeast that contains between 50,000-60,000ppm of zinc within its cellular structure. The name Servomyces™ is derived from the fact that the active yeast is added to the kettle as a sacrificial 'zinc-bearing' yeast to serve the chosen fermentation yeast.

All-malt wort should normally provide most of the necessary quantity of nutrients for a successful fermentation. Zinc, however, can still be deficient. Servomyces™ is added at the end of the boil to inactivate the yeast while keeping the zinc in the cellular matrix. The zinc derived from Servomyces is therefore considered to be more bioavailable compared to the addition of mineral zinc.

Servomyces™ is highly recommended for propagation and repitching, and can be used as a 'yeast insurance' to ensure beers will ferment and attenuate to your expectations. Since zinc is necessary as an enzymatic cofactor in the last step of alcohol production, it is highly encouraged to use Servomyces™ for high gravity fermentations.



## YEASTLIFE EXTRA™

YeastLife Extra™ is a complete nutrient blend containing nitrogen, amino acids, minerals (Zn, Mg, Ca) and vitamins. As a balanced nutrient formulation, YeastLife Extra™ has a wide range of applications related to stress caused by nutrient deficiency. If yeast are nutritionally deprived, this can result in partial fermentations, leading to off-flavors and other detrimental effects. YeastLife Extra™ provides all-around nutrition to ensure healthy yeast cells at each generation, thus minimizing off flavors, reducing diacetyl faster and generally promoting a more efficient fermentation. The use of yeastlife may save breweries time and money through increased fermentation efficiency and consistency.



## YEASTLIFE O™

YeastLife O™ is a 100% organic source of nitrogen suitable for organic fermented beverages. Its unique formulation of different yeast autolyzed fractions supplies well-balanced nutrients for yeast. It is a source of highly bio-available amino acids and peptides, mannoprotein fraction which contribute to mouthfeels and micronutrients such as vitamins and minerals. All contributes to cleaner and more reliable fermentations. YeastLife O™ is a robust and nutritionally diverse fermentation aid.



## IMPROVED PERFORMANCE IN ALL-MALT WORT

Since all-malt wort is rich in nutrients, little advantage is seen in the first generation (Figure 1), but when repitching the effect of nutrient additions becomes more pronounced with faster and more consistent fermentations observed with Servomyces and Yeastlife Extra (Figure 2).

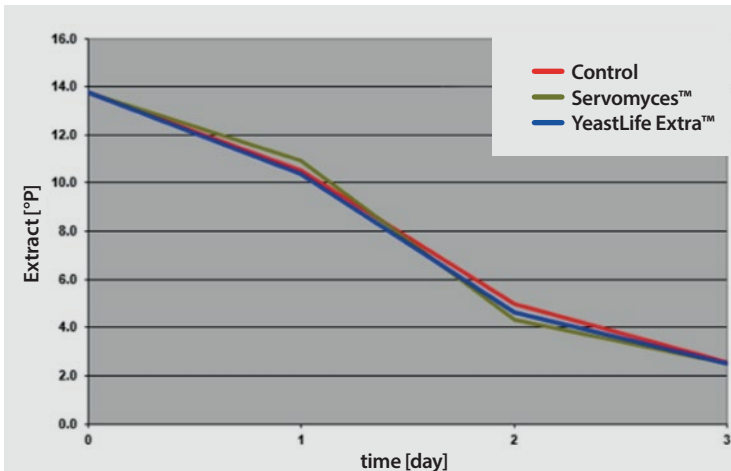


Figure 1: All-malt wort - Generation 1

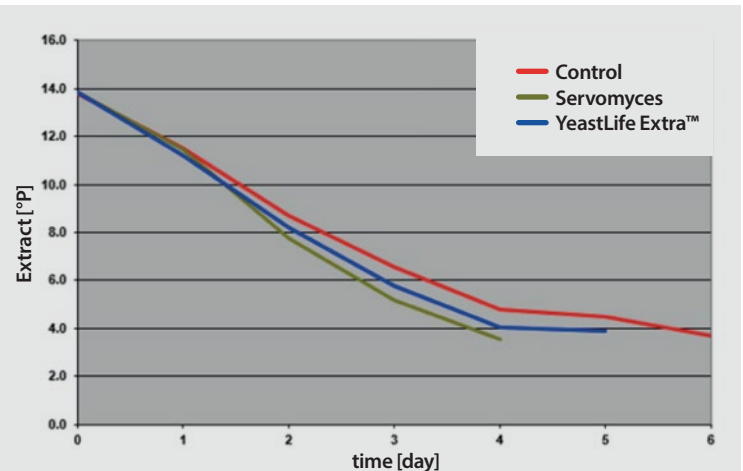


Figure 2: All-malt wort - Generation 8



# YEAST NUTRIENTS FOR BREWING

## IMPROVED PERFORMANCE IN HIGH GRAVITY ADJUNCT WORT

Nutrition addition will also improve fermentation speed and attenuation in high gravity adjunct wort. Faster fermentations and greater attenuation is seen in the first generation when using Servomyces™ and YeastLife Extra™ (Figure 3) and these benefits become more pronounced when repitching for several generations (Figure 4).

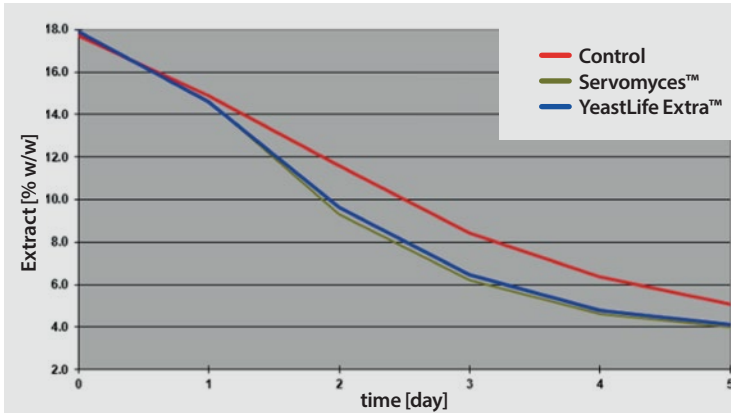


Figure 3: High gravity, high adjunct wort - Generation 1

Contains 60% malt extract 40% high maltose corn syrup

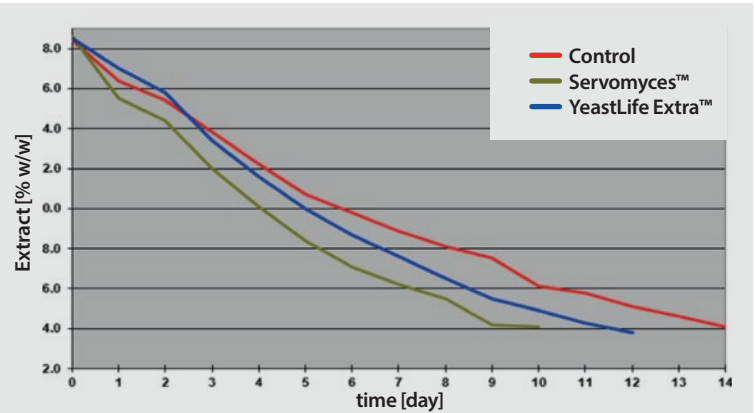
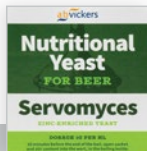


Figure 4: High gravity, high adjunct wort - Generation 8

## QUICK REFERENCE TABLE



			
<b>Description of products</b>	- A pure strain of active brewing yeast enriched in Zinc, with higher efficiency than mineral zinc for fermenting yeast.	- Complex nutrient blend containing organic and inorganic nitrogen, minerals (ZN, Mg, Ca) and vitamins.	- 100% Yeast autolysates blend to provide bioavailable nitrogen (organic nitrogen), vitamins and minerals.
<b>Benefits</b>	- Avoid sluggish and stuck fermentation - Improve yeast sedimentation	- Avoid sluggish and stuck fermentation - Support adjunct and high gravity brewing	- Avoid sluggish and stuck fermentation. - Avoid off flavors - Improve mouthfeel
<b>When to use?</b>	- Re-pitching - Propagation - High gravity brewing	- Low nutrient wort/ high adjunct rates - Poor/variable quality malt - Stuck fermentation/high stress environment	- High gravity sugar fermentations (e.g. hard seltzer, cider and mead) - To ensure clean and more reliable fermentation - Organic fermented beverage applications - Low nutrient wort/ high adjunct rates
<b>Application</b>	Add to kettle about ten minutes before the end of boil.	Add to the kettle at the end of boil, to the whirlpool, or in line to the wort main.	Add to the kettle at end of boil, or dissolve in water prior to dosing in-line during transfer to the fermenter.
<b>Dosage</b>	1-2 /hl	4 to 15g/hl	30- 250 g/hl depending on brewing application.