



NUTRI²™ ORGANIC YEAST NUTRIENT

A YEAST NUTRIENT SUPPLEMENT FOR USE IN HARD SELTZER SUGAR FERMENTS

DESCRIPTION:

Hard seltzer is frequently made by fermenting simple sugars (cane sugar, invert sugar, dextrose, etc.) to produce a neutral alcoholic base that is then flavored and carbonated. Several challenges need to be addressed to produce fully fermented bases in a reasonable time frame from sugar substrates that are very low in nutrients. Without intervention, sugar fermentations are slow, unpredictable, and differ significantly from malt-, fruit-, or grape-based fermentations.

Yeast require a balance of vitamins, minerals, survival factors and nitrogen in addition to an energy (sugar) source to properly grow and survive. Malt- and fruit-based ferments typically have ample amounts of nutrients, but sugar-based ferments are nutrient deserts and supplementation is essential for yeast health and viability.

Nitrogen is one of the most important yeast nutrients. Yeast use assimilable nitrogen to synthesize cellular proteins, enzymes, and nucleic acids. Without adequate nitrogen, fermentation slows because yeast cannot maintain their cell function or reproduce.

NUTRI²™ is a Highly Specialized Yeast Nutrient - NUTRI² was developed after years of research and many trials. NUTRI² provides the optimal combination of 100% natural yeast derived amino acids (organic nitrogen), peptides and micronutrients to achieve the best kinetic and sensory outcomes during alcoholic fermentation.



BENEFITS & RESULTS:

- **Decreases fermentation time** and promotes complete (dry) ferments.
- Compatible for use in USDA organic labeled products. **OMRI listed.**
- Contains 100% natural yeast-derived **micronutrients** such as **vitamins** (thiamin, biotin, pantothenic acid) and minerals (magnesium and zinc) which contribute to cleaner and more reliable fermentations.
- Provides **cleaner sensory outcomes** when compared to diammonium phosphate (DAP) and other nutrient formulations.
- Delivers **100% natural organic nitrogen in the form of highly assimilable amino acids** and contains more yeast assimilable amino acids than other yeast nutrients (see *Figure 1 below*).

ASSIMILABLE AMINO ACIDS

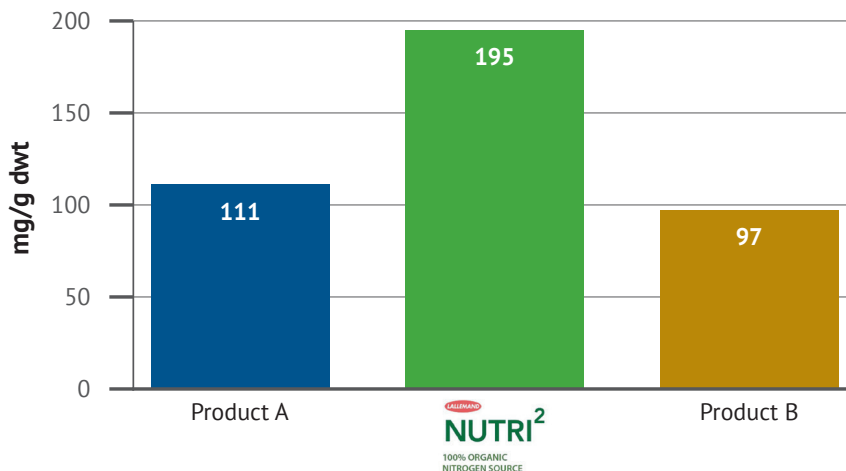


Figure 1: **NUTRI²** has the highest level of bio-available amino acids compared to competitor brands.



DOSAGE INSTRUCTIONS:

Use NUTRI² at the beginning of fermentation to promote a healthy yeast population throughout fermentation. NUTRI² can be used as the sole yeast nutrient but is more effective when incorporated into a fermentation protocol that includes proper yeast selection, yeast dose rate, and yeast rehydration using a rehydration nutrient (GO-FERM PROTECT EVOLUTION™). See dosage recommendations below.

HARD SELTZER SUGAR FERMENTATION DOSAGE RECOMMENDATIONS*				
Starting Sugar Concentration	Target % ABV	VI-A-DRY BOSS™ Yeast	GO-FERM PROTECT EVOLUTION™ (Yeast Rehydration Nutrient)	NUTRI ² ™ (Fermentation Nutrient)
≤ 119 g/L	≤ 7 %	150 g/hL	190 g/hL	200 g/hL
120 g/L – 220 g/L	8-12%	250 g/hL	315 g/hL	350 g/hL
≥ 221 g/L	≥ 13 %	350 g/hL	440 g/hL	500 g/hL

* These dosage recommendations are based on data collected from in-house and academic trials and feedback from customers. We strongly suggest using these recommendations as a starting point and running trials to optimize your recipes to best fit your needs.

INSTRUCTIONS FOR USE:

Re-suspend NUTRI² in 10x its weight of water, ensure it is well mixed with no clumps, and add to sugar solution. If NUTRI² is added to the boil some vitamins may be inactivated but nitrogen (amino acids) and minerals are relatively stable and there should be no negative impact if heated. Using GO-FERM PROTECT EVOLUTION during yeast rehydration will supplement inactivated vitamins lost during heating.

Refer to Scott Labs’ “Hard Seltzer Fermentation Best Practices” and “Hard Seltzer/Low Nutrient Sugar Fermentation Quick Guide” documents for additional information and protocols.

TECHNICAL SPECIFICATIONS:

MICROBIOLOGICAL SPECIFICATIONS:

Dry matter	> 93 %
Lactic bacteria	< 10 ³ CFU/g
Acetic bacteria	< 10 ³ CFU/g
Coliform	< 10 ² CFU/g
Molds	< 10 ³ CFU/g
Yeast	< 10 ² CFU/g
<i>E. coli</i>	Absent in 1 g
<i>S. aureus</i>	Absent in 1 g
<i>Salmonella</i>	Absent in 25 g

HEAVY METALS SPECIFICATIONS:

Lead	< 2 mg / kg
Mercury	< 1 mg / kg
Arsenic	< 3 mg / kg
Cadmium	< 1 mg / kg

PACKAGING & STORAGE:

10 kg cartons. Store in a cool, dry area away from direct sunlight and strong odors. Under these conditions, the shelf life is four years if the original packaging is intact.