

# DISTILAVITE®

## How to get a successful fermentation

Lallemand Craft Distilling

During the process of alcoholic fermentation, yeast, which is a complex living organism, is subjected to various stressors: temperature, ethanol, pH and organic acids, to name a few. In order for a successful fermentation, yeast needs a balanced nutrient package which will maximize its potential to deliver high yield and a consistent congener profile.

The primary nutritional need of yeast is **nitrogen**. Nitrogen is naturally present in all feedstocks used to produce spirits however often the natural content is not sufficient or the yeast simply cannot uptake efficiently if at all.

Yeast can uptake ammonium ions, small peptides and  $\alpha$  amino-acids except proline. These three sources of nitrogen are collectively referred to as YAN: Yeast Assimilable Nitrogen. The Free Amino Nitrogen (FAN) only includes  $\alpha$ -amino acids and small peptides.

Our studies and other independent publications on this topic, demonstrates that a deficiency of nitrogen impacts yeast growth and can cause slow and sluggish fermentation. In order to manage fermentation properly, it is recommended to use nitrogen in an inorganic (ammonium salts and not urea) or organic form.

Organic nitrogen has been shown to be very effective not only for ensuring efficient fermentations but also to develop and enhance the aromatic potential of feedstocks.

Nevertheless, yeast is complex and therefore needs other key nutrients such as **minerals** and **vitamins** which are necessary to support the enzymes involved in biochemical reactions of glycolysis and fermentation.

To ensure that these further key minerals and vitamins are present, we recommend the addition of complex nutrients. These can be added during the rehydration step (using a dedicated nutrient) and/or can be added during fermentation.

Finally, consideration also needs to be made to the type of feedstock used in the production of distilled spirits. There are two types of feedstocks that have to be managed differently; sugar-based feedstocks (molasses, cane-juice, fruit, etc.) and starch-based feedstocks (corn, rye, wheat, barley, etc.).



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Taking into account all the different aspects of the nutritional requirements of yeast during fermentation, Lallemand Craft Distilling has developed a range of nutrients which are tailored to various applications.

**DistilaVite® VM** can be used not only during the rehydration step on starch-based feedstocks but also during fermentation.

**DistilaVite® GN** is a complex nutrient which supplements a broad range of essential minerals and vitamins. For this reason DistilaVite GN can be used both in sugar-based feedstocks and in grain mashes during rehydration and fermentation.

**DistilaVite® HY** is a specific nutrient for grain-based feedstocks. It enables the gradual release of amino-acids during fermentation therefore providing the yeast with consistent nutrition even at the end of fermentation when stress is high.

*For more details about each product please review the dedicated technical data sheet or contact our technical team who will be more than happy to assist you.*

To the best of our knowledge, the information contained here is true and accurate. However, any recommendations or suggestions are made without any warranty or guarantee since conditions and methods of use are beyond our control. This information should not be considered as a recommendation that our products be used in violation of any patents.



Milwaukee, USA. Montreal, Canada. Fredericia, Denmark. Bangkok, Thailand.  
craftdistillers@lallemand.com, www.lbds.com

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