

DISTILAZYME®

Processing aids to achieve your goals

Enzymes are essential processing aids that are required to achieve fermentation rates, yield and completion, in addition to indirectly gaining favourable and desired sensory precursors, when moving toward distillation.

What Exactly are Enzymes?

All biochemical reactions during fermentation are run by or with enzymes (e.g. producing ethanol from glucose), with a total of 12 enzymes being involved. Similar to yeast, there are certain environmental conditions in which enzymes operate best in, as well as conditions that can cause deactivation or “denaturing”, in particular temperature and pH.

Looking at the front end of the process, which from a yeast cell’s perspective is simply initial food preparation, the most frequently used enzyme at this stage is **Alpha Amylase**, commonly called **AA**, due to its ability to:

- Help water reach exposed starch in the cooking process
- Help break down starch to dextrin chains (chains of glucose molecules).

However, if the substrate contains glucans, using a **β-glucanase (BG)** is recommended; in synergy with the **AA**, it increases the degradation of the glucans and optimizes the action of the **AA**.

Moving forward to fermentation, after cooking/mashing, another key enzyme is added, **Gluco-Amylase**, commonly called **GA**. **GA** is the enzyme that generates consumable sugar for yeast and works by breaking bonds of dextrin chains to generate the targeted endpoint: glucose, in addition to also producing maltose and maltotriose as it works down the chain.

Understanding enzyme management in regards to its yeast relationship is a key cornerstone towards efficient fermentations and the generation of expected and desired aromatic profiles. Acknowledging the essential role enzymes have in achieving efficient fermentation, Lallemand Distilling has launched 3 enzymes with the specific purpose to assist Distillers.

- **DistilaZyme® BG:** specifically selected for its ability to break down **β-glucans** in grain spirits production.
- **DistilaZyme AA:** specifically selected due to its ability to reduce viscosity at mashing by hydrolysing starch.
- **DistilaZyme GA:** specifically select for its ability to gradually provide fermentable sugar to yeast.

To the best of our knowledge, the information contained here is true and accurate.

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