

Unlocking the full potential of starch liquefaction with DELTAZYM® HSAA LS and DELTAZYM® VR X

Efficient starch liquefaction ensures complete starch conversion to fermentable sugars which is crucial for maximizing ethanol and alcohol production.

Optimal enzyme performance across a broad range of temperatures and pH levels ensure flexibility in process conditions and reduce sensitivity to variations. Enhanced speed and efficiency of starch hydrolysis, boost the overall fermentable sugar yield and improve the production efficiency.



Enzymatic starch processing

Alpha-amylase breaks down starch into smaller sugars, facilitating the fermentation process in ethanol production, while xylanase aids in the hydrolysis of xylan, a component of plant cell walls, enhancing the overall efficiency of starch processing and liquefaction.

DELTAZYM® HSAA LS

- Heat and acid stable alpha-amylase with working range of **65-105°C** and **pH 4-7** allowing for greater operational flexibility
- superior reduction in mash viscosity, at a much lower dose compared to proven products on the market, **improves the economics** of your process, while **reducing transport costs and waste**
- Gives competitive edge especially under harsh conditions around **pH 4.2 and 4.5**
- Produced with superior **food-grade** production strain

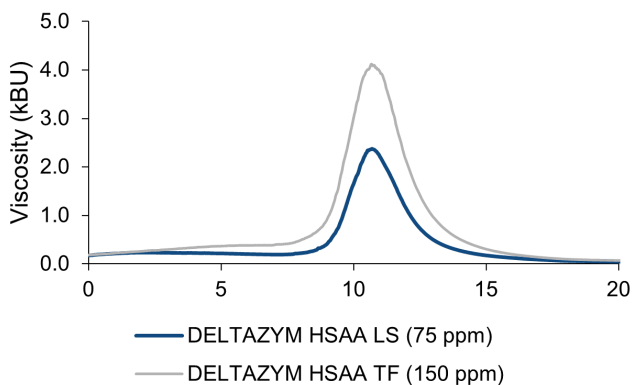


Figure 1 - Viscosity profile during starch liquefaction (30% dry substance wheat flour, pH 4.5) of DELTAZYM® HSAA LS at half dose of DELTAZYM® HSAA TF. Initial, peak and final viscosity are significantly reduced, improving the liquefaction process and economics or allowing for further dose reduction.

DELTAZYM® VR X

- Liquid xylanase with thermal tolerance and broad pH range enables use over a wide range of process conditions for the reduction of mash viscosity
- Strong performance in combination with DELTAZYM® HSAA LS but also as stand-alone product for starch-gluten separation
- Rapidly degrades the arabinoxylans to reduce viscosity in cereal-based mashes at high DMS

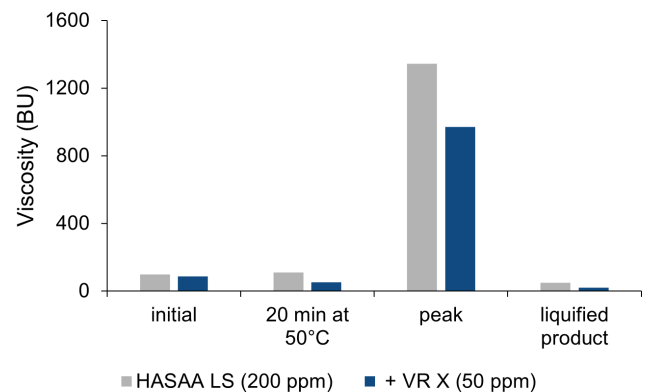


Figure 2 - Effect of DELTAZYM® VR X (50 ppm) on viscosity during starch liquefaction (30% dry substance, wheat flour, pH4.0) using DELTAZYM® HSAA LS (200 ppm).

Your benefits of enzymatic treatment for starch liquefaction & viscosity reduction



Improved efficiency & economics

Fast and complete mash viscosity reduction at low(est) total cost of conversion



Operational flexibility

Exceptionally wide pH and temperature range



Improved environmental impact

Saving transport and energy costs

Precision Starch & Alcohol Processing

DELTAZYM® enzymes are your partners in starch degradation for improved starch separation, fermentation and distillation. Our tailored solutions streamline your process, ensuring efficient production of both food- and technical-grade alcohol. With flexible pH and temperature options, you gain enhanced control for better results.



Explore our entire
product range

