



Enzymes for  
GRAIN PROCESSING



# Grain Processing ENZYMES

Product	Enzyme	Dosage
LiqueStar	Heat Stable Alpha-amylase	100-250 mL/T grain material
SQzyme HSAL	Heat Stable Alpha-amylase	400-800 mL/T grain material
SQzyme BAL	Bacterial Alpha-amylase	100-300 mL/T grain material
Grainzyme FL	Xylanase	100-300 mL/T grain material
Grainzyme NL	Cellulase	50-100 mL/T grain material
Grainzyme Plus	Cellulase & Xylanase	20-100 mL/T grain material
Grainzyme Yield	Xylanase & Beta-glucanase	50-100 mL/T grain material
SQzyme AGL	Glucoamylase	500-800 mL/T grain material
Fermentase HX	Glucoamylase	250-430 mL/T grain material
Fermentase L	Glucoamylase	200-350 mL/T grain material
Pulluzyme	Glucoamylase & Pullulanase	350-600 mL/T dry starch
Pulluzyme Pro	Glucoamylase & Pullulanase	250-450 mL/T dry starch
SQzyme FAL	Fungal Alpha-amylase	200-500 mL/T starch material
SQzyme BTA	Beta-amylase	300-2000 mL/T dry starch
Debranzyme X	Pullulanase	50-300 mL/T dry starch
LiquePhy	Phytase	5-30 mL/T grain material
Fermentase APS	Acid protease	15-50 mL/T grain material
SQzyme PSL	Acid protease	15-50 mL/T grain material

# Performance of Grain Processing Enzyme Preparation

Used Process	Product	Advantages and Benefits
Viscosity Reduction	Grainzyme FL	Excellent viscosity reduction enzyme preparation Works extremely well on wheat, rye, triticale and barley
	Grainzyme NL	
Wet-milling	Grainzyme Plus	NSP enzymes specifically designed for corn wet-milling Enhanced fiber separation efficiency Less production cost, improved production capacity and yield
	Grainzyme Yield	
Liquefaction	SQzyme HSAL	Classical heat-stable alpha-amylase with well product stability  Highly efficient heat stable alpha-amylase Superior viscosity reduction and outstanding liquefying performance High concentration and low dosage
	LiqueStar	
	SQzyme BAL	
Saccharification	SQzyme AGL	Classical Glucoamylase with great performance  Compound Glucoamylase and Pullulanase with great process stability and higher dextrose conversion rate  Classical fungal amylase Great synergy effect with glucoamylase and lower residuals  Extracted high concentration beta-amylase for high maltose syrup production  High concentrated debranching enzymes with low dosage
	Pulluzyme	
	SQzyme FAL	
	SQzyme BTA	
	Debranzyme X	
Fermentation	Fermentase HX	Excellent glucoamylases with amylase activities, which makes lower residuals, higher ethanol yield Extremely high concentration of glucoamylase
	Fermentase L	
Process Enhancement	LiquePhy	Improved transfer efficiency of heat exchanger and higher yeast nutrition  Excellent acid protease with higher yeast nutrition and higher oil yield  Classical acid protease with higher yeast nutrition and higher oil yield
	Fermentase APS	
	SQzyme PSL	

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