

Food & Nutrition
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***SENSE THE
DIFFERENCE***



Brewing Enzymes

*Brenntag Food & Nutrition
Canada*

Brewing Enzymes

COST EFFECTIVE, QUALITY BREWING

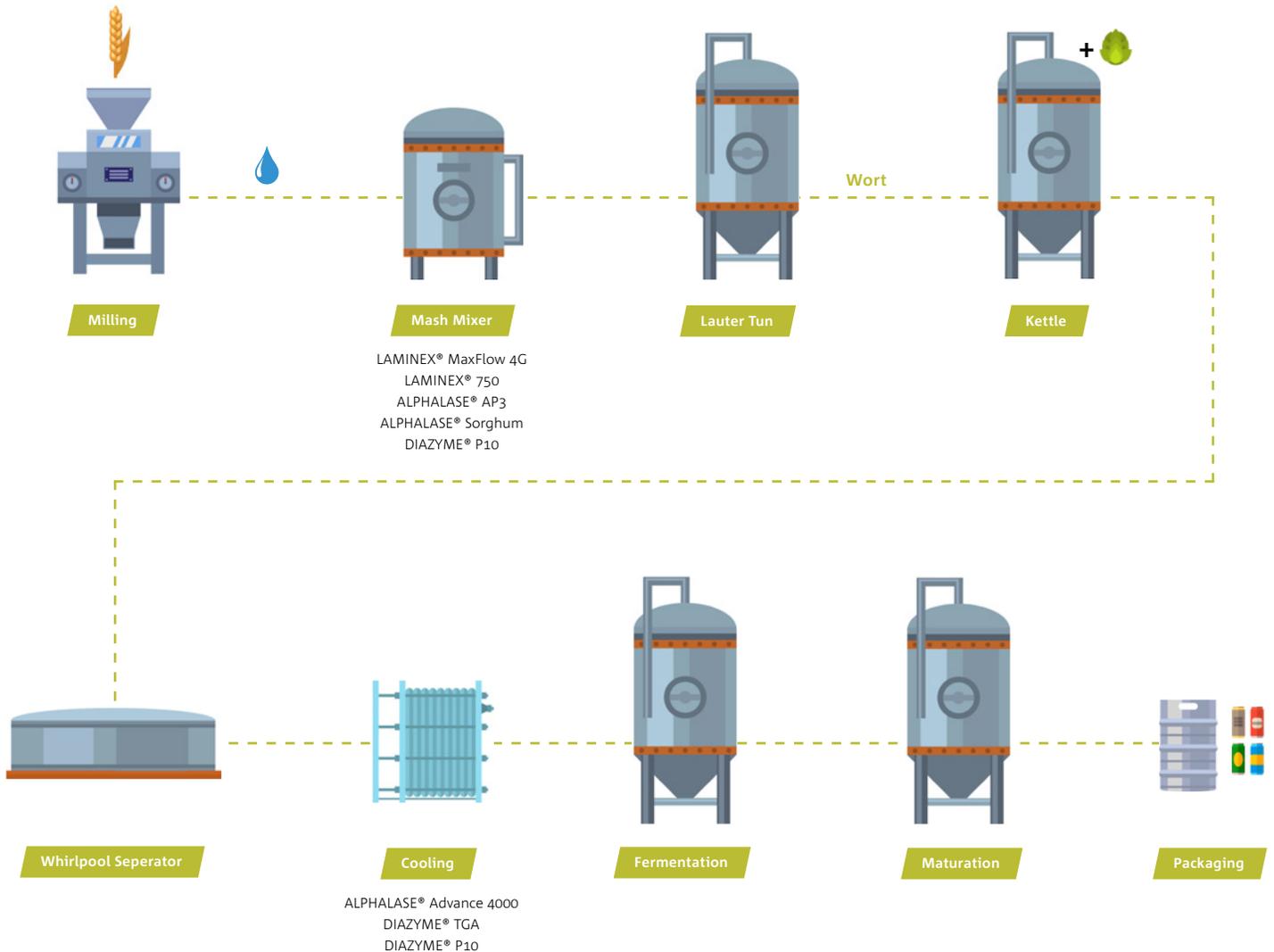
Sharpen your competitive edge with cost-effective production, improved throughput, and relieved processing bottlenecks. Brewing enzymes enable you to achieve more consistent mashing, improve filtration, and optimize the use of variable raw materials.

Brenntag Canada, Inc. is proud to be partnered with DuPont, a global leader in food enzymes, to bring their brewing enzymes to the Canadian market. Brewing enzymes increase starch liquefaction and saccharification, which in turn increase the production of fermentable sugars. The enzymes work to improve filtration, reduce the presence of viscous polysaccharides like glucans and increase free amino nitrogen production (FAN). They can also increase the production of fermentable glucose during the production of light beer and solve any issues caused by utilizing non-traditional grains like sorghum or rye.

ENZYME ADVANTAGES

- Improved yield
- Reduced process time
- Lower lautering times through the lauter tun
- Consistent and reproducible taste profile
- Reduced diacetyl levels
- Eliminate the need for diacetyl rests
- Better utilization of specialty grains, for example rye or sorghum

Request additional documents, samples, and application information for DuPont brewing enzymes!





Authorized
Distributor

DuPont Brewing Enzymes

PRODUCT	ENZYME	USAGE LEVELS	OPTIMAL pH	GMO DERIVED?	TEMPERATURE °C (°F)	NOTES
REDUCING DIACETYL AND ELIMINATION OF DIACETYL RESTS						
ALPHALASE® Advance 4000	α-acetolactate decarboxylase	0.5 to 1.5 mL/hectoliters	4.0–7.8	Yes	15–60 (59–140)	Add into the cooled wort before pitching the yeast. Keeps diacetyl production below the detectable taste threshold. Diacetyl rests are commonly eliminated. Capacity increase.
IMPROVE BEER FILTRATION AND LAUTER TUN OPERATION						
LAMINEX® MaxFlow 4G	β-glucanase and xylanase	0.05 to 0.4 kg/MT grist	4.5–6.5	Yes	35–75 (95–167)	Improves mash separation and beer filtration. Shorter lautering times. Will not affect flavour. Add at mash in.
LAMINEX® 750	β-glucanase and xylanase	0.05 to 0.30 kg/MT grist	3.0–6.5	No	40–95 (104–203)	Works well on high wheat blends. Will not affect flavour. Add at mash in.
HIGHLY ATTENUATED BEERS, FLAVOURED ALCOHOLIC BEVERAGES, AND LIGHT BEERS.						
DIAZYME® TGA	Glucoamylase and amyloglucosidase	At Mash In: 1.5 to 7 kg/MT grist In Fermentation: 1.5 to 3 mL/barrel	3.5–6.0	No	35–70 (95–158)	Increases fermentable sugars. Provides a high degree of attenuation. Can be used for light beers to convert dextrins to fermentable sugars.
DIAZYME® P10	Pullulanase	At Mash In: 0.5 to 2.0 kg/MT grist In Fermentation: 0.03 to 0.12 mL/hectoliters	3.8–5.5 (optimum 4.5)	Yes	40–60 (104–140)	Increases level of fermentable carbohydrates with low impact on sugar composition in the mash.
SPECIALTY GRAINS: SORGHUM AND RYE						
ALPHALASE® Sorghum	α-amylase, β-glucanase and protease	1.25 to 1.50 kg/MT Sorghum	5.0–6.5	Yes	30–70 (86–158)	For up to 100% sorghum brewing. High extract yields and FAN generation. Add during mash in.
ALPHALASE® AP3	α-amylase, β-glucanase and protease	0.1 to 0.5 kg/MT grist	4.5–7.5	No	30–90 (86–194)	Good for high barley blends. Helps reduce viscosity, helps improve starch removal from the barley and increases FAN. Good for under modified malt.
LAMINEX® C2K	Cellulase complex including hemicellulases like xylanase and β-glucanase	0.05 to 0.30 kg/MT grist	3.0–6.5	No	30–75 (86–167)	Good for high rye over 60%.
OTHER ENZYMES						
AMYLEX® 5T	Heat stable α-amylase	0.2 - 0.6 kg/MT grist	5.4–6.5 (optimum 6.0)	Yes	40–110 (104–230)	Add at mash in. Secures efficient starch liquefaction. Can use lower water to grist ratio.
ALPHALASE® NP	Neutral protease	0.1 to 0.3 kg/MT grist	3.0–8.0 (optimum 6.0)	Yes	30–80 (86–176)	Increases soluble protein and FAN. Allows high adjunct (grains) to mash.
DIAZYME® FA	α-amylase, β-glucanase and protease	0.5 to 1.5 kg/MT grist	3.0–7.0 (optimum 5.0)	No	25–60 (77–140)	Deactivated at temperatures above 65°C (150°F). Improves attenuation and can be controlled by raising the temperature. Generates primarily maltose.