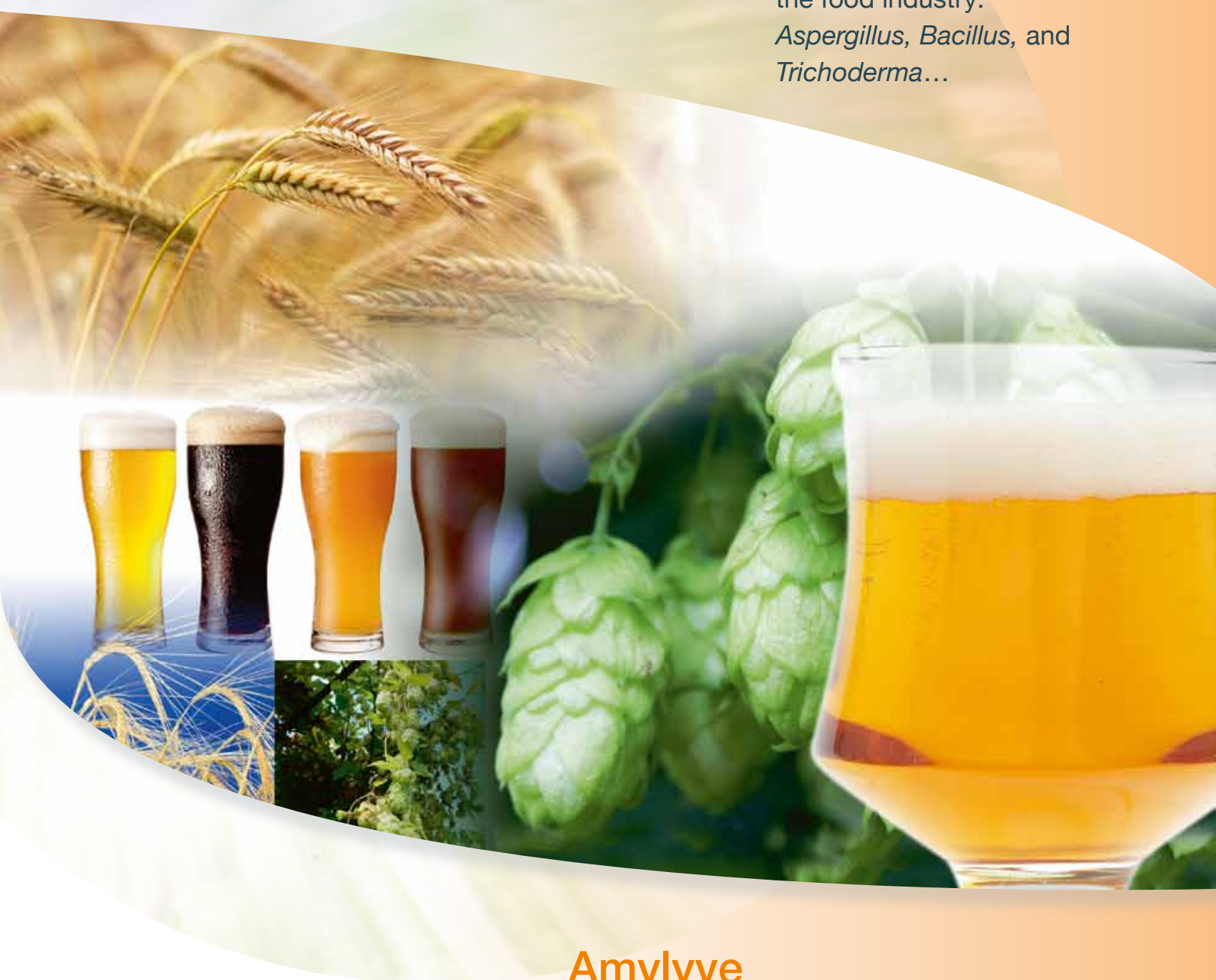


BREWING enzymes

to catalyse YOUR ambition

LYVEN produces enzymes on an industrial scale by Solid State Fermentation on natural substrates (e.g. beet pulp, wheat bran...) using selected strains widely accepted in the food industry: *Aspergillus*, *Bacillus*, and *Trichoderma*...



lyven®

Amylyve
Filterlyve
Brewlyve
Superlyve
Lypaïne

Cost cutting
Filtration performance
Chill haze prevention

BREWING enzymes

Cereal cooking, mashing and filtration

CEREAL COOKING STARCH LIQUEFACTION

Composition

Amylyve UHT	Thermostable alpha-amylase from <i>Bacillus licheniformis</i>	For crude grain liquefaction (rice, corn, wheat, sorghum...) at high temperature (80-90°C).	250-300 g per ton of crude grain.
Amylyve UHT <small>NEW</small>	Concentrated thermostable alpha-amylase from <i>Bacillus licheniformis</i>	For crude grain liquefaction (rice, corn, wheat, sorghum...) at high temperature (80-90°C).	200-250 g per ton of crude grain.
Amylyve UHT Prima	Highly thermostable alpha-amylase from Bacillus strain	Alpha-amylase complex bearing high liquefaction temperatures (above 100°C).	400-700 g per ton of crude grain.

Mashing & filtration

SACCHARIFICATION MASH ENZYME

Composition

Amylyve A30	Alpha-amylase from <i>Bacillus subtilis</i>	For barley starch liquefaction at moderate temperature (< 75°C). Recommended for malts of poor diastasic properties or where a high level of adjunct is used.	1-2 kg per ton of barley
Amylyve AG400L	Glucoamylase from <i>Aspergillus niger</i>	Hydrolyzing dextrins into glucose i.e. adapted to the production of light beers .	0.5-2 kg per ton in the mash tun or 0.3-3 g/hl in the fermentor.
Wheatlyve	Beta-amylase from wheat	Improves the saccharification properties by producing only maltose when no malt is used.	Dosage to be recommended on a case by case basis

PROTEOLYTIC MASH ENZYME

Brewlyve NP <small>NEW</small>	Neutral bacterial protease	Recommended when brewing with a high level of barley (above 20%) , for producing sufficient peptides and amino-acids levels (Free Alpha Amino Nitrogen) in the wort, in order to get a proper fermentation.	0.3-1 kg per ton of barley.
Filterlyve BS	Bacterial beta-glucanase with little side activity	Recommended when brewing with barley malts, in conjunction or not of adjuncts. It works mainly on the wort viscosity , and would be more recommended when working with mash press filters .	0.3-1 kg per ton of material.
Filterlyve AXC 750/1500L	Fungal xylanase with high level of beta-glucanase side activities	It is recommended when brewing with barley malts in conjunction with malted or raw wheat .	50-150 g per ton of malt.
Filterlyve PEM <small>NEW</small>	Thermostable fungal beta-glucanase with hemicellulase side activities	Recommended to be used at high temperature, for instance in infusion -type processes.	50-150 g per ton of malt.

Amylyve - Brewlyve - Filterlyve Superlyve - Lypaïne

Filtration and enzymes cocktails, fermentation and clarification

FILTRATION & MASH ENZYME COCKTAILS



Composition			
Superlyve WF	Bacterial beta-glucanase and fungal xylanase	A well balanced mix of enzymes, particularly recommended in continental type of brewing, where, either malt of poor quality is processed or some raw barley is used as adjunct.	200-300 g per ton of malt.
Superlyve SH	Cellulases and hemicellulases blend, containing also high levels of beta-glucanase side activities	Particularly recommended when high levels of raw cereals such as barley, wheat and rye are used.	150-250 g per ton of grain.
Superlyve TS	Bacterial and fungal, beta-glucanase and hemicellulase plus a thermostable fungal beta-glucanase	Allows to work in continental type of brewing, where high levels of adjuncts are used, including raw barley brewing. It can also be used in infusion systems (although in this case, with lower levels of adjuncts).	50-120 g per ton of grain.
Superlyve RC	Bacterial beta-glucanases, hemicellulases, cellulases and a thermostable beta-glucanase from fungal origins	Allows to work in the worse conditions when high level of adjuncts and malt of very poor quality are used.	0.5-1 kg per ton of grain.

Fermentation & clarification

FERMENTATION IMPROVEMENT

Composition			
Brewlyve PAC	Acidic fungal protease	A special fungal protease, still efficient at low pH in fermenting beer, used to balance the amino acid profile of beer .	3 g/hl in the fermenting tank.
Amylyve AN2300L	Fungal alpha-amylase from <i>Aspergillus oryzae</i>	Used to improve the level of fermentable sugar (mainly maltose), to reach higher attenuation limits , or where diastasic power of the malt is deficient (deficiency in beta amylase).	0.5-2 g/hl in the fermenting tank.

FILTRATION ENZYMES

Composition			
Filterlyve AGL 750/1500L	Acidic fungal beta-glucanase	Still active at low pH, we recommend using it during fermentation, when the fermenting beer still contains high levels of beta glucans, in order to speed up filtration and also solve potential beta-glucans' haze problems .	1-2 g/hl of beer.

CLARIFICATION ENZYMES

Composition			
Lypaïne 6500L	Vegetal protease	Proteolytic enzyme from <i>Carica papaya</i> to prevent chill haze .	1-2 g/hl of beer in the lagering vessel or before beer filtration.



Brewing range

Cost cutting
Filtration performance
Chill haze prevention

Brewing enzymes from Lyven

Lyven offers a full range of enzymes for brewing, to be used within the mashing process, in order to enhance yield, improve filtration of the wort and of the finished beer, improve beer clarity.

Lyven also proposes enzymes cocktails which enable to gain on throughput and yield.

Furthermore, Lyven offers its customers the benefit of its long term experience and helps them to find the best enzymatic solution, depending on the raw material used, the brewing recipe, the type of process... and the objectives of the brewer.

If however no straight forward solution happens to be found from the existing range of products, Lyven then proposes tailor-made products adapted to specific requirements.



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◆ GROUPE soufflet

BREWING RANGE
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