



Experiment with yeasts and enzymes *NanoCon 2023*

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of the new All-in-1™ products

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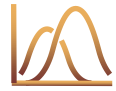
01

Objective and characteristics of the new All-in-1™ products



The objectives

Blend designed for the production of highly attenuated dry crisp beers, including Session beers!



ADF
> 90%*



Suitable for
range of OG



Robust to fermentation
conditions



Fermentation T°
appropriate for
strains and enzyme



Different flavour
expressions from
each blend



No Off flavours



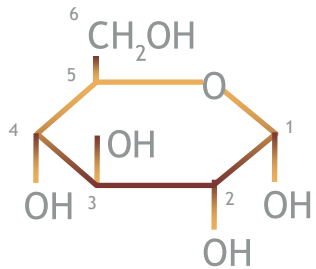
Solution

A mix of *Saccharomyces cerevisiae* or *pastorianus* and an enzyme (amyloglucosidase (AMG) from *Aspergillus niger*)

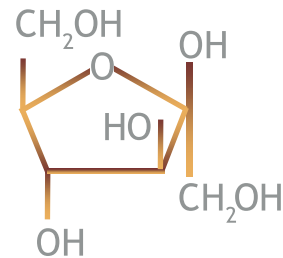


The fermentable sugars in wort

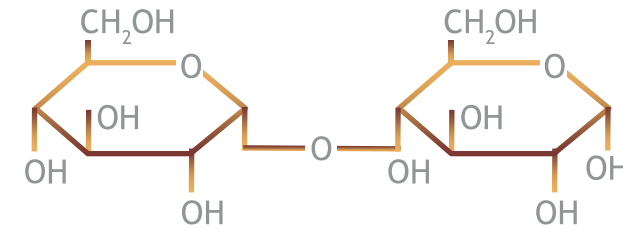
Glucose



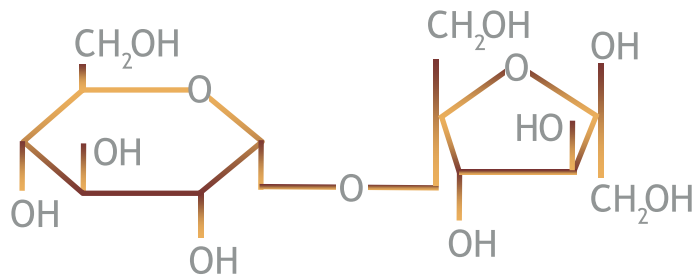
Fructose



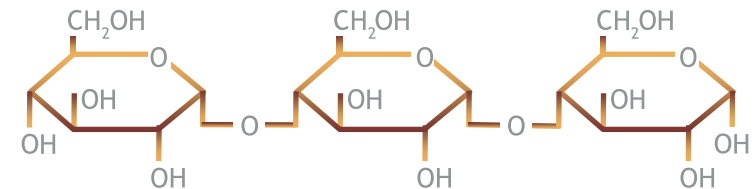
Maltose = 2 glucoses (Linked in α 1-4)



Saccharose/sucrose

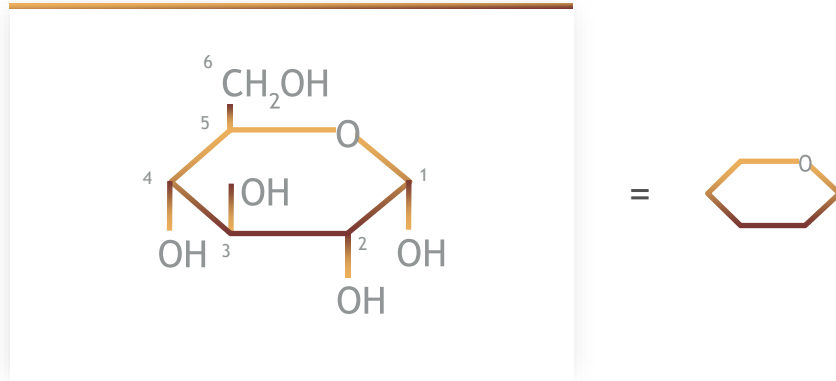


Maltotriose = 3 glucoses (Linked in α 1-4)



After mashing we get:

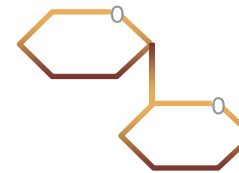
Glucose



Connection in α 1-4



Connection in α 1-6



Fermentable sugars

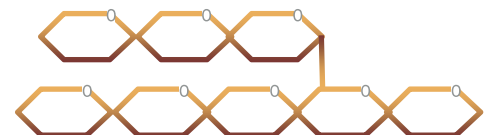
Glucose  DP1

Maltose  DP2

Maltotriose  DP3

Non-Fermentable sugars

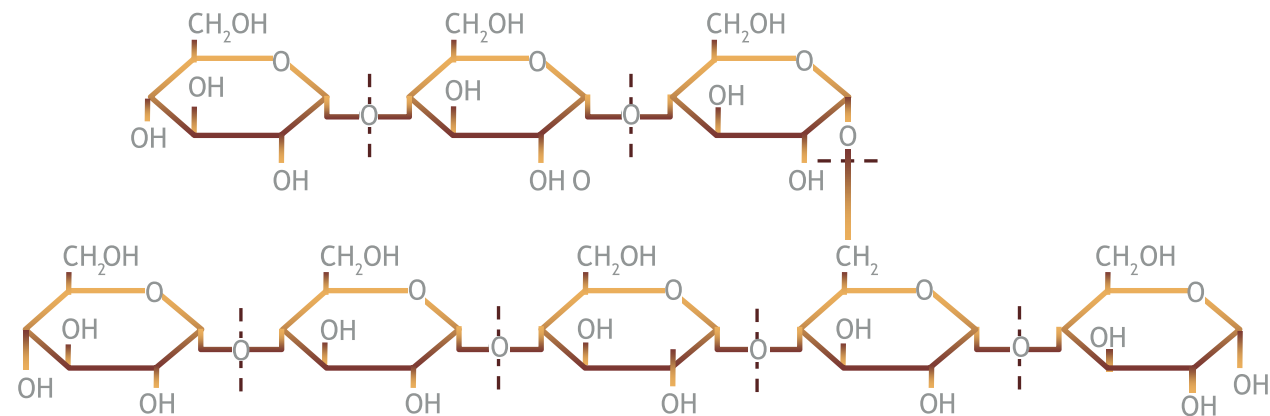
 Dextrin (>DP4)

 Limit Dextrins

Typical wort

Carbohydrate	Mass percentage
Glucose	10-15 %
Fructose	1-2 %
Sucrose	1-2 %
Maltose	50-60 %
Matotriose	15-20 %
Dextrins (and limit dextrins)	20-30 %

Role of the AMG



Degrade α 1-4 and α 1-6 bounds of Dextrins and Limit Dextrins to release 20 to 30% extra fermentable sugars (glucose units)

03

Product performances



Experimental conditions in 50 liters pilot scale



Wort

Brewing wort with pils malt
at 15° P and 25BU (Magnum P90)



Pitching rate

100 g/hl (0.16 oz/gal)
for SafBrew™ HA-18,
SafBrew™ DA-16
and SafBrew™ DW-17
200 g/hl (0.32 oz/gal)
for SafBrew™ LD-20



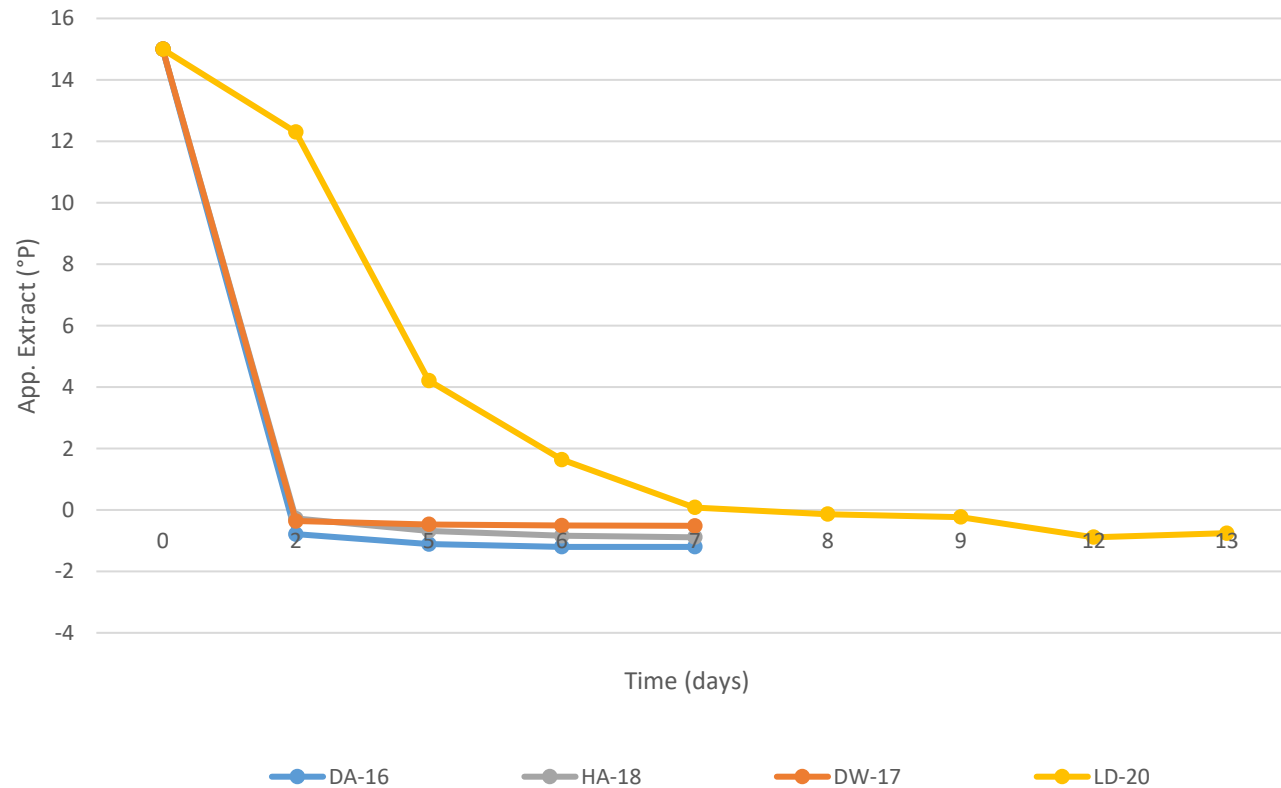
Fermentation

Temperature of 24°C (75,2°F)



Maturation & Filtration

Temperature of 14 days at 0°C
(32°F)



Experimental conditions in 50 liters pilot scale



Wort

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for SafBrew™ HA-18,
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for SafBrew™ LD-20



Fermentation

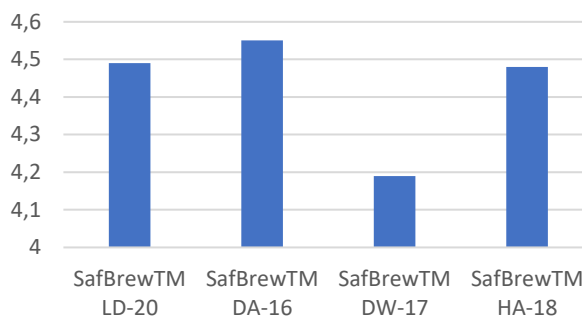
Temperature of 24°C (75,2°F)



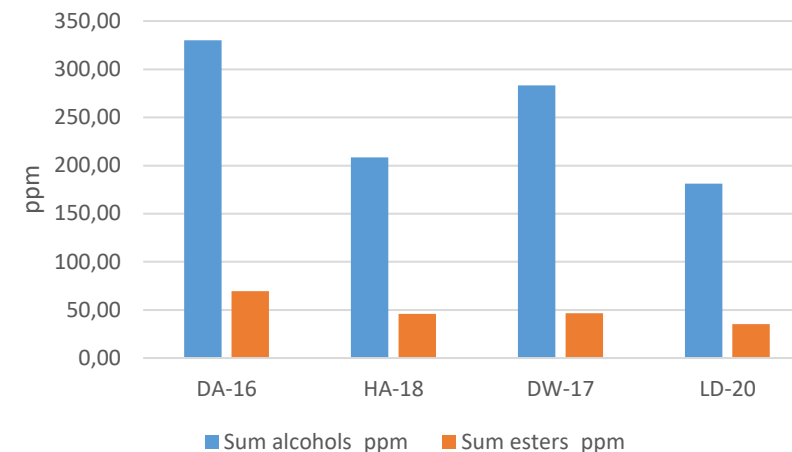
Maturation & Filtration

Temperature of 14 days at 0°C
(32°F)

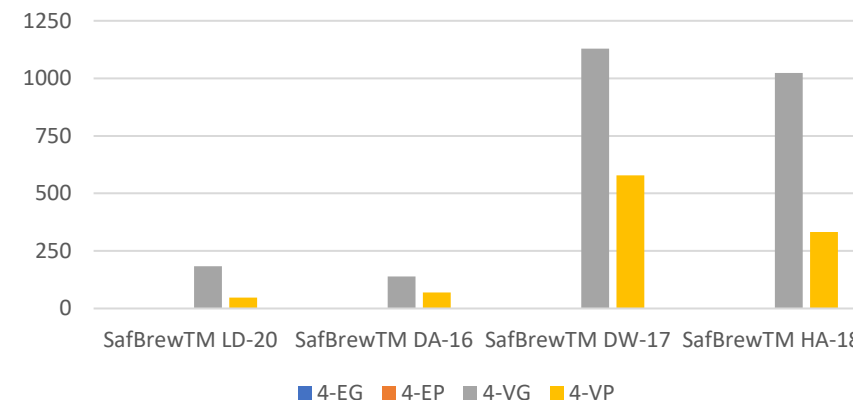
pH



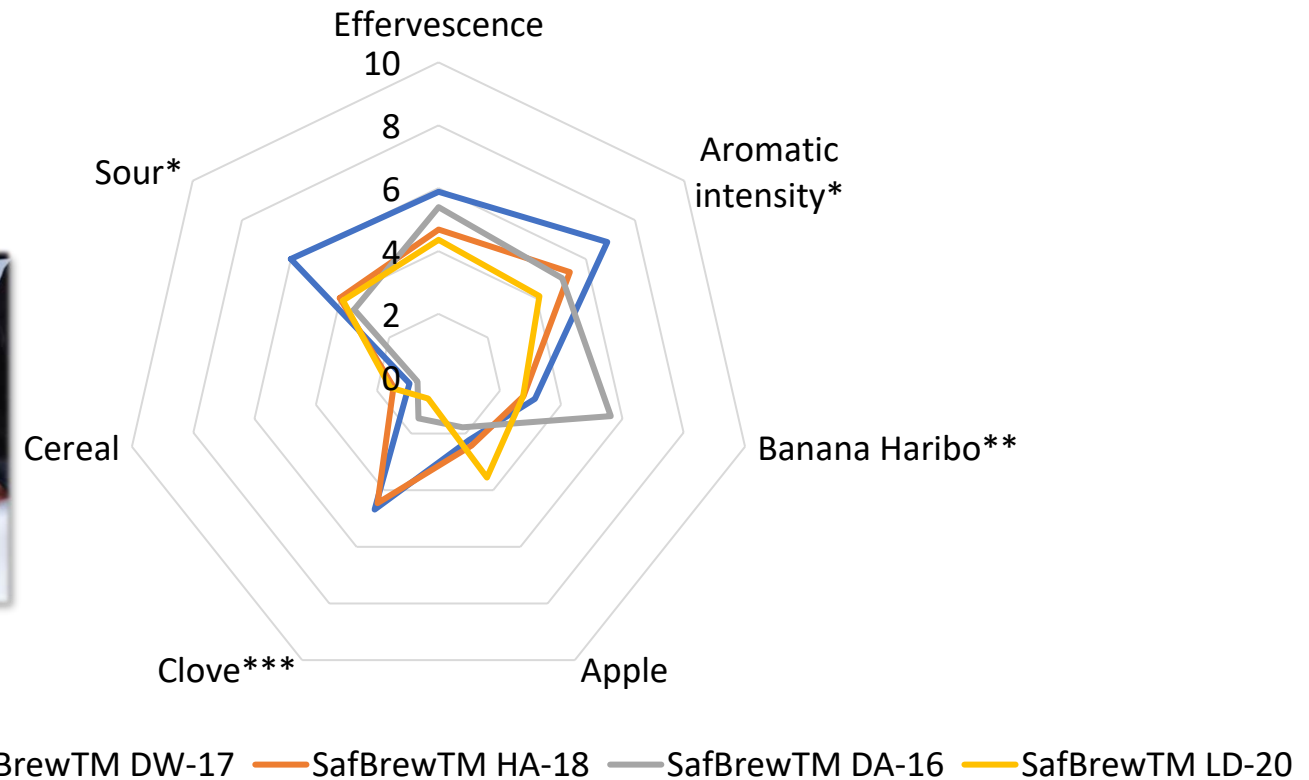
Aromatic profile



Phenols Profile (ppb)



Experimental conditions in 50 liters pilot scale



04

Key learnings



Key learnings

SafBrew™ LD-20



High attenuating mix and process-safe blend *S. pastorianus* + AMG



Prefers T°
12 to 20 °C (53.6 to 68 °F)*



Flocculent and sediment after fermentation



Ferments worts of densities up to 20 °P



Produces neutral/dry beers



POF- : No production of 4-VG



NOT reusable
(no cropping/repitching)



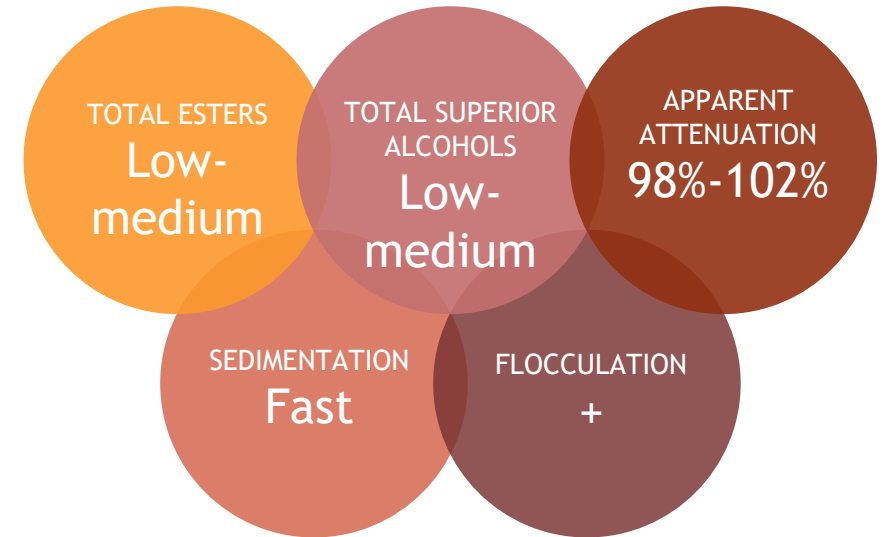
NOT for
refermentation

SafBrew™ LD-20

Key elements

With this mix of active dry yeast and enzyme, you can reach the same alcohol level in your beer while reducing the original gravity up to 20% resulting in a lower level of residual sugars and carbohydrates. Beside, you can count on it to achieve a high-performance fermentation in many different fermentation conditions, even in low temperatures, with no defects and high apparent attenuation.

Ingredients: yeast (*Saccharomyces pastorianus*), Glucoamylase from *Aspergillus niger* (EC 3.2, 1.3), Maltodextrin, Emulsifier E491: Sorbitan monostearate (E/INS 491).



PROPERTIES

A combination of a strong lager yeast strain with a precisely selected enzyme.

This enzyme breaks down complex carbohydrates, including polysaccharides like maltotriose - which yeast alone can't do.

The amyloglucosidase (AMG) processes all complex carbohydrates, so up to 100% of the sugar can be fermented by the yeast.

100% attenuation produces a dryer beer and stronger alcohol content when using the same wort.

Depending on the beer brewers want, they can drop the sugar content up to 20%.

SafBrew™ LD-20

The solution to produce attenuated, dry
crispy lager beers such as:

Session Lagers Characteristics

IBU	8 / 12
EBC	4 / 6
OE	7 / 10°P
AE	-0.5 / 2.0 °P
ABV	2.8 - 4.2%



Cold IPA Characteristics

IBU	50 / 70
EBC	5 / 12
OE	13.5 / 16.0°P
AE	0.5 / 2.5 °P
ABV	6.0 - 8.0%



Key learnings

SafBrew™ DA-16



High attenuating mix
and process-safe blend
S. cerevisiae + AMG



Non
-diastaticus



Enhancement
of hoppy flavours



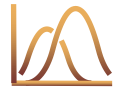
Fast
fermentation



Fruity flavour
expression



Up to 16%
(v/v) of Ethanol



ADF
> 90%



POF- : No production
of 4-VG



NOT reusable
(no cropping/repitching)



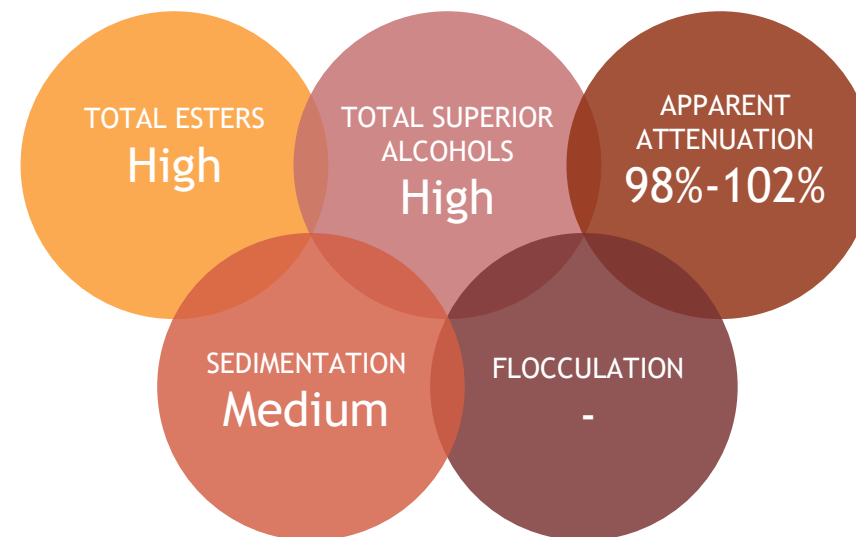
NOT for
refermentation

SafBrew™ DA-16

Key elements

SafBrew™ DA-16 is the perfect choice (consisting of Active Dry Yeast and enzymes) for the production of very dry flavorful beers, particularly fruity and hoppy ones like dry versions of IPAs. Could also be suitable for some versions of Imperial IPAs. Indeed, SafBrew™ DA-16 is also recommended for very high gravity wort, allowing a level of alcohol up to 16% ABV.

Ingredients: yeast (*Saccharomyces cerevisiae*), Maltodextrin, Glucoamylase from *Aspergillus niger* (EC 3.2, 1.3), Emulsifier E491: Sorbitan monostearate.



HOW TO USE IT

Temperature

Ideally 20-32°C (68-89.6°F).

Dosage

100 to 160 g/hl (0.13 - 0.21 oz/gal)

Instructions

You can rehydrate or you can pitch directly, depending on your equipment, habits and feelings.

Packaging

Available in 25g and 500g Sachets

Storage

36 months from production date.
During transport: the product can be transported and stored at room temperature for periods of time not exceeding 3 months without affecting its performance.
At final destination: store in cool (<10°C/50°F), dry conditions.

Shelf life

Refer to «best before» date printed on the sachet. Opened sachets must be sealed and stored at 4°C (39°F) and used within 7 days of opening.
Do not use soft or damaged sachets.

SafBrew™ DA-16

The solution to produce dry and aromatic beers, such as:

Dry IPA

Characteristics

IBU	15 / 35
EBC	10 / 25
OE	11 / 17°P
AE	-1.5 / 1.0 °P
ABV	5.5 - 10.5%



Imperial IPA

Characteristics

IBU	60 / 100
EBC	12 / 28
OE	15.0 / 23.0°P
AE	2.0 / 5.0 °P
ABV	8.0 - 12.0%



Key learnings

SafBrew™ HA-18



High attenuating mix
and process-safe blend
S. cerevisiae + AMG



Non
-diastaticus



Up to 18%
(v/v) of Ethanol



Fast
fermentation



Complex flavour
expression



POF+ : production
of 4-VG



ADF
> 95%



NOT reusable
(no cropping/repitching)



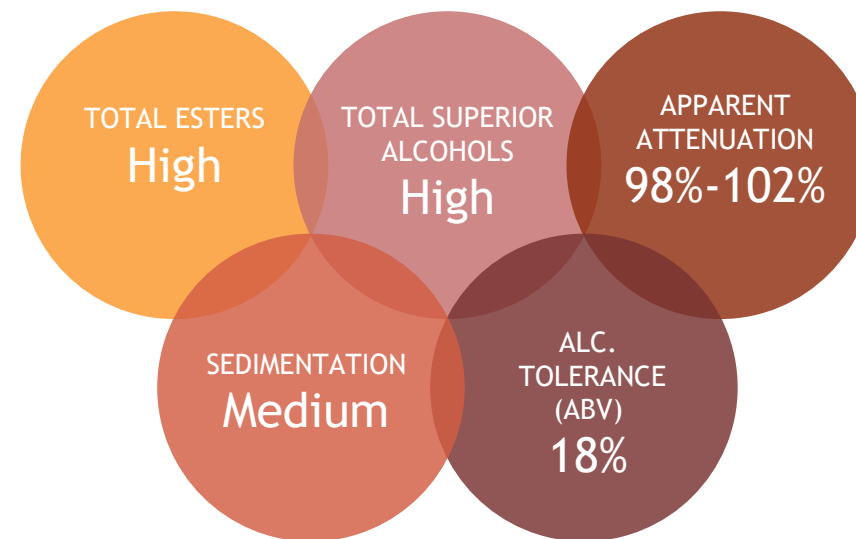
NOT for
refermentation

SafBrew™ HA-18

Key elements

This is a powerful solution (consisting of active dry yeast and enzymes), for the production of high-gravity and particularly high alcoholic beers - such as strong ales, and barrel aged beers with very high density. Because of its dry character and phenolic notes, it's also well adapted for Farmhouse styles. It has a very good resistance to osmotic pressure and high fermentation temperature (thermotolerant yeast).

Ingredients: yeast (*Saccharomyces cerevisiae*), Glucoamylase from *Aspergillus niger* (EC 3.2, 1.3), Maltodextrin, Emulsifier E/INS 491: Sorbitan monostearate.



HOW TO USE IT

Temperature

Ideally 25-35°C (77-95°F)

Dosage

100 to 160 g/hl (0.13 - 0.21 oz/gal)

Instructions

You can rehydrate or you can pitch directly, depending on your equipment, habits and feelings.

Packaging

Available in 25g and 500g Sachets

SafBrew™ HA-18

The solution to produce dry, aromatic and strong beers, such as:

High Gravity Beers Characteristics

IBU	35 / 100
EBC	15 / 40
OE	14.0 / 26.0 °P
AE	-1.5 / 5.0 °P
ABV	8.0 - 12.0%



Farmhouse ales Characteristics

IBU	20 / 35
EBC	10 / 22
OE	12.0 / 16.0 °P
AE	-0.5 / 2.0 °P
ABV	5.5 - 10.5%



Key learnings

SafBrew™ DW-17



High attenuating mix
and process-safe blend
S. cerevisiae + AMG



Non
-diastaticus



Up to 17%
(v/v) of Ethanol



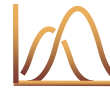
Fast
fermentation



Woody & slightly
acid perception



POF+ : production
of 4-VP



Flocculent (sediments
after fermentation)



NOT reusable
(no cropping/repitching)



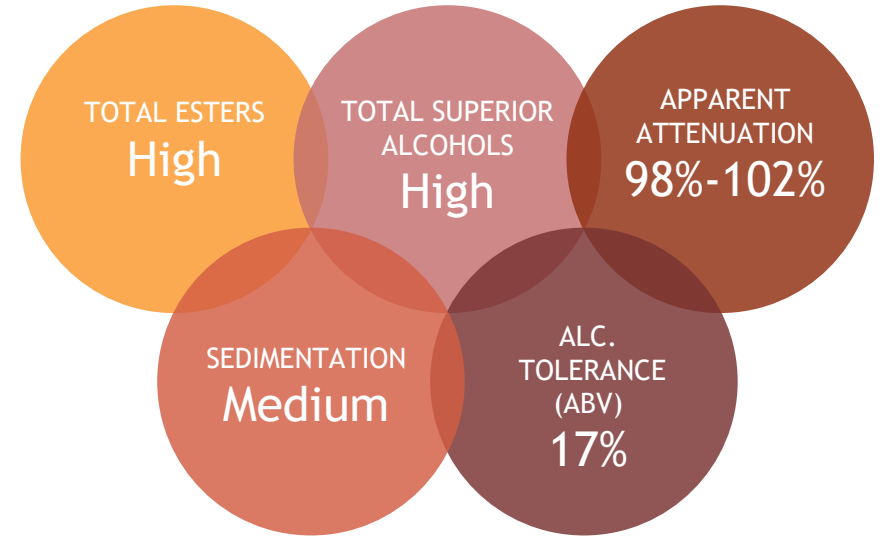
NOT for
refermentation

SafBrew™ DW-17

Key elements

SafBrew™ DW-17 is the perfect solution for fermenting beers that are distinctly complex and dry, and feature a fruity, woody, slightly acidic character. This is the newest product in the All-In-1™ line by Fermentis, a mix of active dry yeast and enzymes that work together to help create stronger, dryer beers. SafBrew™ DW-17 produces beers with a high level of esters and higher alcohols.

Ingredients: yeast (*Saccharomyces cerevisiae*), Glucoamylase from *Aspergillus niger* (EC 3.2, 1.3), Maltodextrin, Emulsifier E/INS 491: Sorbitan monostearate.



HOW TO USE IT

Temperature

Ideally 20-32°C (68.0 - 89.6°F)

Dosage

100 to 160 g/hl (0.13 - 0.21 oz/gal)

Instructions

You can rehydrate or you can pitch directly, depending on your equipment, habits and feelings.

Packaging


Available in 25g and 500g Sachets

SafBrew™ DW-17

The solution to produce dry, aromatic and strong beers, such as:


Wild Speciality Beers Characteristics

IBU	20 / 100
EBC	15 / 55
OE	14.0 / 26.0 °P
AE	-1.5 / 5.0 °P
ABV	8.0 - 15.0%

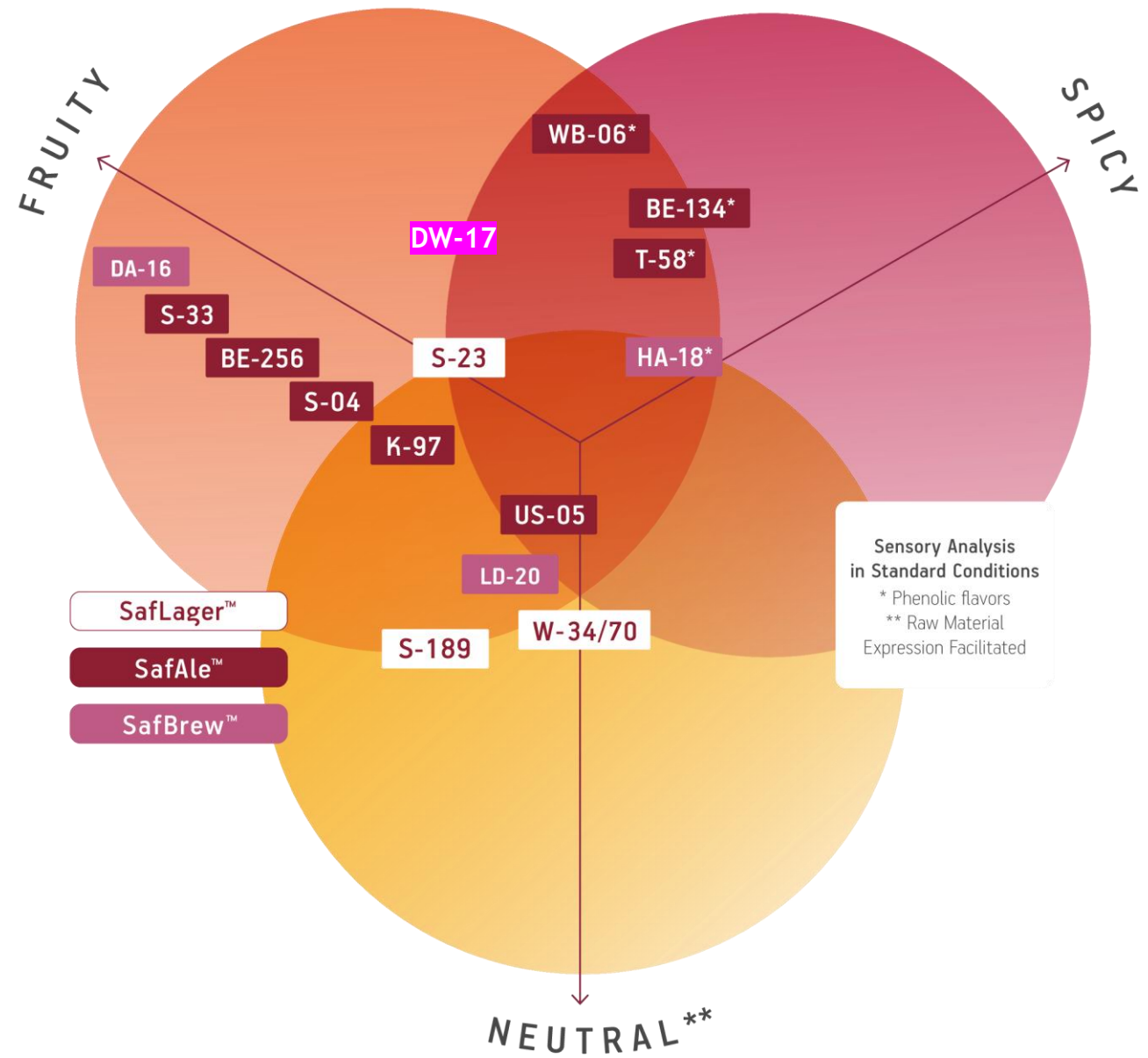


Speciality Saison Characteristics

IBU	20 / 35
EBC	10 / 45
OE	12.0 / 16.0 °P
AE	-0.5 / 2.0 °P
ABV	3.5 - 10.5%



These innovative products in the Fermentis Baseline



Your turn to exbeeriment!



- ❑ Innovative & unique products (only blends yeast/enzyme available on the market)
- ❑ Cover all your needs with 25g and 500g sachets (50% yeast, 50% enzyme)
- ❑ Let homebrewers and nanobrewers play with the same tools than craft brewers
- ❑ Ready for “Exbeerimentation”, the good tool to go outside of the box

➤ On your market in the next two months!



Thank you for
your attention!



www.fermentis.com

