



# THE WORLD OF BRETTANOMYCES

By Peter Perrecone

# WHAT IS BRETTANOMYCES?



- *Brettanomyces* is a non-spore forming genus of yeast in the family *Saccharomycetaceae*, and is often called "Brett". The genus name *Dekkera* is used interchangeably with *Brettanomyces*, as it describes the spore forming form of the yeasts.. *Brettanomyces* is important to both the brewing and wine industries due to the sensory compounds it produces.

- In the wild, *Brettanomyces* lives on the skins of fruit. The strain *Brettanomyces claussenii* was discovered at the Carlsberg brewery in 1904 by N. Hjelte Claussen, who was investigating it as a cause of spoilage in English ales. The term *Brettanomyces* comes from the Greek word "British fungus."

# SENSORY COMPOUNDS

The compounds responsible for contributing certain sensory characters to wine/beer are;

4-ethylphenol: Band-aids, barnyard, horse stable, antiseptic

4-ethylguaiacol: Bacon, spice, cloves, smoky

isovaleric acid: Sweaty saddle, cheese, rancidity

# BRETTANOMYCES AND BEER

In most beer styles *Brettanomyces* is viewed as a contaminant and the characteristics it imparts are considered unwelcome “off-flavours.” However, in some styles, particularly certain traditional Belgian ales, it is appreciated and encouraged. Lambic and gueuze owe their unique flavour profiles to *Brettanomyces*, as do wild yeast saison or farmhouse styles; and it is also found in Oud Bruin and Flanders red ale.

# COMMERCIAL EXAMPLES

Commercial examples of these styles include Cantillon Rosé de Gambrinus, Liefmans Brown Ale, Rodenbach Grand Cru, and Duchesse de Bourgogne. The Orval Trappist monastery is unique in crafting the only Trappist beer with *Brettanomyces* characteristics. In Orval's case, the brewers add the yeast to the beer at bottling.

# 3 FONTEINEN OUDE GEUZE



# LAMBIC

Lambic is a type of beer brewed traditionally in the Pajottenland region of Belgium (southwest of Brussels) and in Brussels itself at the Cantillon Brewery and museum. Lambic is now mainly consumed after refermentation, resulting in derived beers such as Gueuze or Kriek lambic.

# LAMBIC

Unlike conventional ales and lagers, which are fermented by carefully cultivated strains of brewer's yeasts, lambic beer is produced by spontaneous fermentation: it is exposed to the wild yeasts and bacteria that are said to be native to the Senne valley, in which Brussels lies. It is this unusual process which gives the beer its distinctive flavor: dry, vinous, and cidery, usually with a sour aftertaste.

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# GEUZE

A true Geuze – a blend of 1, 2, and 3 year–old lambic, is unfiltered and unpasteurized, and aged in the bottle for at least a year after blending.

Refermentation in the bottle gives this Geuze its famous champagne–like spritziness. The lambic that goes into it is brewed only with 60% barley malt, 40% unmalted wheat, aged hops, and water, spontaneously fermented by wild yeasts, and matured in oak casks.

ORVAL



# Orval

The flagship brett beer, so to speak. It is a 6.9% abv beer. It was first made in 1931, and has a complex and unusual flavor and aroma produced by a unique strain of yeast. The beer is light in color, slightly cloudy, and has a large, foamy head. There is a complex aroma of leather, spice, and many other earthy components.

# BRETTANOMYCES IN AMERICA

Several American craft breweries use *Brettanomyces* in their beers. This use began with a renewed interest in Belgian style ales and later formed new styles altogether (Brewers Association, 2007 Great American Beer Festival Style Guidelines, section 13a, 16).

# BRETTANOMYCES IN AMERICA CONT.

- Some breweries use 100% Brettanomyces for the fermentation of some of their beers, and omit Saccharomyces from the recipe. It is common for American brewers that use Brettanomyces to also include lactic acid producing bacteria such as Lactobacillus, and Pediococcus in order to provide sourness to the beer.
- While Brett is sometimes pitched into the fermenter, aging in wood barrels previously infected with Brettanomyces is another method used to impart the complexity and sourness contributed by these strains of yeast.

# MATILDA



Wild in character, with a slightly fruity aroma and a spicy yeast flavor that is as unique as it is satisfying – Matilda is an intriguing choice for beer and wine lovers alike. Dry and quenching, its the perfect accompaniment at the dining table or for casual socializing at the bar.

### Recipe Information:

*Style:* Belgian Style Pale Ale

*Alcohol by Volume:* 7.0%

*International Bitterness Units:* 26

*Color:* Golden Sunrise

*Hops:* Super Styrian, Styrian Golding, Saaz

*Malts:* 2-Row, Caramel, Candy Sugar

# STRAINS

Common Name	Species Name	Synonym (Strain) Name	Lab/Package	Flavor/Aroma	Source Note
<b>Anomala</b>	<i>Dekkera anomala</i>	<b>B. intermedius</b>	ECY-04	strong ester profile with some light funk and acidity	beer - Adelaide, Australia
<b>Anomalus</b>	<i>Dekkera anomala</i>	<b>B. anomalus</b>	Wyeast		bottled stout - Burton on Trent, England
<b>Bruxellensis</b>	<i>Dekkera bruxellensis</i>	<b>B. bruxellensis</b>	BSI		Pro-Brewers only.
<b>Bruxellensis</b>	<i>Dekkera bruxellensis</i>	<b>B. bruxellensis</b>	WLP650	Same as White Labs	Not the same as WY's Brux
<b>Bruxellensis</b>	<i>Dekkera bruxellensis</i>	<b>B. bruxellensis</b>	Wyeast 5112	Barnyard	Not the same as WL's Brux
<b>Bruxellensis</b>	<i>Dekkera bruxellensis</i>	<b>B. bruxellensis</b>	ECY-05	sweaty horse blanket	isolated from Belgian stout
<b>Claussenii</b>	<i>Dekkera anomala</i>	<b>B. claussenii</b>	BSI	quite funky with barnyard notes accompanied by some fruit	Pro-Brewers only.
<b>Claussenii</b>	<i>Dekkera anomala</i>	<b>B. claussenii</b>	WLP645	Same as White Labs	
<b>CMY1</b>	<i>Dekkera bruxellensis</i>	<b>B. bruxellensis CMY1</b>	BSI	Fruity, pineapple	Chad Yakobson's mutation of BSI Drie

# STRAINS

Species Name	Synonym (Strain) Name	Lab/Package	Flavor/Aroma	Source Note
Dekkera custersiana	<i>B. custersianus</i>	ECY-19	light fruit and hay	Bantu beer brewery, South Africa
Dekkera bruxellensis	<i>B. drei</i>	BSI	highly aromatic	Isolate from Drie Fonteinen; Pro-Brewers only.
?	<i>B. fantome</i>	ECY		Isolate from Fantome
Dekkera bruxellensis	<i>B. lambicus</i>	BSI	Same as White Labs	Pro-Brewers only.
Dekkera bruxellensis	<i>B. lambicus</i>	WLP653	Horsey, Smoky, Spicy	Different from WY's "lambicus"
Dekkera bruxellensis	<i>B. lambicus</i>	Wyeast 5526	Pie-cherry	Different from WL's "lambicus"
Dekkera naardenensis	<i>B. naardenensis</i>	ECY-30	strawberry, honey, ripe fruit with a tart, citrusy acidity after 6 mo of aging	Isolated from Dr. Pepper
Eeniella nana	<i>B. nanus</i>	ECY-24	spicy, saison-like profile	bottled beer - Kalmar, Sweden
Dekkera bruxellensis	<i>B. trois</i>	WLP644	Mango, Pineapple	Isolate from Drie Fonteinen

# LOGSDON SEIZOEN BRETTA



# LOGSDON SEIZOEN BRETТА: 8% ABV

This organic farmhouse ale is brewed in small batches on a traditional farm brewery as it has historically been made for hundreds of years. This unfiltered bottle of seizoen, with its beeswax seal, is naturally re-fermented and carbonated with select yeast strains producing fruity and spicy flavors that are balanced by hops and a soft malt character. Special Brettanomyces yeast provides added dryness and crisp complexity.

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# 100% FERMENTED BRETTANOMYCES BEERS

- The breweries using brett are very few. Crooked Stave in Colorado is doing it well with sour, funky and clean beers. Another brewery is Modern Times in San Diego with a 100% brett IPA and its clean not funky at all. The last example is Anchorage Brewing Co. All their beer is fermented in oak foudres. These beers are more of what you think of brett beer.

# MY 100% BELGIAN PALE 10 GAL

- 90% Pilsner malt
- 5% 6 Row
- 5% Rye
- .25 oz Pacific Jade 60 min
- 1 oz Pacific Jade, Citra and Amarillo 10 min
- 1 oz Pacific Jade, Citra and Amarillo 0 min
- O.G. 1.061
- F.G. 1.006
- ABV 7.2%
- I.B.U. 31

# THE KEY TO THE STYLE

The key to brewing this style beer is to keep the bitterness low because brett dries out the beer and accentuates the hop bitterness. The mouthfeel is another factor for this style. Since the brett dries or attenuates the beer so much the beer can taste thin and watery. Glycerol gives a perceived mouthfeel, to get glycerol in the beer I like to use whole oats (any type) at least 5% and as much as 20%.

# PITCHING RATES

- For clean brett beers, lager pitching rates. 2 vials plus 2 week starter
- For funky beers and classic brett beers under pitching works better for me ( 1 vial and no starter)

# LINKS

<http://www.brettanomycesproject.com/>

<http://embracethefunk.com/>

<http://www.funkfactorygeuzeria.com/2013/06/brett-strain-guide.html>

<http://www.themadfermentationist.com/>

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