

In Praise of Dried Yeasts

Colin Weaver, March 2005

Until recently, the range of dried yeasts available to home brewers was very limited. Most homebrew stores in Brisbane carried one ale yeast – Safale S-04, and one lager yeast – Saflager S-23. Occasionally other yeasts might be available, usually brands associated with can kits – Coopers (Gold Foil), Gervin Ale yeast, Muntons Gold and EDME.

These early dried yeasts were reliable performers, if somewhat uninteresting in character. The most flavoursome is Safale S-04 with its distinctive English character, but it is not to everyone's taste and has a reputation for early flocculation, poor attenuation and elevated diacetyl levels. Brewers wishing to produce lagers were particularly poorly served, with Saflager S-23 being the only true lager yeast available. Most home brewers who were interested in brewing beers to specific styles rapidly moved beyond dried yeasts to the excellent liquid cultures offered by Wyeast, White Labs and others.

Another advantage of liquid yeasts until recent years was purity. Limitation in the drying process for these yeasts introduced a range of contaminants which made them marginal for re-culturing and re-pitching. In effect, every beer pitched with a dried yeast was also pitched with at least one infecting culture of wild yeast or bacteria. These technical problems have been solved, and modern dried yeasts, while not 100% contamination free, are at least as pure as a liquid culture which has been stepped up through starters in the home environment.

In addition to improvements to quality and purity, the range of dried yeasts available to the home brewer has now expanded considerably. Fermentis, the manufacturer of the SAF range of yeasts makes available a range of three lager yeasts, three ale yeasts and two specialty Belgian yeasts. Several of these dried yeasts are the exact same strain as well known liquid cultures from Wyeast or White Labs. Two high quality English ale yeasts from Danstar are also available. Even so, dried yeasts are not for everyone, and liquid cultures remain the only option for brewers wishing to source most brewery specific and many style specific strains. Dried yeast manufacturers are expected to address this competitive disadvantage over the coming years, for example Fermentis have announced that they are working on a new strain – W-68 – which is the same well known Weihenstephan 68 German hefeweizen yeast as Wyeast 3068 and WLP300.

The greatest advantages of dried cultures are in the closely connected areas of yeast health and pitching cell count. A single 11g sachet of Fermentis or Danstar yeast contains 220 billion cells of yeast, sufficient to hit the commercially recommended rate of at least 10 million cells per ml when pitched in a 20 litre batch. In comparison a fresh tube of White Labs yeast contains only 30 to 60 billion cells, and needs to be stepped up to a 2 litre starter to come even close to the same pitching rate. The new Wyeast “activator packs” perform better, containing around 100 billion cells when inflated, but even a fully inflated size smack pack contains fewer than half the cells of an 11g dried yeast sachet. Dried yeasts are also in an optimal state of health when freshly pitched or rehydrated, having been cultured aerobically in an optimal grown medium and dried while the cells contain optimal levels of sterol and trace nutrients like zinc – necessary for healthy yeast growth and reproduction when fermenting wort. Liquid yeasts are equally healthy when packed, but have a short shelf life and require one or more steps of starter culture before use – steps which may damage or introduce contamination if not properly executed.

My picks for the best strains:

- For English ales: Nottingham produces superb dry English ales with subtle fruity esters.
- For Stout and Ale: Safale US-56 accentuates hops and specialty grain flavours and produces wonderfully dry and balanced beers with some esters. Super in American Pale Ales.
- For Belgian Wit, Strong Golden Ale and Tripel – Safbrew T-58 produced better Belgian beers than any liquid culture I have ever used.
- For lagers, Saflager S-189 is the most neutral and forgiving strain, very clean even at 14°C.

Range of available dried yeasts commonly available in Australia:

Manufacturer	Strain	Type	Description	Notes
Fermentis	Safale S-04	English Ale	A well-known, commercial English ale yeast, selected for its fast fermentation character and its ability to form a very compact sediment at the end of the fermentation, helping to improve beer clarity. This yeast is recommended for the production of a large range of ale beers and is specially well adapted to cask-conditioned ales and fermentation in cylindro-conical tanks. Sedimentation: high. Final gravity: medium.	Equivalent to: Wyeast 1099
Fermentis	Safale K-97	German Ale	A German ale yeast selected for its ability to form a large firm head when fermenting. This top cropping ale yeast is suitable for top fermented beers with low esters levels and can be used for Belgian type wheat beers. Sedimentation: low. Final gravity: low.	Similar to: Wyeast 1007
Fermentis	Safale US-56	American Ale	The most famous ale yeast strain found across America, now available as a ready-to-pitch dry yeast. Produces well balanced beers with low diacetyl and a very clean, crisp end palate. Sedimentation: low to medium. Final gravity: medium	Equivalent to: Wyeast 1056 White Labs WLP001
Fermentis	Saflager S-23	German Lager	This bottom fermenting yeast is originating from the VLB (Berlin) in Germany and is known under the code RH. The strain is used by Western European commercial breweries and has been reported to produce lagers with some fruity and estery notes. Sedimentation: high. Final gravity: medium.	
Fermentis	Saflager S-189	Swiss Lager	Originating from the Hürlimann brewery in Switzerland, this very popular strain is used by a large number of commercial breweries. Selected for its fairly neutral flavour development, this yeast is recommended for a wide range of lager and pilsen beers. Sedimentation: high. Final gravity: medium.	
Fermentis	Saflager W-34/70	German Lager	This famous yeast strain from Weihenstephan in Germany is used world-wide within the brewing industry. Thanks to its technological properties, this strain has become the most popular strain for lager brewing and is used by industrial breweries and brewing groups around the globe. Sedimentation: high. Final gravity: medium.	Equivalent to: Wyeast 2124 White Labs WLP830
Fermentis	Safbrew T-58	Belgian Ale	A speciality yeast selected for its estery somewhat peppery and spicy flavour development. Sedimentation: medium. Final gravity: high. Also recommended for bottle-conditioning of beers. Excellent performance in beers with alcohol contents of up to 8.5% v/v but can ferment up to 11.5% v/v.	
Fermentis	Safbrew S-33	Specialty Ale	This yeast produces superb flavour profiles and is used for the production of a varied range of top fermented special beers (Belgian type wheat beers, Trappist, etc.). Sedimentation: medium. Final gravity: high. Also recommended for bottle-conditioning of beers. Excellent performance in beers with alcohol contents of up to 7.5% v/v but can ferment up to 11.5% v/v.	Reputed to be the same strain as the old EDME ale yeast.
Danstar	Nottingham	English Ale	Nottingham British Ale yeast is a single strain selected from a multiple commercial culture used in the United Kingdom. The propagation and drying processes have been specifically designed to deliver high quality beer yeast that can be used simply and reliably to help produce ales of the finest quality. Quick start to fermentation, which can be completed in 4 days above 17°C. High attenuation, reaching a final gravity near 1008 (2°P). The aroma is slightly estery and almost neutral. Because of flocculation, it may tend to slightly reduce hop bitter levels. Lager-style beer has been brewed with Nottingham, however low fermentation temperature requires adaptation of the pitching rate to ensure proper attenuation.	Equivalent to: Gervin #1 Ale Yeast
Danstar	Windsor	English Ale	Windsor British Ale yeast originated in the United Kingdom and is used by a number of commercial breweries to produce different types of ale. The propagation and drying processes have been specifically designed to deliver a high quality beer yeast that can be used simply and reliably to help produce ales of the finest quality. Quick start and vigorous fermentation, which can be completed in 3 days above 17°C. Moderate attenuation, which will leave a relatively high gravity. The aroma is estery in both palate and nose, and is usually described as producing a full-bodied, fruity British ale.	
Mauri	B514	Australian Ale	Moderately attenuative, softly fruity ale yeast with a slight "green apple" character. Very temperature tolerant.	Used in many kits, eg. Coopers, Morgans
Mauri	Y497	Australian Lager	Neutral, temperature tolerant lager yeast, producing clean lagers at up to 16C. Sulphur produced ages out with lagering.	Used in many lager kits, eg. Goldrush..