



**MANGROVE  
JACK'S**

**CRAFT  
SERIES**

TRADE

MARK

**EXPERT**

*Handcrafted*

**FERMENTING**

**DRIED YEAST**

**0.32-0.35 oz/  
9-10 g\***

FOR  
HOME CRAFT  
BREWERS

**\*(M02 CIDER YEAST  
IS 0.32 OZ (9 G))**

**17.5 oz/  
500 g**

FOR  
COMMERCIAL  
CRAFT BREWERS



# COMMERCIAL CRAFT BREWERS

## BREWING WITH MANGROVE JACK'S CRAFT SERIES DRIED YEASTS

When using these yeasts, there is no need to propagate or make starters. They offer a cost effective and convenient alternative to liquid yeast products and have the advantage of extended shelf life with consistent high performance.

### REHYDRATION INSTRUCTIONS

Although Mangrove Jack's Craft Series Yeasts do not require rehydration, cleaner and more professional results will be produced if rehydrated before use.

Sprinkle the 17.5 oz (500 g) yeast pack onto the surface of 1.3 US Gal (5 L) of sterilized water at 86-95°F (30-35°C) (68-77°F (20-25°C) for lager yeasts). Leave undisturbed for 15 minutes then stir with a sterilized tool to suspend yeast and leave for a further 5 minutes. Attenuate yeast to the temperature of the wort by slowly adding components of wort in 10 degree allocations, do not allow the yeast mixture to attenuate by natural heat loss.

### STORAGE

#### Unopened Packets:

Store in original packaging at below 50°F (10°C) for optimum life (30 months). At 68°F (20°C) storage temperature viability will remain high for 12 months. At 86°F (30°C) storage temperature viability will remain high for 4 months. Above 86°F (30°C) viability and yeast condition will become seriously compromised within 6 weeks.

#### Opened Packets:

Reseal and store for no more than 2 days at below 50°F (10°C) or ideally, in the freezer.

### REUSE

As a result of the drying process, Mangrove Jack's Craft Series dried yeasts will not achieve the optimal results when harvesting and/or repitching. For best results, use a fresh packet of yeast with every brew.

### PITCHING RATES

#### Ale Strains & Warm Fermenting Lager Strains:

OG 1.030-1.039: 1.9 oz (55 g)/hl  
OG 1.040-1.049: 2.5 oz (70 g)/hl  
OG 1.050-1.059: 3.2 oz (90 g)/hl  
OG 1.060-1.070: 5.3 oz (150 g)/hl

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#### Lager Strains:

OG 1.030-1.039: 3.5 oz (100 g)/hl  
OG 1.040-1.049: 4.6 oz (130 g)/hl  
OG 1.050-1.059: 5.6 oz (160 g)/hl  
OG 1.060-1.070: 9.5 oz (270 g)/hl

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#### Cider Yeast:

20-40 g/hl depending upon % ABV and fermentation period required.

#### Mead Yeast:

25-50 g/hl depending upon % ABV and fermentation period required;  
OG <1.100: 0.9-1.4 oz (25-40 g)/hl as required.  
OG >1.100: 1.4-1.8 oz (40-50 g)/hl as required.

Pitching rates are a guideline only. Experimentation with inoculation rates is recommended. The degree of attenuation and overall performance will depend on variables that include fermentation temperature, fermenter design, yeast handling, nutritional quality of wort and more. These variable factors will become even more crucial to yeast performance when fermenting high alcohol beers. Experimentation with inoculation rates and alcohol tolerances is strongly recommended for brewing higher alcohol beers beyond the scope of guideline information provided here.

# HOME CRAFT BREWERS

## BREWING WITH MANGROVE JACK'S CRAFT SERIES DRIED YEASTS

When using these yeasts, there is no need to propagate or make starters. They offer a cost effective and convenient alternative to liquid yeast products, and have the advantage of extended shelf life with consistent high performance.

### REHYDRATION INSTRUCTIONS

Although Mangrove Jack's Craft Series Yeasts do not require rehydration, cleaner and more professional results will be produced if rehydrated before use.

For all strains **except lager yeasts**, add the sachet contents to 3.4 US fl oz (100 ml) of water previously adjusted to a temperature between 86–95°F (30–35°C). For lager yeasts, rehydrate using 3.4 US fl oz (100 ml) of 68–77°F (20–25°C) water. Stir gently into a yeast cream for between 8-12 minutes then add yeast cream directly to wort. Alternatively the dry yeast can be added directly to the wort by sprinkling onto the surface and leaving to stand for 10-15 minutes before stirring.

### NUMBER OF SACHETS TO USE

In most cases Mangrove Jack's Craft Series Yeast can be used at a ratio of one 0.35 oz (10 g) pack for up to 6 US Gal (23 L). However, for best results take note of the following exceptions to the rule:

EXCEPTION	RECOMMENDATION
Ales of original gravity over 1.050	Use 2 x 0.35 oz (10 g) packets per 6 US Gal (23 L)
Lagers to be fermented at 57°F (14°C) or lower	Use 2 x 0.35 oz (10 g) packets per 6 US Gal (23 L)
Meads with OG over 1.100	Use 2 x 0.35 oz (10 g) packets per 6 US Gal (23 L)

Under-pitching yeast in lagers or stronger ales will result in extended lag times (the time between pitching your yeast and the commencement of fermentation) which can allow undesirable microbes to multiply, tainting your beer. The yeast will become "stressed" and may produce excessive and undesirable fruity esters and/or sulphur compounds.

High end gravities are also possible where lower pitch rates are used, leading to sweet and worty unfinished beer.

### ADD YEAST SACHET TO:

3.4  
US fl oz  
(100 ml)  
WATER

WATER  
TEMP:  
86–95°F  
(30–35°C)

FOR ALL YEAST STRAINS  
(EXCEPT LAGER YEASTS)

WATER  
TEMP:  
68–77°F  
(20–25°C)

FOR LAGER YEASTS

### STORAGE OF SACHETS

Store in original packaging at below 50°F (10°C) for optimum 30 month life. At 68°F (20°C) storage temperature viability will remain high for 12 months. At 86°F (30°C) storage temperature viability will remain high for 4 months. Above 86°F (30°C) viability and yeast condition will become seriously compromised within 6 weeks.

### OPENED PACKETS

Reseal and store for no more than 2 days at below 50°F (10°C) or ideally, in the freezer.

# HOW THE YEAST WORKS

## 1. Lag Phase:

After pitching Mangrove Jack's Beer Yeast to your wort, you will experience a lag period which varies from strain to strain, and from beer to beer; 12-24 hours is normal. The lag phase will also be impacted by the degree of oxygenation of your wort and by temperature. During the lag phase the yeast is acclimatising to its new surroundings, multiplying by budding, taking up free oxygen and nutrients from the wort, and its metabolism is shifting out of dormancy to active state.

## 2. Fermentation:

For the first 48 hrs, don't be concerned by the little or absence of activity in your airlock or in the beer. Most strains will show vigorous activity within 12 hours, but lagers in particular such as our Bavarian Lager and Bohemian Lager yeasts will nearly always require over 24 hours to produce any krausen or bubbling in your airlock

## 3. Maturation:

Generally, our ale strains produce beer that reaches premium flavor potential after approximately 4 weeks maturation: 1-2 weeks in fermenter, followed by 2-3 weeks in bottles or other storage vessel. However, the following table shows some exceptions to this rule:

### EXCEPTION

### RECOMMENDATION

Lagers	8-10 weeks: with 3 weeks in fermenter and 5-7 weeks in bottle.
Strong Ales	At least 4 weeks: 2 weeks in fermenter and 2 weeks in bottle (longer if above 1.050 OG).
Bavarian Wheat	3 weeks: 1 or 2 weeks in fermenter and 1 or 2 weeks in bottle.
Cider	3 weeks: 1 week in fermenter and 1-2 weeks in bottle.
Mead	2-4 weeks in fermenter (including clearing). Ready to drink as soon as bottled (no conditioning required) but quality will improve with age similarly to wine.

## 4. Reuse:

As a result of the drying process, Mangrove Jack's Craft Series dried yeasts are not suitable for harvesting and/or repitching. For best results, always use a fresh sachet of yeast with every brew.



# THE DRIED YEAST RANGE:

## Individual Descriptions and Specifications

### GENERAL NOTE

The following pages contain detailed technical information on the strains in the Mangrove Jack's Craft Series dried yeast range.

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All brewers know that results will vary dependent on many non-yeast-strain-determined factors, and even that yeast performance may be manipulated by temperature control and pitch rates, among other factors.

The results described in the following pages are based on optimum brewing conditions.



— CRAFT SERIES —

# Bavarian Lager

Suitable for many European style beers including Lagers, Pilsners, Helles, Munich Dunkel, Rauchbier and more.



M76

## YEAST STRAIN DESCRIPTION

A bottom-fermenting yeast suitable for most lager styles. Promotes less sulphur production than other lager strains, as well as a fuller, more rounded malt character with well-promoted hop flavors.

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## TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 45 - 57°F (8 - 14°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (75 - 80%)

**FLOCCULATION RATE:** 3

**COMPACTION:** 3

**VIALE YEAST CELLS:** >5 x 10<sup>9</sup> cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:** <1 per 10<sup>6</sup> cells

**TOTAL BACTERIA:** <1 per 10<sup>6</sup> cells

**GMO STATUS:** GMO Free

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## OBSERVABLE TRAITS

### AROMA CHARACTERISTICS:

A superlative lager strain that is robust with a light sulphur aroma, expresses hop character well and promotes malt complexity.

### FLAVOR/MOUTHFEEL CHARACTERISTICS:

Lightly acidic this yeast creates an extremely drinkable lager with less sulphur character than the usual strains.

### HIGHER ALCOHOL BEERS:

This yeast does well at higher gravities having a good attenuation range; high alcohol beers do not tend to be too sweet.

# M20

## Bavarian Wheat

Suitable for Hefeweizen, Kristal Weizen, Dunkel Weizen and more.

### YEAST STRAIN DESCRIPTION

A top-fermenting wheat beer yeast which imparts banana and clove esters balanced with spiced aromas. This yeast produces a silky mouthfeel and rich body.

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### TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 64 - 86°F (18 - 30°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (70 - 75%)

**FLOCCULATION RATE:** 2

**COMPACTION:** 2

**VIABLE YEAST CELLS:**  $>5 \times 10^9$  cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:**  $<1$  per  $10^6$  cells

**TOTAL BACTERIA:**  $<1$  per  $10^6$  cells

**GMO STATUS:** GMO Free

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### OBSERVABLE TRAITS

#### AROMA CHARACTERISTICS:

It has abundant classic banana esters, balanced with clove like phenolic aromas; these aromas tend to overwhelm any malt or hop character in the beer.

#### FLAVOR/MOUTHFEEL CHARACTERISTICS:

While this strain has only a moderate tendency to attenuate, the final beer will not be sweet. Instead, it will have a creamy, silky mouth feel with a full and rich medium body. This strain strips away most caramel and complex malt flavors, while deep roast and chocolate flavors will come through. The slight acidity produced, greatly enhances wheat malt characteristics. It has a very low flocculation rate that makes it ideal for beers that are traditionally served cloudy.

#### HIGHER ALCOHOL BEERS:

In higher alcohol beers, the phenolic character presented by this strain becomes a bit smokey and esters burst forth. Low attenuation rate may result in a sweet beer.



# Belgian Abbey

Suitable for Belgian Pale Ales and Abbey Ales.

The logo consists of the letters 'M47' in a white, bold, sans-serif font, centered on a dark red rectangular background.

## YEAST STRAIN DESCRIPTION

Moderately alcohol tolerant with fewer phenols than Belgian Ale, this yeast is exceptionally fruity with hugely complex esters and is highly flocculant.

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### TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 64 - 77°F (18 - 25°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (73 - 77%)

**FLOCCULATION RATE:** 4

**COMPACTION:** 4

**VIALE YEAST CELLS:**  $>5 \times 10^9$  cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:**  $<1$  per  $10^6$  cells

**TOTAL BACTERIA:**  $<1$  per  $10^6$  cells

**GMO STATUS:** GMO Free

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### OBSERVABLE TRAITS

#### AROMA CHARACTERISTICS:

Belgian Tripel has a fantastic heavily fruity aroma, married perfectly with light spice and esters it is massively complex, spicy, estery and phenolic.

#### FLAVOR/MOUTHFEEL CHARACTERISTICS:

Belgian beers fermented with this strain will finish phenolic and dry, they will also exhibit fruity and a very complex ester characters. These characters exhibit into beautiful marriage of spice, fruit estery alcohol goodness.

#### HIGHER ALCOHOL BEERS:

High alcohol beers are this strain's bread and butter, with a high alcohol tolerance, strong beers just create excellent flavor and aroma characteristics.

# M41

## Belgian Ale

Suitable for Belgian Strong Golden and Belgian Strong Dark Ales.

### YEAST STRAIN DESCRIPTION

Spicy and phenolic, this yeast emulates the intensity and complexity of some of the best monastic breweries in Belgium, high attenuation and alcohol tolerance allows you to brew a huge range of Belgian beers.

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### TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 64 - 82°F (18 - 28°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (82 - 88%)

09 | **FLOCCULATION RATE:** 3

**COMPACTION:** 3

**VIABLE YEAST CELLS:** >5 x 10<sup>9</sup> cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:** <1 per 10<sup>6</sup> cells

**TOTAL BACTERIA:** <1 per 10<sup>6</sup> cells

**GMO STATUS:** GMO Free

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### OBSERVABLE TRAITS

**AROMA CHARACTERISTICS:**

This yeast develops ripe fruit especially plum like esters during fermentation and are prominent in the finished beer, it will also show a lightly balanced phenolic character.

**FLAVOR/MOUTHFEEL CHARACTERISTICS:**

Beer fermented with this yeast exhibit excellent classic Belgian ale flavor, clove hints with a multitude of fruit esters, alcohol and banana character.

**HIGHER ALCOHOL BEERS:**

High alcohol beers are this strains bread and butter, with a high alcohol tolerance strong beers just create excellent flavor and aroma characteristics.

# Belgian Tripel

Suitable for Belgian Tripel Style and Trappist style beers.



M31

## YEAST STRAIN DESCRIPTION

Provides a fantastic complex marriage of spice, fruity esters, phenolics and alcohol. It is also very attenuative with a high alcohol tolerance making it perfect for a range of Belgian styles.

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## TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 64 - 82°F (18 - 28°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (82 - 88%)

**FLOCCULATION RATE:** 3

**COMPACTION:** 2

**VIABLE YEAST CELLS:** >5 x 10<sup>9</sup> cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:** <1 per 10<sup>6</sup> cells

**TOTAL BACTERIA:** <1 per 10<sup>6</sup> cells

**GMO STATUS:** GMO Free

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## OBSERVABLE TRAITS

### AROMA CHARACTERISTICS:

Belgian Tripel has a fantastic heavily fruity aroma, married perfectly with light spice and esters it is massively complex, spicy, estery and phenolic.

### FLAVOR/MOUTHFEEL CHARACTERISTICS:

Belgian beers fermented with this strain will finish phenolic and dry, they will also exhibit fruity and very complex ester characters. These characters exhibit a beautiful marriage of spice and fruit estery alcohol goodness.

### HIGHER ALCOHOL BEERS:

High alcohol beers are this strain's bread and butter, with a high alcohol tolerance, strong beers just create excellent flavor and aroma characteristics.

The logo consists of the letters 'M21' in a white, bold, sans-serif font, set against a dark red, textured rectangular background.

# Belgian Wit

**Suitable for Witbier, Grand Cru, Spiced Ales and other specialty beers.**

## YEAST STRAIN DESCRIPTION

A traditional, top-fermenting yeast that has a good balance between fruity esters and warming spice phenolics. The yeast will leave some sweetness, and will drop bright if left long enough.

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## TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 64 - 77°F (18 - 25°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (70 - 75%)

**FLOCCULATION RATE:** 2

11 | **COMPACTION:** 2

**VIABLE YEAST CELLS:**  $>5 \times 10^9$  cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:**  $<1$  per  $10^6$  cells

**TOTAL BACTERIA:**  $<1$  per  $10^6$  cells

**GMO STATUS:** GMO Free

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## OBSERVABLE TRAITS

### AROMA CHARACTERISTICS:

Belgian Wit yeast presents a very light spice with a hint of bubble-gum character, this yeast works exceptionally well with botanics.

### FLAVOR/MOUTHFEEL CHARACTERISTICS:

This yeast has a slightly suppressed Belgian character presenting as phenolic and dry, fruity and very complex character. The mouthfeel is smooth, light, dry and crisp.

### HIGHER ALCOHOL BEERS:

With a medium attenuation this strain will struggle with extremely high alcohol beers and may become stressed.

# Bohemian Lager

Suitable for German/Bohemian Pilsners,  
Baltic Porter, and American style Lagers.



M84

## YEAST STRAIN DESCRIPTION

A bottom-fermenting lager yeast characterized by its dry and clean palate typical of traditional Czech brewing. Produces soft, delicate and well balanced beers.

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## TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 50 - 59°F (10 - 15°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (72 - 76%)

**FLOCCULATION RATE:** 4

**COMPACTION:** 4

**VIALE YEAST CELLS:**  $>5 \times 10^9$  cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:**  $<1$  per  $10^6$  cells

**TOTAL BACTERIA:**  $<1$  per  $10^6$  cells

**GMO STATUS:** GMO Free

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## OBSERVABLE TRAITS

### AROMA CHARACTERISTICS:

Classic Bohemian pilsner strain aroma and flavor characteristics can be expected.

### FLAVOR/MOUTHFEEL CHARACTERISTICS:

Hop and malt character will be enhanced and supported by moderate to full body. In wort with simple malt bills, delicate malt flavors will survive. Beer fermented with this strain is generally rich and chewy without being heavy at all. Light and delicately balanced beers call for this strain. Lagering periods as short as 4 weeks may produce acceptable beer but allowing it to lager for 6-8 weeks, it will result in beer that is richer and smoother with a more refined aroma and flavor.

### HIGHER ALCOHOL BEERS:

This strain will perform reasonably well in higher alcohol beer production up to 8% alcohol. Beer of over 7% alcohol will be slightly sweet, and the alcohol may be slightly hot.

# M54

## Californian Lager

Suitable for California Common and lagers fermented at ambient (ale) temperatures.

### YEAST STRAIN DESCRIPTION

A unique lager strain that has the ability to ferment at ale temperatures without the associated off flavors. Extended lagering periods are also not required.

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### TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 64 - 68°F (18 - 20°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (77 - 82%)

**FLOCCULATION RATE:** 4

**COMPACTION:** 4

**VIABLE YEAST CELLS:** >5 x 10<sup>9</sup> cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:** <1 per 10<sup>6</sup> cells

**TOTAL BACTERIA:** <1 per 10<sup>6</sup> cells

**GMO STATUS:** GMO Free

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### OBSERVABLE TRAITS

**AROMA CHARACTERISTICS:**

California lager yeast produces a clean lager aroma without the associated sulphur this yeast is perfect for most kinds of lager.

**FLAVOR/MOUTHFEEL CHARACTERISTICS:**

California lager yeast produces clean and crisp lagers, this yeast is excellent for producing anything from a hoppy pilsner to a helles allowing excellent malt and hop character to be expressed.

**HIGHER ALCOHOL BEERS:**

With a medium alcohol tolerance this yeast is not designed for fermenting over 8.5%.

# Empire Ale

Suitable for Scottish Heavy Ales, American Amber Ales, Sweet Stouts and more.



MI5

## YEAST STRAIN DESCRIPTION

A top-fermenting ale yeast suitable for a variety of full bodied ales, with exceptional depth. Ferments with full, rich dark fruit flavors.

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### TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 64 - 72°F (18 - 22°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (70 - 75%)

**FLOCCULATION RATE:** 4

**COMPACTION:** 3

**VIALE YEAST CELLS:** >5 x 10<sup>9</sup> cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:** <1 per 10<sup>6</sup> cells

**TOTAL BACTERIA:** <1 per 10<sup>6</sup> cells

**GMO STATUS:** GMO Free

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### OBSERVABLE TRAITS

#### AROMA CHARACTERISTICS:

When fermented at the correct temperature, Empire Ale yeast exhibits extremely characterful and appetizing estery aromas reminiscent of rich dark fruit.

#### FLAVOR/MOUTHFEEL CHARACTERISTICS:

This yeast strain has been carefully selected to aid mouth feel in the finished beer. Body should be full leaning towards a rich dark fruit character. Care must be taken when designing the beer to adjust hop bitterness to alleviate an over sweet finished beer.

#### HIGHER ALCOHOL BEERS:

Higher alcohol beers will tend to be slightly too sweet and heavy due to the moderate attenuative capabilities of the strain although a lower mash temperature may help the fermentability and lower the final gravity.

# M29

## French Saison Ale

Suitable for producing Saisons and farmhouse style beers up to 14% ABV.

### YEAST STRAIN DESCRIPTION

French Saison yeast is an exceptional, highly attenuative top-fermenting ale yeast, creating distinctive beers with spicy, fruity and peppery notes. Ideal for fermentation of farmhouse style beer.

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### TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 79 - 90°F (26 - 32°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (85 - 90%)

**FLOCCULATION RATE:** 3

15 | **COMPACTION:** 3

**VIABLE YEAST CELLS:**  $>5 \times 10^9$  cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:**  $<1$  per  $10^6$  cells

**TOTAL BACTERIA:**  $<1$  per  $10^6$  cells

**GMO STATUS:** GMO Free

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### OBSERVABLE TRAITS

#### AROMA CHARACTERISTICS:

This French Saison ale yeast strain brings all the sophistication and complexity of classic Saison ale production to the home brew and small brewery setting. Spicy and peppery characteristics are prominent with an undertone of the ubiquitous fruity character.

#### FLAVOR/MOUTHFEEL CHARACTERISTICS:

This is a highly characterful yeast strain that will dominate all but the highest hopping rates and complex malt bills. Beers fermented with this yeast will tend to be dry in the finish often with a slight drying acidity and peppery notes, aiding drinkability at higher alcohol levels. Higher alcohol beers may have an increased ester production and warming alcohol notes.

#### HIGHER ALCOHOL BEERS:

This yeast strain will perform exceptionally well up to 14% ABV making it suitable for a large range of Saisons.



# Liberty Bell Ale

Suitable for both English and American Pale Ales, Extra Special Bitters, Golden Ales and more.

# M36

## YEAST STRAIN DESCRIPTION

A top-fermenting ale yeast suitable for a wide variety of hoppy and distinctive style beers. This strain produces light, delicate fruity esters and helps develop malt character.

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### TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 62-74°F (18-23°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (74 - 78%)

**FLOCCULATION RATE:** 4

**COMPACTION:** 4

**VIALE YEAST CELLS:** >5 x 10<sup>9</sup> cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:** <1 per 10<sup>6</sup> cells

**TOTAL BACTERIA:** <1 per 10<sup>6</sup> cells

**GMO STATUS:** GMO Free

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### OBSERVABLE TRAITS

#### AROMA CHARACTERISTICS:

Some pear esters, possibly strawberry or kiwi-like aromas can be expected. Clean, delicate malt and hop aromas will survive fermentation. If hop and/or malt aromas are prominent in the beer this strain's aroma characteristics will fade to the background.

#### FLAVOR/MOUTHFEEL CHARACTERISTICS:

Clean, mostly neutral and smooth, finishes beers moderately dry but does not strip away body. Silky, lightly smooth texture, light to medium body, mild acidity and mostly neutral flavor. Aroma contributions from this yeast strain makes it a good all-rounder for a wide range of ales.

#### HIGHER ALCOHOL BEERS:

As a very good strain for strong ales, this yeast provides brews with plenty of body, without being heavy or dense.

  


## New World Strong Ale

Suitable for IPAs, Porters, Russian Imperial Stouts and more.

### YEAST STRAIN DESCRIPTION

A top-fermenting ale strain suitable for many types of ales of all strengths. Ferments with a neutral yeast aroma to ensure the full character of the malts and hops are prominent in each beer.

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### TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 61 - 72°F (16 - 22°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (77 - 82%)

**FLOCCULATION RATE:** 5

**COMPACTION:** 5

17 | **VIABLE YEAST CELLS:**  $>5 \times 10^9$  cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:**  $<1$  per  $10^6$  cells

**TOTAL BACTERIA:**  $<1$  per  $10^6$  cells

**GMO STATUS:** GMO Free

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### OBSERVABLE TRAITS

#### AROMA CHARACTERISTICS:

Hops and malt aromas are enhanced and will tend toward earthy, nutty, orange peel, and mild spice. Esters will be nearly absent in normal strength beers fermented cool; below 68°F (20°C).

#### FLAVOR/MOUTHFEEL CHARACTERISTICS:

Beers fermented with this strain will finish dry, and very light beers will not be thin or watery. Acidity will be low, and mouth feel will be light and soft on the palate with a smooth non astringent texture. As this strain is highly flocculent and resilient and not prone to autolysis, it is excellent for cask or bottle conditioning.

#### HIGHER ALCOHOL BEERS:

Ester formation will be slightly elevated in higher alcohol beers. The character of the esters will be pleasant with ripe apple and pear dominating, along with faint banana. Beer will be dry, but a perception of malt sweetness will survive in the aftertaste along with malt character and complexity. Alcohol should be warming, not hot.

# US West Coast

# M44

Suitable for American Style Pale Ales, American Double IPAs, American Style Imperial Stouts and more.

## YEAST STRAIN DESCRIPTION

A top-fermenting ale strain suitable for American style ales. This yeast produces an exceptionally clean flavor, ideal for when you want the hop character to really punch through.

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### TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 64 - 74°F (18 - 23°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (77 - 85%)

**FLOCCULATION RATE:** 4

**COMPACTION:** 3

**VIABLE YEAST CELLS:** >5 x 10<sup>9</sup> cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:** <1 per 10<sup>6</sup> cells

**TOTAL BACTERIA:** <1 per 10<sup>6</sup> cells

**GMO STATUS:** GMO Free

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### OBSERVABLE TRAITS

#### AROMA CHARACTERISTICS:

A very neutral strain even when fermented in higher gravity worts and warmer temperatures. Tangy citrus and pine hops aromas will be enhanced, as well as toasted and dark malt aromas..

#### FLAVOR/MOUTHFEEL CHARACTERISTICS:

Beers fermented with this strain will finish dry and crisp. This strain is at its best in hop prominent American style ales. Very light ales may turn out a bit stripped, thin or astringent if care is not taken with the mash temperature and avoiding over-extraction. Acidity is moderately high, boosting hop flavors and creating a clipped finish.

#### HIGHER ALCOHOL BEERS:

Remaining very neutral, this strain excels in strong ales with simple malt bills. Alcohol will be a dominant flavor and aroma constituent, and may be quite warming but not harsh.

# M02

## Cider

Suitable for brewing all types of cider.

### YEAST STRAIN DESCRIPTION

A high ester-producing cider strain imparting wonderful flavor depth, revealing the full fruit potential. Makes exceptionally crisp, flavorsome and refreshing ciders.

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### TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 54 - 82°F (12 - 28°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (95 - 100%)

**FLOCCULATION RATE:** 5

**COMPACTION:** 5

19 | **VIABLE YEAST CELLS:**  $>5 \times 10^9$  cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:**  $<1$  per  $10^6$  cells

**TOTAL BACTERIA:**  $<1$  per  $10^6$  cells

**GMO STATUS:** GMO Free

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### OBSERVABLE TRAITS

**AROMA CHARACTERISTICS:**

This strain promotes fruity aromas through high ester production, especially at warmer temperatures.

**FLAVOR/MOUTHFEEL CHARACTERISTICS:**

Ciders fermented with this strain will finish dry and be relatively full-bodied with exceptional depth and a full-flavored fruit character.

**HIGHER ALCOHOL BEERS:**

This strain has high alcohol tolerance up to  $>12\%$  ABV.

# Mead

Suitable for all styles of mead.

# M05

## YEAST STRAIN DESCRIPTION

A high ester-producing strain conferring fresh, floral esters, especially when fermented cool. This yeast has high alcohol tolerance and ferments well over a wide temperature range.

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## TECHNICAL CHARACTERISTICS

**STRAIN CLASSIFICATION:** *Saccharomyces cerevisiae*

**RECOMMENDED TEMPERATURE RANGE:** 59 - 86°F (15 - 30°C)

**PERFORMANCE CHARACTERISTICS:** (5- high, 1- low)

**ATTENUATION:** (95 - 100%)

**FLOCCULATION RATE:** 4

**COMPACTION:** 4

**VIABLE YEAST CELLS:** >5 x 10<sup>9</sup> cells per gram

**DRY WEIGHT:** 93 - 96%

**WILD YEAST:** <1 per 10<sup>6</sup> cells

**TOTAL BACTERIA:** <1 per 10<sup>6</sup> cells

**GMO STATUS:** GMO Free

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## OBSERVABLE TRAITS

### AROMA CHARACTERISTICS:

This strain promotes fresh, floral aromas through high ester production, especially at cooler temperatures.

### FLAVOR/MOUTHFEEL CHARACTERISTICS:

Meads fermented with this strain will finish dry and be relatively full-bodied with good complexity and a fresh, floral character.

### HIGHER ALCOHOL BEERS:

This strain has high alcohol tolerance up to 18% ABV.  
For higher alcohol meads, ferment cooler; below 77°F (25°C).



## SELECTING THE RIGHT YEAST

Selecting the right yeast strain for the style of beer you are wishing to brew is critical. Each yeast strain will provide the beer with different flavor characteristics as well as body and clarity. Use the table below, as well as the yeast technical notes on the following pages, to ensure you select the best yeast for your chosen beer style.

NAMES	FLOCCULATION	ATTENUATION	ALCOHOL TOLERANCE	RECOMMENDED TEMPERATURE RANGE
M76 Bavarian Lager	3	75-80%	8%	46-57°F (8-14°C)
M20 Bavarian Wheat	2	70-75%	7.5%	64-86°F (18-30°C)
M47 Belgian Abbey	4	73-77%	8%	64-77°F (18-25°C)
M41 Belgian Ale	3	82-88%	12%	64-82°F (18-28°C)
M31 Belgian Tripel	3	82-88%	10%	64-82°F (18-28°C)
M21 Belgian Wit	2	70-75%	9%	64-77°F (18-25°C)
M84 Bohemian Lager	4	72-76%	8%	50 - 59°F (10-15°C)
M54 Californian Lager	4	77-82%	9%	64-68°F (18-20°C)
M15 Empire Ale	4	70-75%	8%	64-72°F (18-22°C)
M29 French Saison	3	85-90%	12%	79-90°F (26-32°C)
M36 Liberty Bell Ale	4	74-78%	9%	64-73°F (18-23°C)
M42 New World Strong Ale	5	77-82%	12%	61-73°F (16-22°C)
M44 US West Coast	4	77-85%	10%	64-73°F (18-23°C)
M02 Cider	5	95-100%	12%	54-82°F (12-28°C)
M05 Mead	4	95-100%	18%	59-86°F (15-30°C)



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