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## **BREWING IN WINTER**

### **HOW TO TAKE ADVANTAGE OF THE COLD WEATHER**

Winter is upon us, so now is the time to start thinking about making your best quality beer.

#### **THE HISTORY**

Many people stop brewing during the winter months but it is in fact the best time of the year to be brewing. The Oktoberfest in Germany is actually a festival celebrating the reopening of the breweries in October, which in Europe is late Autumn.

The Germans discovered many years ago that the cold weather made their beers much clearer and also resulted in a much cleaner style of beer. This is the origin of all Lager style beers. These days the breweries can operate all year round because of the introduction of refrigeration in the late 19th century. Obviously not everyone has access to refrigeration equipment so we home brewers use the next best thing, the cold Canberra winter.

#### **THE PRINCIPLES**

There are hundreds of different strains of yeast available to breweries today, but they fall into two distinct categories. The yeasts most commonly supplied with home brew concentrates fall into the top fermenting or ale yeast styles and are most suited to and used commercially in English beers, particularly ales and stouts. This is despite the fact that the beers they are in many cases attempting to emulate are lagers or Pilsners.

Most European and Australian commercially produced beers use the bottom fermenting or lager yeasts. Lager yeasts are designed to operate at temperatures ranging from between 6 degrees Celsius to 12 degrees or marginally higher. The average winter temperature in Canberra provides us with the perfect environment to brew beer in, as it very rarely gets any colder than 6 nor does it get much above 14 degrees in the middle of winter. Even if the temperature does exceed these limits, the maximum and minimum temperatures usually only peak for about one hour.

All of this talk about fermenting at colder temperatures will no doubt come as a bit of a shock to most people, especially if you have been following the instructions on the cans of brewing concentrate which call for temperatures of 25 degrees and above.

There are several reasons why this temperature is recommended.

The first is that the logic used by the manufacturers seems to be if you brew at a higher temperature the brew will ferment faster and it can in turn be bottled sooner and consumed so that you will buy another can. This is fine, but it is done at the expense of flavour, which is greatly improved if you ferment at a constant 20 to 22 degrees for a top fermenting yeast.

The second reason for the higher temperature being recommended is that these yeasts will not function properly below 16 to 18 degrees. In short, these yeasts have been picked because of their ability to operate under a wide range of temperatures making them relatively foolproof.

If you want to get a flavour near that of a particular commercial beer, you must use a yeast which will help you achieve this as you are almost always trying to copy the flavour of some commercially produced beer you have tasted and enjoyed.

#### **THE PROCEDURE**

The first decision to make is to select an appropriate yeast for the beer you want to make. Rather than go into a detailed explanation of all the different varieties available it would be much easier to follow the types we have recommended in the enclosed list of recipes. The procedure for this type of brewing is no different as far as mixing ingredients goes, the only difference occurs with the fermentation.

The easiest way to explain any procedure is with the use of an example, so I will go through the procedure for a typical lager brew and you can then apply this method to your own recipe or standard kit.

### **LONG BEACH LAGER**

1 Can of Coopers Heritage Lager

500g Light Malt Extract

500g Dextrose Sugar

25g Hallertau Hops

Sachet of Fermentis W34/70 Lager Yeast

Ferment at 10 to 12 degrees

Final gravity approximately 1010

Mixing The Brew

Boil the 25g of hops in 500 ml of water for 5 minutes. Strain the hops through a filter bag into the fermenter, then add the rest of the ingredients along with 3.5 litres of boiled water.

Top the fermenter up with cold water and ensure that the temperature is around 20 - 22 degrees.

Pour the yeast in.

The brew should start to ferment within 6 to 12 hours. Allow it to ferment at 20 - 22 degrees for 6 hours or so and then move it into your cold garage or wherever you are planning to brew it.

Fermentation will take longer than normal, but shouldn't be drastically increased. If it does take a little longer don't be too concerned. It is always best with any lager fermentation to warm the fermenter up to 18c - 20c for the last couple of days to allow the fermentation to completely stop before bottling . This will reduce the chance of the beer being overcarbonated.

After bottling, leave bottles in a warm dark place for a few days to assist with carbonation as you would normally do, then shift them out to your garage. Leaving them for at least six weeks and anything up to six months in the cold will greatly improve the flavour of your beer.

Armed with this information you will be able to brew some of the best beer you have ever tasted. Not only this but you will be able to drink your lagers at their best when you most enjoy them, during spring and summer.

### **WYEAST/WHITE LABS LIQUID YEAST CULTURES**

You will notice that most of the recipes indicate a choice of two yeasts. If you have never brewed cold before I would suggest you start by using the DCL SafLager yeast first and then trying the liquid yeasts. These are fantastic yeast and are used in European Breweries, but they are a little more finicky to use first time.

The surest and safest way to use this yeast is to start it fermenting in a starter bottle. Follow the method described for activating the yeast on the package it is purchased in. All of these yeast types really need to be cultured up in a starter bottle before being pitched into the brew. For information on this, ask for a copy of our "Yeast" brochure.

It is very important when using these yeasts to adhere to the instructions related to temperature of fermentation, as it is very easy to produce Butterscotch and Pineapple flavoured beers if you aren't careful with the temperature control.

Reusing Wyeast or White Labs Cultures

Due to the higher cost and special qualities of this yeast it makes good sense to reuse them several times. This is simple to do and safe, with little risk of infection. The procedure is as follows:

When your brew is at the height of its fermentation, usually around the three to four day mark, tap of 600 - 700 mls of the fermenting beer into a sterilised soft drink bottle and seal it tight.

Allow this to ferment a further 12 - 24 hours and then place the bottle into your fridge. It is important to make sure that the bottle has plenty of pressure in it when it is placed in the fridge.

The cold will put the yeast on hold until you are ready to use it again.

To reactivate the yeast it is simply a matter of taking the bottle out of the fridge 1 day before you want to brew, adding tablespoon of dried malt extract, and giving it a good shake and allowing it to stand in a warm dark spot. When the contents of the bottle start to ferment it is ready to add to

your next brew. This procedure can be repeated 2 - 3 times before the yeast will mutate and pick up bacteria, trub etc, which can adversely affect the flavour of the brew.

### **RECIPES**

#### **PALE MUNICH LAGER**

1 Tin of Morgan's Blue Mountains Lager

1.5kg Light Malt Extract

30 g German Hersbrucker Hops

1 Sachet Fermentis S-189 Lager Yeast, White Labs WLP840 American Lager

Final gravity approximately 1013

#### **DARK MUNICH LAGER**

1 Tin of Beermaker's Munich Lager

1.5kg Amber Malt Extract

30g Tettnang Hops

1 Sachet Fermentis S023 lager Yeast, White Labs WLP838 South German Lager yeast

Boil the hops for 20 minutes and strain the resulting liquid into the fermenter. Final gravity approximately 1013

#### **BOCK**

(Strong Dark Lager)

1 Tin Blackrock Bock

2 kg Light liquid Malt Extract

30 gms German Hallertau hop pellets

1 Sachet Fermentis W34/70 lager, White Labs WLP820 Oktoberfest Final gravity approximately 1016

Boil the hops in 1 litre of water for 10 to 15 mins and then allow them to soak in the hot water for a further 5 mins with the lid on and the heat turned off. Strain this liquid into your fermenter through a filter bag. Combine this with the other ingredients and add water for a standard brew.

#### **CZECH PILSNER**

This is a classic beer from Central Europe, which is typically malty with a long dry finish brought about by a high level of bitterness. If you don't like hops in your beer I would suggest this isn't the beer for you.

1 Can of Coopers European Lager

1.5 kg Morgans Extra Pale Malt Extract

30g of Saaz Hops

1 Sachet of DCL SafLager Yeast, White Labs WLP800 Pilsener yeast or

Wyeast 2124 Bohemian Lager Yeast

Final gravity approximately 1016

#### **TOOHEYS DRY STYLE**

1 Can of Black Rock Dry Lager (Use the dry enzyme supplied)

500g Light Malt Extract

500g Dextrose

1 Sachet of DCL SafLager Yeast

Final gravity approximately 1002 or lower

Hopefully we will have you interested enough to have a go at brewing quality lagers in winter. If you do I'm sure you won't be disappointed. If you need any assistance at all don't hesitate to call us on (02) 6296 1412.

Many thanks to Laurie Cahir of Southern Home Brewing Supplies of Edithvale, Victoria for granting us permission to reprint this article.