Brewing In Hot Weather (revised)

With recent temperatures soaring into the upper 20's, perhaps it's now time to have a look at our fermentation techniques and in particular how to keep temperatures at a manageable level to reduce the risk of potential off flavours to our beers. For example, if the temperature of the fermenting wort rises much above 22C there is a risk of fusel alcohols being produced which in turn give way to "solvent type" aromas. These unfortunately do not disperse with age and thus remain in the finished beer imparting a most unattractive aroma and taste. This is often dependant on the type of yeast strain in use and I'll discuss that later.

Potential problems can be minimised by cooling the collected wort from the copper to around 16 – 18C if at all possible, this being very much dependant upon the temperature of your particular mains water supply. Bearing in mind that the heat created by actively fermenting wort can cause a temperature rise of at least 2 – 3C for a 25L brew, it's better to ensure a good start by commencing your fermentation a little cooler than normal. It's relevant to point out here that if you use dry yeast the following precautions should be observed.

Re-hydrate your dried yeast in accordance with the manufacturer's instructions, this is usually 10 times the weight of yeast to tap water which has been boiled briefly and cooled to between 21 – 35C dependant on the type of yeast. For example a 11.5g packet of Safale SO4 is re-hydrated with 115ml water at 27C in at least a pint sized jug. After standing for between 20 – 30 minutes an equal quantity of cooled wort is added, this is repeated at 5 - 10 minute intervals until you have around 400ml at which point the contents of the jug can be added to the main batch of wort. This simple procedure will prevent the yeast from being "shocked" by a sudden temperature change. Alternatively a small amount of wort can be taken during cooling at 20 – 25C and the dried yeast added directly to this, once again adding equal amount of wort taken from the main batch once this has cooled to the desired temperature. However it isn't advisable to add dried yeast directly to wort below 18 – 20C as re-hydration will be retarded and a sluggish fermentation may ensue.

Most of us don't have air conditioning in our homes so the FV should be placed ideally in a small cupboard if possible, perhaps under the stairs or in a lower part of the house where it doesn't get too warm. And a few ice packs placed in a jug or bucket positioned next to the FV will assist in preventing the fermenting wort from overheating.

Another way is to acquire a second hand larder fridge or freezer and have an electrician (or refrigeration engineer) install a suitable variable thermostat such as a Ranco ATC 800 or similar type. When fitted this will bypass the existing thermostat and enable you to set the temperature at a range suitable for ale or lager fermentation.

It is also possible to dismantle an existing fridge and install the mechanism inside a bespoke cabinet. However, this is an advanced technique and help from a refrigeration engineer is advised.

With regard to individual yeasts there are several strains which are listed by the makers as being suitable for fermentations up to 24C. These include Safale SO4, Wyeast 1728, (Scottish Ale) Wyeast 1332, (North-West Ale) and Wyeast 1099 (Whitbread Ale) to name but a few. And several Belgian strains have even higher temperature tolerances and these are listed by both Wyeast and White Labs.

If you don't want the bother of controlling the temperature of your wort during hot weather it's worth considering brewing a Saison beer assuming you like the style. During our recent Saison project the fermentation was carried out at temperatures up to 28C and all the beer submitted was up to the high standard we have come to expect from MCB members. The Danstar Belle dried yeast which was used by all who participated in the project is extremely robust and very easy to use so this is an option well worth considering.

At home I have a double deck fermentation cupboard built of timber and finished with insulating board situated in a corner of my garage. This will hold a 50L tank with enough side space for containers filled with ice packs if necessary. On the lower deck two 60 watt light bulbs are wired in to a central heating thermostat to cope when the weather turns cold. I also have a larder fridge which was bought second hand many years ago and fitted with a Ranco controller. This is mainly used for storing and dispensing beer but has also been handy on the few occasions when I've needed to cold condition a beer in secondary. Unfortunately my

mains water can be as high as 20 – 22C during the hot weather so what I do is chill 2 x 2L bottles of cheap supermarket soft water (ASDA Eden Falls) down to 2 – 4C in the domestic fridge. I then simply collect 4L short of my total brew volume and mix in the chilled water with the cooled wort before pitching the yeast. This means that I can pitch the yeast at around 18 – 20C which is near enough to the temperature that I prefer. It's important to use soft, sterile water for this purpose as hard water could upset the pH balance which is not desirable. You could however instead use chilled sparge liquor which has previously been given a brief boil to remove any chlorine present.

This article covers brewing in hot weather only. It is intended to provide further advice on cold weather brewing when it becomes relevant in a few months time.

I feel that as serious craft brewers we should be able if we wish to adopt the professional approach and keep our breweries open all year round whatever the weather!

Peter Fawcett