Cask Conditioned Beers
For the Craft Brewer

By A.F. Allen

ABSTRACT

Prior to the advent of large pressure vessels, the only way to carbonate your beer was to start a secondary fermentation and develop carbonation in the cask (or keg) from which it was to be served. This practice, known as cask conditioning, has all but disappeared today, with only a few older breweries in Great Britain still continue to carry on this complex and time consuming art form. Most modern breweries have changed to more efficient and consistent methods of producing draft beer. When the craft brewing revolution came along it generated renewed interest in traditional brewing methods and beer styles. This presentation will discuss traditional cask conditioning methods, from fermentation to the dispensing of the beer, and what the modern craft brewer can do to authentically reproduce this style of beer.

SINTESIS

Antes del uso de grandes tanques presurizados, la única manera de carbonatar la cerveza era comenzando una fermentación secundaria y desarrollando carbonatación en el barril (o barrica) desde el cual sería servida la cerveza. Esta práctica conocida como acondicionamiento en barril, practicamente ha desaparecido hoy en día, con tan solo unas pocas cervecerías en gran bretaña todavía practicando esta compleja y ardua práctica que es casi un arte. La mayoría de cervecerías modernas han cambiado al uso de métodos mas eficientes y consistentes para producir cerveza de barril. Cuando la revolucion de hacer cerveza artesanalmente llego, renovo el interés nuevamente en metodos y estilos tradicionales de hacer cerveza. Esta presentacion discutira metodos tradicionales de acondicionar la cerveza en barriles, desde la fermentacion hasta que se sirve la cerveza, y lo que el cervecerero moderno puede hacer para autentica-

INTRODUCTION

Once, all beers were cask conditioned, both ales and lagers. This was prior to the advent of large pressure vessels. The only way to carbonate your beer was to start a secondary fermentation in the vessel from which it was to be served. Today, with modern tankage, Bulk CO2 systems, and inline carbonation, there are other, more consistent and economical ways to give your beer a little fizz. But, brewers, being the way they are, are not always willing to casually break with tradition. And so the decline of cask conditioning beers was a gradual event. By the early 1970s, less than 30% of the British brewers produced cask conditioned beers and in America brewers had dropped the practice completely. Cask beers were less consistent, more expensive, didn't travel as well and took a great deal more care in handling. It was a tradition whose time was coming to an end.

Then in England along came an organization called CAMRA, the Campaign for Real Ale. The organization was started by consumers who were concerned about the growing trend by the lager breweries towards lighter “fizzy” beers. The larger breweries had also started to purchase the smaller, more traditional breweries so that they might acquire their tied houses. The larger breweries would then close down the smaller breweries eliminating their brands and selling off their equipment. CAMRA, through their efforts and education were not only able to keep cask conditioned beer production from vanishing completely but were able to increase its popularity and production. Today, every British brewing company produces at least one real ale. CAMRA's guidelines on the subject have become the standard by which all real ale is now measured. In the United States with the growth of the microbrewery industry, we have also seen a growth in the interest of traditional brewing methods and beer styles. Today, there are many American brewers, large and small alike, who are interested in traditional beer styles. Cask conditioned beer is one of those traditional styles. There are now springing up local pubs that have beer engines and gravity taps to serve cask beers. They are not always easy to find, but they are out there, and in increasing numbers.

To understand real ale, we first need to define some terminology. The British use the terms “real ale” and “cask conditioned” interchangeably. When a brewer speaks of the “condition” of a particular beer he is referring to its level of carbonation. Most importantly, we must define what constitutes a cask conditioned beer. CAMRA's definition of “Real Ale” is: “draught (or bottled) beer brewed with traditional ingredients, matured by secondary fermentation in the container from which it is served, and dispensed without the use of extraneous carbon dioxide.” This means that beer that is merely unfiltered and then served through a hand pump, no matter how good it may taste, by definition is not cask conditioned beer. I think that this is an important point to make. As brewers, we need to be consistent. Since we do not have an organization like CAMRA in the U.S.,
we need to educate the consumer ourselves. Education has been one of CAMRA’s greatest strengths and part of what has made them one of the most effective consumer organizations in the world.

**SELECTING A CONTAINER**

The real art of producing a cask conditioned beer starts when fermentation has finished. You take terminally fermented, flat beer and rack it into your container of choice. Your choice of containers will be somewhat dictated by the method you chose for serving the beer. If you are dispensing the beer through a hand pump, almost any container style can be used so long as it has a way to let product out and air in. Remember that real ale should not be pushed out of its serving vessel with C02. If you are using gravity to dispense the beer, your choices are more limited. For gravity dispensing, I recommend either golden gate kegs with their separate product and gas valves or I would recommend a British cask made to accommodate this style of serves. A typical cask size would be the 40 liter Firkin. If you choose to go the traditional route and use British casks you will also need to purchase special bungs, kestones and spiles. They must come from England so be sure to make allowances for shipping time.

When choosing a container, the size you choose is also important. Once you broach a keg you will want it to be completely consumed in 3 to 10 days depending on the gravity of the beer. The higher the gravity of the beer, the longer it will “live” in the cask. After 10-16 days, all but the strongest beers will become overly oxidized and you run the risk of a noticeable infection. If a restaurant or pub account is not going through a shipping time.

For finning dispensing, I recommend either golden gate kegs with their separate product and gas valves or I would recommend a British cask made to accommodate this style of serves. A typical cask size would be the 40 liter Firkin. If you choose to go the traditional route and use British casks you will also need to purchase special bungs, kestones and spiles. They must come from England so be sure to make allowances for shipping time.

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**PRIMING**

Once you have selected your container and filled it with flat, terminal beer, you must choose a method of priming the beer and starting the secondary fermentation. The most common methods of priming are using unfermented wort or gyle, using a measured amount of priming sugar or using actively fermenting beer. The latter method, called krausening, has the advantage (or disadvantage, depending on your yeast strain) of having a fair amount of yeast still in suspension to help carry out the secondary fermentation. With the former two methods, you may find it necessary to add a small amount of yeast with your primings so that you have the proper number of yeast cells present to achieve carbonation. At the Pike Place Brewery because our yeast is very flocculent we have found that krausening works best. For a 1/4 bbl keg we use 1 liter of actively fermenting beer at 10 degrees Plato with approximately 75 million cells/ml in suspension. This gives us the proper carbonation without too heavy a yeast load. You want your final carbonation level to be between 1.0 and 1.5 volumes of CO2.

**FINNING**

Finnings can also be added at this time. They are a clarifying aid that will help the beer to drop bright. In England, some brewers use the tradition method to fine the beer and in America, due to a lack of training and tradition, we often use finings. As for the best variety of hops to use, in general, a good finishing hop makes a good candidate for use in dry hopping. We have found at our brewery that 1/8 to 1/4 of an ounce in a 1/2 bbl brings forth a nice aroma without adding a metallic flavor that you can get from over dry hopping beer.

**DRY HOPS**

Dry hopping or adding a small amount of fresh hops to the keg is something else many brewers do at this time. It is an excellent, traditional way of adding some extra hop aroma to your real ale. Depending on your method of dispensing you can use whole flower or pellet hops. I prefer to use flower hops in a hop bag that has been connected to the bung. This leaves less hops floating around in the keg to clog the tapping mechanism. As for the best variety of hops to use, in general, a good finishing hop makes a good candidate for use in dry hopping. We have found at our brewery that 1/8 to 1/4 of an ounce in a 1/2 bbl brings forth a nice aroma without adding a metallic flavor that you can get from over dry hopping beer.

**CELLARING**

Once you have primed, fined, dry hopped and bunged your cask you need to find a suitable place for it to condition. In England this is called cellaring and it is usually carried out by a
VIBING AND TRANSPORTING

After you have cellared your beer for 7-10 days it will have built up some carbonation, probably a little more than you want. You will need to vent off some of the excess CO2. Depending on the style of kegs you use and how much you trust the person who will be tapping the keg, you can choose to either vent the keg yourself or allow the publican to do so. If you are using traditional British casks with a keystone and shived bung you will have to either trust your publican or go with your keg to the pub and splice (or vent) it yourself. Moving a spiled cask can be a difficult proposition. If you are using other keg styles you can vent them at the brewery prior to shipping.

The objective of venting your container is to allow excess CO2 to escape so that the beer will not be over carbonated. Once the beer is at “cellar temperatures” (55 degrees F) you want to slowly reduce the internal pressure to match the ambient pressure. With a traditional cask you accomplish this by punching the “shive” (or center plug) out of the bung and immediately placing a soft (porous) spill in its place. This will allow the CO2 to escape slowly, thus, not disturb the sediment on the bottom of the keg. This usually takes 4 to 8 hours, depending on the condition of the beer. With other styles of kegs, venting can be accomplished through the gas in valve. Always vent a keg or cask slowly, otherwise the rising CO2 bubbles coming out of solution will drag sediment off the bottom and make for a cloudy beer. You should also remember to vent the beer when it is at proper serving temperature. Otherwise the beer will appear to lack the proper condition. Once you have adequately vented the cask or keg, it is ready to be served or transported from the brewery. After a beer has been transported to pub or tavern it will require a 24-48 hour settling period prior to being served. When we transport our cask beer from the brewery we do not roll the kegs. They are transported, stored and served in the same position they were cellared. This helps keep yeast and other solids out of suspension.

SERVING

Now you are ready to serve your beer. The method you choose to dispense your beer can have a dramatic effect on the overall flavor profile. Serving a beer by gravity gives it a fairly lively mouth feel but a flat appearance without a neat, foamy head. Serving your beer through a beer engine that has a sparker on it will strip out some of the saturated CO2 but will give it a dense, tight, foamy head and a smooth velvety mouth feel.

As a pint is drawn off, the air will flow into the keg to replace the lost volume. This air will come into contact with your beer. Don’t be afraid of this, it can have some positive effects. Just as air allows a robust red wine to open up and become more accessible, air will blend with your beer in the cask to bring forth and enhance certain flavors that would otherwise go undiscerned. It will soften and round out hop flavors and bring an overall mellowness to the beer. You will find noticeable differences as your beer ages and goes through its serving life. We have found that our pale ale actually peaks in flavor and is best 24-36 hours after the cask has been broached. Once you broach a cask and start to serve it, keep in mind that it only has a limited life and must be consumed within a few days. Should you allow too many days of contact with air, your beer will eventually oxidize and this will bring out papery and cardboard flavors.

Another point to remember is that if you’re serving your beer by gravity from the bar tap that it will warm up to room temperature rather quickly. As a beer warms up it loses its carbonation.
and it will become flat in just a day or two.

The most important thing to remember when you start on a program of making real ale is that the best way to find out what will work best for your brewery and your beer is through experimentation. You will have to be innovative in a traditional art form.

Cheers!

REFERENCES


QUESTIONS AND ANSWERS

Q. How many days will it take the beer to become overly oxidized?
A. That will greatly depend on the gravity, cellar temperature and the color of the beer. Bigger, darker beers will hold up better than low gravity lighter beers. The chart gives you some general idea on the relationship between gravity and the life of a cask beer.