A relaxed perspective on real ale for the home brewer

Introduction

In England there exists an organization often sited as the single most successful consumer movement ever, called CAMRA, for Campaign for Real Ale. They are dead serious about their beer, and have strict guidelines regarding what is, and is not, Real Ale. We, being American homebrewers accustomed to doing as we like, can and do combine tradition, practicality, and a relaxed attitude within the confines of our basements with typically dandy results. For our purposes, real ale is the term designating beer which is conditioned, that is, matured and carbonated, in the vessel from which it is served. It must be naturally carbonated and dispensed without the use of extraneous carbon dioxide. Thus most homebrewed bottled ales qualify as real ale. Serving temperature should be between 50 and 60 degrees F, with 55 being typical. Real ale is the traditional drink of Britain, although much like baseball here in the States, it isn't always like it used to be. Our goal here is to end up with beer in our glasses that compares favorably with traditional British ale, while maintaining our low-impact, relaxed attitude.

Packaging options for Real Ale

About anything that will hold moderate pressure that you can get the beer back out of without pressurized gas: bottles, growlers, collapsible poly water jugs ("polypins"), Cornelius kegs, and of course, casks. We'll concentrate on cornies and firkins in this article, but most of the information can be adapted to any draft packaging setup. Throughout the article, the ever-popular Cornelius-type keg will be referred to simply as a keg, recognizing that in Britain, "keg beer" refers to filtered, pressurized mega-beer.

Kegs: Kegs are great for real ale for many reasons. They're easy to clean and inspect, are easily stored and handled, and many homebrewers already have a few around and are familiar with their care and feeding. The five gallon size lends itself to parties, with little wasted beer. Parts and fittings are readily and inexpensively available. Many homebrewers prime homebrew in the keg at least once in a while, and so have a pretty good handle on priming rates, as well.

Casks: Modern casks appear similar to older barrel-shaped kegs such as Hoff-Stevens, with the main difference being the type and location of the openings. A cask has an opening to receive a keystone on the front, or head, of the cask, at what is the bottom edge when the cask is stillaged (real ale lingo for "chocked in serving position") on its side. A bunghole is located at the midline; the cask is filled through this hole, which is then closed off with a perforated bung, known as a shive. Both the keystone and shive are typically made of wood, scored or partially perforated to allow the centers to be driven through when the cask is tapped. Casks come in various sizes, the most common being the firkin, with a capacity of 9 Imperial gallons (10.8 US), though barrel-type vessels of other sizes such as the pin (4.5 Imperial gallons, 5.4 U.S.), kilderkin (18 Imperial gallon, 21.6 US), barrel (36 Imperial gallon, 43.2 US), and the rarely seen hogshead (54 Imperial gallons, 64.8 US!) are sometimes employed. The pin and the firkin are the sizes most commonly seen in basements and brewpubs. **Pix of bits**

Practical Considerations

How are you gonna get it out?

Gravity dispense is the most traditional means of all, and the way we get beer out of bottles (gushers excepted). Gravity can't be beat for simplicity, and there is a certain bliss that comes from reducing life to the bare necessities.

Gravity dispense is fairly easy from a corny keg: just lay it down horizontally at a convenient height, tilt slightly by placing a small block under the bottom end. Attach a gas fitting with a picnic tap to the 'gas in' valve, and a liquid fitting to the 'liquid out' valve. Beer is drawn off through the short gas dip tube, and air is drawn in through the long liquid dip tube. ****diagram****

Gravity dispense from a traditional cask, be it a pin or a firkin, (anyone using a kilderkin, barrel, or

hogshead probably is not looking herein for advice) is pretty simple too: the horizontally stillaged cask is vented by driving out the center of the bung, or shive, which hopefully has been oriented in the up position, and a tap is driven into the keystone. Open the tap, out pours beer! Obviously, the cask has to be located at a convenient height for pouring. Since the firkin also must be kept cool, making the cellar the preferred storage/stillage location, other means of dispense have supplanted gravity, such as...
****picture****

Beer engines

As many know, a beer engine AKA handpump is, from a technical standpoint, a glorified bicycle pump. It allows you to draw beer from a container located on the floor or in the cellar, or some other inconvenient-to-pour-from location. With the ale being drawn out by suction, the keg or cask can be oriented vertically, which in most cases is an easier, more space-efficient position to accommodate. For a keg, the engine can be connected right to the 'liquid out' valve, and a gas fitting can be snapped onto the 'gas in' valve to admit air. For a vertically oriented firkin or pin, a "vertical extractor," basically a fancy dip tube, is inserted through the keystone down to the bottom of the cask. Most beer engines are of the sort that can be clamped onto a horizontal surface such as a table or bar top, and deliver 1/4, or ½ UK pint with each pull of the handle. Most also have a "sparkler," a plastic restrictor nozzle that can be screwed onto the end of the spout to spur turbulent dispense and whip up a foamy head on the beer when it is poured. Oftentimes when using a sparkler, one ends up with a photogenic pint that has unfortunately lost a good deal of its carbonation and aromatics in the pouring. A properly conditioned ale will have enough carbonation to pour up a nice collar of foam if desired without resorting to a sparkler. ****Picture**** A beer engine is somewhat expensive by typical homebrewer standards, with reconditioned models starting at around $250, but there are some nifty selling points in addition to the flexibility described above. They are easy to keep clean; just disconnect from the keg or cask, throw the line into a container full of tap cleanser, and pump some through. They are easy to take to parties; I take along a Workmate-type foldup bench and clamp it to that, but it can also clamp to a picnic table, bar top, or the like. Hook up to the keg or cask, and start pouring, no gas cylinder required.

An aside:

Now, I realize that Zymurgy is not a guys-only publication, but for a moment here I'd like to speak directly to the guys reading this. As most all of you have noticed, beer culture does not, in general, have much of an appeal for babes. Sure, there are many exceptions, but in the main, it will be a guy asking you about the OG of your beer, or admiring your new chest cooler. Unless you have a beer engine. Ladies will ask you about it, and will want to pour themselves a pint. Chicks just dig it; ladies young and old cannot resist the pull of the handpull. Theories abound as to why this is, from various Freud-derived baloney to the one I favor: beer engines are just so darn cool. So add that to your list of reasons why you need one. Plus it's a heck of a lot cheaper than a Corvette.

How fast will it be consumed? Traditional ale should be consumed within 2, maybe 3 days of opening. Not a problem with a bottle or a growler, but possibly a problem with a corney keg or a firkin. Since air is admitted to the container as beer is removed, oxidation begins as soon as beer starts pouring. Along with air comes airborne contaminants, two of which rate mention: bacteria and tobacco smoke. In most cases, the bacteria will be in a dead heat with the oxygen, the effects of either becoming noticeably objectionable within 36-48 hours. Given the distinctive and unpleasant character of stale tobacco smoke, it is a good policy to keep smoke away from a vented container. I haven't done much direct experimentation on the effects of smoke on real ale, but I would hazard a guess that it wouldn't take much exposure to produce a noticeable effect. If anyone wants to risk 5 or more gallons of precious ale to test my hunch, feel free. The serving life can be extended by use of a "cask breather," a valve which admits CO2 at atmospheric pressure as beer is drawn off, thereby excluding air without forcing carbonation into the ale. Integral to the breather is a one-way vent valve which allows pressure in the container to bleed off to the atmosphere; this means that as long as the beer is pouring, it is slowly losing condition. With either method, when the beer is not going to be dispensed for a while, like overnight, the vent should be closed. This means inserting a "hard spile," a hard wooden peg, tightly into the vent hole in the shive, or closing a valve in the hose leading to the cask breather. The serving life of a beer thus

kept can reasonably be extended to a week or so with a breather, dependent upon beer OG and the temperature at which it is kept. Higher OG, good; lower temperature, also good.

How will it be kept cool?
Method of dispense and rate of consumption also have an effect on this consideration. Beer to be consumed over the course of an evening at a party requires little attention; if it's already cold, then keeping it out of the sun or away from the radiator about covers it. For a horizontally stillaged firkin, ice blankets can be purchased or fashioned which are draped over the container. These are typically a canvas affair with pockets for ice or frozen gel packs. A similar arrangement could be rigged up for a horizontal keg. The ice blanket is usually covered up with an insulating jacket. If the beer is dispensed via handpump, then the firkin or keg can be oriented vertically, making cooling a simple matter of standing it in the good old tubfull of ice. For extended dispensing situations, a cool, unheated room in a corner of the basement works good in the wintertime. Various homemade "cold box" contraptions are well suited to the task; a walk-in cooler is, of course, awesome. The cardinal item to remember is cool, not cold.

Gory details:

Filling the vessel

As with any equipment that will contact your beer, the keg or cask should be clean and sanitary. The iodine and acid based sanitizers are good choices, as they do not require rinsing when used at recommended dilutions. With a keg, be certain sanitizer is able to contact inside the dip tubes and poppet valves. With a firkin, set a new, clean keystone firmly in place with a mallet, and chock it securely on its side, bunghole up, and fill.

Along with the green beer, three things go into the keg or cask: primings, finings, and dry hops.

Traditional isinglass finings are a proteinaceous substance derived from the swim bladders of sturgeon, yum. The protein molecules in the finings have a net electrical charge opposite to that of yeast cells, so the tendency is for them to clump together with the yeast, forming larger particles which settle quickly. Oops, this is supposed to be a relaxed perspective; the important thing to know is that this stuff is magic. Yeasty beer is bright within 48 hours, and how it gets that way is best left to folks with pointier heads than ours. Isinglass is commonly available in a dried form, and as a premixed, ready-to-add liquid. Can you guess which the relaxed brewer prefers? The dried, shredded isinglass must be rehydrated in deaerated water and/or beer prior to adding to the container, and it does not mix or hydrate quickly or easily; add the additional handling, time, and additional possibility for contamination and it is not worth the trouble. Both work well, and although the dried form is cheaper, neither is particularly expensive.

Why fine the ale? Real ale should be clear, and it should be served fresh. Depending upon how well your yeast settles out, the ale may be at its peak flavor point, but still have yeast in suspension. Thus the decision to fine will depend on yeast performance and recipe formulation. A stronger beer, with a longer maturation time, may be clear by the time it is in peak condition, whereas a bitter or a mild may not drop bright in the short time between brew day and tapping. Finings should be added along with the primings, when the beer is racked into the keg or firkin. The first time around with a particular type or brand of finings, follow the manufacturer's recommended dosage rate, and adjust as necessary for future batches. If there is an excess of pale, feathery solids that settle quickly in the glass even after the first few pints are poured, then there may be more isinglass than necessary.

Priming rates for traditional ales are lower than comparable American or European beers, as ideally the level of dissolved CO2 is about half as much as those counterparts. A less relaxed brewer would probably get into a discussion regarding the lower saturation level at warmer serving temps, and so on, but we will stick to the observation that the beer seems best that way. That being said, a little too much priming sugar is better than not enough, as bleeding off a little excess condition is easier than trying to boost it! For beer that is fairly well fermented out, 1/4 cup sugar for a keg, ½ cup for a firkin is a pretty good starting point. Just about any plain sugar is acceptable; corn, cane, and beet sugar all work pretty

well, despite the bad reputation granulated sugar has with American homebrewers. As with bottled homebrew, boiling the priming sugar in just enough water to dissolve it is the preferred method.

Whole hops, at the rate of 1/8 to 1/4 oz added to the keg or cask, are a lovely finishing touch with most ales, and do much to enhance the fresh character of the beer. Higher rates are inappropriate for traditional English beer, but may be desired to give an American twist. Or maybe you just like lots of hop character. Be aware that some varieties can give a metallic character when used in large amounts as dry hops, and much past 1/4 oz in 5 gallons gets to the point of diminishing returns. It's a good idea to use a muslin "hop sock", especially with corny kegs, to keep the hop particles from clogging the dip tube. Sometimes, the hop sock itself can end up blocking the dip tube, and so some brewers tie it in place halfway up on the dip tube prior to filling the keg. There is typically a perforated strainer on the taps and vertical extractors commonly used with firkins, so the hop sock is likely overkill with that vessel.

At the risk of stating the obvious, all of the aforementioned goodies should be added to the vessel before you have filled it to the top with green beer.

Once the vessel is full, it must be sealed up, an easy task with a keg; just pop in the lid. It is always a good idea to briefly pressurize the keg with a couple pounds of CO2 to make sure the seal seats tightly; you can vent afterwards if you are a purist. With a firkin, a new shive must be driven into the bunghole. A flat faced wooden mallet is the ideal tool for the job here, but one may also lay a piece of 2x4 across the shive and drive it home with a hammer with only a minor loss of aesthetic integrity. An important note, whatever the vessel: leave some ullage (headspace). Gas is compressible, but liquid is not to any practical extent. Without some compressible gas in the headspace, a little thermal expansion could drive the shive out and cause beer to be wasted, a horror almost beyond contemplation.

Preparing for dispense

Once the beer is safely sealed in its container, it should be allowed to condition at room temperature for a week or so. A few days before you are planning on serving the beer, it should be stillaged in its serving position, and cooled to serving temperature. A tap or vertical extractor must be fitted by driving sharply through the perforated keystone, and the cask vented and checked for proper condition. Condition primarily refers to carbonation level, but by extension includes clarity, flavor, and aroma. Pull/pour a sample into small tasting glass. Check clarity and aroma. Rock the glass back and forth and observe the liquid surface through the side of the glass. Profusions of bubbles will appear just below the surface as you tip the glass in a properly conditioned beer. Put some in your mouth; hey, now we're getting somewhere! If the beer is too fizzy or pours too foamy, carbonation needs to be bled off. This is where it is easier for a horizontally stillaged firkin: simply fit a "soft spile," a porous peg typically made of bamboo, tightly into the hole in the shive, and check the beer twice a day until it meets with your approval. Replace the soft spile with a hard, nonporous spile until serving time. With a keg or a firkin fitted with a vertical extractor, you will have to manually vent the head pressure in the vessel periodically by popping a gas fitting on the keg or opening the vent valve on the vertical extractor periodically throughout the day, and checking condition daily. Obviously, stop venting when proper condition is attained. If a breather valve is to be used, the ease factor tips back towards the keg or vertical extractor, since the hose from the output of the breather valve (do we have to explain where the CO2 input of the breather connects to?) connects directly to the gas fitting on the keg or extractor. For a horizontally oriented firkin, a connector fitting with a hose barb must be fitted tightly to the hole in the shive. In any case, the beer should be ready to pour. If all has gone according to plan, expect to be more popular than you are used to, at least until the beer runs out.