

# Brewskie Brethren

## Faculty and staff members immerse themselves in homebrewing

By ROBYN REED  
COPY EDITOR

Beware: behind the professional facade your professors show in class may lurk the wild untamed heart of a homebrewer. An informal census of the biology department counted at least four professors, two staff members and two graduate students who have brewed beer in the past or are doing so now, some even in their own labs.

James Curran, an assistant professor of biology, credits undergraduates with his start in homebrewing.

"I'd known about homebrewing for a long time," he said. "The undergraduate students in my microbiology class were always making lousy beer, so I wanted to know how to make good beer."

With encouragement and a few pointers from a professor of music (who no longer teaches at the university), Curran made his first batch of beer about three years ago. "The first few batches were 'undergraduate' quality," he said. After some advice and technique improvements, the subsequent 25 or 50 five-gallon batches have been much improved, he said.

The urge to brew seems to spread from person to person. Michael Dixon '94, a lab technician, was inspired by Jeffrey Muday, the computer support adviser for the departments of biology and anthropology, and by other friends who homebrewed. Dixon said he became interested in the craft after helping Muday bottle a batch one evening, and decided to invest in equipment and try it himself.

Since then, he has brewed often. "I hadn't bought store beer at all for a long time until a month ago," he said. He has made ales, porters and, on one occasion, an Oktoberfest, a German style of beer which requires long conditioning at a low temperature. Dixon used his refrigerator for this lagering. "I was living by myself, so I could do that," he said. "I fermented it in the house — I turned the heat off (for a cool primary fermentation) ... then it was

in the fridge for a month. The fermenter barely fit."

Dixon said that now that he is married, he can no longer monopolize the refrigerator for a month at a time, but he is toying with the idea of getting a second one for this purpose. "(The Oktoberfest) was great," he said. "I would like to do it again."

Curran has taught microbiology students

For an easy but tasty red ale, try this recipe from a newsgroup, rec.crafts.brewing:

- 5-7 pounds of pale malt extract syrup.
- 5 gallons of water.
- 2 ounces of hops - Cascades are good
- 1 packet of dry ale yeast, plus 1 packet for back-up.
- 3/4 cup corn sugar for priming.

how to brew, too. In the microbiology class, all students pursue an independent project. Every year a few students decide to make beer in the lab under Curran's supervision. Curran said the only failure he has had with this project was the first time. "They gave me a six of the first batch they made," he said. "I still have five of them." Despite this inauspicious start, some of the students who began brewing with Curran have continued to do so and have bought their own equipment, Curran said.

Others, like Raymond Kuhn, also a professor of biology, no longer brew. Kuhn, who brewed his own beer years ago, well before microbreweries became the ubiquitous presence they are today, stopped because his ingredients were unreliable: yeast, for example, gave inconsistent results.

Today, quality control is better. Dozens of pure yeast strains are now available at any homebrew shop, both dry and as a liquid, ranging widely in temperature tolerance, ability to ferment sugar (a more fermented beer is drier, less sweet and more alcoholic) and speed in fermenting.

Curran said he has always used dried yeast because it is easier to use and cheaper than liquid. Though considered by some to be less reliable than liquid yeast, Curran is satisfied with the results. He usually makes a Koelsch, a light German ale with aromatic hops for flavoring, he said. "I even like it flat," he said, adding that he tends to sample his beer at all stages of production. He has experimented with wheat malt extracts and different hopping. He grins as he talks about his best batch. "I used a mix of Saaz and Casades (flavoring hops)," he said. "It gave the beer a rounder flavor, more blended. It was a better quality beer."

Dixon is considering going a step further and culturing yeast, instead of using it out of the package. Though more time-consuming, culturing yeast can result in better fermentation and can save money. Because he works in a biochemistry lab the necessary equipment (incubator, glassware, autoclave and media) is already there, he said.

Bad batches still happen. Though Curran boasts he's never had an infection (wild yeast or bacteria in the beer), he has turned out a batch or two so bad that, after three years, "I still have a few bottles around."

When asked about his worst batch, he said, "Oh, gosh. I tried to make a dark beer once, and I was mucking around with the water." Curran added gypsum to change the water's mineral content. "It tasted horrible — it was kind of salty and burnt. ... It had the wrong ingredients and a lousy taste."

Dixon's seven or so batches have all been drinkable, he says, though his first was the worst of the lot. One batch "tasted like crap" at first, until it smoothed out with age. Dixon attributes this to one of the ingredients, cara-pils malt.

What do homebrewers drink when they're not drinking homebrew? Dixon tries to avoid the situation altogether. Not long ago, he said, "I had about four cases of beer, three different types. A lager, a strong ale, a regular ale ... oh, and a porter too." Now, he's brewing again, as all his bottles are empty.

Curran said he looks for something different and something exotic when buying commercial beer. He also tries for cost-effectiveness, though. Some of his favorites are local microbrews from North Carolina such as Albemarle, most beers

made by Sam Adams, and wheat beers.

Dixon favors Albemarle and other well-hopped ales when he buys commercial beer.

Active brewers like Curran and Dixon think they'll continue to homebrew in the foreseeable future. For Dixon, homebrewing is not just a chance to make the beers he likes; it is also a craft to learn. Sharing his beer with people who appreciate it and know beer is one of the best parts of brewing, he said.

Curran agrees. He said he has considered entering his brews into competitions, but has hesitated because they are extract beers, not all-grain. Regardless, he enjoys what he makes and said that his beers have much more flavor than mass-produced commercial beers.

"The world has changed," Curran said. "I remember, in college, Coors was the big beer. It wasn't sold on the East Coast." Back then people would bring cases back after a trip to the Rockies. "Nowadays, they bring back microbrews. ... Tastes have changed. (The popular) beers now aren't just a new version of swill."



James Curran, an associate professor of biology, examines his equipment as he prepares to brew beer in his laboratory. The lab has been used as a microbrewery at times, as Curran has had students homebrew as independent study projects.

## Students talk about home brew

By ANDREW TASKA/GRAY  
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The ancient Sumerians invented it and now, some 5,000 years later, students are still working to perfect the magnificent art of brewing beer. Forget name brands like Miller or Budweiser because they just don't compare to the "strange brews" concocted by innovative students like seniors Robyn Reed and Brian Gibson.

Thanks to the wonders of modern technology, local laundry rooms, apartments and dormitory kitchens have been converted into makeshift brewing laboratories where students try their hands at creating beers of their very own. From pale ales to dark stouts, you name the beer and students have probably tried to make it.

According to Reed, who has been making various homebrews for a little over a year, "Learning how to brew your own beer is really neat because you get a chance to develop a skill that very few people have. In brewing your own beer, you are taking part in an esoteric tradition that has been handed down for centuries."

Reed's interest in brewing beer was kindled for the first time when she watched a homebrewing demonstration in Cape Cod. From there, she did a little investigating in books and even scanned the Internet for information about brewing beer in the home. Now, Reed, along with a few of her friends, whips up her customized beer three to four times a year, experimenting with new varieties every time. Reed and a few others have managed to create their own specialized red ale, coffee stout and even a ginger-spiced beer.

Gibson began brewing beer after his uncle gave him a homebrewing kit for Christmas last year. Since then he's made about ten batches, including amber ale, apple ale, brown ale, American lite and honey ale. Each batch makes close to two

cases of beer, forty-eight to fifty bottles.

"The biggest enjoyment of

**"The last batch of honey ale I made has been one of the best tasting, along with the amber ale."**

Brian Gibson  
senior

homebrewing is getting drunk off your own supply," Gibson said.

"The last batch of honey ale I made has been one of the best tasting, along with the amber ale."

Gibson said he makes his honey ale with four pounds of malt and two pounds of honey. He said he pretty much follows the German purity law, using the basic four ingredients of water, malt, hops and yeast. He said you can add anything else you want — different combinations of grains, hops and malts. Gibson said you can also add spices, like nutmeg and ginger, or anything sugar-based.

"The great thing about homebrewing is that I can make the beer as strong as I want by using a beer and wine hydrometer to regulate the amount of alcohol content," Gibson said.

Gibson explained that the yeast eats the sugar, creating byproducts of carbon dioxide and alcohol. Therefore, the more sugar available to the yeast, the more alcohol can be produced. However, Gibson said the alcohol kills the yeast at a certain percentage level, so you can only make it so strong.

Reed and Gibson both said homebrew is relatively inexpensive. Aside from a 3 to 5 gallon pot, a fermenter, a bottle capper and some old beer bottles, all you need are a few special ingredients and a little patience. The basic ingredients, malted barley extract and hops, can be purchased from City Beverage, a homebrewing store on Burke Street which, according to Gibson, has a great supply. The remaining supplies can probably be made

from an assortment of household items. Reed says that homebrewing costs her approximately 50 cents a bottle, which is well below the market price for quality microbrewed beer. Gibson makes his for 25 cents a bottle, he said.

Reed said the only downside of homebrew is the time required for fermentation, which can take anywhere from 4 weeks to 2 years depending on the type of beer you are brewing. For the most part, it only takes a month or so to brew your own batch, which yields about 5 gallons or 2 and 1/2 cases, Reed said.

Gibson said his beers take a week to ferment, and then another week to bottle. For each batch he designs his own labels and attaches them to the bottles. His last honey ale batch featured *Penthouse* models.

How does it taste? When confronted with this question Reed jokingly responded by saying, "We're still learning." Nevertheless, Reed said that she imagines she will continue making beer for quite some time because certain types of beer cannot be found in the United States. The only way these beers can be enjoyed is to make them yourself, he said.

Gibson's beers have many admirers, mostly friends and family. In the future he wants to make a German beer that tastes more like Heineken or Beck's and to continue experimenting with other styles and flavors.

Reed's advice to anyone interested in learning how to brew beer at home is to read a good book on the subject. She suggests *The Complete Joy of Homebrewing*, by Charlie Papazian, which costs about \$11. Another source of information, Reed said, is the Internet. Namely, a news group called "rec.crafts.brewing" or on the World Wide Web under key words like "homebrew" or "beer." And, if you are really on the homebrew kick, check out Alternative Beverage in Charlotte for a homebrewing demonstration every Saturday at noon.

## Do-it-yourself: beermaking tips for amateurs

By ROBYN REED  
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Homebrewing can involve enough obscure instruments, tools and techniques to satisfy even the most hardcore gadget freak. Yes, you *could* invest several hundred dollars in lauter tuns, used only in all-grain beer, spargers, counterflow wort chillers and kegging equipment. But for impoverished students, basic equipment need not cost a fortune. The first five-gallon batch of beer I brewed cost about \$20 in equipment and \$25 in ingredients, and it tasted pretty good.

Finding a homebrew supply store is imperative; there's no way to get around the need for malt, worts (the beer mix before it has fermented) and hops flavoring ingredients. City Beverage, on Burke Street, sells ingredients and equipment. Another alternative is to order from a cheaper supplier elsewhere (and pay shipping or drive further). In addition to ingredients, you'll probably need to buy a bottle capper, caps and an airlock at the absolute least. The bottle capper's purpose should be obvious; the airlock lets carbon dioxide escape your fermenter while keeping the contents sterile.

You'll also need a big pot (at least two or three gallons), two and a half cases of empty bottles and a fermenter. The fermenter can be a five-gallon food-grade white plastic bucket (ask restaurants for pickle and mayo buckets, for example) or a five (or more) gallon glass or plastic water tank, the kind that goes on water coolers. These can be bought new if you prefer. Your fermenter should be clean (and not pickle-scented). It must have a tight-fitting lid or stopper. A hole needs to be drilled in whichever fermenter you choose to fit the airlock in.

Making beer involves culturing yeast: your yeast and only your yeast (not container's germs) should be in your beer. For this reason, sanitation is *crucial*. Make a solution of one to two tablespoons of bleach per gallon of water and clean the fermenter, funnel and tubing (if you use these), bottles and anything else that touches your beer. I usually fill a bathtub with bleach water and immerse things as I need them.

For the best results, rehydrate your yeast; start this right before you begin brewing. Boil about a cup of water and put in a sterile jar. Let the water cool until it's lukewarm. Add your package of yeast and cover it; the yeast will be happier when you pitch it in the wort in an hour or so.

Put the malt extract and water into the pot (fill to within three inches of the top, no further: boilovers are horrible) and bring to a boil. Once it's boiling, add about half of the hops. At this point, the kitchen will

smell like a brewery, malty and hoppy. Revel in it. Drink a beer to celebrate (if you're legal).

Keep the wort boiling for 30 minutes, stirring every so often so it does not scorch. At the end of the 30 minutes, add the rest of the hops and boil for another 15 or 20 minutes — for a total of 45 minutes or so. By now your roommates may be wondering what's been going on in the kitchen. Now is the time to extract promises to help with bottling (in a few weeks) in exchange for beer.

Once the boiling is finished, cool the wort as quickly as possible: put the pot into ice, if you have any, or into cold water. Let it cool from boiling hot to merely warm, then pour it into your fermenter along with enough additional water to make five gallons.

It's now time to pitch your yeast. Make sure the wort isn't too hot (hotter than lukewarm is too hot). Swirl your resuspended yeast and dump it in. The yeast will need air, so slap a piece of Saran Wrap, a lid or something onto the fermenter and shake vigorously (or rock vigorously if dancing with 40 pounds of liquid is not your style) until you're tired. Put on the lid or cork, put in the airlock and fill it with bleach water. Put your beer in a warmish place (yes, the corner of a dorm room works).

The beer should start fermenting visibly within 24 hours — if not, go back a few steps and pitch your backup yeast instead. Let it bubble away for five days, a week or more (up to 3 weeks or so is OK). When it hasn't bubbled for several days, it's ready to bottle.

Bottling requires corn sugar, caps and a capper, some tubing and a "bottling wand" (\$3 at a homebrew place). Oh, and two and a half cases of empty bottles. Getting a friend to help at this stage is invaluable (with bottling, not just emptying bottles).

Dissolve the sugar (3/4 cup) in hot water and add this to your beer. Swirl it around to mix it in; this is important because the sugar will carbonate your beer. Then, start a siphon (by filling the hose with water and putting one end into the beer — this is harder than it sounds so practice beforehand) and fill the bottles while your friend puts on the caps.

After two weeks sitting in a dark place, the yeast in the bottles will settle to the bottom and it will carbonate and clear.

Now comes the moment of truth: drinking your beer. Put a few in the fridge. Get a glass. Once it's cool enough (doesn't have to be ice-cold), pour all but an inch of your beer into the glass (leaving an inch in the bottle keeps all the yeast from going in).

Drink. Your beer will be reddish, malty, well-hopped and flavorful. And all yours.