MILD ALE

Nordeast Brewers Alliance Meeting -- May 17, 2018

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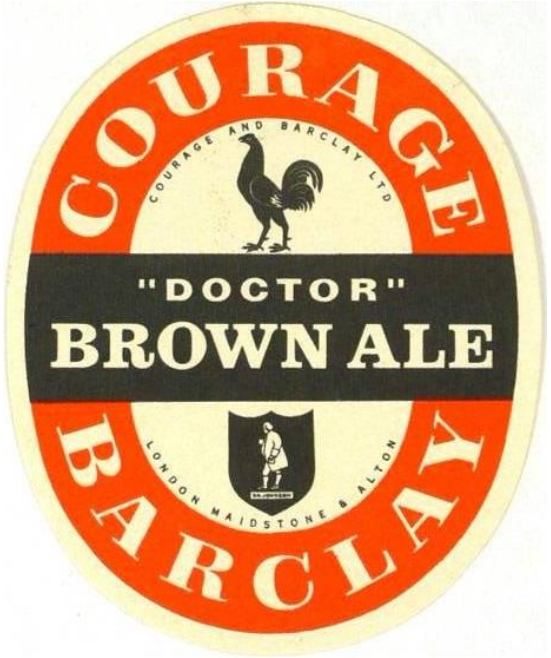
HISTORICAL MILD



- Notoriously difficult to pinpoint a single historical description.
- Prior to around 1800, "mild" differentiated present use beer from "keeping" or "stale" beer. This was just one of the ways to categorize beer.
- Circa 1800: X classification system begins. Mild ale is ~ 1.070 OG, 100% pale malt.
- 1880: Free Mash Tun act allowed the use of sugar and adjuncts, and led to the eventual darkening of mild ale.
- 1900: Lower hopping rate and higher final gravity differentiate mild.
- Various tax laws, rationings, and regulations on gravity lead to mild ale completing its evolution into today's low-hopped, usually brown ale with ~ 1.030-1.038 OG.

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MAKING HISTORICAL MILD (TARGETS)

- Grist/Color:
  - Pre-1880: 100% pale malt
  - Post-1880: increasing adjunct, specialty malt, and color as time goes on
- Bitterness:
  - Pre-1900: hopping rates varied
  - Post-1900: hopping rates decline
- OG
  - 1866: 1.070
  - 1880: 1.057
  - 1900: 1.055
  - 1931: 1.036
  - 1945: 1.030
- Water (1873)
  - 2:1 SO4-Cl ratio
  - 439 ppm ideal hardness (235-875 ppm range)

See Shut Up About Barclay Perkins blog for detailed guidance and Recipe recreations.

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MODERN MILD

"I would define a Mild as an English ale of a notably lightly-hopped style." – Michael Jackson

WHAT IS MODERN MILD?

- A true session beer – British tradition of rounds
  - But in rare cases is stronger
- Served in a full "imperial pint" (568 ml or 20 imp. oz.)
- A totally unassuming beer, but one that reveals the subtleties of its character as you approach the end of the pint
- A brown ale, but also comes in pale variety (much less common)
- Must be dry enough to be thirst-quenching and keep you coming back for more, without being so dry as to be unbalanced (perception of astringency), to lack body, or lack at least some residual sweetness
- Crystal malt is always part of the style (in dark or pale versions)
- Almost always a draft ale and in the UK served on cask as a real ale

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DECLINE OF MILD (MANY CAUSES)

- 1930s: 90%+ of the draught trade by some accounts
- 1945: 70% of draught trade
- 1950s and 1960s: mild becomes uncool ("Your granddad's beer")
- Disgusting practices by publicans
  - Easy to slop into mild ale because it arrived bright and was dark
  - Hard to slop into bitter because it arrived conditioning, and any slop would stir up the yeast and make it cloudy
- The rise of:
  - Kegged beer (filtering back is not possible)
  - Bottled beer to drink at home
  - Lager beer
  - Bars (decline of the pub and casked beer)

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The Guardian

12 February 1963

Pub landlords pour beer slops back into barrels

Drip tray contents don't always go down the drain, as some customers seem to think

Unsavory Publicans' Practices:

1. **Zero Allowance for Loss**: For each 36 gallon barrel of beer, the brewery exacts the retail takings for 36 gallons, leaving the publicans no choice but to cheat.
2. "**Baptising**": adding a bucket of water to the barrel.
3. **Zero Tapping Loss**: spills from tapping are poured back or preserved for resale.
4. **"Economizer"**: a setup to collect loss when filling pint glasses and return it to the barrel. (The "**utilizer**" adds a dollop of slop to each glass from a bucket.)
5. **Perforated Serving Trays with Reservoir**: any spillage from servers delivering beer is poured into buckets and retuned to the barrel.
6. **Retail Leavings**: half-drunk glasses were poured into the economizer, or consolidated and resold.

https://www.theguardian.com/theguardian/2014/feb/12/beer-pubs-slops-hygiene

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"Filtering back" today

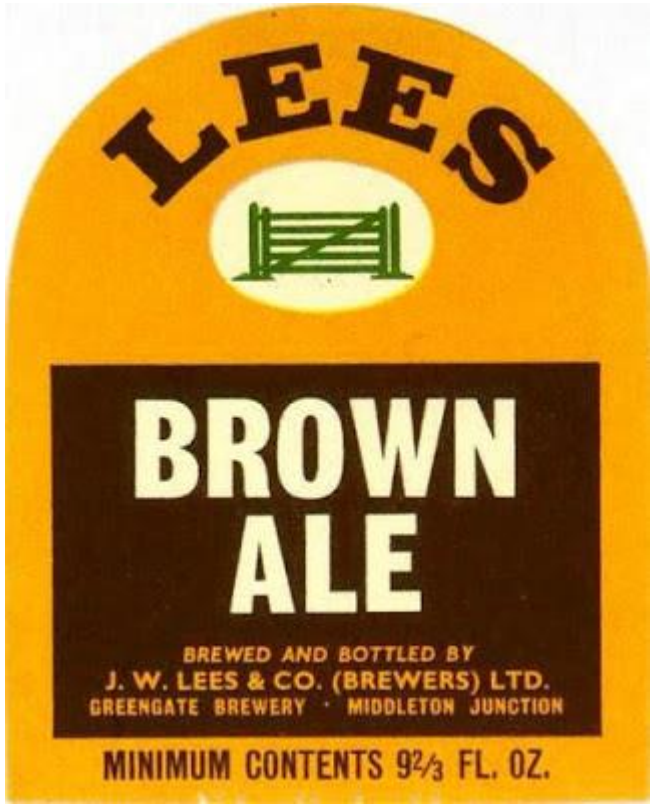
An autovac beer pump, with the pipe from the drip tray to the line clearly visible

Credit: Neville Grundy

Source: http://rednev-rearm.blogspot.com/2013/09/pouring-slops-back-into-beer.html

COMMERCIAL EXAMPLES?

- Hard to come by both locally and in the U.S.
- More commonly a draught ale, rather than bottled
- When bottled, often labeled as "brown ale"



LOCALLY-AVAILABLE EXAMPLES

- Moorhouse Black Cat
- Gale's Festival Mild
- Surly – Mild, Dodgy Geezer,
  Nitro Mild, Nitro Dodgy Geezer
- Town Hall – Kevin's Mild, Minneapolis Mild
- Rock Bottom – cask English brown ale (it's a dark mild)

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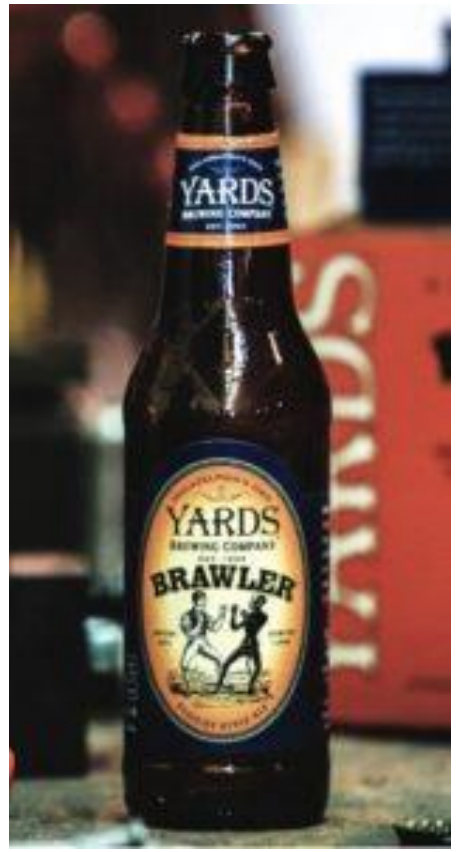
MILDS TO SEEK AROUND THE U.S.



- Dry Dock, Aurora, CO – S.S. Minnow Mild (4 GABF medals and NB recipe)
- Yards, Philadelphia – Brawler (GABF medal)
- Lion's Bridge, Cedar Rapids, IA - Workman's Compensation (GABF medal)
- Pizza Port, San Diego area locations – Dawn Patrol, Skidmark (2 GABF medals)
- Logboat, Columbia, MO – Mamoot (2 GABF medals)
- Goose Island, Chicago – PMD Mild (retired?)

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REBIRTH (?) OF MILD

- Campaign for Real Ale (CAMRA) advocacy.
- Around Manchester a little over half of a sampling of pubs had a true mild on earlier this month.
  - Source: https://ohgoodale.wordpress.com/2018/05/12/around-manchester-on-a-half-of-mild-1/
- English Dark Mild Ale has been a Brewers Association style since 2010.
- But, McCullen rebranded Original AK as a bitter.

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MAKING MILD ALE

Credit: threehundredbeers.com

"The real challenge to making a mild is to make a low-gravity beer that's dripping with flavor."
- K. Florian Kemp

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STATS
(BJCP CATEGORY 13A "DARK MILD")

- OG: 1.030 – 1.038
- FG: 1.008 – 1.013
- ABV: 3.0 – 3.8%
- IBUs: 10 – 25
- SRM: 12 – 25

Source: Beer Judge Certification Program

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STYLE DESCRIPTION
(BJCP CATEGORY 13A "DARK MILD")

Source: Beer Judge Certification Program

- **Color**: Copper to dark brown or mahogany. Paler or pale examples also exist.
- **Clarity**: Generally clear, though not brilliantly so.
- **Head**: Low to moderate off-white to tan head. Poor head retention is typical due to the low carbonation, adjunct use, and the low original gravity.
- **Flavor**: Malt-focused. Wide range of malt and yeast based flavors (e.g., malty, sweet, caramel-ly, grainy, toffee, toasty, nutty, chocolate-y, coffee, light roast, vinous, fruit, licorice, molasses, plum, and raisin). No hop flavor. Fruit esters may be moderate to none.
- **Bitterness**: Low to moderate. Just enough for some balance but not to overpower the malt.
- **Finish**: Sweet or dry. Darker versions may finish with a dry roasted note.
- **Mouthfeel**: Light to medium body. Roast based version may have some astringency. Sweeter versions seem to have a fuller mouthfeel. Carbonation low to medium-low.
- **Overall impression**: A light-flavored, malt oriented session beer. Refreshing though flavorful. Some version can seem like low gravity brown porters.

NON-ENGLISH MILDS?

- Modern Mild:
  - ✓Session beer
  - ✓Low hop character
- Is **Scottish Light** (aka 60/--) a mild? Yes!
- The **American Mild** Project
  - Probably not enough style space to squeeze in a meaningful beer
- Does American Mild already exist?
  - American Cream Ale
  - American Light Lager
  - American Blonde Ale
  - American Wheat

Credit: theaposition.com

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ENGLISH VS. AMERICAN VERSIONS

Base Malt	English Pale Ale Malt	2-Row and/or Maris Otter, Munich Malt
High Kiln Malt	Not very common	Common (Victory, Amber, Brown, etc.)
Crystal Malt	One kind typical	Two kinds
Roasted Malts	One kind, usually chocolate	Two kinds common
Sugar	Major part of character (Brewers Invert No.1 or No. 3)	Never!!
Other Adjuncts	American Flaked Maize or Flaked Wheat typical	Nope
Colorant	Brewers Caramel common	Are you kidding me?!
Fermentation	Traditional (open vats)	Unitanks

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GRIST

- Mild is a malt-focused style so pump up the malt (1) flavor and (2) complexity
- Use a flavorful base malt
  - UK Pale Ale Malt (native heirloom varieties; Maris Otter, Golden Promise, Pearl, Optic, Pipkin, etc)
  - Mild Ale Malt
    - Same barley as pale ale malt, but kilned about 2° Lovibond darker
    - Fell out of favor in U.K. in late 1960s
- Consider Brown Malt or a high kiln malt (Munich, Amber, Biscuit/Victory, etc.)
- Two types of crystal
- English Chocolate Malt (darker)

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ADJUNCTS

- Yes: the English are the world champions at reducing the cost of beer.
- Sugar (see next slide).
- Common flaked adjuncts:
  - American Flaked Maize
  - Flaked Wheat
- Sometimes English brewers compensate for protein and diastatic power issues with American 6-Row Malt.
- This is considered traditional, not an affront to "craft".

SUGAR

- In England:
  - Traditional (since 1880)
  - Ubiquitous in beer
  - Not disclosed on label
- Brewer's Invert
  - Major part of the beer flavor and color
  - Comes in Nos. 1 through 4

Kristen England's Dilution Method for Brewer's Invert

Product (500 g)	Color (SRM)	Lyle's Golden Syrup	Plantation or Golden Barrel Blackstrap Molasses
Invert No. 1	15	500 g	0 g
Invert No. 2	33	494.17 g	5.83 g
Invert No. 3	65	446.67 g	16.67 g
Invert No. 4	300	405 g	95 g

More info: https://bit.ly/2Gqe9zX

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HOPS

- Not too much (10-25 IBU of bittering hops).
- Use high quality hops.
- Traditional English varieties: EKG and Fuggles, but also Challenger, Northdown, WGV, perhaps Bramling Cross, and others. Maybe American "English" hops like Mount Hood, Liberty, or Willamette.
- Typically only a bittering addition.
- It's not unheard of for cellarmen to add a plug of EKG when a cask of mild starts losing condition (going flat and getting oxidized). But brewery records don't exist on what happened in the cellar.

WATER

- Mild was and is brewed across England and all sorts of water is used
  - London
  - Edinburgh
  - Manchester
  - West Midlands
- Traditionally high carbonate water because of the dark grist
- Recommended starting point:
  - Bru'n Water: brown/full profile (brown/malty on older versions)
  - Brewer's Friend: London
  - Ca: 70-80; Mg: 0-10; Na: 15-25; So4: 40-60; Cl: 40-60; HCO3: high (but focus on mash pH of 5.4 to 5.6)

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MASHING

- Mash high (154-160°F).
- But rely more on grist and yeast selection than mashing to control residual gravity.
- This beer was mashed at 151.5°F (intended 156°F).
- 60-90 minute mash is typical.
- Batch sparging is traditional, but any basic sparge/lauter method is fine.

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YEAST SELECTION

- Choose a yeast that will express some English esters, leave a nice malt character, retain some body and residual gravity, and flocculate well.
- Most English yeast strains will work.
- Top cropping yeast strains do really well in high-O2 environments for the first 2-3 days of fermentation.
- Avoid very dry yeasts, lager yeasts, Belgian yeasts, poor flocculators

SPECIFIC YEAST STRAINS

Most English yeast strains will work – these are just a few strains that consistently give good results in dark milds:

- Active Dry Yeast (English Strains)
  - Mangrove Jack M15 Empire Ale (Tyne Brewery strain, Newcastle)
  - Other active dry yeast: S-04, Windsor
- English Liquid Strains
  - 1318 London Ale III, RVA Manchester (Strangeways Brewery strain, Boddingtons)
    - Most often recommended strain
  - 1187 Ringwood Ale (isolate from a Ringwood culture), but not WLP005
  - 1469 West Yorkshire (Timothy Taylor strain)
  - 1768 English Special Bitter, WLP033 Klassic (Ram Brewery strain, Young's)
  - WLP037P Yorkshire Square (Tadcaster strain, Samuel Smith Old Brewery)

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FERMENTATION

- Avoid the mistake of fermenting to high to “push esters”
- Pitch at low 60s °F
- Ferment at mid- to high 60s °F
- Diacetyl is a problem
- Rouse yeast
- Open fermentation for top croppers
  - Foil cap for the less bold

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OPEN FERMENTATION

- Open bucket or keg (cover with mesh and a roof).
- Less daring: loose foil cap over carboy neck.
- Rouse the yeast.
- Rack to a tank or cask before the yeast has dropped completely.

TODAY'S BEER

Credit: Northern Brewer

NBA Minimal Effort Mild
(mistakes were made)

TODAY'S BEER (NBA MINIMAL EFFORT MILD)

What	Planned	Actual
Grain to glass	164 hours (7 days)	112 hours (< 5 days)
Volume	~ 2.5 gallons	~ 3 gallons
Cost (excl. H20, energy, CO2)	< $10	~ $8.25
Mash temp	156°F at end of dough in	151-152°F, declining to 144°F
OG	1.034	1.033
FG	1.010	1.012
Apparent attenuation	70%	64%
Efficiency	70%	~ 85%
Rouse and aerate	@ 24 hours	@ 37 hours
Check SG and rack to keg	10-12 hours later	23 hours later
Est. ABV	3.1%	2.7%

TODAY'S BEER (NBA MINIMAL EFFORT MILD)

Amt.	Item	Why / Notes
	Floor Malted MO (Warminster)	Tasty base malt
	Aromatic Malt (Dingemann's)	Pre-blended w/ MO for another beer (95/5)
	Crystal 40L (Briess)	Was pre-crushed so use up
	Special Roast (Briess)	Use up freebie from HBC
	Extra Special (Briess)	Use up freebie from HBC
	Pale Chocolate (Fawcett)	Roast, coffee, chocolate character
	Blackprinz	I have a lot – color and (?) flavor
~ 4.5 gal	RO Water, adjusted	54 ppm calcium, 60 ppm sulfate, 80 ppm chloride, 24 ppm non-iodized salt
18 IBU	Styrian Goldings/EKG	@ 60 min. Added EKG (wort volume > target)
	Whirlfloc-T and yeast nutrient	Used 2x normal nutrient to reduce diacetyl
3 pellets	EKG dry hop in starter	Didn't feel like resealing, so why not?

TODAY'S BEER (NBA MINIMAL EFFORT MILD)

- **Grist**: crushed at 0.030" (except flaked oats)
- **Mash**: BIAB, dunk sparge, drip dry, no squeeze
- **pH**: 5.2
- **Pitch temp**: 61°F
- **Aeration**: 60 seconds of pure O2 (English top croppers love O2!)
- **Fermentation**: open bucket at basement temp ~ 67°F (English top croppers love O2!)
  - Stirred with spoon at 37 hours (intended 24 hours) to rouse yeast and aerate
- **Yeast**: 600 ml shaken-not-stirred starter of S-04 (pitched entirely at 24 hours)
- **Rack to tank**: Racked to keg too late 23 hours later (intended 10-12 hours later)
- **Force carbonation**: 1.75 volumes
- **Packaging**: racked to polypin

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PACKAGING AND SERVING

- Low carbonation (1.0 to 2.0 volumes)
  - Risk of carbonic bite if too carbonated
- Traditionally served on cask
  - Polypin option (see next slide)
- Bottled examples are often labeled as Brown Ale for historical reasons
- Glassware
  - Dimpled mug
  - Pint glass

Brain's Dark

Credit: threehundredbeers.com

POLYPIN

- 12-Quart Igloo Quantum Cooler (18-cans) ($15, Walmart)
- Valterra RP800 Rocket Hand Pump ($31, Amazon)
  - 3/8” ID tubing
- 1 Gallon Cube® Insert Container with Cap ($2, US Plastic # 76932)
- 12mm with 38mm Screw Cap Smooth Flow Tap ($2, US Plastic # 17287)
  - ½ ” ID Tubing
- 3/8” male barb to ½ ” male barb coupling
- Hose clamps
- 1-7/8” drill bit (or widen a 1-1/2” hole)
- Wood screws

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Credits: US Plastic and fuggled.net

RECIPES

Credit: T&R THeakston

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RECIPES

- **1952 Lees Best Mild**
  http://barclayperkins.blogspot.com/2010/07/lets-brew-wednesday-1952-lees-best-mild.html
- **1945 Tetley's Mild**
  http://barclayperkins.blogspot.com/2014/01/lets-brew-wednesday-1945-tetleys-mild.html
- **Oldham 1987 Mild**
  http://barclayperkins.blogspot.com/2012/05/lets-brew-wednesday-oldham-1987-mild.html
- **1987 Boddington's Mild**
  http://barclayperkins.blogspot.com/2012/05/lets-brew-wednesday-1987-boddingtons_16.html
- **Dry Dock S.S. Minnow Mild**
  https://www.northernbrewer.com/documentation/allgrain/AG-SSMinnowMild_Pro_DryDock.pdf
- **Numbers Station Mild** – see next page

For more recipes -- see Chino's mild recipe spreadsheet

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NUMBERS STATION MILD RECIPE

OG: 1.037 FG: 1.011

IBU: 17-18 SRM: 20

- 40% Fawcett Optic
- 40% Warminster Floor Malted MO
- 2.7% Crisp Brown Malt
- 9.3% Simpson's Medium Crystal (45L)
- 5.3% Simpson's DRC (105-120L)
- 2.7% Simpson's Chocolate (600°L)

- Mash: 156 (45 min)
  - pH 5.3
- Boil: 90 min
  - Target Hops, to hit IBU (60 min)
- Ferment
  - Yeast: 1469
- Dry hop: EKG, 10 g / 5 gal
- Water profile (ppm):
  - 65 Ca, 12 Mg, 55 Na, 75 SO4, 68 CaCl
- Carbonation: 1.7 volumes

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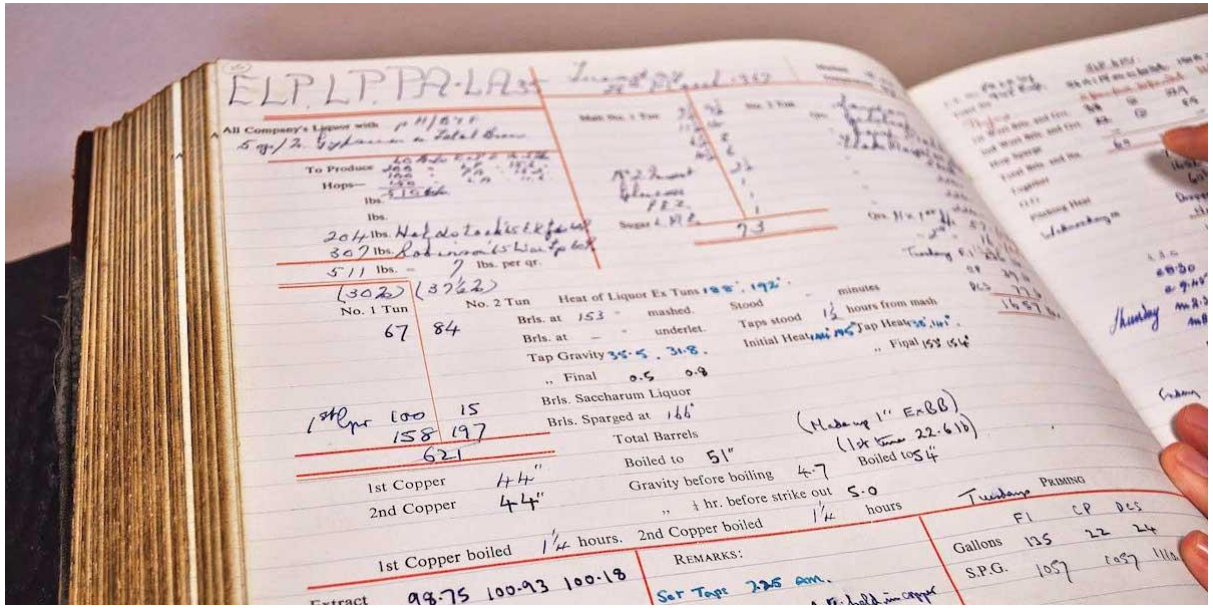
OTHER METHODS

Credit: eatthismuch.com

PARTIGYLE

- Second runnings of a strong beer
- Consider the higher tannin and silicate content of later runnings
  - Can affect flavor and beer clarity
  - Fuller's (U.K.) famously blends their runnings to increase the tannin levels in higher gravity beer and dilute the tannins in low gravity beer (as well as blending for gravity)
- Capping the mash
- Blending in dark wort
- Colorant for pale worts:
  - Brewer's Caramel
  - Sinamar (it has some flavor)
  - Porterine (it has flavor, but it works)



"BLENDING FOR GRAVITY"

Credit: Marshall Schott

- Dilute part of a stronger beer to make a mild ale
- A strong beer and a mild for the price of one
- For example: 6 gallons of a well-planned Porter =
  - 4 gallons of Porter
  - 4 gallons of Dark Mild Ale (2 gal. of porter + 2 gal. of water)
- Oxygen will *kill* the beer when blending
- We need to use de-aerated water
- Boiling and chilling water does not work because O2 entrains into water as you chill it far too rapidly for the water to be useful

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HOME METHOD FOR DE-AERATED WATER

1. Collect good brewing water.
2. Adjust water to post-boil mineral profiles in terms of flavor ions (sulfate, chloride, sodium).
3. Pour boiling water into keg.
4. Put <u>and leave</u> head pressure on keg and seal it up.
5. Chill.
6. Closed transfer from de-areated water keg to blending keg (or rack beer into the de-areated water keg).

A Commercial De-aration System

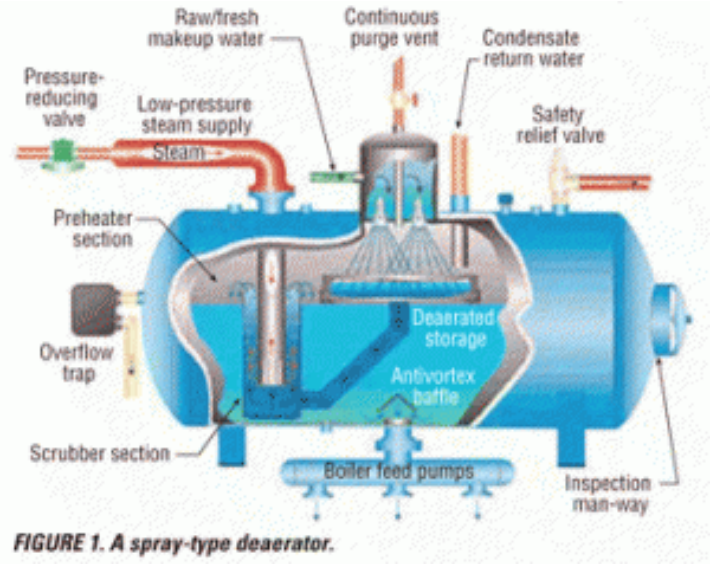

FIGURE 1. A spray-type deaerator.

Credit: Gary Wamsley

FLAVORING

- Dry hopping – breweries supply plugs of hops to the trade for cask ale
- Oak cubes or barrels
- Coffee
- Smoke (?)
- Fruit (please don't)

Credit: Wine Barley and Hops Homebrew Supply

REGIONAL VARIATIONS

- Sparklers: "bitter" debate
  North (pro-sparkler) vs. South (anti)
- Blending
  - Mild and Bitter (aka "Mild AB")
    - London - "Half and Half"
    - NW of England – "A mixed"
    - Norfolk and Kent - "A pint of Twos"
  - "Brown and Mild" (aka a "Boilermaker") –
    half a pint of draught mild with a bottle of brown ale – West Midlands (the bottle is your weapon in rougher spots)

Credit: Wine Barley and Hops Homebrew Supply

CONCLUSION

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WHY MAKE A MILD?

- Delicious
- Low ABV and low calorie
- Cheap to make
- Fast to make
- Lots of room in style to make your own version
- Don’t forget about pale milds, mid-gravity milds, and historical milds!

RESOURCES

- Ron Pattinson, "A Short History of Mild Ale", *All About Beer*, Issue #49, February 2011: https://www.beeradvocate.com/articles/5538/a-short-history-of-mild/ (accessed 16 May 2018).
- David Sutula, Mild Ale
- Ron Pattinson, *Shut Up About Barclay Perkins* blog, barclayperkins.blogspot.com.
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- Kristen England, "Making Brewer's Invert", http://www.unholymess.com/blog/beer-brewing-info/making-brewers-invert (Accessed 17 May 2018).
- Adam Stine, "Hardcore Mild", presentation at HomeBrew Con 2017, https://www.homebrewersassociation.org/seminar/hardcore-mild/ (Accessed 10 May 2018).

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QUESTIONS?

Credit: Joe Stange

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Credit: Jason McLaughlin, E.C. Kraus

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