Draught Beer Quality Workshop

Addressing Draught Beer Dispense Issues

Neil Witte
Master Cicerone
On Tap:

- System Design Considerations
  - Dispense Gas/Line Restriction
- System Maintenance
  - Line Cleaning Realities
- Storage
- Glassware
- Serving
People Want Draught Beer

How do you prefer your craft beer served?

- On tap/draft
- No preference
- In a bottle
- In a growler/crowler
- In a can

*Nielsen CGA - OPUS Survey Spring 2019
Quality at Retail is Important

Which of the following affects your decision to drink craft beer at eating or drinking establishments out-of-home?

*Nielsen CGA - OPUS Survey Spring 2019
What Goes Wrong with Draught?

• Flat Beer
  • Foamy
• Off-flavor
  • Infected Beer
  • Old Beer
• Poor Presentation
System Design and Quality

Long v Short
Long-Draw System

**Advantages**
- Design flexibility

**Special Considerations**
- Equipment selection
  - Tubing
  - Stainless Steel parts
- Dispense Gas
  - Mixed Gas v 25/75
- Cleanability
Long-Draw Equipment

- Barrier Tubing
- Vinyl alternatives
- No vinyl as choker
- Stainless Steel
Long-Draw Dispense Gas
Long-Draw Dispense Gas

Inexpensive for startup but....

- High operating cost
- Makes your beer flat
Long-Draw Dispense Gas

More expensive startup cost but…..

- Lower operating cost
- Keeps your beer carbonated and tasting better
Direct-Draw System

Advantages
• Relatively inexpensive
• Easy line replacement

Special Considerations
• Equipment selection
  • Tubing
  • Stainless Steel parts
• Through-the-wall cooling
• Temperature/Pressure/Carbonation Stability
Direct-Draw Equipment

- Vinyl alternatives
- Stainless Steel
Through-the-Wall Cooling

Through-the-wall systems are rarely that simple

Shanks this long are unacceptable
Through-the-Wall Cooling

Expand the cooler with a shadow box
## Temperature/Pressure/Carbonation

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(Gauge pressure at sea-level altitude. Add 1psi for every 2,000ft above sea-level.)
How Does Beer Lose Carbonation?

Balanced Keg:

- Beer stays carbonated

38 °F
11 psi
2.5 v/v
How Does Beer Lose Carbonation?

Out of balance keg:

• Pressure/temperature combination is not enough to keep gas in solution
How Does Beer Lose Carbonation?

Out of balance keg:

- Gas from the beer escapes into the headspace

38 °F
11 psi
2.6 v/v
Losing Carbonation in the Line

38 °F
11 psi
2.5 v/v

Balanced Keg:
• Beer stays carbonated
Losing Carbonation in the Line

- Pressure/temperature combination is not enough to keep gas in solution

- Out of balance keg:
  - Pressure/temperature combination is not enough to keep gas in solution
Losing Carbonation in the Line

Out of balance keg:

- Gas escapes the beer in the line, creating foam at the tap

Parameters:
- 38 °F
- 11 psi
- 2.6 v/v
Exacerbating Factors

- Straight CO2 systems
- Variability in carbonation levels
- Inconsistent cooler temperature
  - High traffic
  - Temperature zones
  - Too cold/too warm
System Cleaning
System Cleaning
System Cleaning
What grows in lines?

• Organic material – Biofilm
  • Yeast
  • Bacteria
  • Mold

• Mineral deposits
  • Calcium Oxalate (beerstone)
  • Calcium Carbonate
Biological Growth

- **Pediococcus**
  - Diacetyl – butter/butterscotch
- **Lactobacillus**
  - Lactic acid - sour
- **Pectinatus**
  - Cloudy
  - Acetic acid – vinegar
  - Sulfur – rotten eggs
- **Acetobacter**
  - Acetic acid - vinegar

May require deep clean and part replacement to remove
System Cleaning Recommendations

Every two weeks
- Caustic chemical solution at 80-110F
- 2% solution, 3% for old or problem lines
- Recirculate with an electric cleaning pump 15 minutes
- Disassemble and clean faucet at every cleaning
- Scrub Coupler at every cleaning

Quarterly
- Acid line cleaner – descaling

Semi-Annually
- Disassemble and detail FOBs
- Disassemble and detail couplers

Always pre-rinse and post-rinse with fresh water
Always use proper PPE
Storage Issues

Out-of-code Beer

• Loss of volatile aromas – hops
• Malt shift characteristics
  • Honey, almond, toffee, sherry, dried fruit
• Trans-2-nonenal – Paper/cardboard
Recommendations

- Always store beer cold
- Brewers - **Date code all your beer**
  - Make it understandable
  - See BA guidelines
- Retailers - If not date coded
  - 3-6 months from date of packaging
  - 1 year for Imports
Glassware
Reasons for Various Glasses

- Tradition
- ABV
- Style
- Branding
- Enhancement of aroma/flavor

If all you use is a shaker pint, it’s time to up your game.
Glassware Cleaning
Glassware Cleaning

• Appearance – Drink with your eyes
• Aroma/Flavor
  • No head to trap volatiles
  • Lower carbonation
• Sanitizer
Getting a Beer-Clean Glass

• Hand-washing
• Oil-free detergent
• No towel-dry/polishing
• Dish machines - Proper chemicals & dosing
Frosted Glasses

Rife with Issues

• Excessive foaming
  • Flat beer
• Very low serving temp
  • Beer iceberg
• Potential for flavor carryover
  • Freezer aromas
  • Sanitizer
Pouring

Proper pouring promotes:
• Good head formation
  • Enhanced aroma/flavor
• Clean faucets
  • Clean beer
Upcoming Draught Quality Seminars

Tuesday, 4/28, 2:00pm MT

Wednesday, 4/29, 2:00 MT
• Glassware Styles and Presenting Draught Beer – Matt Meadows, New Belgium Brewing Co.

Thursday, 4/30, 2:00 MT
• Demystifying Dispense Gas – Bridget Gauntner, Bell’s Brewery, Inc. & Ken Smith, Boston Beer Company

Friday, 5/1, 2:00 MT
• Calculating Proper Balance and Pours – Jaime Jurado, Ennoble Beverages, Inc.
Cheers!

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