

PRESENTING DRAUGHT BEER GLASSWARE STYLES, CLEANING, AND SERVING



INTRODUCTION:

- **Glass Industry and Customers**
- **Art vs. Science**
- **Structural Attributes**
- **“Beer Clean” Glassware:
Hygiene, Storage, and Testing**
- **Serving and Presentation**

INVERSE PYRAMID OF GLASSWARE:



Belgium

by brand

German

by style

UK

fewer options

US



SPECIALTY CRAFT GLASSWARE



GLASS INDUSTRY OVERVIEW

- Good-Better-Best
- Product Mgt, Design, Manufacturing, Decorating
- Composition (Sand, Soda Ash, Lime)
- Pressed, Blown, Molded, Stretched
- Finishing (Beaded, Cracked, Ground, Etched, Beveled)
- Durability, Safety, Storage, Cost...

Flavor Delivery

- Considerations
 - Meet needs of retailer
 - Special demands of brewer



CUSTOMERS OF GLASSWARE

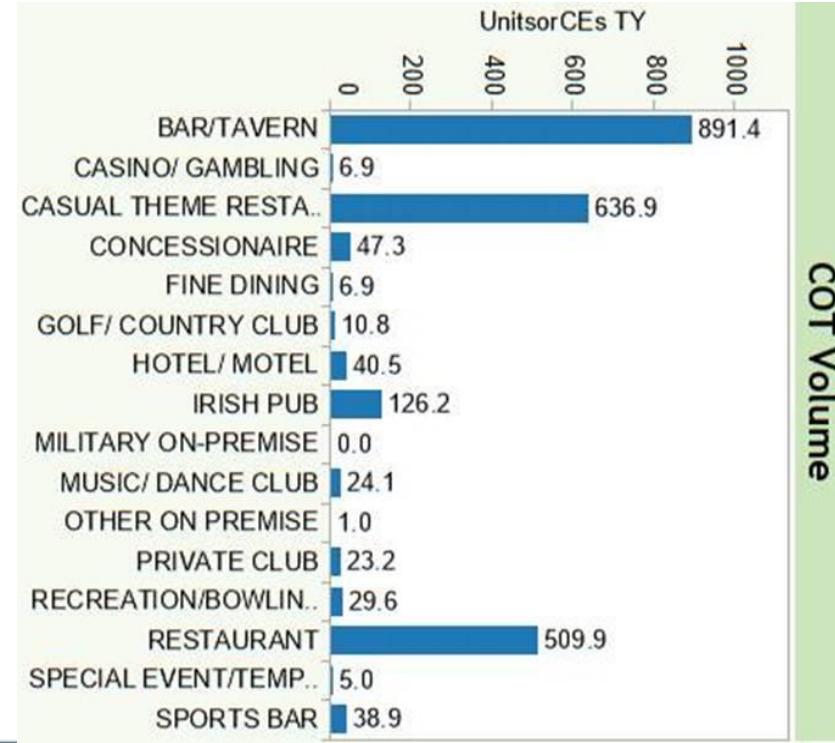
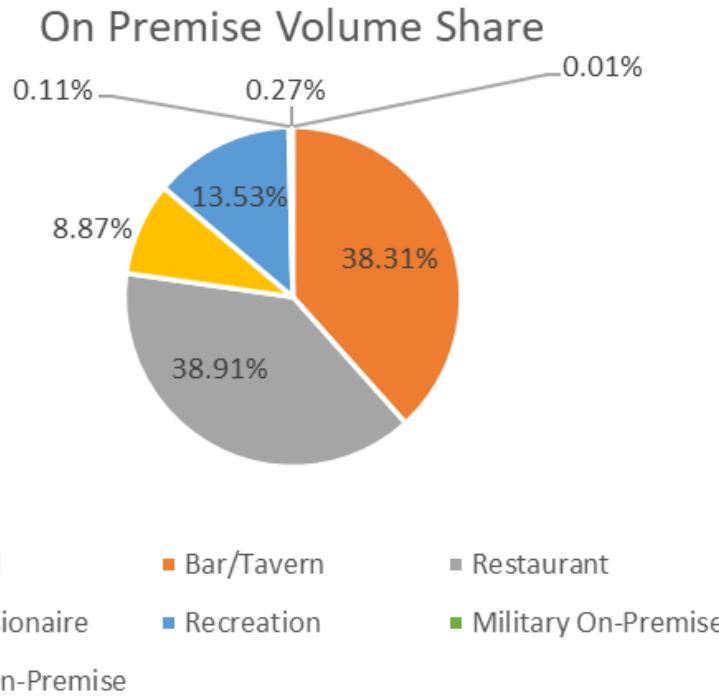
- Customer Motivation & Accessibility
- Outlet Type/Class of Trade Matters

Durability

Storage

Price

Presentation



IMPROVEMENTS IN GLASSWARE

- Wine, Spirits...*then Beer*
- Brewers, Retailers, Allied industry
 - Consumers?
 - Wholesale Distributors?
- Manufacturer
 - Engineering, Understanding the Art & Science



ART VS. SCIENCE?

While we can't say all glasses have been scientifically designed to perfectly show off the sensory properties of specific beers, we do know that the geometry of the glass has an impact on consumers buying habits...

**But is it
Psychosomatic or
Physico-Chemical?**

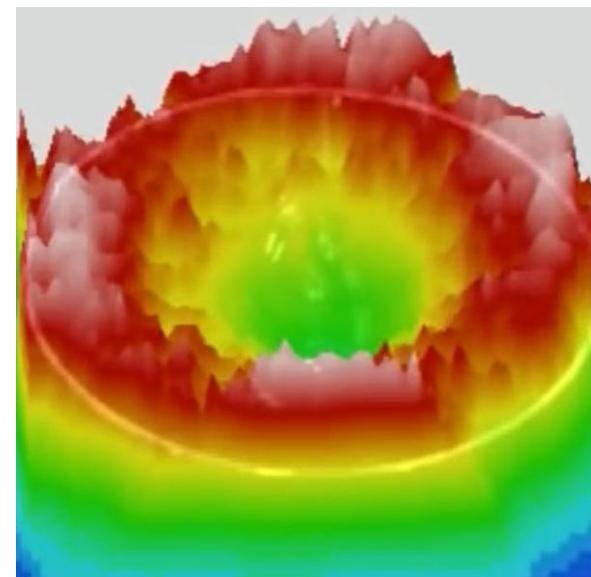
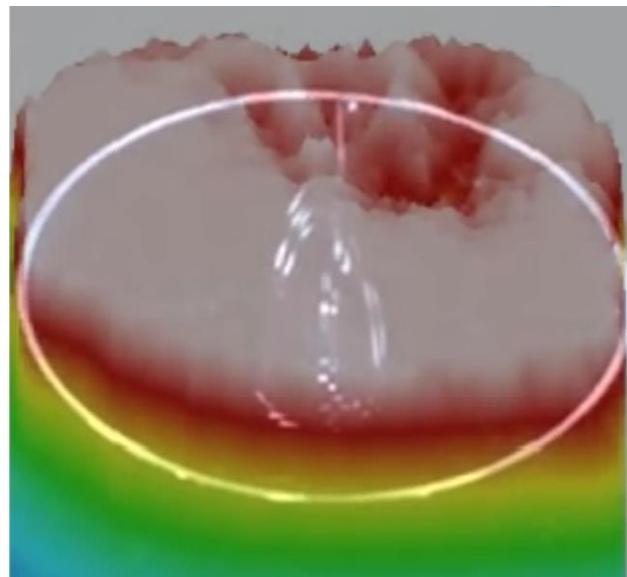


PSYCHOSOMATIC

- Studies have shown that people are willing to pay “significantly more” for beverages if the glassware is consistent with the style.
- A number of studies have shown that the shape of the glass influences:
 - How rapidly consumers drink
 - How consumers feel about the entire meal experience
 - Consumers’ buying habits (re-purchase)
 - And post-consumption satisfaction

PHYSICO-CHEMICAL

Using a specifically designed camera, Japanese researchers were able to map aroma in varied glass shapes and temperatures. Their research demonstrated that both glass shape and temperature have a large impact on aroma...



Sniffer Camera

Alcohol will compete with and suppress desired aroma compounds. A more narrow opening in relation to the belly, will concentrate desired aromas to the center of the glass.

GLASS STRUCTURE

- Stemmed or homogenous foot
- Bowl or belly (contains, collects, captures)
- Inverted or everted mouth (flavor release)
- Thickness (heat transfer)
- Effect on foam stability
- Effect on nose & tongue delivery
- Spread/distribute

What characteristics are lifted or suppressed?



FUNCTION AND DURABILITY



Dimple Mugs: Thick glass for durability and “clinking” glasses - Prost!



German Stein: Lid to seal in aromas and carbonation



Nonick Pint: Bump keeps rim from chipping and allows a more stable hand hold

WIDE BOWL



INVERTED NARROW OPENING



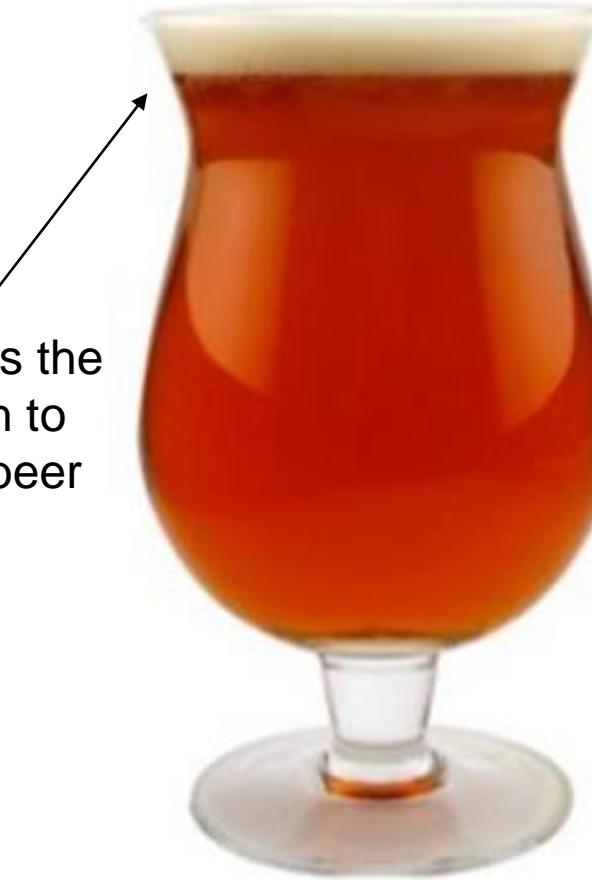
Concentrates foam
and directs aromas
to the nose



EVERTED OPENING



Outward flare supports the head. Fits the mouth to evenly disperse the beer



TAPERED ANGLE



LIP AND MOUTH



RELEASING AROMAS AND REPLENISHING THE HEAD



Wave Pattern
aerates the beer
releasing aroma
compounds



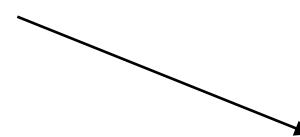
Laser Etching
maintains constant
stream of CO₂ to
maintain head and
deliver aroma



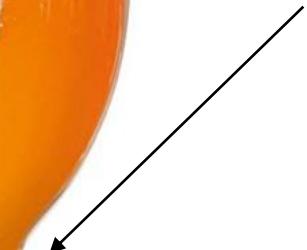
When glass is half
empty, beer will
tumble to reactivate
the head releasing
aromatics

HEAT TRANSFER

Thin wall maintains
proper beer
temperature longer



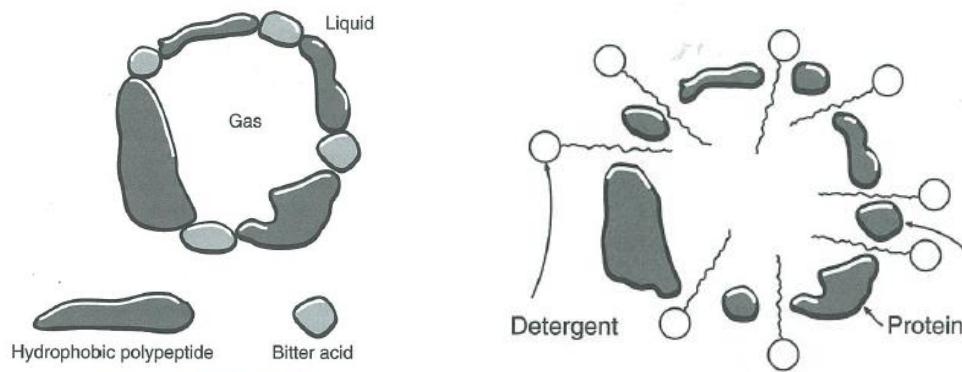
Stems and narrow
openings prevent
unintentional heat transfer
from hand to beer



QUESTIONS



GLASSWARE HYGIENE



CLEANING & SANITIZING:

Soil & marks

- previous contents, lip cosmetics, fingerprints

Residue

- fat, grease, oil/soap

Germs

- no lingering chemical smell

Dedicated glasses & cleaning equipment

CLEANING & SANITIZING:

DEMO



- Three sink system
- Ensure proper ratio of chemical to water – too much chemical can be worse than not enough
- Sanitizer should always be allowed to air dry to completely disinfect the glassware (“clean” vs. neutral)
- By not allowing the glassware to completely dry before dispensing a beer, or before placing the glassware into a freezer, the glassware may not be clean and the aroma of the sanitizer will remain

CLEANING & SANITIZING:



- Clean (non-petroleum based detergent)
- Rinse (refreshed water)
- Sanitize (trichloromelamine, not a hypochlorite)
- Air-dry



STORING:



- Glasses need time to dry
- Glasses need time to cool down
- Space needs to be free of odors, smoke, dust
- Maximize air circulation
- No smooth surfaces

STORING:



- Chilled glasses 36° F
- Never frozen/no freezers
- Ice crystals carry unwanted flavors
- Nucleation
- Dry glasses completely
- Chill in dedicated refrigerator

TESTING:

Sheeting Test



Salt Test

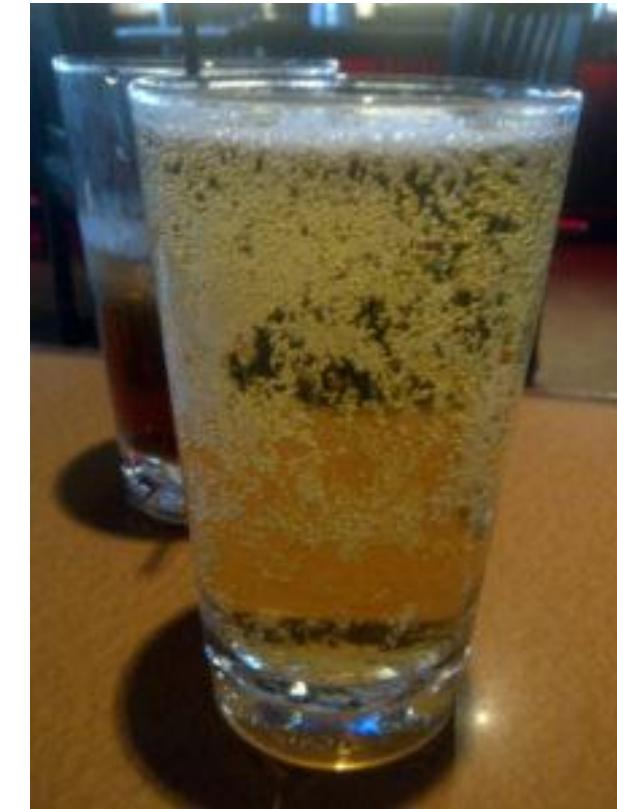


Lacing Test



GLASS HYGIENE TESTING

Bubble patches are bad. Residue causes foam collapse



QUESTIONS



PROPER POURING TECHNIQUE:

1. Hold glass at 45° angle
2. Control faucet at base
3. Gradually tilt glass upright once beer has reached about the halfway point in the glass.
4. Pour beer straight into the glass, working the glass to form a one inch collar of foam (“head”). For Presentation as well as Carbonation Release.
5. Close faucet quickly to avoid overflow.



PROPER POURING TECHNIQUE:

- In no instance should a faucet touch the inside of the glass.
- Nozzles can potentially transfer germs from one glass to another.
- In no instance should the faucet become immersed in the consumer's beer.
- Nozzles dipped in beer become a breeding ground for microorganisms.
- Ownership of the glass: Pourer: Bottom/Exterior, Customer: Top/Interior



2-PART NITRO POUR:



1. Hold glass at 45 degrees
2. Open faucet quickly and completely
3. Fill 2/3 to 3/4.
4. Place glass to the side to avoid dripping from the faucet
5. Let rest for 110 seconds
6. Place glass upright under the faucet
7. Open completely and fill the glass

9-STEP TRADITIONAL BELGIAN POUR:



1. Wet glass under a glass sprayer or dunk in a dedicated sink.
2. Controlling the faucet from the base, open the draught faucet quickly and completely and let the initial jet of foam drop next to the glass.
3. Let the beer stream flow down the side of the glass tilted at 45° .
4. When the glass is 1/2 to 2/3 full, gradually move the glass to an upright position directly under the beer stream.
5. Close the tap quickly and completely when the foam begins to run over the glass.
6. Place the full glass to the side to avoid dripping from the faucet.
7. Remove the large foam bubbles with a clean skimming knife in one action.
8. Dip the glass in cold water to remove foam and beer remaining on the outside and base. Wipe the bottom of the glass on a towel.
9. Present the beer emblem out on a coaster.

7-MINUTE GERMAN POUR:



1. Place a tall slender pilsner glass upright directly under the faucet.
2. Pour down the center of the glass until foam reaches the top of the glass.
3. Allow foam to settle to approximately 1"-2"
4. Repeat 3 to 4 times until filled to the appropriate level.

By allowing the foam to condense, you have created a dense creamy foam filled with tiny long-lasting bubbles. This process also knocks out some of the carbonation leading to smoother creamier mouthfeel.

POST SERVING:

Carbonation dynamics: The importance of CO₂

- Carbonation Dynamics
- Head of foam-volatile release & flavor delivery
- Taste-releases carbonic acid
- Mouthfeel-tingly, prickly, spritzy, fizzy, effervescent
- Bubbles-scrubbing & palate-cleansing

QUESTIONS

