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NATIONAL HOMEBREWERS CONFERENCE

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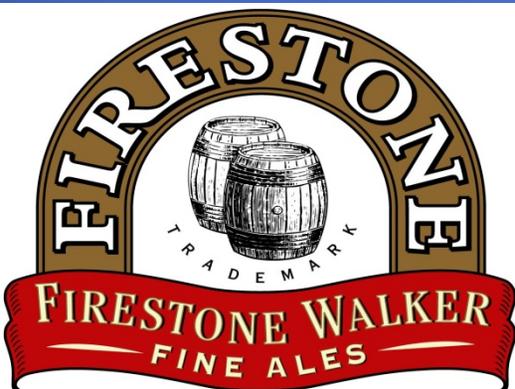
Four Points by Sheraton Denver Southeast



HOMEBREWING *with* **ALTITUDE**

CREATING FLAVORS THROUGH BLENDING --BEER ART--

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Outline

Blending to refine flavors and create complexity

- Beer Mixology
 - Blends made at the bar (point of dispense)
- Blending in the Wine Industry
 - Blending Lots /Blocks / Varieties / Vintages
- History of Blending in Traditional Breweries
 - Traditional Ale brewing in the UK
 - Belgian Gueuze tradition
- Blending in “Industrial” Scale Breweries
 - High Gravity Brewing
 - Brand differentiation and Consistency
- Blending in “Craft” Scale Breweries
 - Creating New Flavors and Creating New Beers
 - Firestone Walker’s approach to blending both in the oak program and in the stainless cellar as well as the making of “10” in 2006.

Beer Mixology *(at the bar)*

- **Beers mixed together**
- **Beers and non-alcoholic blends**
- **Beer cocktails (booze infused)**

- **Classics**
 - **Black and Tan**- dry (nitrogenated) stout floated over another pale beer
 - **Shandy**- beer and lemonade
 - **Red Eye**- beer and tomato juice
 - **Irish Car Bomb**- Irish whiskey & Cream Liqueur in Dry Stout
 - **Snakebite**- beer and hard cider
 - **“Black Pecker”**- Guinness and Woodpecker cider

Judy Ashworth / Lyon's Pub

“A Foggy Night in the Sierras” - a combination of Anchor's Old Foghorn and Sierra Nevada Pale Ale.

“Lost in the Orchard Again” - Old Foghorn and Pyramid Apricot Ale

“Drunken Turkey” - Old Foghorn and Cranberry Ale from San Andreas Brewing in Hollister, California

“The Ultimate Hop Head Ale” - Sierra Nevada Bigfoot with Sierra Nevada Celebration

“Paul Revere's Last Ride” or “Foggerty” - Old Foghorn (1/4) and Liberty Ale (3/4)

“Anchor's Aweigh” - a splash of Old Foghorn on top of a pint of Anchor Wheat

The GINGER MAN®

Blended Beers

Yellow Jacket

Franziskaner & Guinness
\$4.75

Scottish Schwinn

Belhaven Scottish Ale & Fat Tire
\$4.75

Back Hand

Stella Artois & Maredsous #10
\$6.75

Paul's Full Fest

Fuller's ESB & Paulaner Oktoberfest
\$4.75

Party Dog

Dogfish Head 90 min IPA & Spaten Oktoberfest
\$5.75

Dirty Hoe

Hoegaarden & draught lambic of your choice
\$6.75

Preacher's Collar

Ace Pear Cider & Maredsous #8
\$5.75

Foggy Night on the Sierra

Anchor Old Foghorn & Sierra Nevada Pale
\$4.75

Wine Making (the art of blending)

- Blending is a key step in the wine making process
 - To bring balance to the wine and enhance flavors creating something that is more attractive than the individual components
 - To bring consistency to a wine (brand) that is produced year after year (cope with vintage to vintage variation)
 - To create new wines from existing varieties, barrels or lots.

Wine Maker's Vocabulary

- **Integration**
 - Allowing flavors to develop and mature (synergy)
- **Depth**
 - Creating a 3-dimensional product
- **Complexity**
 - Bringing something to all of the senses
- **Texture**
 - Putting thought into the tactile side of the product
- **Consistency**
 - Replication of key flavor components year after year (batch after batch)

English Porter Brewers

- Tradition of holding back some ale to age and sour. This aged beer was then blended into young beer to reach a “popular” taste.
- Also a tradition of “Party Gyle” brewing
- Very large aging (and blending) tanks were very common at the peak of the Porter Age.
- Some examples of this blended style still available
 - Greene King Olde Suffolk Ale
 - 12% strong ale aged for 2 years
 - Blended with a 5% young pale ale

Belgian Lambic & Gueuze Production

- Belgian brewers were known to purchase light ale or lager from other brewers to dilute and/or stretch their Lambics
- Like-wise, ale brewers were know to purchase Lambic for blending to bring tartness to some products
- Gueuze is typically a blend of different ages
 - Old blended with young

Rodenbach

- The bench-mark for classic Flanders style sour blended beers.
- A large portion of the beer is aged for 2-3 years in wooden tanks where a secondary mixed critter fermentation is conducted
- This sour beer is then blended with young beer to produce the finished product
- Tart acidity brings a refreshing drinkability to the beer!

INDUSTRIAL BREWERIES

- Blending multiple batches from the brewhouse into a single fermenter
- Blending multiple fermenters into single aging tanks
- Blending aging tanks prior to packaging

- High gravity brewing – the dilution solution

Firestone Walker Double Barrel Ale

- Classic British Pale Ale recipe
- 4-6 brews are blended into a single stainless fermenting vessel
- At 24hrs into the fermentation (high krausen) a portion of the fermenting wort (20%) is moved into individual new American oak barrels
- The beer ferments in these barrels for 7 days while the balance of the brew finishes fermenting in stainless
- The beer is blended back together after cold side maturation at 15-20% oak / 80-85% stainless.
- The resulting flavor can not be replicated any other way!

Pale Ale Blends

Resulting in two distinctively different beers!

Firestone Walker Pale Ale

- 85% Base Pale Ale
 - House Ale Strain
 - Dry hopped with Cascade and Centennial
- 15% Double Barrel Ale
 - Oak Fermented
 - House Ale Strain
- *Resulting character has yet to be matched by single brew recipe*

Pale Nectar

- 80% Base Pale Ale
 - House Ale Strain
 - Dry Hopped with Cascade and Centennial
- 20% Red Nectar
 - Fermented with different yeast strain
 - No oak treatment
 - Heavy Carmel Malt charge

Firestone ESB

- 75% Base Pale Ale (4.5% ABV)
 - House Ale Strain
 - Dry Hopped with Cascade and Centennial
- 25% IPA (6.7% ABV)
 - Nectar Ale Strain
 - Dry Hopped with Amarillo, Centennial & Simcoe
- Results in a balanced hop driven beer with a different aromatic qualities (dry hop character)
- *Observations: Dry hop character is dependent on the strength (%ABV) of the beer.*

Walker's Shadow Black Lager

- 90% Firestone Lager
 - Traditional lager yeast and fermentation profile
- 10% Firestone Reserve
 - Robust Porter
 - Finished beer is a malty and somewhat roasty version of a Bavarian black beer or heavy Schwartz beer
 - *Blending allows for a smaller demand beer to still be produced in a larger brewery*

AMERICAN CRAFT BREW EXAMPLES

- Collaboration
- Desperation
- La Folie
- 3 Philosophers
- Transatlantic Kriek

Most of these have been Belgian Style

Project "10"

Barrel Aged & Blended

The Goal

- To create complexity centering on oak, in a multitude of forms, by brewing high gravity beers in complimentary styles, aging them in different barrel formats and then blending them together to achieve new harmonious flavors
- No Critters – No Fruit – No Spice

The Puzzle

- To blend these various components to create a synergistic whole that is greater than the sum of its parts. This was done with the help of a small team of Paso Robles and Santa Barbara County wine makers who are practiced in the art of blending

The Inspiration

- Firestone Walker's oak brewing tradition and our connection with winemaking
- Barrels Utilized:
 - Old Fitzgerald Bourbon
 - Old Fitzgerald Wheat Whiskey
 - Heaven Hill Bourbon
 - Heaven Hill Brandy
 - New American Oak
 - Retired Firestone Union Barrels (American Oak)

Solera Port Tradition

- Each bottling includes a blend of many vintages
- Enough of the old vintages are held back to be included in future blends
- As time passes the complexity of the releases increases

The Components

- **Abacus**
 - Strong English Style Barley Wine
- **Parabola**
 - Imperial Oatmeal Stout
- **Ruby**
 - Double IPA / American Barley Wine
- **Bravo**
 - Imperial Brown Ale
- **Walker's Reserve**
 - Oak fermented Robust Porter
- **Humboldt Hemp Ale**
 - American Brown Ale with Hemp seeds
- **Oak Fermented Double Barrel Ale**
 - Flagship English Pale Ale / 100% Oak fermented

Some initial thoughts and goals

- We wanted to create some lean (hot) beers in the beginning knowing that we could always create sweet (fat) beers for blending later.
- We centered on styles that we believed to benefit from oak aging and styles that generally age well.
- We did not center on hoppy beers although the Ruby was integrated (small percentage) into the final blend.
- We wanted to protect the beers as they aged from oxidation
 - Purged the barrels well with CO₂
 - Kept the barrels topped up
 - Aged the barrel beer @ 45F
 - Plated the beers and protected them from micro contamination (no critter beers)

What the Winemakers said...

- Preferred the malty beers
- Were not big on over the top bourbon notes and leaned toward the brandy barrels
- Were very much into integrated subdued characteristics
- Utilized more of the low gravity beers to tone down the alcohol burn
- Brewers tended toward exclamation points and aggressive flavors
- Brewers tended to utilize more of the stout and roasty flavors while the wine makers centered on the brown ales and the softer notes

Blending Notes

- Hop driven styles did not benefit from oak aging
- Malt driven styles were preferred and were the center point of the blend
- English Style Barley Wine became the corner stone of the blend
- Imperial Stout added nice complexity and chocolate notes in small percentages
- No single beer had a cherry or stone fruit note but once blended – that flavor became evident and was a focal point for the final blend
- A sour beer could be integrated into the program for future blends

... More Notes

- Equal blends resulted in muddled flavors
- Picking one beer as a center piece (50% or more of the blend) resulted in better synergy
- Tobacco notes and spice driven characters were found though blending
- Creamy cherry and almond notes were also uncovered
- Small doses of stout resulted in light chocolate notes but when over done it resulted in burnt acrid roasty flavors

The Final “10” Blend

● Abacus - 17 barrels	46%
● Bravo – 6 barrels	16%
● Ruby – 3 barrels	8%
● Walker’s Reserve – 2 barrels	6%
● Parabola – 4 barrels	11%
● Hemp Ale – 2 barrels	6%
● Double Barrel Ale – 2 barrels	6%

- 37 total barrels = 60bbl = 1850gals

BLENDING STRATEGIES

- Pick a theme
 - Sweet / Acidic / Malty / Hoppy / ...etc
- Start with two beers and find a solid foundation
- Utilize additional components to add highlights to the foundational beer
- Go back and recreate blends before you make the real blend
- Get other's opinions – this is a team sport!

Homebrewing Ideas

Create a Blending Cellar

- Hold back portions of your beers
- Practice the Party Gyle method when brewing big beers
- Basement refrigerator or open top cooler
- Cornelius kegs
- Purge well
- Oak chips
- Keep cool

Make Blend Trials

- Graduated cylinder and a note pad
- Play with commercial examples
- Keep good records
- Brew beers that compliment each other
- Blend by weight

A Good Blending Cellar

- English Style Barley Wine
- Stout
- Malty Brown Ale
- Leaner High Gravity Beers
- Sour Ale
- Oak Aged Beers
- DIPA or Hop accented brew
- Low Gravity Blenders
 - Light Ales
 - Malty Ambers
 - Traditions Mild

**THANK YOU FOR YOUR
KIND ATTENTION!**

May your next brew blend be your
best!

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