

Wood-Aged Beer



Paul Sangster



Why Wood-Aging?

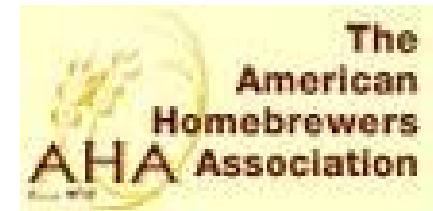
- Interesting way to add character
 - Tannins from wood
 - Mouthfeel
 - Astringency (dry and puckering)
 - Vanilla, toasty, earthy, ...
 - Prior contents (bourbon, brandy, wine, ...)
 - Bacteria or wild yeast in wood
 - Mouthfeel (creamy)
 - Oxidation (oxygen permeation)
- Balance of base beer and wood flavors



AHA Club Only Competition

May 2011 Club Only Competition

- Wood-aged Beer
- Entries due to Alesmith by April 15th
- Winning entry due by May 5th



Factors in Wood Character

- Wood character derived based on
 - Cut of wood (surface area)
 - Type of wood
 - Quantity used
 - Contact Time
 - Temperature
- Experiment with different combinations
 - Try longer contact time at higher temps
 - Try more surface area for less compact time



Cut of Wood

- Differing surface areas
 - Wood contact imparts flavors
- Wood chips
 - Flat with toasted sides, faster extraction
- Wood cubes
 - Cube with 2 sides toasted, variety of flavors
- Staves, spirals
- Quick flavor impact
- Barrel
 - Smaller barrels have higher surface/wood ratio



Examples



Is This You?



Please share Paul Gagnon's beers...

Types of Wood



- Type of Tree
 - Generally Oak
 - Origin
 - French – subtle flavor and high tannin content
 - American – pronounced aroma and flavors
 - Hungarian – less expensive alternative to French
- Toasting Level
 - Medium – less tannin but more bouquet,
 - Medium+ - complex flavors (nuts, coffee),
 - Heavy – more intense flavors (caramel)

Oak Essence vs. Cubes

- Paul Gagnon oaked a Porter two ways
- Base Beer - Robust Porter
 - OG 1.063 FG 1.012
 - SRM 39.5 IBU 42.3
- Comparison (1G base beer)
 - 1st: .5 oz/gallon of oak essence
 - 2nd: 1oz of medium toasted American oak chips
 - Beer aged with chips for 1 week



Disclaimer

Next few slides assume varying only one factor at a time



Keep in mind:

- Wood type x Time x Quantity x Temp = Flavor
- Vary only one of these factors at a time
- Base style also impacts amount of flavor desired

Contact Time

- Chips
 - Weeks
 - Generally 1-2 oz of chips for 5 gallons
 - Dissolve over longer periods
- Cubes
 - 1 to 12 months
 - 2-3 oz cubes for 5 gallons
 - Results in more vanilla, coconut flavors
- Barrels
 - 6 to 24 months in 55 gallon barrels
 - More oxidation



Quantity and Temperature

- Experiment! I've tried...
 - 1-5oz chips in 3 gallons for 1 week to 8 months
 - Normally at 70° although also tried 42°
 - 2-4oz of cubes in 3 gallons for 8+ months
 - Over oaked beers can be blended back
 - So oak just a portion of your batch!



- Next plan to try oak spirals and cedar chips
- Suggest
 - 2oz of cubes in a stout for 3-4 months
 - 1oz of chips in lighter beer for 1 week
 - Vary only one factor at a time



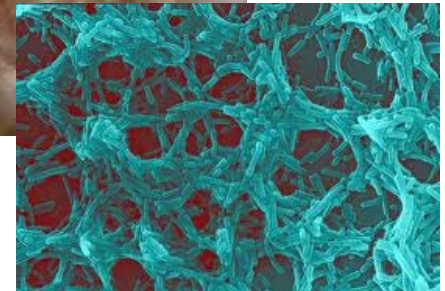
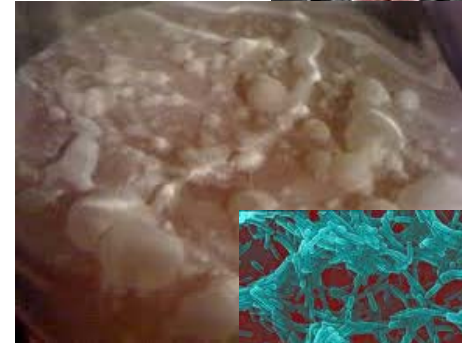
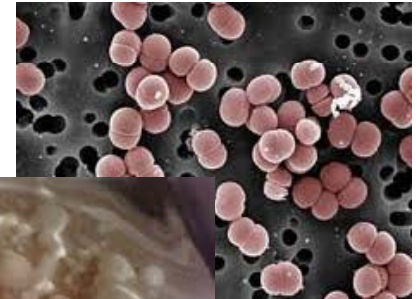
Again ... Already?



Please share Paul Sangster's beer...

Other Flavors

- Fermenting with Wood
 - Provides more mouthfeel tannins
 - Aroma tends to blow off
 - Try .5 oz at start of ferment
- Wood is Poursous
 - Harbors bacteria and wild yeast
 - Allows oxidation – dark fruits (plum), sherry,...
 - Use hot water to sanitize (15 mins at 175+)
- Absorbed Alcohol
 - Bourbon, Wine, Brandy imparts interesting flavors
 - Stuns bacteria inhibiting growth
- More complex flavors created over time



Wood-Aged Amber Sample

- Base Beer – Hoppy American Amber
 - OG 1.067 FG 1.011
 - SRM 17 IBU 72
- Wood aging
 - 1.3oz of medium toasted American oak chips
 - In 3G keg for 1 week
 - Aged at 70°
- Note substantial wood character in 1 week



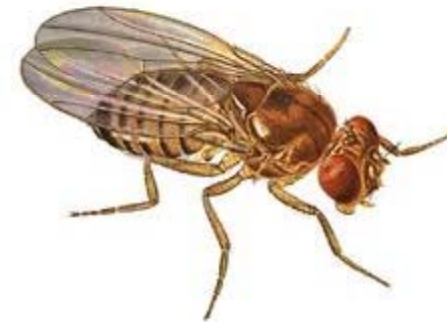
Barrel Project

(How to Grow Acetobacter)



Plan Ahead

- Need 60G of beer at same time
 - 5G for Angel Share
- Sanitation of everyone's contribution
- Schedule brew session before barrel
- Keep barrel moist
- Barrel stand and bung
- Similar temperature
- Filling/emptying strategy
- Fruit flies



Questions?

