



Oregon Brew Crew

Great Mead Experiment

2002

The Yeast Year

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On National Mead Day, August 3rd, 2002, Bob Farrell, Matt Maples and myself met at F.H. Steinbart's and made 30 gallons of Mead using a varietal Raspberry honey. We made three separate 10 gallon batches using 30lbs of honey in each and adding enough boiling water to raise the temperature to just over 150 degrees F. After cooling we split them evenly into 6 separate carboys and added enough cold water to fill. We then proceeded to pitch one-quart starters of 6 different yeast strains (Cotes des Blancs, American Ale, Sweet Mead, Portwine, Lalvin 71B-1122 and Pasteur Red) that Matt had made the previous week, load them all into a pickup truck and haul them off to my basement to ferment.

After a few months we rerailed them and took some notes and decided that the gravity readings were still a little high on a few of them. After a few rapid e-mails back and forth the decision was made to add the same amount of yeast nutrient to all of the samples and then warm them up (ferment temp in the basement was around 58 degrees F). A few weeks of being warm did wonders for them and they all fermented pretty far down, a few more months of aging and then it was bottling time.

Once, again we took some samples and did a brief analysis of them and then let them sit in bottles until November of 2003 at which point we arranged a tasting session at my house and invited a group of 8 judges over to sample and compare notes. The general opinion was that all were drinkable, some were better than others and they could all use some degree of acid blend. (We chose not to add acid to the experimental meads at the time of ferment as this would skew the results and we wanted to see what acidity if any the yeast would impart.) One surprise result was that the American Ale yeast had started to ferment again in the bottle and resulted in a lightly sparkling mead.

On the next few pages are some notes taken during the fermentation process as to unusual characteristics of each yeast strain and it's flavor and aroma over the ferment and the compiled notes from the tasting session. I hope you find them useful and remember to thank Bob Farrell for organizing this event and Matt Maples for his valued assistance.

Trevor Millund
Education Chair
Oregon Brew Crew

Yeast Strains used:

Lalvin 71B-1122
Red Star Cotes des Blancs
Wyeast 3184 Sweet Mead
Wyeast 1056 American Ale
Wyeast 3767 Portwine
Wyeast 3028 Pasteur Red

	Cotes des Blancs	American Ale	Sweet Mead	Portwine	71B-1122	Pasteur Red
Starting Gravity	1.110	1.110	1.110	1.110	1.110	1.110
Gravity on 3/16/03	1.028	1.048	1.034	1.026	1.044	1.022
Gravity on 6/19/03	1.006	1.016	1.002	1.022	1.018	1.008
Final Gravity	1.004	1.012	1.000	1.020	1.018	1.004

Clarity on 3/16/03	Cloudy	Cloudy	Cloudy	Cloudy	Clear	Cloudy
Clarity on 6/19/03	Light haze	Light haze	Crystal Clear	Crystal Clear	Light haze	Light haze
Clarity on 8/30/03	Hazy	Hazy to cloudy	Brilliant	Brilliant	Clear	Hazy

Activity level 8/3/02	very high level of foam on top and actively bubbling	Medium level of foam and some bubbling	A little bit of foam on top and very low bubbling	little to no activity maybe a bubble through the airlock once every 30-40 seconds	nice level of foam on top and actively bubbling	Low level of foam and some bubbling
Activity level 8/4/02	foam is receding and rapidly bubbling	Still medium level of foam and moderate bubbling	more foam moderate bubbling	No foam slowly bubbling	foam receding and a slow bubbling	moderate level of foam and some bubbling
Activity level 8/5/02	Rapidly bubbling no foam	Moderate bubbling some foam	Slowly bubbling high foam	No foam medium to low bubbling	Slowly bubbling no foam	Moderate bubbling no foam

Aroma on 3/16/03	Appley, yeasty	Fruity	Sulfurous, very rubbery	Strong tropical fruit like aroma, coconut?	Peaches, nectarines	Some phenolic
Aroma 6/30/03	Fruity/honey	Low aroma light honey	Honey/floral/bubblegum	Odd Nail polish	Grapefruit/melon/peach	Honey/melon/acidic

1056 American Ale

Starting Gravity	Gravity on 3-16-03	Gravity on 6-19-03	Final Gravity
1.110	1.048	1.016	1.012

Activity level during the first 48 hours:

9:30 PM on August 3rd *Medium level of foam and some bubbling*

9:30 PM on August 4th *Still medium level of foam and moderate bubbling*

7:30 AM on August 5th *Moderate bubbling some foam*

Color and Clarity during ferment:

Initial color: *Greyish yellow*

Clarity on March 16th *Cloudy*

Clarity on June 20th *Light haze*

Sediment level on March 16th *3/4 inch*

Observations at rereack on March 16, 2003:

Aroma: *Fruity*

Flavor: *light cinnamon-like spiciness*

The gravity reading was still high (*1.048*) at rereack so 1 tsp of yeast nutrient was added on March 22nd and the temperature was raised to 78 degrees F.

Activity level over the next 24 hours:

7:30 AM on March 23rd: *Visible fermentation*

7:30 AM on March 24th: *Visible fermentation*

By mid June there were no visible signs of ferment and the gravity had fallen to (*1.016*).

Tasting notes from June 30th of 2003:

Clarity	Aroma	Flavor	Acidity	Finish
<i>Hazy to cloudy</i>	<i>Low aroma light honey</i>	<i>Fruity pear</i>	<i>Low</i>	<i>Heavy</i>

The mead was allowed to age in bulk for two more months and then bottled. A panel of 8 Mead enthusiasts and judges was organized in November of 2003 and on the next page are the results of that tasting.

1056 American Ale

	Aroma	Appearance	Flavor	Drinkability
Taster 1	Pleasant pear nose	Sparkling	Good clean honey, slight sweetness, oddly bitter	Pleasantly effervescent, thick honey flavor some bitterness
Taster 2	Fruity-appley	Some carbonation	Carbonation gives a perceived sharpness	Hard to compare due to carbonation.
Taster 3		Ongoing fermentation “sparkling” quality	Unusual, delicately carbonated. Soft, slight woodiness, little finish	Indistinct
Taster 4	Low aroma, some honey	Clear	Harsh alcohols, hidden with lots of sugar	Good sweetness
Taster 5	appley, cheesy	refermented, cloudy	Alcohol warm, nice flavor, effervescence made up for sweetness	
Taster 6	Honey, apples and pears	Light carbonation	Carbonated honey sweetness, somewhat cloying, some alcohol warmth	If you like an effervescent honey sweet beverage “this is for you”. Carbonation does hide some of the sweetness.
Taster 7	Pear, apple, fruity, cider	Pale straw, slight carbonation	Honey and sweetness, balanced w/ co2 (unintentionally)	Carbonation helps this otherwise un-noteworthy mead.
Taster 8	Fruity apple aroma.	Clear and pale	Fruity and carbonated, some hot alcohols.	Needs age, but may blow up, good but some harshness.

Cotes des Blancs

Starting Gravity	Gravity on 3-16-03	Gravity on 6-19-03	Final Gravity
1.110	1.028	1.006	1.004

Activity level during the first 48 hours:

9:30 PM on August 3rd *very high level of foam on top and actively bubbling*

9:30 PM on August 4th *foam is receding and rapidly bubbling*

7:30 AM on August 5th *Rapidly bubbling no foam*

Color and Clarity during ferment:

Initial color: *Dark straw*

Clarity on March 16th *Cloudy*

Clarity on June 20th *Light haze*

Sediment level on March 16th *1/2 inch*

Observations at rereack on March 16, 2003:

Aroma: *Apple, yeasty*

Flavor: *Sweet, slight bitterness at the end*

The gravity reading was still high (1.028) at rereack so 1 tsp of yeast nutrient was added on March 22nd and the temperature was raised to 78 degrees F.

Activity level over the next 24 hours:

7:30 AM on March 23rd: *No Change*

7:30 AM on March 24th: *Visible fermentation*

By mid June there were no visible signs of ferment and the gravity had fallen to (1.006).

Tasting notes from June 30th of 2003:

Clarity	Aroma	Flavor	Acidity	Finish
<i>Hazy</i>	<i>Fruity/honey</i>	<i>Apple/melon</i>	<i>Low to medium</i>	<i>Heavy to smooth</i>

The mead was allowed to age in bulk for two more months and then bottled. A panel of 8 Mead enthusiasts and judges was organized in November of 2003 and on the next page are the results of that tasting.

Cotes des Blancs

	Aroma	Appearance	Flavor	Drinkability
Taster 1	Low aroma, no alcohol warming, slight honey notes. Slightly medicinal (phenolic)	Pale straw, slightly cloudy	Honey with sweetness that is less than in Pasteur Red. Fairly bland. Slightly bitter aftertaste.	Semi-sweet honey with nothing of real interest to the drinker.
Taster 2	Honey dominates aroma	Clear	Sweetness from honey dominates and accents alcohol warmth through finish. Sweetness is short of cloying, aftertaste has slight bitterness.	A nice refreshing, but only due to sweetness and alcohol warmth.
Taster 3	Considerably less aroma than Pasteur red	Cloudy, needed to be racked again before bottling.	Metallic, honey	Least drinkable of the 1 st 3, somewhat bland, would reconsider using yeast for mead. What is that aftertaste?
Taster 4	Honey aroma, low phenol	Cloudy, needs clarification	Aftertaste bite and poor product	
Taster 5	Mild aroma with nice honey note	Clean but slightly sedimented needs another racking	Some higher alcohols, mild flavor, some phenols	Good but not great, bitter aftertaste
Taster 6	Little nose	More golden than previous two.	Seeme quite alcoholic. Thin - not watery - texture. Clearly dry.	So-so
Taster 7	Yeasty tart aroma.	Cloudy	Vinous, an acidic note w/ honey tones.	Perceived sweetness much less than the preceding two.
Taster 8	Alcohol some citrus notes.	Cloudy	Alcohol flavor, dry tart, pear astringent. Very strong alcohol, more acidity than others.	Not as much as the others less nose not very interesting odd flavor.

71B-1122

Starting Gravity	Gravity on 3-16-03	Gravity on 6-19-03	Final Gravity
1.110	1.044	1.018	1.018

Activity level during the first 48 hours:

9:30 PM on August 3rd *nice level of foam on top and actively bubbling*

9:30 PM on August 4th *foam receding and a slow bubbling*

7:30 AM on August 5th *Slowly bubbling no foam*

Color and Clarity during ferment:

Initial color: *Light yellow*

Clarity on March 16th *Clear*

Clarity on June 20th *Light haze*

Sediment level on March 16th *1/2 inch*

Observations at reraack on March 16, 2003:

Aroma: *Peaches, nectarines*

Flavor: *very peachlike sweet summery*

The gravity reading was still high (*1.044*) at reraack so 1 tsp of yeast nutrient was added on March 22nd and the temperature was raised to 78 degrees F.

Activity level over the next 24 hours:

7:30 AM on March 23rd: *Visible fermentation*

7:30 AM on March 24th: *Visible fermentation*

By mid June there were no visible signs of ferment and the gravity had fallen to (*1.018*).

Tasting notes from June 30th of 2003:

Clarity	Aroma	Flavor	Acidity	Finish
<i>Clear</i>	<i>Grapefruit/melon/peach</i>	<i>Nectarine/spicy</i>	<i>Medium</i>	<i>Harsh</i>

The mead was allowed to age in bulk for two more months and then bottled. A panel of 8 Mead enthusiasts and judges was organized in November of 2003 and on the next page are the results of that tasting.

71B-1122

	Aroma	Appearance	Flavor	Drinkability
Taster 1	Little aroma, some alcohol pear sweet.	Very clear	Sweet full, nice spice floral tones, sweet sherrylike alcohol, odd grapefruit cooked apple flavor.	Very sherry like, good sweet.
Taster 2	Nice big honey aroma with sweetness.		Acidity and hot alcohol w/ fruitiness in finish, sweet mouthfeel	Hot-concord grape skin flavor, sheery notes.
Taster 3		Bright clear	Extremely fruity. Light mouthfeel, moderately dry little finish.	Quite pleasant.
Taster 4	Very little aroma, some alcohol, no honey.	Clear	Bland and sweet, no off flavors but not much character.	OK but not very distinct, very clean.
Taster 5	Fruity, a bit floral	Clear	No aftertaste bite, nice balance, alcohol tartness.	
Taster 6	Not much honey, alcohol		More of a sherry (pleasant) Some alcohol burn.	Slight acid addition needed
Taster 7	Mild honey sweetness	Clear	Mild sweetness from honey, light tartness in finish	Very refreshing light honey sweetness, coupled with a mild warmth and tartness in finish-I liked this one.
Taster 8	Light honey, not very aromatic, alcoholic, apples	Light straw, clear	Sweet no bite (in aftertaste) slightly tart, nicely balanced.	Low on aromatics, but nice on drinkability.

Portwine

Starting Gravity	Gravity on 3-16-03	Gravity on 6-19-03	Final Gravity
1.110	1.026	1.022	1.020

Activity level during the first 48 hours:

9:30 PM on August 3rd *little to no activity maybe a bubble through the airlock once every 30-40 seconds*

9:30 PM on August 4th *No foam slowly bubbling*

7:30 AM on August 5th *No foam medium to low bubbling*

Color and Clarity during ferment:

Initial color: *Dark butterscotch*

Clarity on March 16th *Cloudy*

Clarity on June 20th *Crystal Clear*

Sediment level on March 16th *1 1/2 inch*

Observations at rereck on March 16, 2003:

Aroma: *Strong tropical fruit like aroma, coconut?*

Flavor: *less sweet than others but more body*

The gravity reading was still high (1.026) at rereck so 1 tsp of yeast nutrient was added on March 22nd and the temperature was raised to 78 degrees F.

Activity level over the next 24 hours:

7:30 AM on March 23rd: *No Change*

7:30 AM on March 24th: *Visible fermentation*

By mid June there were no visible signs of ferment and the gravity had fallen to (1.022).

Tasting notes from June 30th of 2003:

Clarity	Aroma	Flavor	Acidity	Finish
<i>Brilliant</i>	<i>Odd Nail polish</i>	<i>Honey/Slight fruit/hot</i>	<i>Low</i>	<i>Flaccid to heavy</i>

The mead was allowed to age in bulk for two more months and then bottled. A panel of 8 Mead enthusiasts and judges was organized in November of 2003 and on the next page are the results of that tasting.

Portwine

	Aroma	Appearance	Flavor	Drinkability
Taster 1	Plummy, sake like notes		Caramelized honey, white sugar notes, big sweetness.	Leathery
Taster 2	Caramel, nut honey bitterness clean.	Clear	Very sweet, red winey thick big honey flavor.	Thick honey, much too sweet needs more alcohol or acidity too balance.
Taster 3		Deep gold	Honey is too pronounced. Undeveloped flavor.	
Taster 4	Little honey aroma		Little acid bite, thin sweet watery, least of the meads	
Taster 5			This tastes like honey water.	
Taster 6	Sweet honey aroma.	Clear	Very sweet, cloying.	Too sweet for drinkability.
Taster 7	Sweet alcohol, slight alcohol warming	Light straw color	Very sweet, w/a slight bite on the back of the tongue. Honey dominates.	Sweetness overpowers flavor. Honey water is a good descriptor.
Taster 8	Very sweet strong honey aroma.	Clear	Too sweet.	Cloying.

Pasteur Red

Starting Gravity	Gravity on 3-16-03	Gravity on 6-19-03	Final Gravity
1.110	1.022	1.008	1.004

Activity level during the first 48 hours:

9:30 PM on August 3rd *Low level of foam and some bubbling*
9:30 PM on August 4th *moderate level of foam and some bubbling*
7:30 AM on August 5th *Moderate bubbling no foam*

Color and Clarity during ferment:

Initial color: *Brownish yellow*
Clarity on March 16th *Cloudy*
Clarity on June 20th *Light haze*
Sediment level on March 16th *1/2 inch yeast 1/2 in cloud*

Observations at rereck on March 16, 2003:

Aroma: *Some phenolic*
Flavor: *sweet, higher alcohol?*

The gravity reading was still high (1.022) at rereck so 1 tsp of yeast nutrient was added on March 22nd and the temperature was raised to 78 degrees F.

Activity level over the next 24 hours:

7:30 AM on March 23rd: *No Change*
7:30 AM on March 24th: *Visible fermentation*

By mid June there were no visible signs of ferment and the gravity had fallen to (1.008).

Tasting notes from June 30th of 2003:

Clarity	Aroma	Flavor	Acidity	Finish
<i>Hazy</i>	<i>Honey/melon/acidic</i>	<i>Fruity melon</i>	<i>Medium</i>	<i>Smooth</i>

The mead was allowed to age in bulk for two more months and then bottled. A panel of 8 Mead enthusiasts and judges was organized in November of 2003 and on the next page are the results of that tasting.

Pasteur Red

	Aroma	Appearance	Flavor	Drinkability
Taster 1	Strange apple citrus	Clear, some sediment	Sweet front then alcohol tapering off to a thick spice, almost cinnamony, grapefruit? Some acidity.	Good, decent body, pleasant taste.
Taster 2	Mildly fruity alcoholic		Sweet honey gives way to alcoholic warmth, more balanced than the last one.	
Taster 3	Muddy, indistinct tones.		Weighty mouthfeel, Doesn't seem hot. Not very dry good finish.	Excellent
Taster 4	Very low aroma, slight expression of honey and alcohol.	Clear and light colored	Clean and dry, not much flavor overall, but good.	Very nice, ready to drink.
Taster 5	Rich honey, floral, tequila like.	Clear a few chunks.	Sweet balances alcohol, little phenol, simple flavors.	
Taster 6	Good honey aroma that lasts.	Straw, somewhat cloudy, should have been racked again before bottling.	Good honey flavor. Somw alcohol in the finish. Needs acidity for complexity. Clean fermentation no adverse flavors.	Acid, acid, acid needed to balance the sweetness. Good mouthfeel.
Taster 7	mild honey, light sourness	Clear, but not bright.	Mildly sweet with light acidity-noticeable alcohol warmth.	Mildly sweet but not overdone-light acidity prevents cloying. A pleasant drinkable mead.
Taster 8	Very honey like, alcoholic (slightly more than Sweet Mead yeast but sample is warm) Slightly sweet.	Clean, light straw color.	Moderate sweetness hides honey notes, slightly fruity. Needs acid to balance out.	Too sweet, otherwise clean flavor with balance too far on the side of sweetness.
Taster 9	Honey aroma	slightly cloudy, straw colored.	Sweet honey, good mouth.	Again tastes sweeter than sugested. Need to addd acid.

Sweet Mead

Starting Gravity	Gravity on 3-16-03	Gravity on 6-19-03	Final Gravity
1.110	1.034	1.002	1.000

Activity level during the first 48 hours:

9:30 PM on August 3rd *A little bit of foam on top and very low bubbling*

9:30 PM on August 4th *more foam moderate bubbling*

7:30 AM on August 5th *Slowly bubbling high foam*

Color and Clarity during ferment:

Initial color: *Straw*

Clarity on March 16th *Cloudy*

Clarity on June 20th *Crystal Clear*

Sediment level on March 16th *3/4 inch*

Observations at rereack on March 16, 2003:

Aroma: *Sulfurous, very rubbery*

Flavor: *yeasty, green applelike quality*

The gravity reading was still high (*1.034*) at rereack so 1 tsp of yeast nutrient was added on March 22nd and the temperature was raised to 78 degrees F.

Activity level over the next 24 hours:

7:30 AM on March 23rd: *Visible fermentation*

7:30 AM on March 24th: *Visible fermentation*

By mid June there were no visible signs of ferment and the gravity had fallen to (*1.002*).

Tasting notes from June 30th of 2003:

Clarity	Aroma	Flavor	Acidity	Finish
<i>Brilliant</i>	<i>Honey/floral/bubblegum</i>	<i>Big bubble gum/honey</i>	<i>Medium</i>	<i>Crisp to sharp</i>

The mead was allowed to age in bulk for two more months and then bottled. A panel of 8 Mead enthusiasts and judges was organized in November of 2003 and on the next page are the results of that tasting.

Sweet Mead

	Aroma	Appearance	Flavor	Drinkability
Taster 1	Slight alcohol warming, sweet aroma, slightly fruity, not floral, Relatively clean.	Light straw, clear	Slightly sweet, light bodied, a touch of fruit	A clean, light slightly sweet mead.
Taster 2	Light floral, some vanilla	Somewhat cloudy, light golden color.	Alcohol flavor evident, nice spice notes some dryness and acidity. Alcohol driness, but good sweet flavor.	A pleasant light mead, good flavor, bit of apple, I liked it but it needs time.
Taster 3	Fruity, phenolic (a hint of circus peanuts)	Palest oat straw.	A smooth honey sweetness yields to big alcoholic warmth and a tangy tartness in finish.	The tartness and alcoholic warmth combine to make it a bit challenging to drink.
Taster 4	Light pleasant		Surprisingly dry for the yeast, but fully attenuated did not result in strong astringency. Really nice. Fairly soft mouthfeel. Sweetish finish. Noticeable fruit nose.	Excellent.
Taster 5	Good fruity aroma, low expression of honey. Some higher alcohols.	Good, some sediment.	Hot alcohols-needs age but that is expected.	Very good in a couple of years.
Taster 6	Spicy, clean, dry nice balance.	Clear, no oxidation.	Needs tartness, clean, yeast character very faint.	Very good. I will rethink acid addition.
Taster 7	Good honey aroma	Straw, clear but not brilliant.	At 1.000 thin in sweetness and has more body than I expected. Good mouthfeel No acid added which would have been desirable.	I like the honey taste and aroma, but I wouldn't be able to drink much, too sweet, lacks complexity.
Taster 8	Honey presence with floral esters.	Clear.	Mildly sweet low acidity-balanced towards sweetness-alcohol warmth present.	Very pleasant with mild fruitiness and sweetness of honey, feel it should be drier in finish? Nice warmth from alcohol.

