

Making Mead the Easy Way

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Making mead is not rocket science and we do not want rocket fuel either. The process here is not really new, it builds on Ken Schramm's *Compleat Mead Maker* but also uses some newer ideas from Ken that are not in his book. The main newer idea actually comes from the commercial wine making world – staggered nutrient additions (SNA). SNA gives the yeast some just-in-time nutrients to keep the yeast in the growth phase and to reduce the off flavors and produce less fusel alcohols. In addition, we will be discussing driving out the CO₂ during the primary fermentation and fruit in primary.

You can make really good mead that will be ready to drink in a couple of months, that is faster than making a good lager beer. The whole process is really quite simple and does not involve heating of the must. Good sanitation practices are still imperative to making a good mead just like making a good beer depends on sanitation.

Ignore those “classic” recipes out there that call for acid additions in the primary fermentation. Those acids are most likely going to push the pH of the fermentation way too low for the yeast to grow fast or function well. Post fermentation is the time to worry about adjusting the acid levels in your mead for the proper balance.

Mead by the BJCP Numbers

Original gravity ranges

- Hydromel 1.035 – 1.080
- Standard 1.080 – 1.120
- Sack 1.120 – 1.170

Final gravity ranges

- Dry 0.990 – 1.010
- Semi-sweet 1.010 – 1.025
- Sweet 1.025 – 1.050

Yeast Hydration

If using a dried yeast, we start with a yeast rehydration nutrient to help the yeast get off to a good start. GoFerm is a relatively widely

available version of a rehydration agent. With GoFerm you use 1.25 times by weight of the yeast, 5 grams of GoFerm for a 4 gram packet of dried yeast. Mix the GoFerm into the warm rehydration water before you add the yeast. Follow the package directions.

Staggered Nutrient Additions

For the typical 5 gallon batch of mead, the staggered nutrients are 2 teaspoons of diammonium phosphate – DAP (~8 grams) and 1 teaspoon of Fermaid K (~4 grams). We add one quarter of the mixture initially (with the yeast) and the remainder a quarter at a time. There are a couple of alternative addition schedules. The first one is essentially a quarter of the nutrient a day until it is all used up. The alternative is an addition of a quarter every other day until it is all used. You can even find a few great mead makers that just add all the nutrients right along with the yeast. No matter what the nutrient addition schedule is, the use of nutrients is important since honey has very little of its own.

Aeration of the Must

During the first days of fermentation it is helpful to ferment in a large open top vessel like a plastic bucket with a lot of head space. At least daily, you need to aggressively stir the must to drive out the CO₂ and to allow oxygen to be infused. You can do the stirring with a spoon but be prepared for a lot of stirring, stir until bubbles are no longer released. These days I use one of the wine mixing wands and my electric drill. Start slowly as the first bit of stirring can create a lot of foam quickly. Once the foaming subsides, you can stir in the nutrients if the SNA schedule calls for it at that time. If you can, stirring several times a day is the way to go.

Fruit – Melomel & Pymment

Fruit in the primary is my preferred way. In most cases, it seems to be the best way to go. The controversy is some people think you lose some of the fruit aroma during the primary fermentation. You probably do lose some but you also help the fermentation since the fruit will have additional nutrients not found in the honey. You also seem to get a different ester profile from exposing the fruit to primary fermentation.

A good starting point with most fruits is about three pounds of fruit per gallon of mead. Once you taste the result you can increase or decrease the amount to suit your preferences. Blends of fruits can be great, use your imagination or even look at some of the breakfast juice blends available at the grocery store for ideas.

The use of pectic enzyme when using fruit can help clarify your mead by eliminating pectic haze. Follow the package directions.

With fruit, it typically floats in the fermenter, you want to push it back into the must a couple times a day. The process is roughly like wine making where the skins need to be kept wet. If you stir your must with the wand in an electric drill beware of pulverizing the fruit to the point of extracting too many tannins and creating a lot of puree that you will have to rack off of later. For messy fruit like black currants that have lots of little seeds and pulp I use a large fine mesh bag to hold all the fruit – I boil the bag to sanitize it. Stirring with a wand in the drill when there is a large bag of fruit in the fermenter is a challenge – I suspend the bag of fruit above the bucket with a sanitized spoon through the drawn string.

Beware of the various fruit purees. They are readily available even when fresh fruit isn't and do provide good fruit character but you do end up with a lot of sediment that can be hard to rack off of and that can result in a lot of loss of your must during racking. I also suggest avoiding the small bottles of fruit flavoring, they can be used to supplement fruit characteristics but when used exclusively they are pretty one dimensional.

For piments, using unconcentrated grape juice is much more complex than the concentrates. A good starting point is about three gallons of grape juice in five gallons of must. For piments you can increase the complexity and familiarity by using a wine yeast appropriate for the type of grapes you use. Blends of grape juices can be very interesting. The subtle addition of spices can work very well.

Metheglin

For most metheglins I do not add spices until the mead is ready to be packaged. The big exception is my ginger mead where the multiple pounds of sliced ginger go in the primary and are treated more like a

fruit. For other spices, I steep them in a covered glass jar with enough cheap vodka to cover the spices. A week or two is more than sufficient to extract the essence of the spices into the vodka.

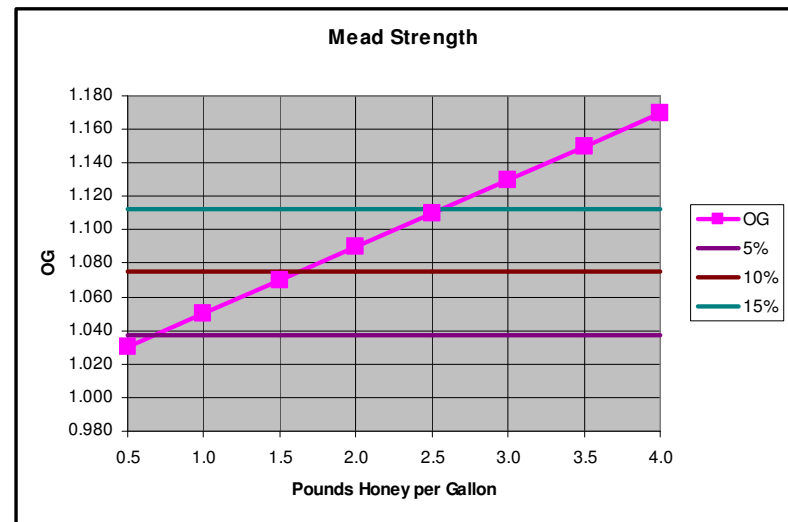
Once you have the mead ready to blend in the spiced vodka you accurately measure some of the mead into a small glass and using a small medicine dropper add few drops of the vodka to the mead. Keeping track of how much vodka you use try a few different amounts increasing or decreasing the amount to hone in on the spice level you prefer. Once you have the level you just scale up for the batch of mead and add the scaled amount of vodka.

Spices can be used to help balance a mead.

Hitting a Target OG

Honey is messy to measure so I just pour the approximate amount into fermenter and then work toward the target OG. As you add water and stir add a sanitized hydrometer and slowly add more water and stir until you hit target OG. Warm water can help extract all the honey from jug/bucket. When using fruit (except juices) it is hard to measure the impact on OG.

How much honey



Honey Choices

For straight honey mead (no spices or fruits) you want some character from your honey. Good beginner honeys include: orange, tupelo, raspberry, mesquite, cotton, clover, and wildflower.

Some questionable choices include: pumpkin, cranberry, dandelion, and sunflower.

Ingredient for 5 gallons

- 12 - 20 pound of honey,
- One teaspoon of Fermaid-K – nutrient,
- Two teaspoons of diammonium phosphate – nutrient,
- GoFerm – yeast hydration nutrient per directions,
- Yeast; good first choice is 71B-1122 (Narbonne) with an alternative being D47.
- Brewing water – no chlorine or off flavors, hardness of 250-500 ppm as carbonate is optimal.

Put the honey in the bucket and then slowly add water and stir. Using a sanitized hydrometer check the specific gravity and stop adding water when you hit the target. Mix the GoFerm into the warm rehydration water and then add the yeast. The yeast and GoFerm mixture goes into the fermenter along with one quarter of the nutrient mixture. Now you need to stir/mix a lot to get some oxygen into the must. For each of the next three days you need to stir/mix the must a lot to drive out carbon dioxide and to add some oxygen, after the stirring add a quarter of the nutrient mixture. Once the fermentation has slowed way down but definitely before four weeks have elapsed you need to rack the mead into a glass carboy. The mead should be very close to the final gravity after four weeks, you are mainly waiting for it to clarify now.

Finishing

Time will clear most meads, when it doesn't Super-Kleer K.C. a two part liquid clarifier is very effective. If you want to sweeten a mead after fermentation potassium sorbate stabilizes a mead before sweetening, it prevents renewed fermentation. Be sure mead is clear to minimize yeast before adding sorbate.

Sweeten a mead that is too dry by adding more honey or blending with a sweeter mead. Balance a sweet mead by adding acid; citric, tartaric, acid blend, malic or even lactic, sometimes even some tannin will be needed. Alternatively, you can blend a sweeter mead with a drier mead. No matter which approach, go slowly so you don't overshoot.

Acid adjustment can be used to change the balance of a mead. You can dissolve an acid like citric, malic, tartaric acid blend in water. Use an accurately measured small amount of the mead in a glass (or in several glasses) and add a few drops of the acid solution to find the appropriate amount of acid to use. Just add a drop or two at a time. Using several glasses allows you to compare the different amounts side by side. Once you have the desired amount for the small glass just scale the amount up for the whole batch and you are finished.

For sparkling mead, you can keg and force carbonate or bottle condition just like you do for bottle conditioned beer.

Aging may reduce astringency. Aging will slowly reduce some higher alcohols. The fruity esters may degrade. Acids may drop out as crystals. Tannins may drop out. Basically, aging can improve or degrade a mead. Overall, the best approach is to avoid higher alcohols to begin with and to treat the yeast well so as to get the ester profile you want right out of the fermenter.