Other Fruit Melomels – for Experienced Dummies

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Melomel is mead comprised of honey and fruit. Two varieties of melomels are Cyser (mead with apple cider) and Pyments (mead with wine grapes). This article will concentrate on other fruits.

Below is what I believe to be the most important things to remember when making melomels:
1. The person you need to make happy is yourself.
2. There are many different ways to make wonderful mead – no one individual has all of the right answers or techniques.
3. Be creative – if it sounds good to you – try it!
4. Listen to people with experience and learn as much as you can, then apply the knowledge you find valuable to your mead making process.
5. Making bad mead is easy – making great mead is just as easy.
6. The best way to improve your mead-making is practice.

The Fruit

Type. Choosing a fruit for your melomel is as simple as deciding what type of fruit you like. If you enjoy eating the fruit, it will likely yield pleasant mead. My favorites include berries of any kind, including strawberries, raspberries, blackberries, blueberries and currants. Stone fruits such as cherries, plums, peaches and apricots also produce great mead. I've also tasted some great meads made with melons. Basically, any fruit you have access to can be used in a melomel. Any combination of fruit that is pleasing to your palate also will do fine. Use your taste buds and imagination, and you will not be disappointed.

Amount. The amount of fruit used can be varied depending on preference, sweetness level and type of fruit. I like sweeter meads, which allow the use of a lot of fruit. When using berries or stone fruits I use a minimum of three pounds per gallon – usually, more like 3.5 to 4 pounds. The sweetness balances the acid content of the fruit and helps to bring out the actual fruit character in the finished mead. If you prefer dryer mead, I suggest reducing the fruit to 1 to 1.5 pounds per gallon, as well as keeping the alcohol content below 10% ABV. This will reduce the harshness of the finished melomel.

Preparation. Care should be taken when selecting and preparing fruit. If you are hand picking or buying from a local market, make sure to discard any poor quality or moldy fruit. If you wouldn't eat it, you shouldn't use it in your mead. Remove all stems and leafy material. Clean the fruit, then freeze it to help breakdown the cell walls. Stone fruits, with the exception of cherries, should be pitted and frozen. (Cherry pits lend a very nice character to melomels if removed within 4 weeks.) When using fruit in the primary fermentation, there is no need to puree the fruit. Fermentation and other processes discussed later will sufficiently break up the fruit. Mash the bags of fruit with your hands just before you add it to the fermenter.

I have often used bags of frozen fruit from discount stores and super markets. Fruit from these sources works very well, and the fruit is already clean. Using pureed canned fruit will provide acceptable results but be prepared for significant waste. Pureed fruit will settle to the bottom of the fermenter in a 2 to 4 inch layer that is virtually unrecoverable. Fruit concentrates are a nice solution when whole fruit is not available. The resulting mead will be good but lacking in real fruit character. A

combination of concentrate and a few pounds of whole fruit will improve the quality. When using concentrates make sure they do not contain preservatives that will inhibit fermentation.

Fermentation. There are two schools of thought (and plenty of debate) on when to add fruit to your mead. Many people believe that, to preserve the fruit character and aroma, fruit should be added to the secondary fermentation. This method works well but can have a couple of drawbacks. The fruit will have to steep in the secondary fermenter for many weeks or months to extract all the goodness the fruit has to offer. In addition, considerable aging will be needed to have the fruit and honey meld together into a great beverage. Renewed fermentation could also result from the sugar in the fruit. If primary fermentation was completed in part by the alcohol content reaching the yeast's tolerance level, fruit added to the secondary will dilute the alcohol content (fruit is typically 70% water) allowing the yeast to reactivate.

After my first few batches I started fruit in the primary fermentation (FPF). There are many benefits to this technique. Fruit will provide many of the nutrients needed by the yeast during fermentation and help to regulate the pH of the fermenting mead must. FPF will typically take much less time than traditional mead fermentations. [I've won awards for meads that were six weeks out of the primary with this method.] Fermentation of mead with an original specific gravity up to 1.145 should be complete in three to four weeks in most cases.

FPF will extract fruit character during fermentation without expelling the aroma compounds. Only the most volatile aroma compounds will be lost. These most volatile aroma compounds are usually lost during multiple rackings and aging. The fruit and honey components will be fully integrated after a month or two in secondary. If a fresh fruit character is desired, try adding a pound per gallon of fruit to the secondary, which adds another level of fruit character to your melomel.

The Honey

Honey choice in a big melomel is not that crucial. Varietal honey character will be overshadowed in most melomels by the strong fruit character. A couple common exceptions to this could be orange blossom or tupelo honey. With less assertive fruits (stone fruits in particular) these honeys can add a great complexity to the finished mead. My favorite honey for melomels is high quality late summer or fall wildflower honey. Late season wildflower has more complexity and spicy character than early season wildflower. Early season nectar sources in my area of the country produce honey that is not as desirable for mead. Dandelion and Basswood blossoms from northern climates produce honey that can be fairly harsh when fermented.

The Water, Nutrients, Yeast and Yeast Health

Get a good source of water. Using spring water or other water that is free of chlorine and bacteria is essential. Carbon-filtered, pre-boiled tap water will work fine, but if you have hard water, consider using bottled spring water.

A real advance in mead-making in recent years is called *staggered nutrient additions* – or SNA. Instead of adding all the nutrients at once, the same amount is staggered over several days. SNA

promotes yeast health and helps assure a fast, clean and healthy fermentation. One thing I like, you can drink the mead sooner because it doesn't require as much aging depending on yeast choice.

SNA was developed by the commercial wine industry as a way of supplying nutrients as the yeast needs it during the growth phase – kind of a just-in-time delivery. Healthy yeast are essential for a clean fermentation with less chance of off-flavors or the production of higher alcohols (fusels) which can give mead a burning sensation on the back of the throat – the "rocket fuel" sensation.

I prefer to use Fermaid-K (yeast energizer) and diammonium phosphate or DAP (yeast nutrient) for adding the additional nutrient requirements of the yeast during fermentation. One teaspoon of Fermaid-K and two teaspoons DAP should be adequate for a 5 gallon batch. You can mix them together for a stock blend and add them using the following schedule:

Add ¾ teaspoon yeast energizer/nutrient mix immediately after pitching yeast.
Add ¾ teaspoon yeast energizer/nutrient mix 24 hours after fermentation begins.
Add ¾ teaspoon yeast energizer/nutrient mix 48 hours after fermentation begins.
Add ¾ teaspoon yeast energizer/nutrient mix after 30% of the sugar has been depleted.

Anyone who has ever stirred a fermenting beverage knows the foaming, triggered by the release of CO_2, can make one heck of a mess! To help minimize this, you should mix the nutrient blend into ½ cup of must and add it back to the fermenter. Then begin to slowly stir the must to release the main portion of the CO_2 gas. After the foaming has subsided you can begin to stir more vigorously. Mix the must well enough to introduce plenty of oxygen into the fermenting must. Oxygen is needed by the yeast throughout the growth phase. Oxidation is not a huge concern until you get past 50 percent sugar depletion.

SNA serves many purposes for yeast health. Abundant CO_2 is toxic to yeast, so mixing while adding the nutrients will release the gas. Vigorous mixing introduces oxygen need by growing yeast. The mixing also disturbs the fruit cap (or floating fruit). Punching down the cap should be done at least three times a day during the period of vigorous fermentation.

Cap management is important for many reasons. Releasing toxic CO_2 and preventing temperature buildup below the cap. For every 1 degree reduction of brix in the must, there is approximately a 2°F increase in temperature. Unmanaged, the temperature can increase to the point of killing your yeast in the heat zone below the cap, potentially driving off the floral fruity character of your fruit. This is less of a concern in the five gallon homebrew scenario but could still be a potential problem. If the cap is not pressed down into the must it can dry out. Then, if oxygen is introduced, spoilage organisms grow and produce off flavors.

The pH of the mead must is important for healthy fermentation. pH will drop during fermentation. Yeast can adapt to the lower pH environment to a point, but an extreme drop in pH could result in a stuck fermentation. Some fruit contains enough potassium to buffer the pH and keep it an acceptable range. But it is a good idea to adjust the pH of the must to 4.0 prior to starting fermentation. Potassium carbonate works well for adjusting pH and provides potassium, which aids in keeping yeast healthy. But be careful. Using too much carbonate will reduce the total acidity of the must and cause acid balance issues in the final mead. Excess carbonate can also impart a metallic or soapy note in the flavor. I wouldn't use more than 5 grams of potassium carbonate when adjusting pH of the must. For measuring pH, use a good quality calibrated pH meter instead of pH test paper.

Seem like a lot of messing around? Remember rule No. 5 in the beginning of the article – you only get out of it what you are willing to put into it! You need to keep these little sugar-eating alcohol-excreting beasties healthy and happy because they are doing all the work. There are billions of them; you don't want them pissed off!

The Equipment

A large wine fermentation pail (7.9 gallon) works well for melomels due to the extra head space. Extra space is need for the fruit cap, stirring and degassing. A hydrometer or refractometer should be used for original gravity (OG) and determining the sugar depletion for the final SNA. (Note that bigger meads can have an OG that exceeds the upper limit of most refractometers.) A 5-gallon glass carboy for secondary fermentation and aging works best. A wine-degasser – a folding propeller on a stick – is a handy tool to use with an electric drill.

The Process

Submerse the honey containers in hot water to loosen the honey, which will make it easier to dissolve. Partially or totally thaw the fruit. This should be obvious, but needs to be stated: sanitize all equipment used for making your mead. Mash the bagged fruit with your hands. If you prefer, put all the fruit into the pail and mash with a potato masher or similar tool. If using fruit with thick skins (currants, cranberries, etc.) break as many of the berries as possible to release the juices.

Use enough honey and water to get a total volume of 4.5 to 5 gallons (excluding fruit). Honey weighs approximately 12 pounds per gallon. Put all the fruit into the 7.9-gallon fermenting pail. You will want the temperature of the mead must to be 65 to 70 °F. If the fruit is still very cold you should heat the water enough to bring the temperature of the must into that range. Add the honey and water to the pail. Use a drill-mounted wine degasser to mix the must and completely dissolve the honey. After the honey is dissolved, stir vigorously for a few minutes to aerate the must. I do not heat the must to pasteurize the honey or fruit. I've made at least 50 batches of mead with the no-heat method and have not experienced a contamination problem.

Prepare your yeast by re-hydrating following the instructions on the packets. The use of a re-hydration nutrient such as Go-Ferm is highly recommended. This will prepare the yeast for the strenuous journey ahead of them. Pitch the yeast, add the first SNA and mix well.

Fermentation should begin in about 12 to 24 hours. When signs of fermentation are noticed, start managing the fruit cap and begin the SNA schedule. With some luck, fermentation will be complete in two to four weeks. Once half of the sugar is depleted, continue to punch the cap at least twice a day but refrain from introducing oxygen into the must. Allow the mead to stay in primary for 4 weeks. At that point, transfer to the secondary carboy for clarifying. Taste the mead for sweetness level. If you desire more sweetness, now is the time to adjust it.

To sweeten mead, start with a cup of the mead and add honey to a level sweeter than you want. Then blend the dryer mead with the sweetened sample to get three samples that vary by 10 gravity points ranging from too sweet to not sweet enough. Taste and blend the samples until you get the sweetness level you want. Get some help with this as your palate may get fatigued. In my opinion, women have better palates for tasting mead than men. I rely on my wife, Kathy, for help.

Take a gravity reading of the sample you chose. Determine the specific gravity difference between the mead and the sample. Now you can figure out how much honey you will need to sweeten

the entire batch to the desired level. One pound of honey will raise one gallon of mead approximately 34 gravity points. If you have 5 gallons of mead, each pound of honey will raise the batch about 6 to 7 points.

Once you determine how much honey you need to add to the batch, use 1 cup of boiled water per pound of honey to dilute the honey. Pour the mixture into the carboy and mix until evenly dispersed. Take a sample and see if further adjustment is needed. Take caution to keep from over-sweetening the batch. It's much harder to make it drier!

After a month or two if the mead is not clear, transfer again and use a two-stage clarifier such as Super-Kleer. You can also use relatively inexpensive plastic filters with filter pads, pumping the mead from one keg, through the filer to a second keg. You will be amazed by the amount of fruit debris and insect parts on the filter pads, but your mead should be sparkling clear. One word of caution when filtering, pectin will clog a filter very quickly. You can use pectic enzyme to help remove the pectin. Two stage clarifiers do not remove pectin. Once you are completely sure there is no fermentation and the mead is clear, you can bottle. For sparkling mead, I suggest kegging and force carbonating. Bottle-conditioning sweet mead can be difficult, as well as creating exploding bottles.

A big thank you to Paul Dienhart for proofing and structure tips for this article!

That's what I know, I hope it helps. Good luck!

Sidebar:

Strawbana Cabana Mead

Strawberry Banana Melomel

22 lbs	Wildflower Honey
18 lbs	Strawberries - frozen
4 lbs	Ripe Bananas (about 8 bananas)
3 gal	Water
3 tsp	Yeast Energizer/Nutrient Blend (Fermaid-K and DAP)
10 g	Lalvin Narbonne Yeast (71B-1122)

Approximate OG 1.155
Target FG 1.025 to 1.035
Estimated ABV 16.0%

Follow process instructions above article. Fermentation will last 2 to 4 weeks. Once complete, rack to secondary fermenter. Now it's time to add the bananas. Purchase about 4 pounds of ripe bananas. Trim off the stems that look moldy. Rinse the unpeeled bananas to remove molds and bacteria. Place a funnel in the carboy, peel and place the bananas in the funnel. Use a racking cane or other device to mash the bananas into the carboy. This should break them up enough to extract the flavors and aromas. In 3 to 4 weeks, rack to another carboy for aging and clarification. This mead is best at a final gravity between 1.025 and 1.035.

Triple Berry Mead

Triple Berry Melomel

20 lbs Wildflower Honey
15 lbs Triple Berry Mix (Blackberries/Raspberries/Blueberries)
3 gal Water
3 tsp Yeast Energizer/Nutrient Blend (Fermaid-K and DAP)
10 g Lalvin Narbonne Yeast (71B-1122)

Follow process instructions above article.

Approximate OG 1.151
Target FG 1.025 to 1.035
Estimated ABV 16.1%

Super Berry Melomel

Multi-Berry Melomel

21 lbs Wildflower Honey
12 lbs Triple Berry Mix (Blackberries/Raspberries/Blueberries)
6 lbs Strawberries
96 oz Black Currant Juice (free of preservatives)
2.3 gal Water
3 tsp Yeast Energizer/Nutrient Blend (Fermaid-K and DAP)
10 g Lalvin Narbonne Yeast (71B-1122)

Approximate OG 1.158
Target FG 1.030 to 1.040
Estimated ABV 15.8%

Follow process instructions above article.

"beer blurb"

I (along with my wife Kathy) started homebrewing in 1996. In 2003 we started making mead after picking up a copy of Ken Schramm's book (The Complete Meadmaker) at the AHA Conference in Chicago. We have been to every conference since Chicago. In 2003 I became a BJCP Certified judge. I was elected to the AHA Governing Committee in 2006. We have been very active in homebrew competitions by entering, volunteering and organizing. We have been lucky enough to win a few beer and mead Best of Shows including two AHA Mead Club Only Competitions and the 2005 AHA Meadmakers of the Year. We still make more beer than mead, but it's getting closer to even! I co-

founded the Saint Paul Homebrewers Club (2007 AHA Club of the Year) with Gary Hipple. Your best resource for improvement is your fellow homebrewers. Don't be afraid to ask questions.