



Shire of Starleaf Gate Brewers & Vinters Recipes



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Brewers & Vinters Recipes

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Intro:

The Shire of Starleaf Gate Brewers and Vinters has recipes for mead, wine, beer and other beverages. Most of the recipes we tried at one time or another.

Bottling

First, you must make sure the mead has stopped fermenting. Mead is such a slow fermenter that it may appear completely done; yet continue to ferment after bottling. This can turn still mead into a sparkling one; it can even produce enough pressure to cause the bottles to explode. Exploding bottles-- "glass grenades"--aren't funny. They're unpredictable and very dangerous.

To be sure the mead is done fermenting, take hydrometer readings spanning a week or more and be sure the readings are not still falling. As mead finishes, it will "fall clear"--the initial cloudiness will settle out. Be careful, though, because being clear is not enough.

Choose appropriate bottles for the type of mead. Sparkling mead will require a sturdy bottle, either sparkling wine bottles. Sparkling wine bottles can be corked if you use champagne corks and wire them down.

Still meads may be bottled in regular wine bottles with standard corks, or in crown-capped bottles as above. Since pressure isn't an issue, almost any bottle with an airtight closure can be made to work. Bear in mind, though, that the appearance of your bottles is part of the first impression when you serve your mead.

Mead that has finished fermentation and is then bottled will be "still". Sparkling mead is "primed" by adding a small amount of sugar at bottling time to produce a short renewed fermentation so that it is carbonated. For predictable results, you should first let the mead finish fermenting in the carboy, and then add just the amount of sugar needed to carbonate it. Bottling a mead before it finished fermenting can lead to under- or over-carbonation, and even in the best case won't give the mead a chance to finish clearing before bottling. A normal amount of priming sugar is about 4 ounces by weight for five gallons.

Store the bottles in a cool dark place. Mead is not as sensitive as beer to light (unless you have hops in it), but should not be left in bright light.

Name: Cinnamon Warm Up Mead (5 Gallon)

| Ingredients | Quantities |
|------------------------------------|-------------------|
| Honey | 12 lbs (1 gal) |
| Water | 4 gallons |
| Bruised Ginger Root | 6 oz |
| Cinnamon Sticks, Crushed | 8 lg |
| Raisins | 4 cups |
| Juice and rind of Orange (organic) | 1 |
| Juice and rind of Lemon (organic) | 2 |
| Wine Yeast | 1 pkg |
| Yeast Nutrient | |

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Add rest of items. Allow mead to ferment out.

Rack mead; put it into bottles and age (3 months to 3 years).

Yeast Used: Wine Yeast

S.G. 1.108 (from Formula) 15% alc.

Note: Good but dry, when sweeten and warm up, it was excellent. Next Batch, more honey and remove Yeast Nutrient and include Black Tea so it is all natural.

Name: Strawberry Mead (2 Gallon)

| Ingredients | Quantities |
|--------------------|-------------------|
| Honey | 4 lb |
| Strawberries | 2 ½ lbs |
| Grated Ginger Root | ½ oz |
| Water | 2 gallons |
| Wine Yeast | |

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Cool the liquid and then put it into the carboys, Add crush strawberries, Grated Ginger Root, water and Yeast. Ferment for 3 months in primary carboy. Then, mud and Rack the mead and wait. Put it into bottles and wait for 6-24 months before drinking.

Yeast Used: Wine Yeast

S.G. 1.09 (from formula) 12.6% alc.

Name: Vanilla Mead (3 Gallon)

| Ingredients | Quantities |
|--------------------|-------------------|
| Honey | 4 lbs |
| Vanilla Extract | 2 ounce |
| Water | 2 gallons |
| Wine Yeast | |

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Vanilla extract added after the must cooled.

Rack mead; put it into bottles and age (3 months to 3 years),

Yeast Used: Wine Yeast

S.G. 1.060 (from formula) 8.7% alc.

Note: Good but very dry, when sweeten, it was good

Name: Strawberry Banana Mead (2 Gallon)

| Ingredients | Quantities |
|--------------------|-------------------|
| Honey | 4 lbs |
| Bananas | 2 lbs |

Strawberry 1 ½ lbs

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Blend the Strawberry and whole bananas. Add the rest of the ingredients and enough water for the batch.

Rack mead; put it into bottles and age (3 months to 3 years).

Yeast Used: Wine Yeast

S.G. After adding honey 1. 009 (from Formula) 12.6% alc.

Note: Excellent Mead once we sweeten it

Name: Banana Mead (5 Gallon)

Ingredients Quantities

Honey 10 lbs

Bananas 15 lbs

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Slice washed bananas (skins and all) and put into a nylon bag and tie. In 5 Qt water bring to a boil and simmer for 30 min. Remove bag and pour hot liquor over honey. Add the rest of the ingredients and enough water to make 3 gallon.

Rack mead; put it into bottles and age (3 months to 3 years).

Yeast Used: Wine Yeast

S.G. After adding honey 1. 090 (from Formula) 12.6% alc.

F.G. 1.000 12.2% alc.

Note: Good but Dry, when sweeten, it is excellent but only that Banana, if you try other and then Banana, it only was good.

Name: Tropical Mead (2 Gallon)

Ingredients Quantities

| | |
|---------------|---------|
| Honey | 4.8 lbs |
| Banana | 4 |
| Kiwi | 4 |
| Passion Fruit | 3 |

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Added Fruit at end of heating.

Rack mead; put it into bottles and age (3 months to 3 years).

Yeast Used: Wine Yeast

S.G. After adding honey 1. 108 (from Formula) 15% alc.

Name: Mulberry Mead (2 Gallon)

Ingredients Quantities

| | |
|------------|---------|
| Honey | 4 lbs |
| Mulberries | 1 ½ lbs |

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Added mulberries at end of heating.

Racked to secondary after 9 days, as berries were beginning to bleach. Bottled when 2 months old.

Yeast Used: Wine Yeast

S.G. After adding honey 1. 090 (from Formula) 12.6% alc.

Name: Wild Berries Mead (5 Gallon)

Ingredients Quantities

Honey 12 lbs
Mulberries 1 ½ lbs
BlueBerry 1 ½ lbs
Strawberry 1 ½ lbs

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Added berries at end of heating.

Rack mead; put it into bottles and age (3 months to 3 years).

Yeast Used: Wine Yeast

S.G. After adding honey 1. 108 (from Formula) 15% alc.

Name: Chocolate Mead aka Liquid Sex Mead (5 Gallon)

Recipe by Capten Rhys ab Idwal ab Idris ap William ap Llewellyn ab Idris ap Daffyd gen y Arian Lloer Rimsholt, Barony of Andelcrag, Midrealm.

Web site: <http://www.ladybridget.com/m/chocmead.html>

| | 5 Gallon | 3 Gallon | 2 Gallon |
|--------------------|-------------------|-------------------|-------------------|
| Ingredients | Quantities | Quantities | Quantities |
| Honey | 12 lbs | 7 ¼ lbs | 5 lbs |
| Cocoa Powder | 16 oz | 10 ¼ oz | 6 ½ oz |

Method:

The basics of mead brewing should be mastered before performing any advanced projects. This recipe assumes a standard 5 gallon batch of mead using a 4 parts water to 1 part honey mixture (Must).

To your standard must, before adding the yeast add 16 oz of Cocoa Powder (Nestles works great). Mix well before adding yeast. You will notice a lag in the start of the yeast, however this is common and due to the oils in cocoa. It will start bubbling madly in a few days, but never as much as normal mead.

THIS STEP IS VERY VERY VERY IMPORTANT!

Cocoa contains a number of different very bitter oils that must be given time to break down. After the bubbling slows down, strain the must once, and put your fermenter/carboy away for one full year. Keeping the airlock on and checking the water level in it on occasion. Any other method of removing the oils will result in the loss of that little enzyme that the ladies are so fond of.

At the end of that year, sweeten to approx. 1.030 on a hydrometer (semi-sweet) or to taste. Clarify and bottle normally.

Some production notes: This mead leaves a very light aftertaste of chocolate that most people will not be able to identify readily. However the other effects of chocolate, i.e. orgasmic like pleasure is there. In the original test 1 of the samplers didn't care for it, 1 identified the flavor and tried to steal the bottle, and the other 28 thought it good with comments ranging from "very good" to "OH MY GOD!". I make 5 gallons each year to share with friends, and that is all due to space from brewing. I used an apple flower honey, but any light honey should work. Just avoid heavy flavored honeys that might overpower the chocolate. In addition brew down only once, a heroic mead would likewise overpower the delicate flavor.

Additional Note: The current batch now aged over two years has increased in chocolate flavor and smoothed very very well. I no longer serve chocolate mead at less than two years of age. The Ladies of the Barony deserve nothing less than the best.

This mead is best served to the one you love ice cold, in candlelight, with a bowl of fresh strawberries for dipping. And privacy would be recommended.

Yeast Used: Wine Yeast

S.G. After adding honey 1.108 (from Formula) 15% alc.

Name: Pretty Piña – Pineapple Mead (5 Gallon)

This recipe is vegetarian.

Ingredients Quantities

| | |
|-----------------|--------|
| fresh pineapple | 10 lbs |
| honey | 10 lbs |
| irish moss | ½ tspn |

Method:

disinfect everything. then, in a large pot, heat 1 gal of water and the honey. i heated the

plastic jars of honey in the water before pouring in the contents, to make sure i had all of the honey in solution. simmer and skim off the foam until foam no longer forms (~15 min). add fruit (cut into bite size chunks) and irish moss, cover, cook on medium for 10 min. take off the heat and let the mixture sit for 20 min.

start the yeast in a large bowl, with a few ladels of the honey-water.

the liquid now goes into the carboy, which has an airlock (half-filled with water) to prevent anything from getting in, but allowing the fermentation bubbles to escape. the mixture is strained through a cheesecloth to separate out the chunks of pineapple, which are then squeezed until as much liquid is extracted as possible (i used rubber gloves and the cheesecloth: my hands still got too hot, so it took a while). add the rest of the water and wait until the whole mixture is below 110 degrees F to add the yeast. seal and slosh to activate the yeast.

this whole process took a few hours, with my mom helping me cut up the pineapples, and my dad sealing the annoyingly difficult lid. the next month is the maintenance period, when the carboy needs to be sloshed daily until the bubbling decreases to the level of being nonobservable (the first week was not too bubbly, but it took off for a couple of weeks after that). bottling too early is dangerous (big sticky, shattering explosions), so i waited five weeks.

i rented a bottling lever from 'the beer store', bought corks, and used bottles i had saved from much consumption of wine (luckily, one was clear, so i can see what it looks like). the bottles had to be disinfected, and i tried to remove as much labeling as possible, sometimes easy, sometimes impossible. the carboy has a spout toward the bottom, so the yeast had all settled below that level, and i quickly filled and corked twelve bottles with my first batch of mead. the whole process began in early january, so it should be ready to try come early october...nine months, a full gestation period. =)

i tried to make this a relatively dry batch (used a lower-end amount of honey, didn't use a yeast that would sweeten it, didn't use too much fruit), since i figured the fruit flavor plus sweet would be too desserty for what i wanted. fruity also tends to be sweeter in general, as compared to say herbs, and i'd never done a batch of mead before, so i wanted to experiment...my inspiration was heather's blackberry mead, my favorite of the several batches she's produced so far, which was dry and fruity and wonderful.

10/03: nine months later and the first bottle was opened, tried by mike (bro) and i and deemed to be good. dry but definetly good: pleasant and distinctly pineapple-y aroma, less so in the flavor, lightly carbonated (unintentionally), pretty clear, and a beautiful light yellow color. i named this batch pretty piña. =) shared my first bottle with a group when zane and i had dinner at bryan and julie's place. shared another on the hawaii field trip, on the last night, around the camp fire.

Yeast Used: Wine Yeast

S.G. After adding honey 1. 090 (from Formula) 12.6% alc.

Name: Hawaii Mead (5 Gallon)

| Ingredients | Quantities |
|--------------------|-------------------------|
| Honey | 18 lbs |
| Pineapple | 2 Can – 540 ml per Can |
| Mango | 1 Bag – 500 ml |
| Peach | 2 Bags – 300 ml per bag |

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Added berries at end of heating.

Rack mead, put it into bottles and age (3 months to 3 years).

Yeast Used: Wine Yeast

S.G. After adding honey 1. 147 (from Formula) 20% alc.

Note: very bad taste

Name: Raspberry Mead (1 Gallon)

| Ingredients | Quantities |
|--------------------|-------------------------|
| Honey | 12 lbs |
| Raspberry | 2 Bags – 300 ml per bag |

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Added berries at end of heating.

Rack mead, put it into bottles and age (3 months to 3 years).

Yeast Used: Wine Yeast

S.G. After adding honey 1. 108 (from Formula) 15% alc.

F.G. 1.000 14.7% alc.

Note: Good but was gone in one night

Name: Chocolate Twisted (5 Gallon)

Ingredients **Quantities**

| | |
|---------------|--------|
| Honey | 15 lbs |
| Cocoa | 16 oz |
| Vanilla beans | 2 |
| Nutmegs | 1-2 |
| Cinnamons | 1-2 |

Method:

Bring the water and honey to a boil, and then allow to cool to a slow simmer. Once the honey is fully dissolved, using the wooden spoon, or a piece of cheese cloth, skim the scum off the top, and keep this up until it is fairly clear (the honey water should look like golden water). Added berries at end of heating.

Rack mead, put it into bottles and age (3 months to 3 years).

Yeast Used: Wine Yeast

| | | |
|--------------------------------|----------------------|------------|
| S.G. After adding honey | 1.108 (from Formula) | 15% alc. |
| F.G. | 1.000 | 14.7% alc. |

Name: Pomegranate Cordial

Ingredients

6 cups 80-proof brandy
2 large pomegranate, the seeds and pulp only (all white membrane removed),
approximately 3 cups
simple syrup: 2 c. white granulated sugar to 1 c. water

Method:

The pomegranate seeds/pulp were crushed lightly with the back of a large spoon to release more of the juices. They were then combined with the sugar and brandy in a glass jar and left for 4-1/2 weeks with occasional stirring. The solid material was strained out first with a fine nylon coffee filter and after with doubled unbleached paper coffee filters. The result is a beautiful pink-red cordial with a nicely not-too-sweet flavor.

Name: Sweet Strawberry Cordial, based on 1655 (?) recipe of "A cordial water of Sir Walter Raleigh"

Ingredients

2 lbs. frozen strawberries
6 cups 80-proof brandy
simple syrup: 2 c. white granulated sugar to 1 c. water

Method:

The frozen strawberries were put in a glass jar and covered with brandy, then left for 4-1/2 weeks but stirred each day. The solid material was strained out and squeezed through cheesecloth and the liquid then poured through unbleached coffee filters. A simple sugar syrup was then added to the proportions of 1 cup of syrup to 2 cups of liquor. Very sweet but very drinkable.

Name: Morello Cherry Cordial, loosely based on 1655 (?) recipe of "A cordial Cherry-water"

Ingredients

1 quart of 80-proof brandy, or 2 cups brandy and 2 cups grappa
12 oz. jar of morello cherries, drained
8 ounces white granulated sugar (approx. 1-1/8 c.)
1-1/2 tsp. anise seeds, bruised with mortar and pestle

Method:

The ingredients are those of the original recipe but with many more cherries and minus the cinnamon and cloves. The ingredients were combined in a glass jar and left for 15 days with occasional stirring. The solid material was strained out using a fine nylon coffee filter and then doubled unbleached paper coffee filters. The result is an excellent balance of sweetened sour cherry flavor complemented by a touch of anise.

Name: Cordial of Divers Berries, based on 1655 (?) recipe of "A cordial water of Sir Walter Raleigh"

Ingredients

12 oz. frozen blackberries
12 oz. frozen raspberries
16 oz. frozen strawberries
1 quart 80-proof brandy
simple syrup: 2 c. white granulated sugar to 1 c. water

Method:

Trying different fruits and a different maceration time; I'd been told to leave the fruit in brandy for about 4 weeks but the original recipe says 4 to 5 days. The frozen fruits were put in a glass jar and covered with brandy, then left for 5 days and stirred each day. The

solid material was strained out and squeezed through cheesecloth and the liquid then poured through a fine nylon coffee filter. A simple sugar syrup was then added to the proportions of 1 cup of syrup to 2 cups of liquor (there was about 4-1/2 c. and added 2-1/4 c. of syrup). The result tastes the same as similar berry cordials made over a longer time: very smooth and very good.

Name: Herbal Cordial, loosely based on 1596 recipe "To make Rosemary water" and 1609 recipe "Spirits of wine tasting of what vegetable you please"

Ingredients

1/2 tsp. packed fresh rosemary leaves
1/2 tsp. packed fresh sage leaves
3 T. packed fresh lemon balm leaves
1-1/2 cups 80-proof brandy
simple syrup: 2 c. white granulated sugar to 1 c. water

Method:

Rosemary (*Rosmarinus officinalis*) was said to clear the head and improve memory. Lemon Balm (*Melissa officinalis*) was said to cause "the mind and hearth to become merry and reviveth the heart". Sage (*Salvia officinalis*) supposedly also helped the memory and quickened the senses. (All remarks from Nicholas Culpeper, *Culpeper's Complete Herbal*, cited by Jennifer Heise/Jadwiga Zajackowa in *Jadwiga's Stillroom Book: On the Medieval and Renaissance Use of Herbs*.)

The fresh herbs were bruised with a mortar and pestle and then put in a glass jar and covered with brandy, then left for 1-1/2 weeks but stirred each day. The solid material was strained out and squeezed through cheesecloth and the liquid then poured through unbleached coffee filters. A simple sugar syrup was then added to the proportions of 1 cup of syrup to 2 cups of liquor. This turned out rather sharp, even with the same proportion of sugar syrup I've used in the other cordials. Perhaps best be viewed (and tasted) as a medicinal tonic rather than as a drink for pure enjoyment.

Name: Lemon Orange, based on 1594 recipe of "How to give a prettie grace both in tast and propertie, unto the spirit of wine"

Ingredients

2 tsp. grated lemon peel from 2 lemons
1-1/2 tsp. grated orange peel from 1 orange
2-3/4 cups 80-proof brandy
1-1/4 cups 100-proof grappa
1-1/2 cups simple syrup: 2 c. granulated sugar (1 c. white, 1 c. raw) to 1 c. water

Method:

The orange and lemons were grated carefully so that no white pith was used (it makes the flavor bitter) and the peel was added to the brandy and left for three days, being stirred occasionally. The liquid was then filtered with a nylon coffee filter and the sugar syrup

added and dissolved, then and strained again with doubled unbleached paper filters. The result was a good mix of lemon and orange flavor, though the proportions can probably be played with without much harm.

Name: Blood Orange, based on 1594 recipe of "How to give a prettie grace both in tast and propertie, unto the spirit of wine"

Ingredients

3 TB. grated orange peel from about 6 blood oranges
2 cups 80-proof brandy
2 cups 100-proof grappa
1-1/2 cups simple syrup: 2 c. granulated sugar (1 c. white, 1 c. raw) to 1 c. water

Method:

The oranges were grated carefully so that no white pith was used (it makes the flavor bitter) and the peel was added to the brandy and left for three days, being stirred occasionally. The liquid was then filtered with a nylon coffee filter and the sugar syrup added and dissolved, then and strained again with doubled unbleached paper filters. The result was simple in flavor but very nice to drink. This won the cordial section of the Great Northeastern War brewing competition in 2003.

Name: Cloved Orange, loosely based on 1594 recipe of "How to give a prettie grace both in tast and propertie, unto the spirit of wine"

Ingredients

peel of 2 Valencia oranges
2 cinnamon sticks, 3", broken
8 cloves
6 cups 80-proof brandy
simple syrup: 2 c. granulated sugar to 1 c. water

Method:

The oranges were pared carefully so that no white pith was used (it makes the flavor bitter); each orange had approximately 1 TB. of peel. The flavorings were added to the brandy and left for one week, being stirred occasionally. The liquid was then filtered with a nylon coffee filter and then with doubled paper filters; the sugar syrup was added in the proportion of 1 c. of syrup to each 2 c. of liquid. The result was tasty, but heavier on cloves and lighter on orange than originally desired. A new batch is being tried with the peel of 3 oranges, 4 cinnamon sticks, and 4 cloves...results were disappointing because now there was too little spice flavor to it.

Name: Sweet Water from the Crusades (Sikanjabin)

Ingredients:

2 ½ cups water
4 cups sugar
1 cup wine vinegar
handful of mint leaves

Method:

This syrup will bring a delicious flavor to that stale water you toted all the way to the event and now smells a little like the plastic milk jug. It may even hide the flavor of the water coming from the campground tap. Either way, its a great summer drink. The syrup is so strong, (how strong is it), all I do is dip my spoon into it before stirring a glass of water. The recipe is from *The Compleat Anachronist Vol 79, From The Kitchens of Castle Gillywick - Willihilda the Kitchen Wench.*

Dissolve the sugar in the water and bring to a boil. Add wine vinegar and boil half an hour. Remove from heat and add a handful of mint leaves, or to taste. Let the syrup cool.

To serve, dilute the syrup with between five to ten parts of water, depending on how strong and sweet you like it. The resulting drink will be between a pale red and a deep burgundy in color. The syrup can be stored without refrigeration indefinitely.

Name: Sake

Ingredients

| | |
|-------------------|---|
| 1500 g (3.3 lb) | Rice (<i>Oryza sativa</i>) |
| 400 g (0.9 lb) | Koji (<i>Aspergillum oryzae</i>) |
| 0.5 g (0.02 oz) | Citric Acid or equivalent amount juice of Lemon or Lime |
| 4 litres (0.9gal) | Water |
| 5 g (0.18 oz) | Yeast: you can use wine/champagne yeast, bakers yeast, and lager/ale/beer yeast. All will produce a very pleasant flavour indeed. |

Method:

- Electric rice cooker (steam cooker is better).
 - Basket to cut water.
 - 10 litres (2.6gal) enamel or stainless steel deep cooking pot with lid.
 - Big spoon (stainless is better).
1. Wash and soak the 1500 g (3.3 lb) rice for about 5 hours and then put the rice in a basket for at least 20-60 minutes to drain the water.
 2. Cook the rice with 1800ml (0.48 gal) water using the rice cooker. Steam cooking is recommended for better taste.
 3. After cooking, cool down the rice to 30 degree C (86 degree F).

4. Mix the citric acid with water in the enamel cooking pot. Citric acid will prevent contamination by bacteria and add a slightly sour taste to your Sake. Depending upon your taste, you can reduce the citric acid. Also you can use lactic acid or a lemon or lime juice.
5. Add 400g Koji and mix well by agitating with the big spoon.
6. In 30 minutes, add the cooled cooked rice and mix well by agitating with the big spoon.
7. Add the yeast, place the lid on the pot and keep it at room temperature (lower than 25 degrees C or 77 F). Lower temperatures will cause slower and longer fermentation and will result in a better taste.
8. Stir it at least once a day. In two or three days you can enjoy a very nice Sake aroma. Be careful about bacterial contamination.
9. In two weeks, Day 17, fermentation will seem to end.
10. After Day 20, Filter the sludge using a sterilized basket, cheesecloth or nylon straining bag and pasteurized and bottled.
11. Enjoy the filtered Sake. Do not drink too much. Alcohol content is two to three times more than beer. Cooling the filtered Sake is the best way to taste it. If you want crystal clear Sake, separate the remaining sludge by decanting. This will greatly reduce the Sake yield.
12. The remaining sludge can be used to make pickled vegetables in a refrigerator.
 - A cucumber is the most suitable vegetable. Before pickling, sprinkle lightly with salt (about 2% weight of the cucumber) and place the cucumber in a dry container under two times it's weight for at least 2 days to squeeze out any excess moisture. Then immerse in the sludge and in two or three months, you will have sake-tasting pickles. You can also put in white fish meat and then grill it. If you put soybean cake (tofu) wrapped with cheese cloth into the sludge, in a week you will get a cheese like sake tasting food. The longer fermentation, the better the sake-cheese likes taste.

Pasteurizing for Sake:

Sake that is stored with yeasts still alive in the bottle may be unstable and not preserve well. Pasteurizing can stabilize sake, this process requires GENTLY heating the strained brew in a saucepan for 5 minutes at 55 degrees C (132° F), and this will slightly change the character of the drink. Allow the sake to cool before bottling. This bottle will be now good for many years while it remains unopened. Generally sake will improve for the first few months after bottling. Leave it for at least a week after pasteurizing before drinking. Any sterile sealed bottle will work well for storing Sake. Store in a dark place as light does not agree with Sake. One can choose not to pasteurize, however be sure to keep the Sake refrigerated at all times to preserve it well.

**Appendix 1: Mead: Potential Alcohol Table
Specific Gravity Chart**

| Honey (kg) | Honey (lbs) | Initial S.G. | Potential Alcohol | Proof |
|-------------------|--------------------|---------------------|--------------------------|--------------|
| 0.101 | 0.22 | 1.010 | 2.2% | 3.92 |
| 0.111 | 0.24 | 1.011 | 2.4% | 4.15 |
| 0.121 | 0.27 | 1.012 | 2.5% | 4.38 |
| 0.131 | 0.29 | 1.013 | 2.6% | 4.60 |
| 0.141 | 0.31 | 1.014 | 2.8% | 4.83 |
| 0.152 | 0.33 | 1.015 | 2.9% | 5.06 |
| 0.162 | 0.36 | 1.016 | 3.0% | 5.29 |
| 0.172 | 0.38 | 1.017 | 3.2% | 5.51 |
| 0.182 | 0.40 | 1.018 | 3.3% | 5.74 |
| 0.192 | 0.42 | 1.019 | 3.4% | 5.97 |
| 0.202 | 0.44 | 1.020 | 3.5% | 6.19 |
| 0.212 | 0.47 | 1.021 | 3.7% | 6.42 |
| 0.222 | 0.49 | 1.022 | 3.8% | 6.65 |
| 0.232 | 0.51 | 1.023 | 3.9% | 6.88 |
| 0.242 | 0.53 | 1.024 | 4.1% | 7.10 |
| 0.253 | 0.56 | 1.025 | 4.2% | 7.33 |
| 0.263 | 0.58 | 1.026 | 4.3% | 7.56 |
| 0.273 | 0.60 | 1.027 | 4.4% | 7.79 |
| 0.283 | 0.62 | 1.028 | 4.6% | 8.01 |
| 0.293 | 0.64 | 1.029 | 4.7% | 8.24 |
| 0.303 | 0.67 | 1.030 | 4.8% | 8.47 |
| 0.313 | 0.69 | 1.031 | 5.0% | 8.69 |
| 0.323 | 0.71 | 1.032 | 5.1% | 8.92 |
| 0.333 | 0.73 | 1.033 | 5.2% | 9.15 |
| 0.343 | 0.76 | 1.034 | 5.4% | 9.38 |
| 0.354 | 0.78 | 1.035 | 5.5% | 9.60 |
| 0.364 | 0.80 | 1.036 | 5.6% | 9.83 |
| 0.374 | 0.82 | 1.037 | 5.7% | 10.06 |
| 0.384 | 0.84 | 1.038 | 5.9% | 10.28 |
| 0.394 | 0.87 | 1.039 | 6.0% | 10.51 |
| 0.404 | 0.89 | 1.040 | 6.1% | 10.74 |
| 0.414 | 0.91 | 1.041 | 6.3% | 10.97 |
| 0.424 | 0.93 | 1.042 | 6.4% | 11.19 |
| 0.434 | 0.96 | 1.043 | 6.5% | 11.42 |

Shire of Starleaf Gate Brewers & Vinters Recipes

| Honey (kg) | Honey (lbs) | Initial S.G. | Potential Alcohol | Proof |
|-------------------|--------------------|---------------------|--------------------------|--------------|
| 0.444 | 0.98 | 1.044 | 6.7% | 11.65 |
| 0.455 | 1.00 | 1.045 | 6.8% | 11.87 |
| 0.465 | 1.02 | 1.046 | 6.9% | 12.10 |
| 0.475 | 1.04 | 1.047 | 7.0% | 12.33 |
| 0.485 | 1.07 | 1.048 | 7.2% | 12.56 |
| 0.495 | 1.09 | 1.049 | 7.3% | 12.78 |
| 0.505 | 1.11 | 1.050 | 7.4% | 13.01 |
| 0.515 | 1.13 | 1.051 | 7.6% | 13.24 |
| 0.525 | 1.16 | 1.052 | 7.7% | 13.46 |
| 0.535 | 1.18 | 1.053 | 7.8% | 13.69 |
| 0.545 | 1.20 | 1.054 | 8.0% | 13.92 |
| 0.556 | 1.22 | 1.055 | 8.1% | 14.15 |
| 0.566 | 1.24 | 1.056 | 8.2% | 14.37 |
| 0.576 | 1.27 | 1.057 | 8.3% | 14.60 |
| 0.586 | 1.29 | 1.058 | 8.5% | 14.83 |
| 0.596 | 1.31 | 1.059 | 8.6% | 15.05 |
| 0.606 | 1.33 | 1.060 | 8.7% | 15.28 |
| 0.616 | 1.36 | 1.061 | 8.9% | 15.51 |
| 0.626 | 1.38 | 1.062 | 9.0% | 15.74 |
| 0.636 | 1.40 | 1.063 | 9.1% | 15.96 |
| 0.646 | 1.42 | 1.064 | 9.3% | 16.19 |
| 0.657 | 1.44 | 1.065 | 9.4% | 16.42 |
| 0.667 | 1.47 | 1.066 | 9.5% | 16.64 |
| 0.677 | 1.49 | 1.067 | 9.6% | 16.87 |
| 0.687 | 1.51 | 1.068 | 9.8% | 17.10 |
| 0.697 | 1.53 | 1.069 | 9.9% | 17.33 |
| 0.707 | 1.56 | 1.070 | 10.0% | 17.55 |
| 0.717 | 1.58 | 1.071 | 10.2% | 17.78 |
| 0.727 | 1.60 | 1.072 | 10.3% | 18.01 |
| 0.737 | 1.62 | 1.073 | 10.4% | 18.23 |
| 0.747 | 1.64 | 1.074 | 10.5% | 18.46 |
| 0.758 | 1.67 | 1.075 | 10.7% | 18.69 |
| 0.768 | 1.69 | 1.076 | 10.8% | 18.92 |
| 0.778 | 1.71 | 1.077 | 10.9% | 19.14 |
| 0.788 | 1.73 | 1.078 | 11.1% | 19.37 |
| 0.798 | 1.76 | 1.079 | 11.2% | 19.60 |
| 0.808 | 1.78 | 1.080 | 11.3% | 19.82 |

Shire of Starleaf Gate Brewers & Vinters Recipes

| Honey (kg) | Honey (lbs) | Initial S.G. | Potential Alcohol | Proof |
|-------------------|--------------------|---------------------|--------------------------|--------------|
| 0.818 | 1.80 | 1.081 | 11.5% | 20.05 |
| 0.828 | 1.82 | 1.082 | 11.6% | 20.28 |
| 0.838 | 1.84 | 1.083 | 11.7% | 20.51 |
| 0.848 | 1.87 | 1.084 | 11.8% | 20.73 |
| 0.859 | 1.89 | 1.085 | 12.0% | 20.96 |
| 0.869 | 1.91 | 1.086 | 12.1% | 21.19 |
| 0.879 | 1.93 | 1.087 | 12.2% | 21.41 |
| 0.889 | 1.96 | 1.088 | 12.4% | 21.64 |
| 0.899 | 1.98 | 1.089 | 12.5% | 21.87 |
| 0.909 | 2.00 | 1.090 | 12.6% | 22.10 |
| 0.919 | 2.02 | 1.091 | 12.8% | 22.32 |
| 0.929 | 2.04 | 1.092 | 12.9% | 22.55 |
| 0.939 | 2.07 | 1.093 | 13.0% | 22.78 |
| 0.949 | 2.09 | 1.094 | 13.1% | 23.00 |
| 0.960 | 2.11 | 1.095 | 13.3% | 23.23 |
| 0.970 | 2.13 | 1.096 | 13.4% | 23.46 |
| 0.980 | 2.16 | 1.097 | 13.5% | 23.69 |
| 0.990 | 2.18 | 1.098 | 13.7% | 23.91 |
| 1.000 | 2.20 | 1.099 | 13.8% | 24.14 |
| 1.010 | 2.22 | 1.100 | 13.9% | 24.37 |
| 1.020 | 2.24 | 1.101 | 14.1% | 24.59 |
| 1.030 | 2.27 | 1.102 | 14.2% | 24.82 |
| 1.040 | 2.29 | 1.103 | 14.3% | 25.05 |
| 1.051 | 2.31 | 1.104 | 14.4% | 25.28 |
| 1.061 | 2.33 | 1.105 | 14.6% | 25.50 |
| 1.071 | 2.36 | 1.106 | 14.7% | 25.73 |
| 1.081 | 2.38 | 1.107 | 14.8% | 25.96 |
| 1.091 | 2.40 | 1.108 | 15.0% | 26.18 |
| 1.101 | 2.42 | 1.109 | 15.1% | 26.41 |
| 1.111 | 2.44 | 1.110 | 15.2% | 26.64 |
| 1.121 | 2.47 | 1.111 | 15.4% | 26.87 |
| 1.131 | 2.49 | 1.112 | 15.5% | 27.09 |
| 1.141 | 2.51 | 1.113 | 15.6% | 27.32 |
| 1.152 | 2.53 | 1.114 | 15.7% | 27.55 |
| 1.162 | 2.56 | 1.115 | 15.9% | 27.77 |
| 1.172 | 2.58 | 1.116 | 16.0% | 28.00 |
| 1.182 | 2.60 | 1.117 | 16.1% | 28.23 |

Shire of Starleaf Gate Brewers & Vinters Recipes

| Honey (kg) | Honey (lbs) | Initial S.G. | Potential Alcohol | Proof |
|-------------------|--------------------|---------------------|--------------------------|--------------|
| 1.192 | 2.62 | 1.118 | 16.3% | 28.46 |
| 1.202 | 2.64 | 1.119 | 16.4% | 28.68 |
| 1.212 | 2.67 | 1.120 | 16.5% | 28.91 |
| 1.222 | 2.69 | 1.121 | 16.6% | 29.14 |
| 1.232 | 2.71 | 1.122 | 16.8% | 29.36 |
| 1.242 | 2.73 | 1.123 | 16.9% | 29.59 |
| 1.253 | 2.76 | 1.124 | 17.0% | 29.82 |
| 1.263 | 2.78 | 1.125 | 17.2% | 30.05 |
| 1.273 | 2.80 | 1.126 | 17.3% | 30.27 |
| 1.283 | 2.82 | 1.127 | 17.4% | 30.50 |
| 1.293 | 2.84 | 1.128 | 17.6% | 30.73 |
| 1.303 | 2.87 | 1.129 | 17.7% | 30.95 |
| 1.313 | 2.89 | 1.130 | 17.8% | 31.18 |
| 1.323 | 2.91 | 1.131 | 17.9% | 31.41 |
| 1.333 | 2.93 | 1.132 | 18.1% | 31.64 |
| 1.343 | 2.96 | 1.133 | 18.2% | 31.86 |
| 1.354 | 2.98 | 1.134 | 18.3% | 32.09 |
| 1.364 | 3.00 | 1.135 | 18.5% | 32.32 |
| 1.374 | 3.02 | 1.136 | 18.6% | 32.54 |
| 1.384 | 3.04 | 1.137 | 18.7% | 32.77 |
| 1.394 | 3.07 | 1.138 | 18.9% | 33.00 |
| 1.404 | 3.09 | 1.139 | 19.0% | 33.23 |
| 1.414 | 3.11 | 1.140 | 19.1% | 33.45 |
| 1.424 | 3.13 | 1.141 | 19.2% | 33.68 |
| 1.434 | 3.16 | 1.142 | 19.4% | 33.91 |
| 1.444 | 3.18 | 1.143 | 19.5% | 34.13 |
| 1.455 | 3.20 | 1.144 | 19.6% | 34.36 |
| 1.465 | 3.22 | 1.145 | 19.8% | 34.59 |
| 1.475 | 3.24 | 1.146 | 19.9% | 34.82 |
| 1.485 | 3.27 | 1.147 | 20.0% | 35.04 |
| 1.495 | 3.29 | 1.148 | 20.2% | 35.27 |
| 1.505 | 3.31 | 1.149 | 20.3% | 35.50 |
| 1.515 | 3.33 | 1.150 | 20.4% | 35.72 |
| 1.525 | 3.36 | 1.151 | 20.5% | 35.95 |
| 1.535 | 3.38 | 1.152 | 20.7% | 36.18 |
| 1.545 | 3.40 | 1.153 | 20.8% | 36.41 |

Appendix 2: Mead: Math Formulas:

SPECIFIC GRAVITY from HONEY quantity:

$$SG = 1 + [(\text{lbs} \times 45) / (\text{gals} \times 1000)]$$

POTENTIAL ALCOHOL from SG:

$$\%ABV = 0.944 + 129.8 \times (SG - 1)$$

POTENTIAL ALCOHOL from HONEY quantity:

$$PA = 0.944 + 129.8 \times [(\text{lbs} \times 45) / (\text{gals} \times 1000)]$$

How to Find Specific Alcohol Level after the fermentation is finish

specific gravity = S.G.

finished specific gravity = F.G.

$$(S.G. - F.G.) \times 1000 / 7.36 = \% \text{ Alc.}$$

Note: It is before you added more honey or sugar to sweeten it.

Appendix 3: Sugar and Acid content (by weight) of many fruits.

The information is for the balance in sugar and acid content for mead or wine making.

| Fruit | Sugar Content %of fresh weight | Acid Content %of fresh weight |
|---------------|-----------------------------------|----------------------------------|
| Lime | 1% | 5.0% |
| Avocado | 1 | 0.2 |
| Lemon | 2 | 5.0 |
| Tomato | 3 | 0.5 |
| Cranberry | 4 | 3.0 |
| Red Currant | 6 | 1.8 |
| Grapefruit | 6 | 2.0 |
| Guava | 7 | 0.4 |
| Cantaloupe | 7 | 0.2 |
| Strawberry | 7 | 1.6 |
| Raspberry | 7 | 1.6 |
| Blackberry | 8 | 1.5 |
| Papaya | 8 | 0.1 |
| Apricot | 9 | 1.7 |
| Watermelon | 9 | 0.2 |
| Peach | 9 | 0.4 |
| Black Currant | 10 | 3.2 |
| Pear | 10 | 0.1 |
| Honeydew | 10 | 0.2 |
| Orange | 11 | 1.2 |
| Plum | 11 | 0.6 |
| Blueberry | 11 | 0.3 |
| Gooseberry | 11 | 1.8 |
| Passion Fruit | 11 | 3.0 |
| Prickly Pear | 11 | 0.1 |
| Mango | 11 | 0.5 |
| Pineapple | 13 | 1.1 |
| Pomegranate | 13 | 1.2 |
| Apple | 13 | 0.8 |
| Cherry | 14 | 0.5 |
| Kiwi | 14 | 3.0 |
| Persimmon | 14 | 0.2 |
| Fig | 15 | 0.4 |
| Grape | 16 | 0.2 |
| Banana | 17 | 0.3 |
| Litchi | 17 | 0.3 |