

CHAPTER 2

PRODUCT OVERVIEW

2.1 DESCRIPTION OF THE INGREDIENTS TO BE USED



Figure 2.1 Ingredients for the based kombucha

1. Turmeric leaves
100 gr of turmeric leaves, use the fresh and still green ones. It's the main ingredient for the kombucha as it will be processed into tea.
2. Water
1 Liter of water. It's used for brewing the turmeric leaves, but it doesn't have to be a boiling water
3. Sugar
100 gr of sugar to make a sweet tea, because the culture needs sugar to do the fermentation
4. SCOBY
100 gr of SCOBY. It's the culture that will do the fermentation

5. Starter

100 mL of starter. It usually comes with the SCOBY that we purchase and it's needed to create the right environment for the fermentation



Figure 2.2 Ingredients for flavoring

1. Pear

150 mL of pear and puree it so it's easier for the culture to break down the sugar.

2. Rosemary

Half a stick of rosemary, to reduce the pungent smell of the kombucha.

2.2 THE UTENSIL USED DURING THE PROCESSING



Figure 2.3 The Utensils Used During the Process

1. Dehydrator

Dehydrator is used for dehydrating turmeric leaves into turmeric leaves tea

2. Sauce pan
Sauce pan is used for heating water to brew the tea or to sterilize the utensils that are used. It can be replaced with kettle
3. Steamer
Steamer is used to do the blanch steam method for the leaves
4. Bowl
Bowl is used to shock the leaves with cold water
5. Scale
Scale that's sensitive until 5 grams, to scale every ingredient needed
6. Spoon
Tablespoon to add and stir some ingredient like sugar and starter
7. Glass Jar
Using 1.5 L glass jar for the first fermentation, because if using another material like plastic or metal, the acid that's created could make a corrosion.
8. Table cloth
Table cloth that's bigger than the top of the jar to cover the jar during the first fermentation, because it still needs oxygen
9. Rubber band
Rubber band is used to secure and tighten the table cloth during the first fermentation
10. Funnel
Funnel is used to transfer the kombucha from the jar into the glass bottle
11. Sieve
Sieve is used to sieve the kombucha from the residue
12. Glass Bottle
2 air tight glass bottle of 500 mL are used to do the second fermentation
13. Knife
Knife is used to cut the pear and rosemary

14. Cutting Board

Cutting board is used to be the base during the cutting

15. Blender

Blender is used to crush the pear into puree

16. Refrigerator

Refrigerator is used to chill the kombucha after 2nd fermentation to stop the fermentation process

17. Thermometer

Thermometer is used to see the right temperature for pasteurize

18. Commercial Bottle

Commercial bottle is used to pack the drink and to be sold to consumers

2.3 APPROVED AND REVISED RECIPE

2.3.1 Approved Recipe

Recipe : Kombucha Turmeric Leaves

Yield : 5 portion

Main Ingredients : 200 gr Turmeric Leaves

Ingredients :

- 200 gr Turmeric leaves
- 1000 mL Water (for the tea)
- 100 gr SCOBY
- 100 gr Sugar
- 120 mL pear puree
- Fresh rosemary

Method:

A. Turmeric leaves tea

1. Wash the turmeric leaves until clean
2. Do the steam blanching. Put the leaves into a steamer for 5 minutes
3. Shock the leaves with ice cold water
4. Pad dry the leaves and cut the leaves into small pieces so it can fit in tea bag later on
5. Put the leaves in the oven 60°C for 3.5 – 4 hours until the leaves dried
6. Put 2 – 3 gr of the leaves into the tea bag

B. Kombucha

1. Sterilize the jar and the bottle by pouring boiling water and dry it.
2. Brew 5 tea bag with 1000 mL hot water.
3. Add 100 gr granulated sugar mix it until the sugar dissolve and let it sit for 5 minutes
4. Sieve the tea into a glass jar and chill it until it reaches 25°C or room temperature
5. Add 100 gr of SCOBY into the liquid and cover it with cotton kitchen towel and let it sit for the first fermentation in room temperature for 7 – 10 days.
6. After the first fermentation, taste it first. If it still too sweet, let it sit again for a couple of days. If the taste is already as desired, put the kombucha in glass bottle and add pear puree and rosemary. Let it ferment for a second time for 2 – 3 days in room temperature, then chill it in refrigerator before opening.
7. Kombucha is ready to be served

2.3.2 Revised Recipe

Recipe : Kombucha Turmeric Leaves Tea

Yield : 4 portion

Main Ingredients : 50 gr Turmeric Leaves

Ingredients :

- 50 gr Turmeric leaves
- 1000 mL Water (for the tea)
- 100 gr SCOBY
- 100 ml starter
- 100 gr Sugar
- 150 mL pear
- 1 pcs Fresh rosemary

Method:

A. Turmeric leaves tea

1. Wash the turmeric leaves until clean
2. Do the steam blanching. Put the leaves into a steamer for 5 minutes
3. Shock the leaves with ice cold water
4. Pad dry the leaves and cut the leaves into small pieces so it can fit in tea bag later on
5. Put the leaves in the dehydrator machine 60°C for 4 – 6 hours until the leaves dried

B. Kombucha

1. Sterilize the jar and the bottle by pouring hot water and dry it.

2. Brew 10 gr of turmeric leaves tea with 1000 mL hot water in the glass jar
3. Add 100 gr granulated sugar mix it until the sugar dissolve and let it sit for 10 minutes
4. Chill it until it reaches 25°C or room temperature
5. Add 100 gr of SCOBY and 100 mL of the starter into the liquid and cover it with cotton kitchen towel and let it sit for the first fermentation in room temperature for 10 – 14 days.
6. After the first fermentation, taste it first. If it's still too sweet, let it sit again for a couple of days. If the taste is already as desired, put the kombucha in glass bottle and add pear puree that's sieved and rosemary. Let it ferment for a second time for 2 – 3 days in room temperature, then chill it in refrigerator before opening.
7. After one night of chilling kombucha in refrigerator, transfer into the commercial bottle
8. Heat water in sauce pan and put the bottled kombucha at 71°C for 15 seconds

2.4 PRODUCT PROCESSING SEQUENCE USING FLOW CHART

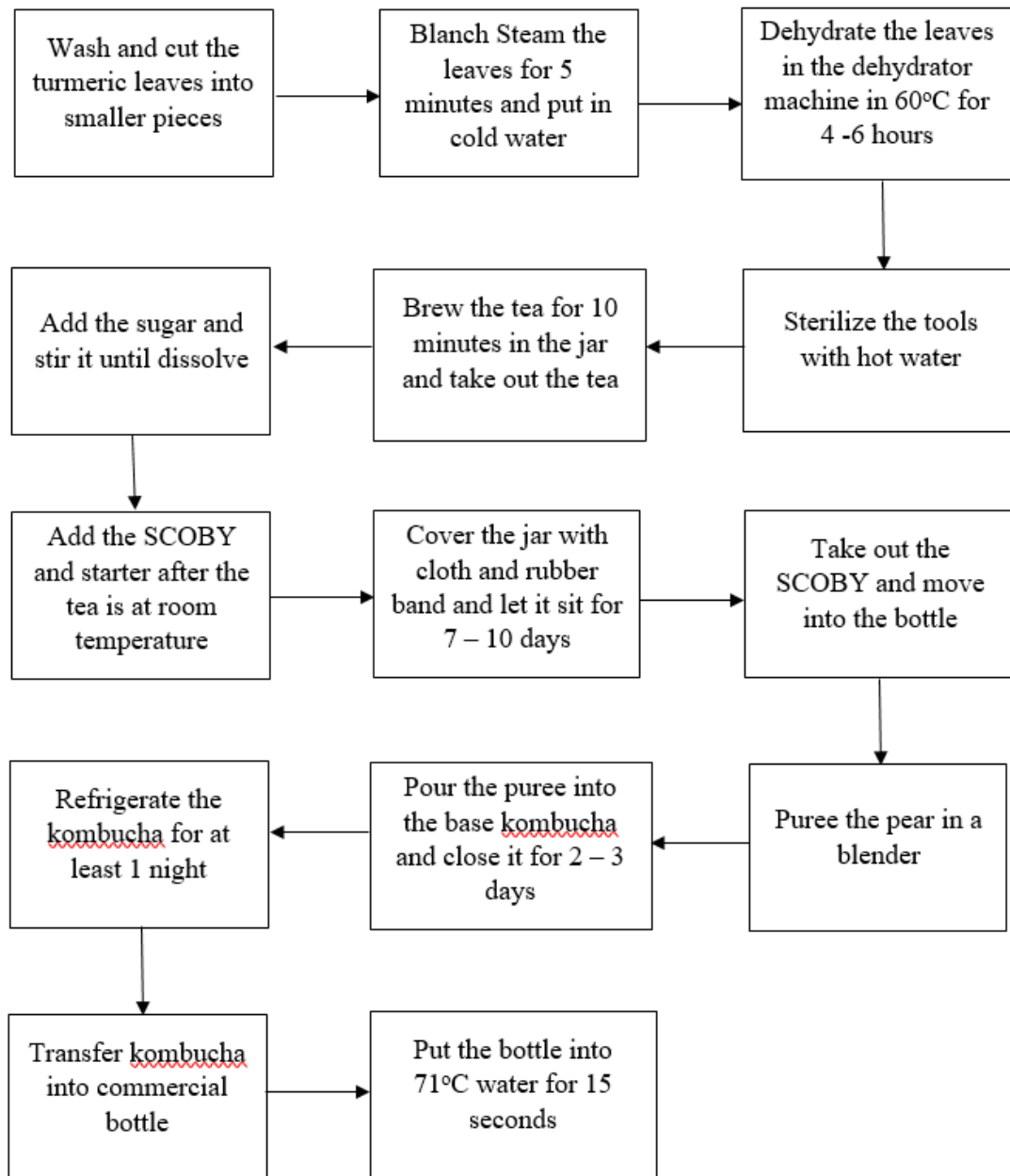


Figure 2.4 Flow Chart Processing Method

2.5 PRODUCT PROCESSING METHOD WITH PICTURES



Figure 2.5 Steaming The Cut Turmeric Leaves

1. Cut turmeric leaves into smaller pieces and steam the leaves in the steamer for 5 minutes. Then, put the leaves in cold water to stop the cooking. Usually, the color of the leaves will appear more fresh and lighter. Steam blanching method is used to inactivate enzyme that can caused polyphenol compounds oxidize, so the amount of this compound doesn't reduce too much, comparing to basic blanching.



Figure 2.6 Dehydrating the Leaves

2. Let the leaves dry and dehydrate them in the dehydration machine 65°C for 4 - 6 hours. It depends on how big the cut is, but the aim is until it's completely dry out



Figure 2.7 Brewing the Tea

3. With sterilize utensils, brew the tea with hot water, with a ratio 1:100 (tea: water), for 10 minutes in the glass jar, and sugar with ratio 1:10 (sugar:water). Then, chill it until it reaches room temperature



Figure 2.8 Fermenting the Tea Using SCOBY and Starter Tea

4. After the tea reaches room temperature, add the SCOBY and the starter tea to give the tea the right environment for the fermentation and cover it with cloth and rubber band. Let it sit for 7 – 10 days for the first fermentation in room temperature and doesn't get direct contact to sun



Figure 2.9 Transferring the Kombucha into The Bottle

5. After tasting the base kombucha and it's already sour yet still a little bit sweet, it's ready for the second fermentation. Take out the SCOBY and pour into the glass bottle but leave a little bit of the base kombucha for the SCOBY so it can be used again, but it's optional



Figure 2.10 Adding Pear Puree into the Kombucha

6. Blend the pear into puree and cut 1 rosemary into halves. Pour these ingredients into the kombucha and close the lid. Let it sit for 2 – 3 days in the room temperature.



Figure 2.11 Putting the kombucha in Refrigerator

7. Taste the kombucha, and if it reaches the desire taste, chill it in the refrigerator to stop the fermentation process



Figure 2.12 Pasteurizing the Kombucha

8. In addition, for the packaging process, sieve the kombucha and pour into the bottle. Then, do the sterilization by heating the water until 71°C then put the bottle with the kombucha in it for a couple 15 seconds. This process stops the fermentation