

Ara Making Manual

Ara holds the position of being the most favored alcoholic beverage in Bhutan, playing a crucial role in the country's social and religious customs. It is crafted domestically across Bhutan and involves the use of diverse cereals such as rice, maize, millet, and wheat. In the eastern region of Bhutan, maize is typically used in Ara production, while in the highlands and valleys of central Bhutan, wheat and barley are commonly utilized, occasionally incorporating buckwheat. The western parts of Bhutan predominantly rely on wheat, rice, and barley as the primary ingredients for Ara. The variations in ingredients contribute to regional differences in taste and aroma, making Ara a rich and diverse aspect of Bhutanese culinary culture.

How is Ara made:

The primary ingredient, cereal, is cooked in a sizable container over an open flame, often within an outdoor shed. After cooking, the local yeast is incorporated while the cereal remains warm. Cold conditions necessitate more yeast and extend the fermentation time. An incorrect yeast quantity can impact both the fermentation duration and the quality of the resulting beverage, known as Ara. The local yeast, traditionally derived from glutinous rice and wild herbs, serves as a key starter for various native alcoholic drinks in Bhutan.

The yeast significantly influences the Ara's quality. Following cooking, the cereal is spread on a large bamboo or straw mat for cooling. The yeast is powdered and sprinkled on the warm cereal, thoroughly mixed by hand. Once combined, the cereal is wrapped in blankets and placed in a warm location for fermentation, typically lasting three to five days. Proper fermentation is discernible by the distinctive aroma emitted from the fermented grains. Post-fermentation, the cereal is transferred to a container for further maturation. For Ara, a more extended fermentation period is essential to achieve a robust flavor.

In Bhutan, once appropriately fermented, the mixture is introduced into a large container to commence the distillation process. The distillation apparatus comprises three vessels: a lengthy copper vessel known as "arazang," a smaller earthen pot positioned within the larger one on a tripod using three sticks, and a bowl-shaped vessel called "khataw," placed atop the arrangement.

The traditional distillation procedure involves the following sequential steps:

1. Place the fermented cereals inside the elongated arazang vessel and position it over the stove or fire.
2. Introduce water to the fermented cereal.
3. Embed a tripod or three sticks to form a support structure, and position a small clay pot on it to collect the drops of Ara. Add a small quantity of water to the small pot.
4. Position the khataw vessel on the arazang vessel and secure the connection with a lengthy strip of cloth.
5. Fill the khataw vessel with cold water.
6. Ignite a fire beneath the arazang, and when the water in the khataw vessel heats up, replace the hot water with cold water. Repeat this process three to four times, and then extract the ara.



Fig: Experiment carried out by GrAT team in traditional method

Steps followed by GrAT team and the standard method to improve the quality of Ara in Bhutan

Standard fermentation technique was carried out for appropriate and complete fermentation as follows:



1. Wash the rice



2. Cook the rice



3. Spread the cooked rice on mat



4. Spread all the rice properly



5. Crush the traditional yeast



6. Spread the crushed yeast all over the rice



7. Mix the yeast properly with the rice



8. Wrap the rice with the plastic



9. Wrap with warmer mat and blanket



10. Keep in warm place to let it ferment for 3 days



11. After the fermentation is done the rice is transferred into the jar and continue to ferment till the ara is processed.

Ara Processing by GrAT

GrAT team is adopting an improved method for Ara production. Traditionally, in the process of making Bhutanese Ara, the condensate is directly collected in a small pot, as mentioned earlier. However, this method has been found to be hazardous as it leads to the accumulation of methanol along with ethanol in the Ara.

Consumers who ingest Ara produced using this method have reported experiencing severe headaches, falling ill, and, in extreme cases, even facing fatalities due to the presence of methanol in the beverage. The methanol content is generated during the distillation process, posing a significant health risk.

The following modification has been adopted by the team and is at the replication phase:



12. the improved version of Ara making equipment which allows the separation of methanol from ethanol.



13. Running distillation trial at the lab.