

JICA CUP2 Project

ANAEROBIC WASHED PROCESS



Advantage of the process	• Elegant Flavors compared to ordinary Fully Washed • Shorter drying times • Clean cup and Bright acidity compared to "Natural" or "Honey" process.								
Recommended conditions	1. Sugar contents >16.0 without "unripe" and "overripe" 2. Requires oxygen-free environment to activate different microbes such as tanks or GrainPro bags 3. Clean water and fermentation tank 4. Calibrated pulping machine								
Steps	1	2	3	4	5	6	7	8	9
	Harvesting	Sorting	Anaerobic fermentation	Pulping	Soaking	Washing & grading	Pre-drying	Drying	Storage
	DAY 1	DAY 1-5 (if 96 hours)	DAY5	DAY5-6	DAY6	DAY6-8	DAY 8- (for 20-25days)	-	
									

Step 1: Harvesting

Purpose: Ripe cherries have good sugar and acidity to create flavors

Recommended equipment



Use a **container** of cherries during harvesting to easily collect cherries



Use a **plastic sheet under the tree** to collect any falling cherry.



Use **clean bags** to hold cherry during harvesting

Key concept

① Harvest **only well-ripen cherries**



Higher quality and heavier

Because well-ripen cherries are heavier



Weight	70kg	100kg
Farmgate price	700rwf	700rwf
Total income	49,000rwf	70,000rwf



② Start to harvest in **the morning**.



③ Deliver cherries to the station **within 8 hours** after harvest



④ Do **not** pick cherries **on the ground** to avoid **contamination**



⑤ Put coffee **under shade** after harvesting to avoid rapid fermentation

6. Anaerobic Washed

Step 2: Sorting – color sorting

Purpose: Classify cherries – Ripen / unripen / overripen

Checking point ①

At least 70% of cherries are **well ripen**

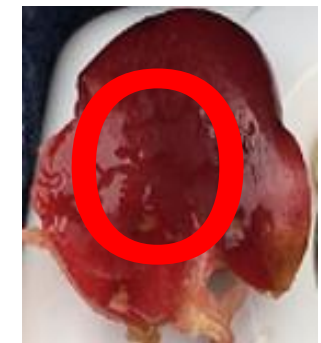


Checking point ②

**Sugar contents: above 16.0
without dry cherry**



10.0



16.0

Step 3: Anaerobic fermentation

Purpose: Achieve anaerobic fermentation for flavor development

Equipment

An airtight tank to shut out oxygen to go inside

or

A GrainPro (plastic bag)

Key concept

① **Anaerobic condition:**

The airtight tank or GrainPro bag **with water** is **kept sealed** to prevent airflow from entering.

② **Control temperature and humidity:** Store under a roof where temperature and humidity are stable.

③ **The length of fermentation** should be adjusted depending on the market demand for anaerobic natural.

**pH should be carefully controlled*



Checking points

① **Smell:**

Avoid sour or vinegary aroma.

② **Color:**

Check if beans changed their color.

③ **pH:** Should fall to **4.0 – 4.2** by the end of fermentation.

**Though you can adjust depending on buyers' demand*



Step 4: Pulping

Purpose: remove the cherry skin while preserving the beans

Equipment



Use a pulping machine



Use a clean fermentation tank to collect parchments

Key concept

① Use **clean water to pulp**. Avoid contamination!



② **Adjust a blade, amount of cherry and flow speed** to avoid damage on parchments.

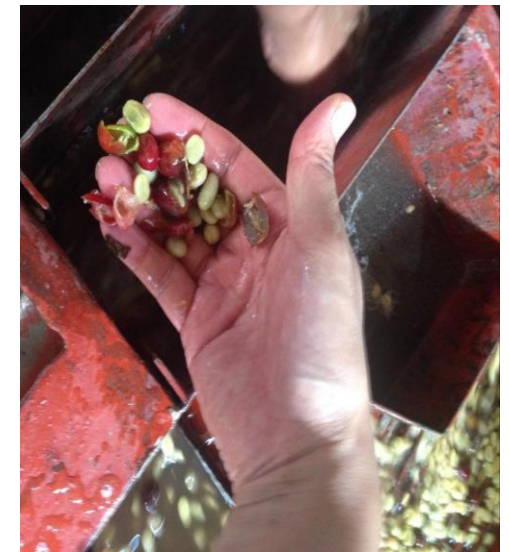


③ **Clean the machine everyday** to avoid contamination.



Checking point

Take 100 parchments and check if it's below 10% of damage beans, below 10% of unpulped cherries. If not, calibrate the pulping machine



Step 5: Soaking

Purpose: Remove mucilage

Equipment



- Use a **plastic tank** or **Grain pro** to soak parchments
- Use **clean water** when washing out mucilage

Key concept

Soften and remove the mucilage easily: Temperature affects fermentation speed. It can be shorter in dry season and be longer in rainy season. Normally, it takes more than **24 hours**. Easing rough taste, leading to “clean cup” and “smooth mouthfeel”.



Checking point

- ① **Smell:** Avoid sour or vinegary aroma.
- ② **Texture:** Check if mucilage is detached from parchments.



Step 6: Washing and Grading

Purpose: wash off remaining mucilage and grade parchment by density

Equipment



Use a **wooden rake** for washing

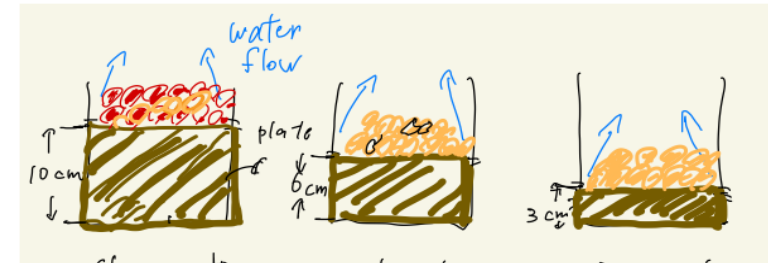
Key concept

- ① Check **by texture** that mucilage is all removed.
- ② **Maintain the grading canal clean** to avoid contamination.
- ③ Make **a clear segregation for the different grades** (A1 / A2 / floaters) by the height of wooden plates in the canal.



Checking point

- ① Control quality by **changing the height of the plate** for each grade (10cm: A1 / 6cm: A2 / 3cm: floaters & pulps)



- ② **Over 75%** should be **A1 grade**



6. Anaerobic Washed

Step 7: Pre-drying (36-48 hours)

Purpose: remove lower-quality beans & reduce moisture slowly

Equipment

Covered drying beds



Key concept

① Place parchments **under shade** to sort bad parchments before getting them dry.



② Sort and rest parchments **for 36-48 hours** after washing. Parchments must rest well before sun-dry.



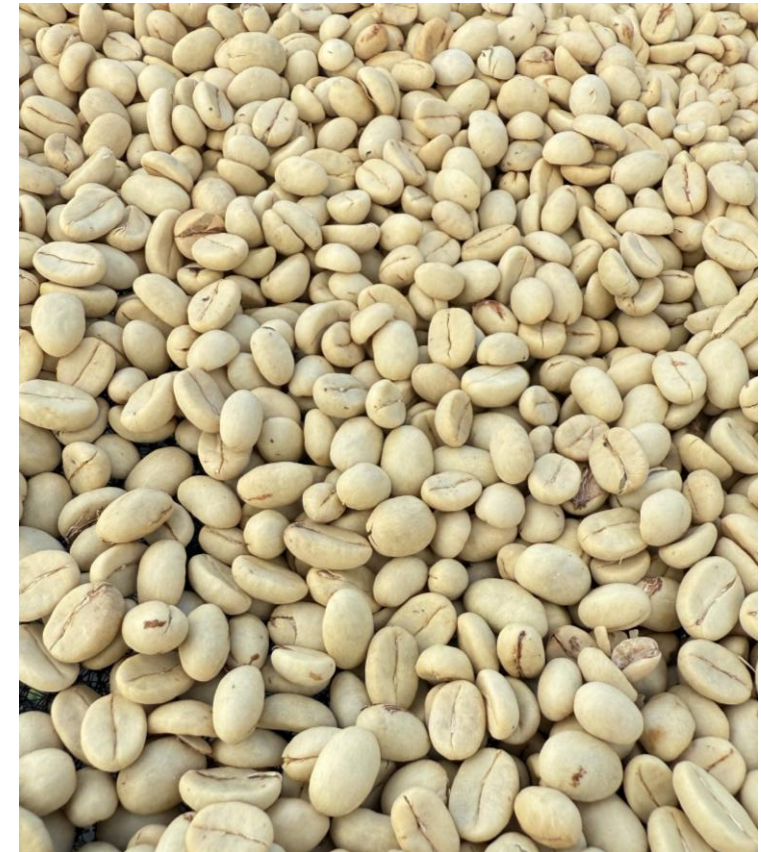
③ Set the **target colors of the defects** to sort:

- **Green** (Immature)
- **White** (hulled/floaters)
- **Black/insect damaged beans**
- **Broken/Chips/Cut** (pulping machine)



Checking point

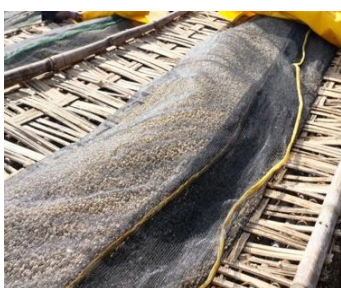
Defects are **100% removed**



Step 8: Drying

Purpose: reduce moisture content and prepare for proper storage

Equipment



A shade net to avoid strong heat.



A plastic sheet to avoid rain and dew.



A moisture meter to check moisture.

Key concept

① **Control temperature:** Use a shade net to cover from **11:00-15:00** to avoid strong heat. **Adjust according to the weather condition.*



② **Control humidity:** Cover parchments with a **plastic sheet** to avoid rain and dew.
③ **Resting:** 1 day in a week, **cover parchment completely for resting.**



④ **Uniformity:**
• **Stirring 4 times a day** by hand to keep equal sunshine.
• **Thickness of the layer: Thin (e.g. 3cm) → thick**



Checking point

① **Moisture contents:** Aim for **10.5-11.5%** for best condition. Check with moisture testers twice a day.



② **Duration: 20-25 days.** The drying process must be carefully controlled to avoid rapid or uneven drying.



③ **Parchment temperature:** The temperature should be always **kept below 35°C** to prevent embryo damage.



Step 9: Storage

Purpose: stabilize beans post-drying for export or milling

Equipment

Use pallets to avoid damage
(e.g., water, bugs)



Key concept

- ① **Moisture control (MC):** Maintain the bean moisture content at **10-12%**

**Adjust the MC if storage is either very hot or very humid*



- ② **Ventilation:** Control consistent **air flow** to avoid dew and high humidity



Checking point

- ① **Temperature:** Keep temperature at **15–23°C** to avoid damage



- ② **Humidity:** Keep humidity at **50-70%** to avoid mold



- ③ **Resting:** Beans should rest for **around 2 months** to stabilize MC

