

JICA CUP2 Project

FULLY WASHED PROCESS



3. Fully washed – Normal

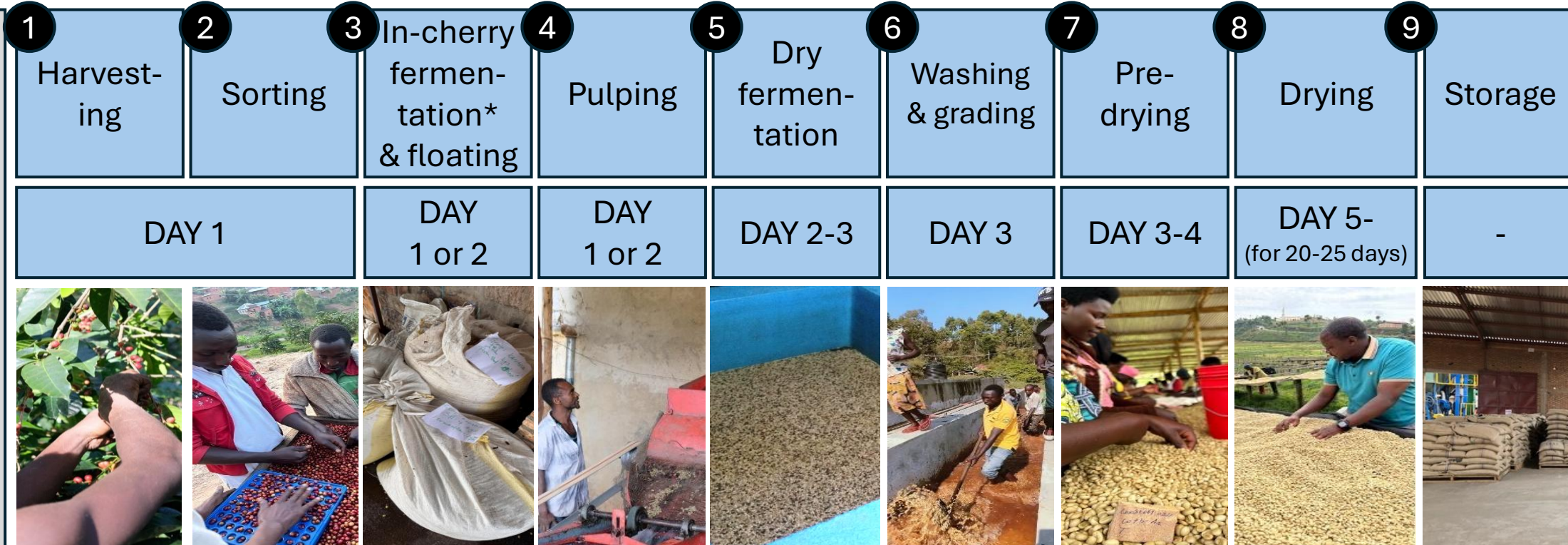
Advantage
of the
process

- Reduced risk of defect contamination compared to the traditional Natural process
- Shorter drying times
- Greater uniformity in cup profile

Recommen
ded
conditions

1. Sugar contents >18.0
2. Clean water and fermentation tank
3. Calibrated pulping machine

Steps



**In-cherry fermentation is optional*

3. Fully washed

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**



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

3. Fully 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

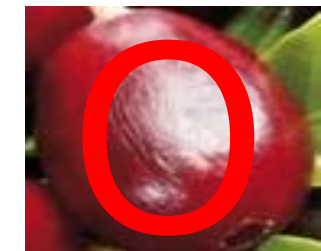
Sugar contents: above 18.0



10.0



18.0



20.0

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* 【OPTIONAL】 Step 3: In-cherry fermentation (24-36 hours)

Purpose: enhance fermentation aroma through in-fruit fermentation

Equipment

Use **a bucket, a tank or a cherry bag with air** to ferment for 24-36 hours



Key concept

① Ferment cherries under an **open-air condition** (open the bag or tank) **for 24-36 hours.**



② After fermentation, make sure cherries are fermented and are **smelling alcoholic.**



3. Fully washed

Step 3: Floating

Purpose: float off defective cherries

Equipment

Use a **water tank or basket** to float cherries



Key concept

① Check **colors** by hand



② Check **density by water**

** very light cherries are to be removed*



Checking points

① **95%** of cherries show “**well ripen**”



② Floaters: should be **below 10%**



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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.

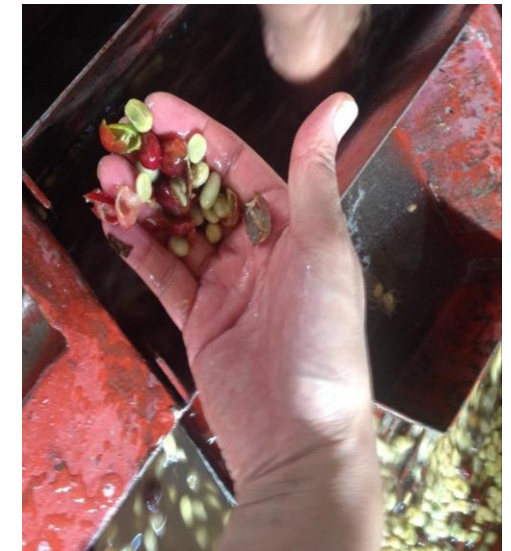


③ **Clean the machine everyday** to avoid contamination.



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



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Step 5: Fermentation

Purpose: remove the remaining mucilage and develop desired flavors

Equipment



- Use a **clean fermentation tank** to ferment parchments
- Use **clean water** when washing out mucilage
- Use a **pH meter** to check if fermentation is completed.



Key concept

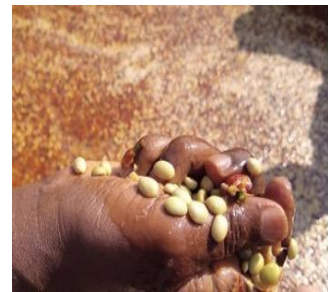
- ① **Length of fermentation:** Temperature affects fermentation speed. It can be shorter in dry season and be longer in rainy season. Normally, it takes between **12-24 hours**.
- ② **Cover parchments:** Tank is left covered to **make consistency of fermentation**.

**Please monitor the fermentation progress well to adjust the duration depending on the weather condition.*



Checking point

- ① **Smell:** Avoid sour or vinegary aroma.
- ② **Texture:** Check if mucilage is detached from parchments.
- ③ **pH:** Mix parchments first. Use a pH meter and check if it falls to **4.0-4.5*** by the end of fermentation.



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

3. Fully washed

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.

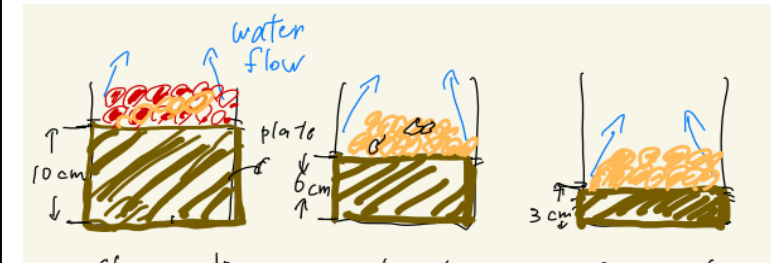


③ Make **a clear segregation for the different grades** (A1 / A2 / floaters) by the height of wooden plates in the canal.



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**



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

Purpose: Reduce moisture slowly (Slow dry)

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**



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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.



**Moisture meter must be calibrated before use*

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

