



Agronomy Coffee Best Practices, Lesson Plan : Coffee Harvesting

TOTAL TIME: 1 Hour 15 Minutes

AUDIENCE: Farmer group Leaders and vice leaders, Field officer and cooperative staff

FACILITATOR: Farmer trainer

LOCATION: Field

OBJECTIVES:

- **OBJECTIVE 1:** Farmers recognize the importance of picking only the red ripe cherry.
- **OBJECTIVE 2:** Farmers know when to harvest, what equipment to use and how to sort cherry.
- **OBJECTIVE 3:** Farmers understand how harvesting and handling affects coffee quality.
- **OBJECTIVE 4:** Farmers practice crop hygiene before and after harvest.
- **OBJECTIVE 5:** Farmers can demonstrate how to harvest correctly.

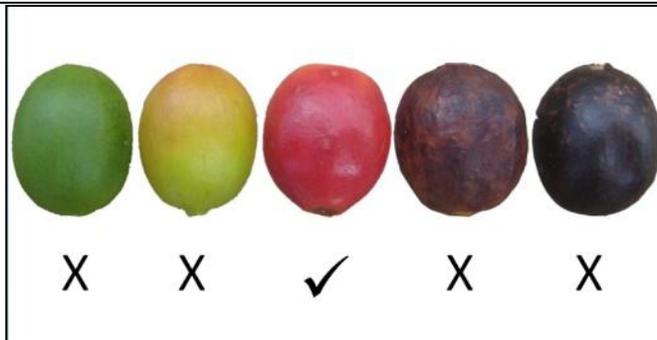
MATERIALS:

- Bring harvesting equipment
 - Small container on string to go around the neck or bucket to harvest coffee into.
 - Sack or plastic sheets to place under the tree.
- Ripe and unripe bananas
- Laminated photo of coffee ripening stages
- 5-6 large handfuls of mixed cherry for sorting

TIME	CONTENT OUTLINE
15 min	OPENING: INTRODUCTIONS: <ul style="list-style-type: none">▪ Instructor▪ Participants



	<p>REVIEW OBJECTIVES:</p> <ul style="list-style-type: none">▪ This month we will learn about coffee harvesting▪ Specifically, we will learn about the right harvesting stage -Red ripe cherry- and good harvesting and handling practices that maintain the quality of coffee, including crop hygiene. <p>ACTIVITY: Icebreaker Choose an icebreaker which is appropriate for your audience.</p>
<p>10 min</p>	<p>OBJECTIVE 1: Farmers recognize the importance of picking only the red ripe cherry</p> <p>EXPLAIN: We will do a brief activity to appreciate the importance of harvesting red ripe cherry.</p> <p>ACTIVITY: Bananas</p> <ol style="list-style-type: none">a) SELECT 2 farmers at random, ask them to come to the front.b) GIVE 1 farmer a yellow, ripe banana; give the other an unripe, green banana.c) ASK the farmers to peel the bananas.d) ASK the farmers how easy it was to peel the bananas?e) ASK the farmers to taste the bananas.f) ASK the farmers which tastes better?g) EXPLAIN that bananas are just like coffee: ripe cherry is easier to pulp (peel) and the quality is better (tastes better). <p>EMPHASIZE: that a ripe cherry is easier to process and results in better tasting, higher quality coffee.</p> <p>SHOW: The photos of the different stages of cherry ripening.</p>



ASK: At what stage should you harvest cherry?

ANSWER: Red, ripe. Don't harvest overripe or under-ripe green coffee.

10 min

OBJECTIVE 2: Farmers know when to harvest, what equipment to use and how to sort cherry.

Note to Trainer: Brainstorm answers with participants, then review the answers.

ASK: When should you harvest?

ANSWER:

- Each tree can be harvested every 7-10 days in hot, low altitude areas and every 10-15 days in cold, high-altitude areas. However, this will also depend on the rate at which the cherry is ripening depending on the rain availability too.
- If you harvest too frequently you will not get enough ripe cherry to harvest and if you delay too much, you will get a lot of overripe cherry.
- Start to harvest in the morning to ensure early delivery to the wet mill.
- Coffee should be delivered to the wet mill on the same day, immediately after harvesting and be processed within 8 hours of harvesting.

ASK: What equipment should you use to harvest?

ANSWER:

- Use a container that can be put around your neck or waist and a clean bucket that can be carried around during harvesting.
- Place a plastic sheet under the tree being harvested to collect any falling cherry.
- Use clean gunny/jute bags to hold cherry during harvesting and transport to the wet mill.

ASK: How do you handle cherry after harvesting?

ANSWER:

- Spread a clean plastic sheet/tarpaulin under shade and sort the cherry; remove any overripe, under ripe, dried cherry and any external objects (leaves, twigs, stones) present in the harvest.
- Package and transport cherry in clean bags, keep in shade; keep bags from contact with the soil and **do not** put any heavy objects on top of the coffee.

ACTIVITY: Cherry Sorting

- a) DIVIDE farmers into 5 groups.
- b) GIVE each group a large handful of mixed cherry.
- c) ASK each group to sort out the red, ripe cherry.
- d) PROVIDE feedback and discuss what you observed.



ASK: Do you think it would be easier to only harvest red, ripe cherry?

ANSWER:

- Yes. Harvesting only ripe cherry will reduce waste from picking unripe or overripe cherry and less time is spent sorting.

ALSO:

- Your red cherry will produce better quality coffee
- Wet mills will accept your ripe cherry but might reject unripe or overripe cherry.

10 min

OBJECTIVE 3: Farmers understand how harvesting and handling affects coffee quality.

EXPLAIN:

- The price that coffee receives in the market depends on its quality
- The first step in improving quality is through adopting the agronomy best practices that you have been learning.
- The next step in maintaining quality is how you harvest and handle the coffee.



	<p><i>Note to Trainer: Brainstorm the following with participants, and then review answers.</i></p> <p>ASK: Why do you think harvesting under ripe and over ripe cherry is bad for quality?</p> <p>ANSWERS:</p> <ul style="list-style-type: none">▪ POOR QUALITY: Under-ripe beans have an astringent taste (like unripe pineapples) and over-ripe beans have a bad taste and smell of rotting pulp.▪ Over or under-ripe beans have less mucilage and are more likely to break during pulping, then have molds grow, producing a bad taste.▪ Over or under-ripe beans weigh less since they contain less moisture, so you are losing out since you are paid on weight. <p>ASK: Why do you think we avoid contact with soil, put coffee under shade, and deliver for pulping within 8 hours of harvesting?</p> <ul style="list-style-type: none">▪ Soil contains bacteria which can make the coffee taste bad.▪ Exposure to direct sun leads to early fermentation and a bad taste in coffee.▪ Holding coffee for too long after harvesting, beyond 8 hours, also results in over fermentation and a bad taste in coffee. <p>ASK: Have you ever had a smell of rotting pulp from the wet mill? Would you like that smell in your cup of coffee?</p> <p>DISCUSS</p>
<p>10 min</p>	<p>OBJECTIVE 4: Farmers practice crop hygiene before and after harvest.</p> <p>EXPLAIN: Removing any old coffee from the tree is called “crop hygiene” and involves removing any dried, diseased and insect damaged cherries before and after harvesting.</p> <p>ASK: Why is crop hygiene important?</p> <p>ANSWER:</p> <ul style="list-style-type: none">▪ Helps to reduce pest and disease levels, especially Berry Borer and Coffee Berry Diseases▪ Helps to increase coffee quality.



	<p>ASK: When should you practice crop hygiene?</p> <p>ANSWER:</p> <ul style="list-style-type: none">▪ Crop hygiene should be practiced at the end of the season ideally.▪ If this was not done, or not done well, you should also remove damaged and old berries at the start of the season. <div style="border: 1px solid black; background-color: #fff9c4; padding: 10px; margin: 10px 0;"><p>ACTIVITY: Crop Hygiene</p><ol style="list-style-type: none">a) SELECT a tree in the demonstration plot.b) DEMONSTRATE how to remove all the black and damaged berries and collect them in one place.c) ADVISE the farmer to burn or bury later.d) DIVIDE farmers into pairs.e) ASSIGN every pair 1 or 2 trees in the demonstration plot on which to practice crop hygiene.f) ASK the farmers to remove all the black and damaged crop and put in one place. (ASK the Focal Farmer to burn or bury later.)g) VISIT each pair and give feedback during the activity.h) BRING the farmers back together after they finish and discuss any good or bad practices you observed.i) ASK one pair to share their experience with the activity. Was it difficult? Will they practice this on their farms? Discuss.</div>
<p>15 min</p>	<p>OBJECTIVE 5: Farmers can demonstrate how to harvest correctly.</p> <p>REVIEW how to harvest correctly:</p> <ul style="list-style-type: none">▪ Use both hands.▪ Place a plastic sheet under the tree to collect fallen cherry.▪ Use a container around your neck or waist. This makes harvesting faster.▪ Start on the inside of the tree and move out.▪ Check each tree to make sure that all ripe coffee has been harvested.▪ Always transport cherry in clean bags and don't put anything heavy on top of the full bag.

ACTIVITY: Harvesting

- a) SELECT a tree in the demonstration plot.
- b) DEMONSTRATE how to harvest correctly following the steps above.
- c) ASSIGN pairs of farmers 1 tree in the demonstration plot on which to practice harvesting.
- d) VISIT each pair and give feedback during the activity.
- e) BRING the farmers back together after they finish.
DISCUSS good and bad practices you observed.
- f) Use a cherry paddle to check if the harvest achieves the target of over 90% falling in the ripe cherry category.
- g) Use a brix meter to check sugar contents



REMEMBER:

- You should receive a receipt for every wet mill delivery you make.
- You should record each harvest in your Farm Record Book, and keep all your receipts safely. This will help you keep track of your production.

15 min

CLOSING:

REVIEW key learnings

ACTIVITY: Knowledge Check: Ask participants the following questions:

- What type of cherry gives the best quality coffee?
- How does over/under ripe coffee affect quality?
- Why is crop hygiene important?
- When should you harvest coffee cherry?

QUESTIONS AND ANSWERS