



## **Rwanda Agronomy: Planting Coffee Trees, Lesson Plan**

**TOTAL TIME:** 1 hour

**AUDIENCE:** Lead farmers, Field officer and cooperative staff

**FACILITATOR:** Cooperative manager

**LOCATION:** Classroom and training plot

**OBJECTIVES:**

- **OBJECTIVE 1. Land preparation for coffee planting**
- **OBJECTIVE 2. Plant a Coffee tree.**

**MATERIALS:**

- Coffee seedlings (6)
- DAP fertilizer (600g)
- A straight stick (60 cm)
- Razor blade
- Measures for DAP

TIME	CONTENT OUTLINE
5 Min	<p><b>OPENING:</b></p> <p><b>INTRODUCTIONS:</b></p> <ul style="list-style-type: none"> <li>○ Instructor</li> <li>○ Participants</li> <li>○ Guests</li> </ul> <p><b>REVIEW</b> the objectives of the lesson:</p> <ul style="list-style-type: none"> <li>▪ We are going to learn how to plant a coffee tree and practice planting.</li> </ul> <div style="border: 1px solid black; background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <p><b>ACTIVITY: Energizer</b> Choose an energizer which is appropriate for your audience.</p> </div>
25 Min	<p><b>OBJECTIVE 1: Land preparation for coffee planting</b></p> <p><b>Ask: Why is it important to prepare good holes?</b></p> <p><b>Answers:</b></p> <ul style="list-style-type: none"> <li>▪ Increases survival rate of seedlings</li> <li>▪ Promotes stronger root growth</li> <li>▪ Leads to higher future yields and quality</li> </ul>

	<p><b>Ask: How to prepare a planting hole?</b></p> <ul style="list-style-type: none"> <li>▪ Dig a planting hole of Size: 60 cm × 60 cm × 60 cm</li> <li>▪ Separate topsoil and subsoil</li> <li>▪ Mix topsoil with <b>well-decomposed manure</b> (about 10 kg per hole)</li> <li>▪ Fill hole back partially <b>2–3 weeks before planting</b></li> </ul> <p><b>Ask: Why do we need to separate topsoil and subsoil?</b></p> <ul style="list-style-type: none"> <li>▪ Topsoil has a good structure that allows roots to spread easily and absorb water and nutrients.</li> <li>▪ While If subsoil is placed on top, the seedling is surrounded by poor soil, limiting early growth.</li> </ul> <p><b>Ask: Why is it important to back-fill the hole and leave it for some time before planting?</b></p> <ul style="list-style-type: none"> <li>▪ The soil needs time to settle naturally. If planting is done immediately, the soil may sink later and expose the seedling’s roots, causing stress or poor growth.</li> <li>▪ The mixture of topsoil and manure begins to integrate and stabilize, creating a good rooting environment for the seedling.</li> <li>▪ Microorganisms begin breaking down the manure, making nutrients more available by the time the seedling arrives.</li> <li>▪ Fresh or undecomposed manure can “burn” young roots. Allowing the soil to rest reduces the heat and strong chemicals released during decomposition.</li> <li>▪ A settled and structured soil profile allows water to drain and infiltrate properly around the seedling.</li> <li>▪ Without proper settling time, empty spaces can remain around roots, reducing contact with soil and affecting water/nutrient uptake</li> </ul>
<p><b>20 Min</b></p>	<p><b>OBJECTIVE 2. Plant a Coffee tree.</b></p> <p><b>EXPLAIN:</b></p> <ul style="list-style-type: none"> <li>▪ The coffee seedlings should be planted when they are 6 inches tall for proper establishment and root development.</li> <li>▪ Water well a day before planting to withstand transplanting shock.</li> <li>▪ Planting should take place after a couple of weeks of rain, when there is moisture present in the 30-60cm root zone.</li> </ul> 



**ASK:** What do you think should be mixed with the soil at planting?

**ANSWERS:**

- The planting mix for each hole will be a combination of soil and 100g DAP (We have already applied 0.5 basket compost) and 100g lime.
- The compost is important in ensuring good soil structure with good water holding capacity for coffee development. It's also rich in most of the nutrients required by the plant.

**ACTIVITY: Planting Coffee**

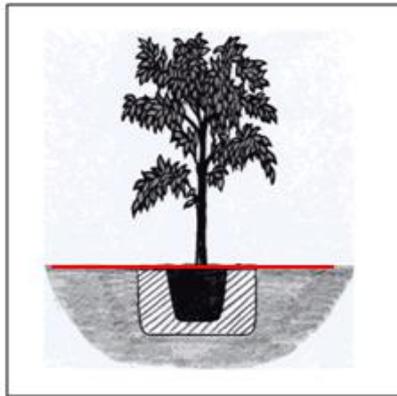
a) DEMONSTRATE *how to plant coffee seedling using the following steps, explain what you are doing at each step:*

1. Dig out a hole big enough to take the seedling root ball.
2. While the tree is still in the pot place the tree in the hole, adjust the depth of the soil in the hole so that the soil level in the pot is level with the ground level. Place a stick across the hole to judge this.
3. Once the depth of the hole is correct slit the side of the pot with a razor blade and remove the pot without disturbing the roots.
4. Place the seedling into the hole, ensuring the tap root is not bent.
5. Fill up the hole firming the soil/compost mixture around the sides of the root ball while observing the soil level.
6. Mulch the tree well, keeping the mulch at least 4 cm from the trunk to prevent termites.
7. Water the tree well.

b) DIVIDE the farmers into groups.

c) GIVE each group a seedling to plant in the holes left.

d) DISCUSS and give feedback.



A properly planted coffee tree

**EXPLAIN:**

- If there are no rains after planting, water regularly to avoid wilting.
- Mulching helps conserve moisture, suppress weeds and improve soil structure.
- Hand weeding is recommended in young coffee.
- NPK 22:6:12 should be applied at the rate of 50g/tree during the first year, apply during the months of April and October for good vegetative growth of the coffee tree.
- Plant shade trees at same time as coffee so they can establish together

**10 Min**

**CLOSING:**

**REVIEW KEY LEARNINGS**

**ACTIVITY: Knowledge Check**

*Ask participants the following questions, giving corrective guidance as required:*

- Why should you mulch the seedling after transplanting?
- Why do we need to use compost in the planting hole?

**QUESTIONS AND ANSWERS**