



# **Rwanda Agronomy: Integrated Pest and Disease Management Lesson Plan**

**TOTAL TIME:** 2 Hours 20 Min

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

**FACILITATOR:** Cooperative manager

**LOCATION:** Classroom and training plot

**OBJECTIVES:**

- **OBJECTIVE 1:** Farmers can identify major coffee pests and diseases and the damage they cause.
- **OBJECTIVE 2:** Farmers can identify beneficial insects and describe the best way to protect them.
- **OBJECTIVE 3:** Farmers can demonstrate how to scout trees to see which pests, diseases, and beneficial insects are present.
- **OBJECTIVE 4:** Farmers can identify the different ways to manage pests and diseases and the importance of using a combination of methods.
- **OBJECTIVE 5:** Farmers can identify the best way to manage specific pests and diseases.

**MATERIALS:**

- Live pest/disease and beneficial insect
- Sample jars (minimum 2) for keeping pest/beneficial live samples
- Sample berry borer bottle trap
- 5 old pieces of sack (for smoothing bark)

TIME	CONTENT OUTLINE
10 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>LOGISTICS</b></p> <p>Set ground rules for training.</p>



	<p><b>REVIEW:</b> The last training by asking the farmers some questions:</p> <p><b>REVIEW:</b> Objectives and overview:</p> <ul style="list-style-type: none"><li>▪ This month we will learn about pests and diseases of coffee and how to scout and manage them in a sustainable way.</li><li>▪ We will also talk about some beneficial insects and predators on the farm and discuss ways to manage your most important pests and diseases.</li></ul> <p><b>ACTIVITY: Icebreaker</b> Select an icebreaker that is appropriate for your audience.</p>
15 min	<p><b>OBJECTIVE 1: Farmers can identify major coffee pests and diseases and the damage they cause.</b></p> <p><b>ASK:</b> What do farmers think is the difference between a pest and disease?</p> <p><b>ANSWER:</b></p> <ul style="list-style-type: none"><li>▪ A pest is usually an insect, like a tick or mosquito which you can see.</li><li>▪ A disease is an abnormal condition caused by a microscopic organism that you can't see such as a virus that causes colds in people.</li><li>▪ Coffee pests and diseases can damage your coffee beans, reduce coffee quality and production and even kill the entire plant if not managed.</li></ul> <p><b>ACTIVITY: Pest and Disease Matching</b></p> <ol style="list-style-type: none"><li>DIVIDE the famers into 5 groups. Give each group a live sample of the insect or disease.</li><li>ASK the farmers to spend 5 minutes to discuss what they think the pest or disease is called and what damage it might do.</li><li>ASK each group to present their findings.</li><li>AFTER each group presentation add any additional information from the notes below.</li></ol> <p>Additional Information for the activity:</p>



	<p><b>Pests:</b></p>	
<p><b>Scales/Mealy Bugs</b></p> <ul style="list-style-type: none"> <li>▪ Small, flat insects that are white, green, or brown.</li> <li>▪ Live on the green stems of trees and suck the sap (like a mosquito sucks blood).</li> <li>▪ Weaken plants and can kill branches and trees.</li> <li>▪ Secrete a sugar solution which attracts ants; ants feed on sugar and protect scales from predators.</li> <li>▪ A black sooty mold also feeds on the sugars produced by scales, turning stems and leaves black. This reduces the light reaching the leaves and limits the energy the plant can produce (through photosynthesis).</li> </ul>		
<p><b>Berry Borers</b></p> <ul style="list-style-type: none"> <li>▪ Tiny black beetles that make holes in the end of the berry, near the flower scar.</li> <li>▪ Larvae live inside the berry, make lots of holes in the beans, and destroy coffee.</li> <li>▪ Adults can live in old berries for many months.</li> </ul>		
<p><b>White Borer</b></p> <ul style="list-style-type: none"> <li>▪ Adults are big beetles.</li> <li>▪ Adults lay eggs on the rough bark of the tree.</li> <li>▪ The larvae can live 2 years and eat the tissues under the bark. This can slowly ring the bark and kill the tree.</li> <li>▪ The adult hatches at the start of the rains and looks for egg-laying sites.</li> </ul>		
<p><b>Antestia Bugs</b></p> <ul style="list-style-type: none"> <li>▪ Black and orange bugs.</li> <li>▪ Adults and nymphs feed by sucking the sap, damaging the beans and flowers, making the beans fall off or rot.</li> <li>▪ Antestia bugs lay small white eggs in 12's on leaves and berries.</li> </ul>		
<p><b>Diseases:</b></p>		



	<p><b>Leaf Rust</b></p> <ul style="list-style-type: none"> <li>▪ A fungus that produces rings of orange powder like spores under the leaves.</li> <li>▪ The fungus makes the leaves fall off, and this can cause the branches to die if enough leaves are lost.</li> <li>▪ <b>The spores are spread by rain drops so leaf rust starts in the rainy season</b>, although leaf fall may be heaviest in the dry season.</li> <li>▪ The first signs of leaf rust will usually be seen on leaves at the bottom of the tree.</li> <li>▪ Leaf Rust is a bigger issue at lower altitudes where the temperatures are hotter.</li> </ul>	
	<p><b>Coffee Berry Disease (CBD).</b></p> <ul style="list-style-type: none"> <li>▪ A fungus that infects the green berries <b>especially when expanding</b>. The sunken black lesions spread causing the whole berry to turn black and rot.</li> <li>▪ Sometimes the berries will stay on the trees and sometimes they will drop off.</li> <li>▪ The fungus is spread by rain drops</li> <li>▪ Old main stems, over 5-6 years, carry the most spores and therefore have the most disease.</li> <li>▪ CBD is likely to be a problem during the rainy season <b>when the berries are expanding</b>, especially on old coffee.</li> <li>▪ When you notice the sunken black lesions on the berries the infection has already taken place a few weeks earlier.</li> </ul>	
	<p><b>ASK:</b> Do the farmers see any other pests and diseases in their coffee? <b>DISCUSS</b></p>	
<p><b>15min</b></p>	<p><b>OBJECTIVE 2: Farmers can identify beneficial insects and describe the best way to protect them</b></p> <p><b>ASK:</b> Do you think all insects are bad? <b>ANSWER:</b> No! Some insects are actually the <b>farmer's friends</b>.</p> <p><b>ASK:</b> Can you name some good insects and predators that you know? <b>ANSWERS:</b></p>	

- Bees pollinate your crops and make honey.
- Insects that eat other insects such as spiders, ladybirds, praying mantis, and chameleons.

**BENEFICIAL INSECTS AND PREDATORS**

**Chameleons**

- Eat many pests such as Antestia.



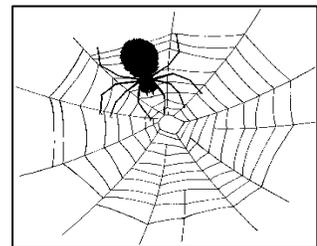
**Ladybirds**

- They are rounded and normally black and red (not orange).
- The adults and the larvae eat scales and mealy bugs and s are commonly found together.
- Don't mistake them for Antestia bugs.



**Spiders**

- Eat many pests.



**Praying Mantis**

- Eat pests such as Antestia.
- 100's of praying mantis come from 1 egg case.

*Note to Trainer: Show an egg case or the picture.*



**Parasitic Wasps**

- Tiny wasps that lay their eggs on the pest eggs. (They can't hurt you).
- Larvae feed on the pest eggs and kill them.
- Common on Antestia eggs. Parasitized Antestia eggs will be grey in color and will hatch as wasps, while eggs that are not parasitized will be white in color and hatch as Antestia.
- Parasitic wasps are also common parasites of scales and mealy bugs.



**ASK:** How do beneficial insects and predators help the farmer?

**ANSWER:**

All pests have natural enemies like the beneficial insects and predators we have described. These eat the pests and stop the pest numbers from getting too high.

**ASK:** What do you think will happen to the beneficial insects if you spray insecticides?

**ANSWERS:**

- Insecticides will also kill the farmers' friends, like the bees and the beneficial insects and predators.
- The beneficial insects will die and the pest numbers will start to increase because there is nothing to eat them.
- You then spray more and more insecticides but don't solve the pest problem and it becomes expensive to produce your coffee.



	<p><b>EXPLAIN:</b> Any type of pesticide should only be used <b>as a last resort</b> when all other management options have failed to manage the pest or disease.</p>				
<p><b>30 min</b></p>	<p><b>OBJECTIVE 3: Farmers can demonstrate how to scout trees to see which pests, diseases, and beneficial insects are present.</b></p> <p><b>EXPLAIN:</b></p> <ul style="list-style-type: none"> <li>▪ Before we talk about how to manage pests and diseases, we need to know what pest and disease problems we have in the coffee.</li> </ul> <p><b>ASK:</b> How do we know what pests and disease problems we have in the farm?</p> <p><b>ANSWERS:</b></p> <ul style="list-style-type: none"> <li>▪ We look at a few coffee trees. This is called SCOUTING, and is a process of assessing a few coffee trees for pests/diseases and beneficial insects.</li> <li>▪ Once you know what pests/diseases and beneficial insects you have in your coffee, you can decide if you need to take any action to manage them.</li> </ul> <p><b>EXPLAIN:</b></p> <ul style="list-style-type: none"> <li>▪ Farmers should scout in their coffee farms every month, or more frequently when you notice a problem.</li> <li>▪ At random, select 5 trees for every 200 trees. Don't select trees that are near to the edge of the field.</li> <li>▪ We will now do an activity to determine the levels of pests and diseases in the demonstration plot.</li> </ul>				
	<p><b>ACTIVITY: Scouting for Pests, Diseases and Beneficial insects/predators</b></p> <p>a) Select 1 coffee tree and DEMONSTRATE how to look for the pests and diseases on a tree; EXPLAIN what you are looking for and where. Show farmers what you see and summarize.</p> <table border="1" data-bbox="386 1432 1448 1776"> <tr> <td data-bbox="386 1432 553 1642"><b>Antestia</b></td> <td data-bbox="553 1432 1448 1642">Look for Antestia first because once you disturb the trees, they will hide and be difficult to see. Look on the branches and the berries. Also look for grey or white Antestia eggs. Count and record how many adults and nymphs you see on each tree.</td> </tr> <tr> <td data-bbox="386 1642 553 1776"><b>White Stem Borer</b></td> <td data-bbox="553 1642 1448 1776">Look at the trunk near the base of the tree. Gently rub the bark. Does it come away to show the tunnels where the larvae have been eating? Do you see holes in the trunk and wood shavings?</td> </tr> </table>	<b>Antestia</b>	Look for Antestia first because once you disturb the trees, they will hide and be difficult to see. Look on the branches and the berries. Also look for grey or white Antestia eggs. Count and record how many adults and nymphs you see on each tree.	<b>White Stem Borer</b>	Look at the trunk near the base of the tree. Gently rub the bark. Does it come away to show the tunnels where the larvae have been eating? Do you see holes in the trunk and wood shavings?
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<b>White Stem Borer</b>	Look at the trunk near the base of the tree. Gently rub the bark. Does it come away to show the tunnels where the larvae have been eating? Do you see holes in the trunk and wood shavings?				



	<p><b>Scales and Mealy Bugs</b></p>	<p>Look on young shoots at the end of branches and suckers. Do you see scales? Yes or no. Also look for the black sooty mould and ants. They indicate that scales and mealy bugs are around.</p>
	<p><b>Berry Borer</b></p>	<p>Look at the ends of the berries on 5 branches. Do you see holes? If Yes on how many berries?</p>
	<p><b>Coffee Berry Disease</b></p>	<p>Look at the ripening or green crop; can you see sunken black (on green berries) or brown lesions (on red cherry)? Dried black berries can be caused by CBD but also by die-back and insects.</p>
	<p><b>Leaf Rust</b></p>	<p>This will start at the bottom of the tree. Turn over the leaves to see the orange spores. Look for leaf fall. Is rust at the bottom of the tree, middle of the tree or all over tree?</p>
	<p><b>Beneficial Insects</b></p>	<p>Which beneficial insects and predators do you see while you are looking for your pests? Look for and count how many:</p> <ul style="list-style-type: none"> <li>▪ Spiders and Chameleons,</li> <li>▪ Praying mantis and egg cases (don't disturb)</li> <li>▪ Ladybirds and their larvae, these should be found feeding on scales or mealy bugs.</li> <li>▪ Parasitized Antestia eggs: grey in colour</li> </ul>
	<p>b) DIVIDE the farmers into 5 groups, and ask each group to spend 5 minutes in the demonstration plot scouting 1 tree each. c) VISIT each group and give advice and feedback while they are scouting. d) BRING the farmers back together. e) ASK 2 groups to present what they found. f) CALCULATE how many Antestia were seen on average per tree. (Total number of Antestia divided by the number of trees scouted) g) ASK: Were there any pests/diseases that we think need managing? h) ASK: How many beneficial insects were seen? If there were few, discuss why this might be. POSSIBLE ANSWER: They have been killed by pesticide sprays!</p>	
<p><b>15 min</b></p>	<p><b>OBJECTIVE 4: Farmers can identify the different ways to manage pests and diseases and the importance of using a combination of methods.</b></p> <p><b>EXPLAIN:</b></p> <ul style="list-style-type: none"> <li>▪ Remember we said that we should only spray coffee with pesticides as a last resort.</li> </ul>	



- Instead we can manage pests using a combination of methods called Integrated Pest or Disease Management.
- These methods used together should keep pests and diseases at low levels that will not damage your coffee.

*Note to Trainer: Brain storm with the participants, then review the answers.*

**ASK:** What are some of the ways to manage pests and diseases?

**ANSWERS:** With examples

- **Tree Management**

- Good Nutrition: Keep the trees healthy by using good nutrition. Correct nutrition will have a big impact on leaf rust.  
*EXPLAIN A well fed tree is like a healthy person; it will stay healthy and have good resistance to disease. A poorly fed tree is like a malnourished person; it will get sick.*
- Prune and rejuvenate correctly: This will allow air circulation and increase light penetration which will help manage pests such as Antestia bugs and diseases such as Coffee Berry Disease.
- Tree Hygiene: Collect diseased and infested berries, and burn them, especially at the end of the season. This will help manage Berry Borer and Coffee Berry Disease.
- Good Agricultural Practices: Reduce coffee stress by using practices such as mulching, weeding and shade management. We will be training on all of these over the coming months.

- **Biological Control**

- Encourage the beneficial insects that we talked about earlier by reducing pesticide sprays or using selective pesticides only.

- **Physical methods.**

- Use traps or catch pests by hand. Traps can be used for Berry Borer and Antestia can be caught and squashed by hand.

- **Resistant varieties:**

- Use disease resistant coffee varieties that are available and recommended.

- **Pesticides.**

- Only use pesticides as a **last resort** when all other methods have not kept the pests and diseases below the level that is causing you economic loss.

	<ul style="list-style-type: none"> <li>○ If you do use pesticides, try to use <b>selective products</b> that don't kill all types of insects. Or use in a selective way such as painting on the trunk, (known as banding).</li> <li>○ Pesticides can cause a health and safety risk to users, the community and environment and should only be used by trained individuals.</li> </ul> <p><b>ASK:</b> Can you live with low levels of pests and diseases on your farm? <b>ANSWERS:</b></p> <ul style="list-style-type: none"> <li>▪ YES. This won't do much damage; you can never eradicate everything.</li> <li>▪ You need to maintain a balance between pests and beneficial predators.</li> <li>▪ It is important to use a combination of methods to manage pests and diseases and not let them reach a level where they can do economic damage to your crop and you have to resort to using a pesticide.</li> </ul> <p><b>ASK:</b> Is it OK to apply routine pesticide sprays? <b>ANSWERS:</b></p> <ul style="list-style-type: none"> <li>▪ NO. NEVER apply a routine spray.</li> <li>▪ ONLY spray if you have been implementing all the management methods but the pest or disease has still reached a level where it is going to damage your crop. This can happen especially with diseases coffee berry disease and leaf rust if we have a lot of rainfall.</li> </ul> <p>These methods will save you money and be more sustainable in the long run.</p>
<p><b>45 min</b></p>	<p><b>OBJECTIVE 5: Farmers can identify the best way to manage specific pests and diseases</b> <i>You do not need to review the pests or diseases that are NOT a problem in your area:</i></p> <p><b>1. <u>EXPLAIN: How to manage Antestia Bugs</u></b></p> <div style="display: flex; align-items: flex-start;">  <ul style="list-style-type: none"> <li>▪ <u>Prune to open the canopy</u>: Antestia bugs like to hide so pruning encourages them to go somewhere else!</li> <li>▪ <u>Squash Antestia bugs</u> when you see them, also squash the white Antestia eggs.</li> <li>▪ <u>Encourage Biological control</u>: Never spray pesticides, which would kill the egg parasites. Don't squash the <b>grey</b> Antestia eggs since these contain the wasp parasites which are killing the Antestia bugs.</li> </ul> </div>

- **Pesticides:** Only spray as a last resort if you have on average of **over 2** Antestia per tree (this is the threshold for Antestia) after using **all** the other methods.

**Should A Farmer Spray For Antestia?**

**EXPLAIN:** A farmer scouts his trees and finds 5 Antestia on 10 trees.

**ASK:** Does the farmer need to spray?

**ANSWER:**

- The farmer has an average of 0.5 Antestia per tree, which is under the threshold of 2 Antestia per tree.
- The farmer should **not** spray but should use the other techniques discussed and continue monitoring for changes in population.

**2. EXPLAIN: How to manage Coffee Berry Borer**

- **Do not use pesticides.** These will not be effective on berry borer, since it lives inside the berry. The pesticides will kill other beneficial insects.
- **Crop Hygiene:** Harvest ripe cherries regularly and collect fallen berries. These are breeding sites for the adults.
- **Strip berries at the end of the season,** remove all berries on the trees including black berries, over-ripe berries and fallen berries. These should be stripped, collected, and burned after the harvest. We will do this today in the demonstration plot and you should do on your farm now as well.
- **Use Traps:** If you see Berry Borer damage make and use traps to catch adult coffee berry borer. They can be made at home using locally available materials.



**SHOW** a Berry Borer trap.

**EXPLAIN:** How the trap works and how to look after it.

**PASS** the trap around so all farmers can see well.

**EXPLAIN:** Now we will learn how to make and use a Berry Borer trap.



**ACTIVITY: Making and placing a Berry Borer Trap:**

**EXPLAIN:**

1. USE a 1,3 or 5L bottle and if possible paint it bright red, so it looks like a big coffee berry. This is more attractive to the berry borer.
2. CUT 2 or 3 windows in the bottle, about half way up the side, do not cut too near the bottom of the trap.
3. MAKE a hole in the lid of the trap and using string hang a small bottle inside the trap, level with the windows. Make a small hole in the lid of this small bottle.
4. INSIDE the small bottle place alcohol (local brew) which attracts the berry borer. The spirit will slowly evaporate and the fumes attract the berry borer into the trap. Make sure you replace the alcohol as it evaporates.
5. POUR water in the bottom of the big bottle. The water in the trap drowns the berry borer so must be replaced as it evaporates
6. HANG the trap in a coffee tree about 1.2m from the ground.
7. 1 trap should be used for every 200 trees.
8. CHECK the traps every week, make sure there is 2-3 inches of water in the bottom of the trap and there is spirit in the small bottle hanging inside the trap.
9. ASK the Focal farmer to check if they find any tiny back berry borer beetles over the next few weeks and review at the next training.



	<p><b>3. EXPLAIN: How to manage White Stem Borer</b></p> <ul style="list-style-type: none"> <li>▪ <u>Keep Bark Young</u>: The adult White Stem Borer lays eggs on rough bark. Old trees give many sites for egg laying. Frequent rejuvenation is required to reduce the amount of rough bark and reduce possible egg-laying sites.</li> <li>▪ <u>Smooth the Bark</u>: This will also reduce egg laying sites. Adults emerge with the rains so <b>before the rains</b>, use a sack to gently smooth the rough bark at the bottom 2 feet of the trunk. Do not rub too hard or you will damage the tree.</li> <li>▪ <u>Kill the larvae</u>: Use a wire to kill any larvae in the trunk once holes are seen. The trouble with this method is that the larvae will have already done damage by the time you see the holes.</li> </ul> 
	<p><b>ACTIVITY: Smooth the Bark</b></p> <ol style="list-style-type: none"> <li>a) DEMONSTRATE how to smooth the bark on the bottom 2 feet of the coffee tree trunk using a rough sack. <i>Note: Do not rub so hard that the bark is damaged, just remove any loose bark.</i> EXPLAIN what you are doing.</li> <li>b) DIVIDE the farmers into 5 groups and give each group a line of coffee.</li> <li>c) ASK each farmer to gently smooth 1-2 trees until all trees in the demonstration plot are smooth.</li> <li>d) VISIT each group and give advice and feedback.</li> <li>e) DISCUSS. What were the challenges? Will farmers do this at home?</li> </ol>

#### 4. EXPLAIN: How to manage Scales & Mealy Bugs

- STOP Pesticide Sprays: Scales and mealy bugs have many parasites and predators. **A high level of scales or mealy bugs is a sign of too many pesticide applications**; the pesticides kill all the beneficial insects.  
STOP spraying hard hitting pesticides to manage scales and mealy bugs, it will NOT work and instead make the situation worse.
- Selective Spraying: If the infestation of scales or mealy bugs is serious, use a mix of cooking oil and washing up liquid (such as Teepol) as a spot spray on infested areas. This will not kill the beneficial insects. The rates are 100ml oil with 50ml of washing up liquid per 16-20L water. Do not use on drought-stressed trees.





<b>5. EXPLAIN: How to manage Coffee Leaf Rust</b>	
<b>Balanced fertilizer Program</b>	<ul style="list-style-type: none"> <li>▪ Good nutrition is a key to managing leaf rust; hence use a balanced fertilizer program that includes compost and NPK, lime if possible.</li> </ul>
<b>Prune the Trees well</b>	<ul style="list-style-type: none"> <li>▪ Good pruning and a maximum of 2-3 main stems will allow air circulation, increase light penetration and help the trees to dry out quickly.</li> <li>▪ Since leaf rust needs water to spread this will help to reduce the spread of disease.</li> </ul>
<b>Resistant varieties</b>	<ul style="list-style-type: none"> <li>▪ Use resistant varieties if available.</li> <li>▪ In 2015, RAB introduced a new variety <b>RAB C15</b> which is resistant to rust. It is recommended that any new plantings be done using this variety.</li> </ul>
<b>Good Agricultural Practices</b>	<ul style="list-style-type: none"> <li>▪ Reduce coffee stress and keep trees healthy by using practices such as timely weeding, mulching and shade.</li> </ul>
<b>Systemic Fungicides</b>	<ul style="list-style-type: none"> <li>▪ Walk your fields and look for Leaf Rust (scouting)</li> <li>▪ If, despite a good fertilizer program, you see leaf rust on 1 leaf in every 10 leaves (10%) then use a systemic fungicide – this is a fungicide that moves into the plant and can cure the disease if sprayed in good time.</li> <li>▪ Alto 100SL at 10ml/20L water will cover 20 mature trees or 40 small trees. Do not spray on drought stressed trees. Only use Alto 1-2 times per year and not less than 30 days before harvest or during harvest to prevent residues of the fungicide being found in the harvested coffee.</li> </ul>
<b>6. EXPLAIN: How to manage Coffee Berry Disease</b>	
<b>Rejuvenate Frequently</b>	<ul style="list-style-type: none"> <li>▪ It is very important to rejuvenate frequently, every 5 to 6 years, and systematically to keep the <b>main stems young</b>.</li> <li>▪ CBD is <b>much worse</b> on old main stems.</li> <li>▪ Disease on the old main stems will spread to younger main stems if you have many stems of mixed ages so systematic rejuvenation is important.</li> </ul>



	<p><b>Prune the Trees</b></p> <ul style="list-style-type: none"> <li>▪ Good pruning and keeping a <b>maximum of 3</b> main stems will allow air circulation, increase light penetration and help the trees to dry out quickly.</li> <li>▪ Since CBD needs water to spread this will help to reduce the spread of disease.</li> </ul>
	<p><b>Crop hygiene</b></p> <ul style="list-style-type: none"> <li>▪ If you see infected CBD berries in your coffee, then conduct a picking round to remove the infected berries. This will reduce the spread of CBD to other berries.</li> <li>▪ At the end of harvest, strip off all the old and mummified berries to prevent the spread of CBD.</li> </ul>
	<p><b>Balanced fertilizer Program</b></p> <ul style="list-style-type: none"> <li>▪ Again a well fed tree is like a healthy person; it will stay healthy and have good resistance to disease. A poorly fed tree is like a malnourished person; it will get sick.</li> <li>▪ Nutrition is important in controlling CBD.</li> <li>▪ Use a balanced fertilizer program that includes NPK, Lime and compost to feed your trees.</li> </ul>
	<p><b>Resistant varieties</b></p> <ul style="list-style-type: none"> <li>▪ If you are in a high CBD pressure area, then gradually replant with the recommended resistant variety.</li> </ul>
	<p><b>Good Agricultural Practices</b></p> <ul style="list-style-type: none"> <li>▪ Reduce coffee stress and keep trees healthy by using practices such as timely weeding, mulching and shade.</li> </ul>
<b>10 min</b>	<p><b>CLOSING: CLOSING:</b></p> <p>Review key learnings.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p><b>ACTIVITY: Knowledge Check:</b></p> <p>ASK participants the following questions; check for understanding and give corrective guidance:</p> <ul style="list-style-type: none"> <li>▪ What methods can we use to reduce incidence of pests and disease in coffee?</li> <li>▪ What is the best way to know what pest/ disease problems you have?</li> <li>▪ Explain some of the ways we can manage Antestia</li> <li>▪ Explain some of the ways to manage Coffee Leaf Rust.</li> </ul> </div>