

# Post-Storm Recovery Guide for Coffee

Synergistic Hawai'i Agriculture Council, USDA-ARS

This grower guide is designed for rapid field use after tropical storms, high-wind events, and extended rain. It combines pruning guidance, fertility recovery, drainage priorities, Coffee Leaf Rust (CLR) protection, and block-level decision support.

<b>Use this guide to:</b> <ul style="list-style-type: none"><li>• decide how much to prune</li><li>• choose between full, intermediate, or maintenance recovery</li><li>• time fertility and foliar feeding</li><li>• protect new flush during the highest CLR-risk window</li></ul>	<b>Best practice:</b> <p>Treat each block separately. Damage is often uneven after storms, and the correct response for one block may be too aggressive or too light for another.</p>
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## 1. Start with the decision tree

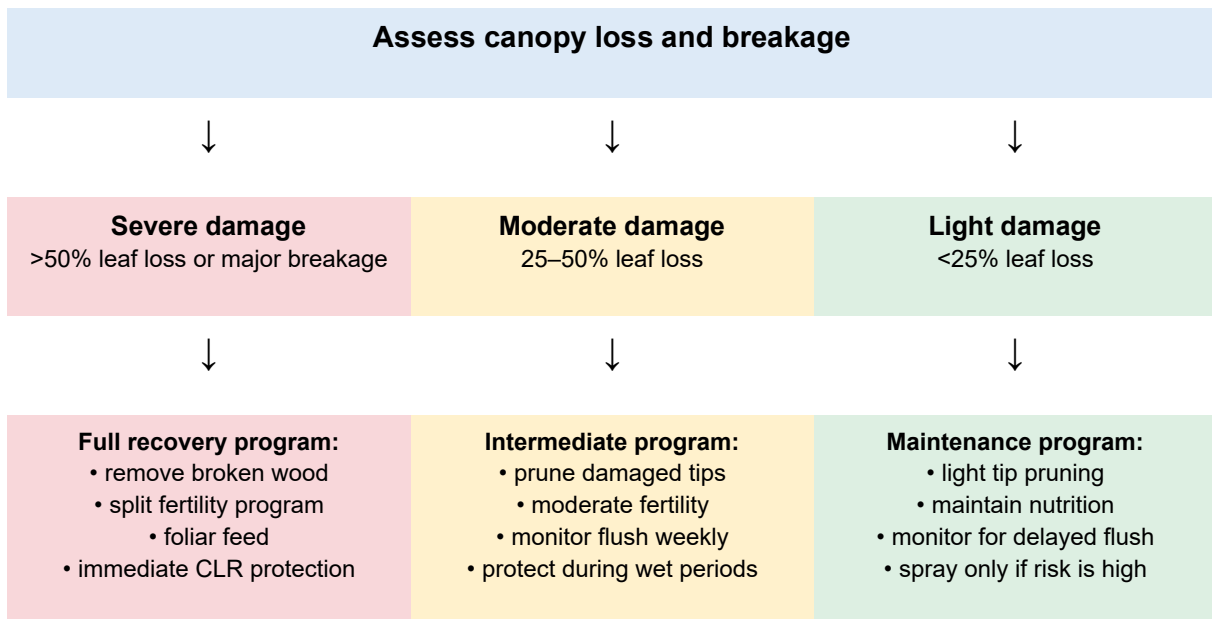


Figure 1. Use canopy loss and branch breakage to choose the correct level of recovery intensity.

The most common mistake after storms is treating all trees the same. Trees with severe canopy loss need a stronger reset, while lightly damaged trees often recover well with only tip pruning and maintenance nutrition.

## 2. How to assess storm damage in the field

- Estimate leaf loss by comparing current canopy density to pre-storm condition or nearby less-damaged trees.
- Note structural damage: broken laterals, split stems, hanging branches, and snapped verticals.
- Check root-zone condition: standing water, waterlogging, compaction, and sediment accumulation.
- Record CLR history for each block. New flush after storms is a high-risk period, especially where rust is already established.

**Field rule:** if a block has delayed access because of mud or flooding, drainage and access restoration are part of recovery, not separate from it.

### 3. Pruning guide: what to remove and what to keep

#### Remove:

- Broken or split branches
- Branches with heavy defoliation and little chance of regaining productive leaf area
- Dead wood or disease-prone torn tissue
- Excess weak suckers that divert energy away from recovery

#### Keep:

- Healthy laterals with some remaining leaves
- Strong vertical stems that maintain tree structure
- Productive branches with intact nodes and good regrowth potential

#### How to cut:

Make clean cuts just above a node or healthy branching point. Avoid leaving long stubs, and avoid tearing bark. Light tip pruning on healthy laterals can help break apical dominance and stimulate more uniform flush.

### 4. Fertility recovery program

Post-storm fertility should support regrowth without causing unnecessary leaching losses or overly soft, disease-prone tissue. Nitrogen drives new leaf production, potassium supports stress recovery, magnesium supports chlorophyll rebuilding, and micronutrients such as boron and zinc help support new tissue development.

Stage	Conventional option	Organic option	Purpose
Week 0-1	Urea + sulfate of potash	Fish hydrolysate + sulfate of potash magnesia / similar K source	Jumpstart regrowth
Week 2-3	Repeat at reduced rate	Repeat at reduced rate	Sustain flush with less leaching risk
Foliar (1-2x)	Low-rate urea + micronutrients	Seaweed extract + compost tea / approved foliar blend	Faster response if roots are stressed
Week 4+	Reassess by leaf color, growth, rainfall, and disease pressure	Reassess by leaf color, growth, rainfall, and disease pressure	Avoid unnecessary applications

In wetter areas or during prolonged rainy periods, split applications are usually safer than one heavy application. This is especially important in blocks with high leaching risk or limited root activity after saturation.

## 5. Drainage and soil recovery

- Clear blocked drainage ditches and outlets first.
- Avoid heavy traffic on saturated soils to limit compaction.
- Move sediment away from trunks where possible.
- Use light mulch only after soils begin to drain; avoid sealing in excessive moisture.

Root recovery often limits how quickly trees can use fertilizer after storms. Where soils stay saturated, foliar feeding may be more effective than relying only on soil-applied nutrients in the first recovery phase.

## 6. CLR protection timing



Figure 3. New flush usually appears within 1-2 weeks if trees are responsive. This is often the highest-risk window for CLR infection.

Timing	Plant stage	Recommended focus
Immediately after storm	Pre-flush	Protect blocks with strong CLR history and restore airflow through pruning
7-14 days	New leaves emerging	Highest priority window for protection
2-4 weeks	Expanding flush	Repeat if weather remains wet or humidity stays high
4-6 weeks	Leaves hardening	Continue monitoring and adjust only if disease pressure remains elevated

## 7. Kona and Ka'ū adjustments

Factor	Kona	Ka'ū
Rainfall pattern	Often lower or more intermittent	Often wetter with greater leaching and humidity risk
Fertility strategy	Small, frequent applications can work well	More conservative timing; avoid pre-rain applications
Foliar feeding	Often very effective when roots are functioning	Still useful, but wash-off risk may be higher
CLR pressure	Moderate to locally high	Often higher because of longer wetness periods
Top priority after storms	Restore balanced growth	Restore drainage and protect new flush quickly

## 8. One-week action plan for growers

- Day 1-2: walk the block, estimate damage, and choose the correct branch of the decision tree.
- Day 2-4: prune broken or heavily damaged tissue and restore drainage access.
- Day 3-5: apply the first nutrition pass if soils are workable; use foliar nutrition sooner if roots appear stressed.
- Day 7 onward: scout for bud break and new flush; shift attention to CLR protection during the flush window.

**Bottom line:** prune enough to remove non-productive tissue, feed enough to rebuild canopy, and protect new flush before disease gets ahead of recovery.

## 9. Quick field checklist

Task	Done
Assess canopy loss by block	<input type="checkbox"/>
Remove broken and non-productive branches	<input type="checkbox"/>
Choose full / intermediate / maintenance recovery	<input type="checkbox"/>
Apply split fertility program	<input type="checkbox"/>
Improve drainage and avoid compaction	<input type="checkbox"/>
Scout for new flush after 7-14 days	<input type="checkbox"/>
Protect new flush in high-risk blocks	<input type="checkbox"/>