

## Hawaii Farmers *can* Manage CLR!

### Prune

- Block stumping is best for managing CLR because it removes the most leaves.
- If using Kona Upright style & Beaumont-Fukunaga pruning, minimize verticals (3-5) to increase airflow & sunshine and allow for better spray coverage.
- Spray Oxidate on annual prunings, before or after pruning to reduce spores.
- Remove suckers frequently (2-3x/yr) as susceptible young leaves infect others.
- Weed consistently, remove old trees, and promote airflow around coffee.

### Scout

- Begin the year by estimating if you have Low, Medium or High Disease Pressure.
- Estimate CLR % by counting # of leaves with/without CLR on the mid tree lateral. Do this on 20-30 trees scattered across farm. Divide CLR leaves by total leaves.
- Try to keep CLR below 5% and 10-15% for organic and year-round farmers
- Leaves with over 30% CLR will drop in Dec/Jan. Disease pressure is increasingly visible during harvest- Aug to Dec.
- Leaf loss impacts the following year's harvest yield!

### Feed

- 6 granular applications of N-P-K (lower P) instead of 4 (same total volume of fertilizer). Consistent access to nitrogen helps the tree fight CLR.
- Micro-nutrients help trees fight CLR, especially zinc, boron, manganese. Tank mix foliar fertilizers (N-P-K, CafeDak, Tropical Metalosate, KNF sprays)
- Sample soil/leaf tissue annually and send to lab. Adjust to normal range.
- If soil and leaf nutrient levels are different, adjust pH by throwing lime, or spray foliar fertilizers directly on leaves.

### Spray

- Conventional farms with Low (<5%) disease pressure, can spray Priaxor 2x (Mar & Jul) and Badge 2x (May & Sep)
- Conventional farms with Medium (5-10%) disease pressure, should add Badge (Sep) and Serenade (Nov).
- Conventional farms with High (10-20%) disease pressure, should add a knockdown of Oxidate (Jan), start Priaxor earlier (Feb, Jul) and Badge (Apr, Aug) and Serenade (Sep).
- Organic or Year-round farms with Low (<10%) disease pressure, can spray Badge 3x (Mar, May, Sep) and Serenade 2x (May, Aug)
- Organic or Year-round farms with Medium (10-20%) disease pressure, should add a knockdown of Oxidate (Jan) and Badge (Mar, Jun, Aug) and Serenade (May, Jul, Oct).
- Organic or Year-round farms with High (20-30%) disease pressure, knockdown Oxidate (Jan, Jul), start early with Badge (Feb, May, Sep) and Serenade (Mar, Jun, Nov).

## CLR Spray Products

category	action	protection	products
Translaminar	curative	10-12 weeks	Priaxor
Coppers	preventative	6-8 weeks	Badge, Kocide
Knockdown	preventative	3-5 weeks	Oxidate
Biologicals	preventative	2-4 weeks	Serenade, Double Nickel
Botanicals	preventative	0-2 weeks	ProBlad

## Pro Tips:

1. Must follow the Priaxor Label including min 45 days before harvest, not more than 2x per year, and proper protective gear.
2. Coppers: Badge performs the best. Kocide is the cheapest.
3. Try not to exceed 3-4 sprays of copper per year, as soil toxicity builds up.
4. Serenade is cheaper than Double Nickel and has a better impact.
5. Biologicals are better than Coppers in very rainy areas. Or add a sticker.
6. Use Oxidate as a knockdown especially before/after pruning or just before harvest. Con: also strips leaves of beneficials.
7. ProBlad, Serenade, Double Nickel, Oxidate, Badge are all OMRI approved for organic production.
8. The benefit is not worth the cost of ProBlad.
9. Tank mix sprays with *Beauveria bassiana* and foliar fertilizers like Cafedak (except Priaxor, Cueva & ProBlad)
10. Use medium mix rates, per the label.
11. Calibrate your sprayer annually for better coverage.
12. If stump pruning, 1st year 1-2 sprays, 2nd year 2-3 sprays, 3rd year normal.

- A. Active CLR  
 B. 10 days after Copper spray (spores returning)  
 C. 10 days after Priaxor spray

