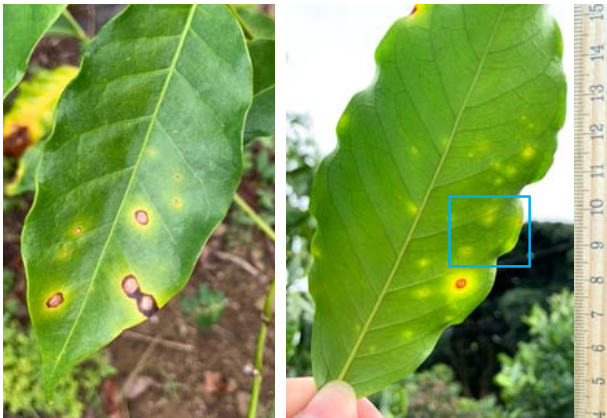


CLR LOOK-A-LIKE

Cercospora leaf spot which is also known as iron spot (*Cercospora coffeicola*), is a coffee disease most commonly mistaken for coffee leaf rust (CLR).

Characteristics of Cercospora leaf spot:

- Small, circular, brown spots (1-3 mm) surrounded by a light-yellow halo and found anywhere on the upper leaf surface including leaf veins.
- Under magnification on the lower leaf surface, spots contain small depressions caused by tissue collapse.
- No powdery spores on the lower leaf surface.



(Top left) *Cercospora* on the upper leaf surface.

(Top right; left inset) Holding the leaf up to light and using a visual aid, can help make the brown centers easier to see on the

lower leaf surface. New CLR spots don't usually have brown centers.

If you are unsure if a leaf has *Cercospora* or CLR, contact the UH-CTAHR Cooperative Extension or HDOA.

STOP THE SPREAD

Before entering and when exiting a coffee farm, and prior to traveling interisland:



Change into clean clothing and footwear.



Wash materials with detergent and hot water and dry on high heat.



Sanitize tools, materials, supplies, etc. used on the farm.



Use $\geq 70\%$ alcohol or a fresh solution of 10% bleach to sanitize with. If bleach is used, rinse or oil metal to prevent corrosion.



Wash or powerwash vehicles and field equipment with soap and water over gravel and away from coffee trees.

While in the farm:



Avoid touching coffee trees even if leaves do not display coffee leaf rust symptoms.



Avoid moving infected and potentially infected coffee materials throughout the farm and from farm to farm.

CLR on a farm?

Call UH-CTAHR Extension at (808) 322-4892, text (415) 604-1511 or email photos and location details to andreak@hawaii.edu

CLR in a public area or residence?

Call HDOA at (808) 973-9525 or email photos and location details with Subject: Suspect CLR to HDOA.PPC@hawaii.gov

COFFEE LEAF RUST

A NEW COFFEE DISEASE IN HAWAII



Coffee leaves with a high level of coffee leaf rust (CLR) infection. The underside of these leaves show spots and merging lesions with CLR spores.

As of Feb. 2021, Coffee Leaf Rust (CLR), *Hemileia vastatrix*, has been found on Oahu, Maui, Hawaii Island and Lanai. This coffee disease affects major coffee-producing regions around the world and is known to be one of the most devastating coffee pests. Coffee is the only host of CLR and this pathogen is easily spread with wind, splashing rain or water, and human-related transport. Animal (feral pigs, etc.) and insect movement of CLR is also possible.

Without proper management, defoliation or leaf drop, slowed growth and berry development, branch die-back, lower yields, and tree dieback and death can occur.

LOOKING FOR CLR ON YOUR FARM

Coffee leaf rust (CLR) spores can spread easily so it's important to survey and monitor the whole farm as well as follow strict sanitation protocols. Disease severity can also progress quickly under favorable, warm, rainy conditions. Looking often and using proper management techniques can slow its spread and impact. Very importantly, CLR needs to be detected at infestation levels <5% for currently available fungicides to work.

Where to look and pay attention to:

- Bottom third of the coffee tree
- Shaded areas
- Near pig trails or where animals may frequent
- Areas used by people and vehicular traffic

What to look for:



Irregular, pale yellow spots on the upper leaf surface.



Yellow-orange to orange colored, powdery spores on the underside of the leaf.



Young spots (L) may not have visible spores and old spots (R) may have a brown center.

Close-up photos: M. Fukada

MANAGING CLR



Worldwide, coffee industries have endured with active management of coffee leaf rust (CLR), keeping trees healthy, controlling weeds, spraying with approved pesticides including systemic fungicides, and replanting with resistant varieties. Coffee farms have persevered and prospered even with CLR.

In Hawaii, systemic fungicides and resistant varieties are not yet available to growers and contact sprays have limited effectiveness if not applied at very low levels of CLR infection. To combat CLR, coffee producers must take precautions, identify CLR when the first symptoms are visible, and manage the disease at an incidence level under 5%.

Pruning of coffee and shade trees can also help with airflow, spray coverage, and to reduce the number of live CLR spores. The rotational use of approved fungicides is also critical so rust and other plant diseases don't develop pesticide resistance.

Visit HawaiiCoffeeEd.com/CLR for details on CLR management and fungicide use.

RESOURCES

Learn how to:

- survey, sample and monitor for CLR,
- spray and rotate fungicides to suppress CLR, and
- prune for CLR and coffee berry borer control.

Proper sanitation protocols and other CLR information, including translated materials and presentations, can be found at: HawaiiCoffeeEd.com/CLR



Extensive yield and leaf drop can occur as CLR infection progresses.

