Living with Coffee Leaf Rust

By: Emilio Lopez Diaz
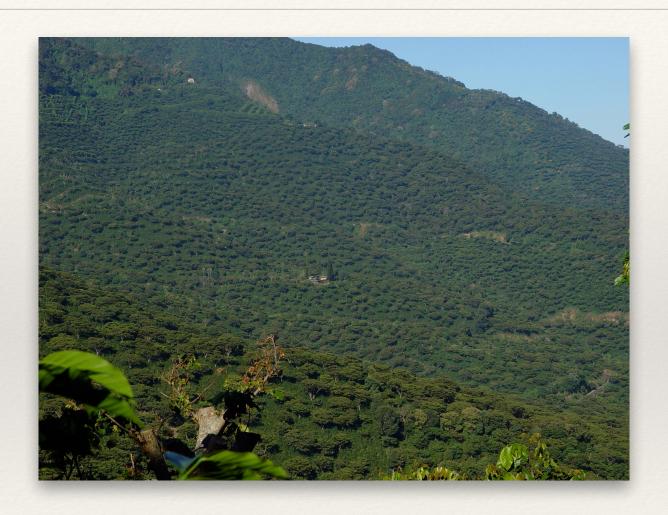
Thanks to the Hawaii Coffee Association

Overview

- ❖ History and facts about Coffee Leaf Rust

- ❖ Different approaches by producing countries

- ❖ Common key factors to rust prevention and control

- ❖ Prevention always a first option

- ❖ Controlling and coming out of an infestation

- ❖ Situation in Hawaii and what comes next

About the presenter

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Hemileia Vastatrix (Coffee Leaf Rust)

- It is a urediniospore, mainly dispersed by wind or rain

- The spore germinates only in the presence of free water (rain water or dew)

- Spotted for the first time in 1861 at Lake Victoria in East Africa.

- In 1869 infested fields in Ceylon (Sri Lanka)

- Then in 1970 after long and strict quarantined quarantined measures Rust reached Brazil.

Brazil and other producing countries adaptation to rust

- Brazil:
    - Research & development
    - Biological and Chemical controls
    - Sun grown, plant distancing, and innovating agricultural practices
    - Arabica Multi-varietal and Robusta distribution
- Colombia:
    - Research & development
    - Biological and Chemical controls
    - Traditional agricultural practices
    - Single resistant varietal distribution
- Central America
    - Little research & development
    - Biological and Chemical controls
    - Traditional agricultural practices
    - Traditional varietals until the 2000's

What about output?

And quality?

Common key factors to deal with rust

- ## At a macro level

  - ❖ Research & development

  - ❖ Biological and Chemical controls

  - ❖ Plant distancing, and innovative agricultural practices

  - ❖ Arabica Multi-varietal and Robusta distribution

  - ❖ Maintaining high value varietals separated

Prevention comes first

- At a farm level

❖ Consider your environmental conditions at the farm

❖ Select the right varietal for you

❖ Provide a balanced and precise nutrition for your crop

❖ Assure an on-time pruning practice

❖ Monitor and measure a possible infestation

❖ If needed apply a biological or chemical product on time

Sometimes it just comes as a surprise

The trip that saved my business

What started like this:
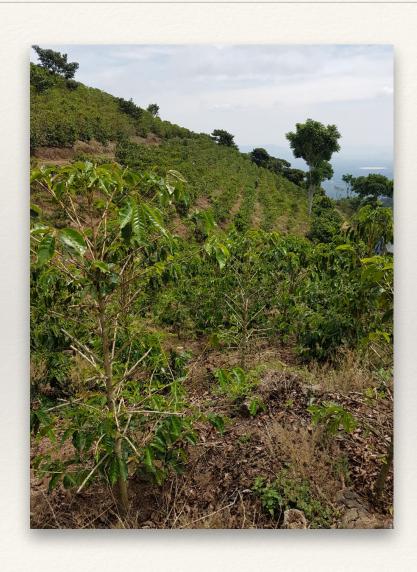

Turned into this:
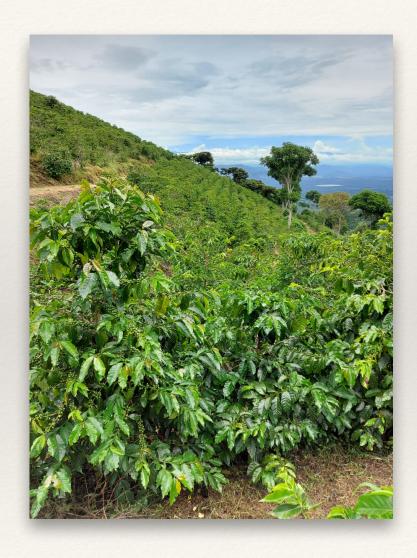
Key factors to combat Leaf Rust at our farms

- ❖ Various varietals
- ❖ Management by lot
- ❖ Promote new foliage
- ❖ Establishing a pruning cycles
- ❖ Crop nutrition
- ❖ On time tasks

Single most important action for Rust prevention for us:

Pruning

Pruning as an ally to rust control

Pruning as an ally to rust control

Skeleton Prunning

Second most important practice for Rust prevention and control:

Monitoring and acting on time

Monitoring Rust

Rust Infestation Index Form

Lote name: _____ Area in acres: _____

Sample Date: _____ Days after main flowering:_____

Site	Sample Size	Clean Leafs	Infected	% Infection
1	140			
2	140			
3	140			
n…	140			
Total				

When infestation is off the limits

Spray application

- ❖ Two types:

    - ❖ Systemic: most of them chemical ones

    - ❖ Of contact: copper or biological products

- ❖ Systemic:

    - ❖ Triazole

    - ❖ Strobilurins

- ❖ Of contact:

    - ❖ Copper Sulfate

    - ❖ Trichoderms

    - ❖ Reynoutria Sachalinensis

Things to consider and watch out in Hawaii

* Hawaii coffee production is distributed in five of its eight islands.

    * Main island is the biggest producer and it is comprised on four main regions, Kona and Ka'u being the main producers. Small farms are characteristic of this two regions.

    * Maui is the third largest producer and production is distributed in approximately 315 farms.

    * Kauai small island but high producer concentrated in three farms.

    * Oahu with a small number of farms and concentrated mainly in Typica.

    * Molokai one coffee farm and approximately 150 acres

What is ahead?

❖ Coffee will always grow in Hawaii

❖ Rust has come to stay

❖ Adaptation will be key to continue

❖ Other challenges and plagues will follow

❖ Hawaii will always have a privileged market demand and you need to supply it

Thank you for your time!