



Education and Biosecurity as Solutions to Waterborne Coffee Rust in Guatemala

Ian Banatoski (CS), Manh Nguyen (AE), Marisa Sposato (CHE), Cote Taylor (ME)
Advisor: Professor Derren Rosbach (CEE, SSPS), Elisabeth Stoddard (SSPS)

The Problem

Guatemala receives an excessive amount of rainfall each year and is one of the world's largest coffee suppliers. These two factors have produced the problem of *hemileia vastatrix*, commonly known as Coffee Rust.



Location in Guatemala



Stakeholder: Guatemalan families

Our Impact

Upon request, created an informational brochure about Coffee Rust to incorporate into a preexisting educational plan for farmers, helping them to be more successful.



Our Path: Research Plan

Evaluated the problem

Researched the issue

Chose the most important aspect of the problem

Conducted interviews and attended a Coffee Conference

Created a brochure to send to Guatemalan farmers

What are the effects of Coffee Rust?

- Defoliates plants
- Decreases annual yield
- Financially affects multiple farmers
- Minimizes exports and revenue



Infected coffee leaf



Healthy coffee plant

Our Goal:

Educate farmers about reducing Coffee Rust by partnering with two organizations.

Solutions and Recommendations

- Distribute the brochure
- Confirm that distributors speak the native language of the area
- Check in periodically
- Improve this method in the future if needed

References

Guatemala. (2009). In T. L. Gall & J. Hobby (Eds.), *Worldmark Encyclopedia of Cultures and Daily Life* (2nd ed., Vol. 2, pp. 250-255). Detroit: Gale. Accessed 20 November, 2014.

Tzunun, M. (Director) (2014, November 8). *Coffee Rust - MANE Coffee Conference*. Lecture conducted from Fair Trade, Providence, Rhode Island.

US Army Corps of Engineers. (2000). *Water Resources Assessment of Guatemala*. Retrieved October 8, 2014.

Soto-Pinto, I., I. Perfecto, and J. Caballero-Nieto. "Shade over Coffee: Its Effects on Berry Borer, Leaf Rust and Spontaneous Herbs in Chiapas, Mexico." *Agroforestry Systems* 55.1 (2002): 37-45. SpringerLink. Web. Retrieved 30 Oct. 2014.

Simans, R. (n.d.). *Farmer Training in Sustainable Agriculture*. AIR - Alliance for International Reforestation. Retrieved October 12, 2014.

Guatemala. (2014). In *Encyclopedia Britannica*. Retrieved October 8, 2014.