# Chapter 5
# Working with the Soil Food Web

Lecture 26 - Case Studies

Shane Plath: Umbhaba Estates

Todd Harrington: Governor’s Island

# Large Scale Ag

- Big Ag claims that “going sustainable” means lower yield, more weeds, poor nutrition

- But our studies show that if soil life is improved
- Soil structure is built; roots go deeper, no need for inorganic fertilizers
- Balanced nutrients in plant material
- Weeds do not grow, do not compete with the crop
- Water holding increases; no need for constant irrigation
- No need to rotate crops
- Diseases not an issue

# The Process of Conversion of Dirt to Soil

- Client Consultation:  What is desired?
- Initial Site Assessment:  What is present?
- Produce the Biological Plan:  How to get the minimum levels of organisms back into the soil? Maintain them?
- Start applications of biology
- Check biology to make sure conversion is happening
- Apply any biology still lacking

# From Organic to Biological: Shane Plath, South Africa

1,500 hectare *organic* farm, South Africa

Main Crop: Banana

Secondary Crops:
Spinach, Green Beans,
Ginger

# Overview of Problems Faced

Shane's farm (organic) and others in the area were suffering from crop losses. Extreme heat, pests, water logging, and diseases were reducing yields every year. He was considering changing to chemical agriculture because his system was failing.

Input Costs were extremely high, leading to very tight margins. The farm's future as well as the future of the farm workers was in serious jeopardy.

# Increasing Input Costs

The 1,500 hectare banana farm had been organic for many years, but yields were decreasing year on year.

Shane was already making 50,000 tons of compost per year on his farm, but it smelled bad, was infested with flies and wasn't helping his plants. He later learned that it was anaerobic and full of disease causing organisms.

Every year he had to spend more on Potassium Sulphate (applying 1.5T/Ha) blood meal, lime and gypsum (1.5-4.5T/Ha), manure (40T/Ha) and cedar wood-chips. All his efforts were futile.

After desperately searching for solutions, he discovered Dr Elaine Ingham's work and signed-up for the online classes. He began transitioning to the BioComplete™ approach and has never looked back.

# Remedial Action Taken: Foliar Treatment

After training with Dr Ingham, Shane retrained 25 members of his own workforce on how to make and apply BioComplete™ Tea.

He invested in 36 brewers, each with a capacity of 5,000 litres (1,300gal).

They began applying BioComplete™ Liquid at the rate of 75,000l/day (20,000gal/day) to all foliage.

# Remedial Action Taken: Soil Treatment

Shane completely overhauled his composting practices using his newly acquired skills and knowledge of the Soil Food Web and began producing BioComplete™ Compost.

He began applying this at a rate of between 2-10T/Ha, depending on the condition of the soil in each area.

# Results: Biology

By closely monitoring the biological content of the BioComplete™ Soil Amendments being produced, Shane's team were able to reduce their work load dramatically.

The went from producing 45,000 tons of compost per year, to producing between 12,000-14,000 tons of BioComplete™ Compost per year.

The soil biology improved drastically, with the fungal biomass and F:B ratio going from 0 to 0.35 in the first 18 months and continually improving ever since.

# The Results Are Clearly Visible

Struggling Crops, December 2015

Thriving Crops, June 2017

# Results: Improved Plant Health

**December 2015**

**June 2017**

# Results: Visible in the Soil

Mycelium found in Shane's soil

Root Health Improved

Yields have increased across the board, as has plant quality.

Crop losses due to Looper-worm, Grasshoppers and Cut-worm have decreased to a negligible level.

All expensive organic inputs have been dramatically reduced.

# Final Words from a Farmer…

*"I would like to give God all the glory for what's been achieved on the family farm, which could have not been possible without the help of Dr. Elaine Ingham and her team."*

**-Shane Plath**

*Umbhaba Estates*

# Terraforming Governors Island (With Todd Harrington)

Land Restoration lead By Todd Harrington, former student of Elaine Ingham and Soil Food Web Consultant

http://harringtonsorganic.com

https://govisland.com/

# Project Background

- 172 Acre Park Project
- Started in 2015
- Concept: To create a *public parkland* from the concrete & bare ground areas on Governor's Island

# Area was '*dirt*' prior to start of project, 2015


# Topsoil and Organic Material were brought in from off-site, 2015

Topsoil was brought in from a cleared lot down in PA that was tested first for AB, TB, AF, TF, P, N that were all in the desired ranges

# Before planting and applying biology, late 2015

# Planting trees & shrubs, late 2015/early 2016

# Different BioComplete™ Soil Amendments made for each area (Turf, Native Grasses, Forest, etc.)

# Scalable BioComplete™ Liquids being made alongside a Mobile Brewer


# BioComplete™ Tea applied to new plants


# 2016

Green section (left) had a BioComplete™ Tea application before the season ended.

Right section didn’t get a treatment before the season closed.

# 2017

# 2017

# 2015 vs. 2017

# 2017

# Video

# Video

# Video