

# Regenerative Agriculture

## An Overview

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Author of *One Size Fits None: A Farm Girl's Search for the  
Promise of Regenerative Agriculture*

# What is regenerative agriculture?



- ▶ A philosophy of food production that prioritizes ecosystem health.
- ▶ A system of farming and ranching that uses holistic practices to rebuild soil health and organic matter, recharge grasslands, improve water systems, sequester carbon, treat animals ethically, and restore biodiversity above and below ground.
- ▶ An umbrella term that covers a range of practices suitable to the farm's or ranch's surrounding environment.

A cover crop field on a regenerative farm in South Dakota.





Phil Jerde



Kevin O'Dare



# What is regenerative agriculture?



Soil from Gabe Brown's farm in North Dakota. Gabe is a leading regenerative ag activist and farmer.

- ▶ An umbrella term that covers a range of practices suitable to the surrounding environment.
  - ▶ Examples: Holistic grazing, biochar, agroforestry, compost, compost tea applications, permaculture, perennial crops, biodynamic farming, cover crops, intercropping and multi-cropping, crop rotations, livestock integration, and holistic pest and disease management.
  - ▶ There is no prescriptive, one-size-fits-all model for every regenerative farm.
- ▶ Soil health is the main priority of regenerative agriculture.
- ▶ Regenerative agriculture produces nutrient-rich food, enlivens rural communities through fair economic and social practices, fights climate change, and mimics nature.

# How is regenerative ag different from organic or sustainable ag?

- ▶ USDA organic rules do not guarantee regeneration.
  - ▶ Example: CAFOs, monocultures, and soil-less systems.
- ▶ Organic can be regenerative if producers go beyond USDA standards.
  - ▶ Example: Kevin O'Dare
- ▶ Sustainable often means maintaining a less-than-idea status quo, and there are no universal standards or certification.
- ▶ Regenerative Organic Certification: USDA organic rules are baseline, with added standards for soil health and land management, animal welfare, and farmer and worker fairness.

# Why don't farmers switch to regenerative agriculture?

- ▶ Psychological Beliefs
- ▶ Community Scorn
- ▶ Financial Risk
- ▶ Government Policy
- ▶ Social Ambivalence



Producers like my father have spent money and time building conventional operations that they are reluctant to abandon.



# How can we overcome barriers to change?



Bring conventional farmers to the table



Bridge rural/urban divide



Provide governmental incentives and reorient government programs



Offer regenerative training for existing and beginning farmers



Reshape food systems from national to regional



Demand regeneratively produced food



## How can regenerative agriculture benefit Florida?

- ▶ Control subsidence
- ▶ Sequester carbon and slow climate change
- ▶ Reduce chemical pollution/run-off
- ▶ Increase farmland productivity
- ▶ Make more land available for restoration
- ▶ Address poverty and inequality
- ▶ Provide wildlife habitat and passageways





Farmworker Association of Florida  
La Asociación Campesina de Florida  
Asosiyasyon Travayè Latè nan Florid

# Agroecology and Food Sovereignty in Florida

Antonio Tovar

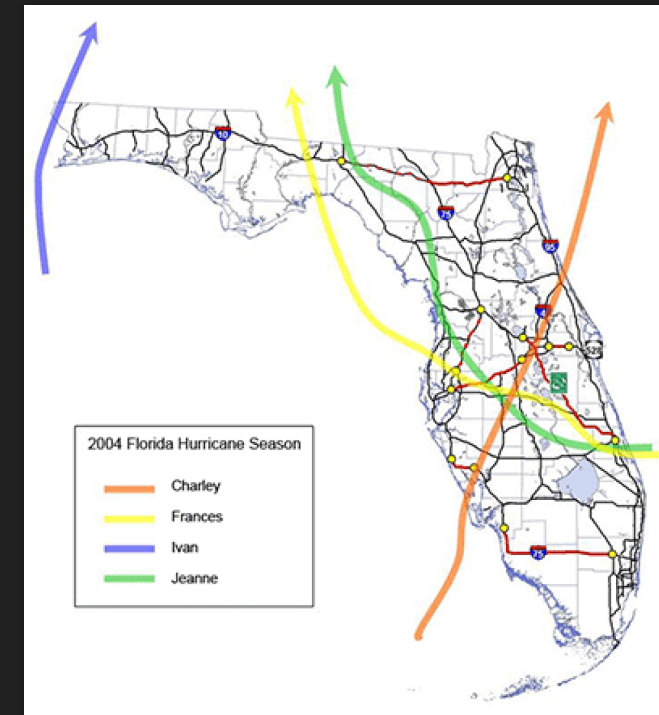
# The Human Cost of Conventional Agriculture

- Agricultural exceptionalism
- Piece rate system
- The Immigration system
- Between 10,000 to 20,000 farmworkers are exposed to pesticides each year
- Farmworkers are 4 times more likely to died of heat stress compare to other workers
- The live expectancy of farmworkers in the United States is 49 years of age



# Farm Work, Food Access, and Organizing

- Monocrops
- Low income
- Limited access to land
- Lost of traditional knowledge



2004 Hurricane Season

# Food Sovereignty and Agroecology



- A Country or a person is not free if it can produce what they eat
- Agroecology is the traditional and ancestral way to produce food
- Food security is market based, not human based
- UN Declaration of the Human Rights of Peasants



# Agroecology in Florida



Fellsmere, 2010



Homestead, 2012



# Agroecology in Florida



Pierson, 2014



Apopka, 2015





**Thank You!**

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# THE NATIVE GREEN CANE PROJECT

NOT ALL SUGAR IS THE SAME



## THE NATIVE GREEN CANE PROJECT



Launched in 1987 in Brazil



Obtained organic certification in 1997



World's largest organic project – over 50,000 acres



Recognized as a Sustainability Champion by the World Economic Forum in 2011



Joined with 19 other food and agriculture companies in 2019 to launch “One Planet Business for Biodiversity ”

# ECOSYSTEM REVITALIZING AGRICULTURE

“WE ARE A SMALL  
COMPANY, BUT WE ARE  
DEEPLY ENGAGED, A  
SMALL BOAT MAKING A  
BIG WAVE.”

-Leontino Balbo, Jr

Executive V.P. Native &  
Agronomist





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# Native<sup>®</sup>

*Products from nature*

- STOPPED PRE-HARVEST BURNING
- DEVELOPED UNIQUE MECHANICAL HARVESTER
  - First in Brazil
  - Low impact tires prevent soil compaction
  - Green leafy matter returned as mulch





HAND WEEDING & BIOLOGICAL CONTROLS  
REPLACED TOXIC PESTICIDES/HERBICIDES



# NO CHEMICAL INPUTS

- RECYCLED WASTE STREAMS  
FROM PRODUCTION REPLACE  
SYNTHETIC FERTILIZER





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PLANTED OVER  
ONE MILLION TREES TO  
CREATE 11,000 ACRES OF  
GREENWAYS OR  
“BIODIVERSITY ISLANDS”

MINIMAL TILLAGE, ONCE  
EVERY 6-7 YEARS, PRESERVES  
HABITATS & PROTECTS SOIL



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## SOCIAL COMMITMENT



FAIR WAGES



EDUCATION  
PROGRAMS



FAIR TRADE  
CERTIFIED



COMMUNITY  
SUPPORT



MEDICAL &  
HEALTH  
PROGRAMS





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## THE SOIL

- HEALTHY SOIL - ORGANIC MATTER CONTENT LIKE VIRGIN FORESTS
  - CARBON CAPTURE MITIGATES CLIMATE CHANGE
  - HEALTHIER PLANTS – HIGHER RESISTANCE TO PEST DAMAGE
  - DROUGHT RESISTANCE - 3X MORE WATER RETENTION





SUGARCANE BAGASSE

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## CARBON NEUTRAL

- 100% CARBON NEUTRAL – FROM THE FIELDS TO WAREHOUSES IN NORTH AMERICA AND EUROPE
- BY-PRODUCTS ARE USED TO POWER THE MILL AND A NEARBY CITY OF 540,000 PEOPLE
- REDUCED GREENHOUSE GASES: CO-GENERATION ALONE SAVES OVER 25,000 TONS OF CARBON DIOXIDE ANNUALLY



# GENERATING BIODIVERSITY



- HABITATS RESTORED
- 23 TIMES MORE BIODIVERSITY THAN CONVENTIONAL SUGARCANE FIELDS IN THE SAME REGION
  - 340 SPECIES
  - 49 ENDANGERED
  - THIRD-PARTY VERIFIED (2,800 field studies)





Employee Health -Eliminating pesticides protects farmworkers from chemical exposure



SOCIAL IMPACT: NATIVE SUPPORTS  
OVER 200 INSTITUTIONS ANNUALLY

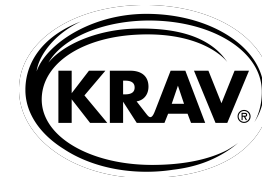


# RECOGNITION OF THE NATIVE GREEN CANE PROJECT

- World Economic Forum – Grupo Balbo, “New Sustainability Champion” 2011
- The Biodiversity Friends Assoc. of Brazil – Biodiversity Friendly
- Greenvana – The GreenBest Award 2012
- Valor Economico Value 1000 Award 2014
- Joined the World Business Council for Sustainable Development’s coalition “One Planet Business for Biodiversity” 2019

# UNCOMPROMISED QUALITY

- Native is certified BRC, ISO 22000:2005 (food safety)
- Certifications





FOR ADDITIONAL INFORMATION CONTACT  
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