Carbon Farming
Regenerative Agriculture
Eco-Agriculture
Permaculture
Soil Health

Part 2

Ellen Vande Visse,
Good Earth Garden School.com
Regenerative Ag & Global Warming
“More CO2 has gone into the atmosphere from the soil than has been released from burning fossil fuels.”

-Will Raap, 2010
A nation is only as healthy as its soil
--adapted from Sir Albert Howard
a pioneer in regenerative agriculture

“The world’s cultivated soils have lost 50-70% of their original carbon.”

—Dr. Rattan Lal, Ohio State University scientist
Dr. Rattan Lal is Director of Carbon Management & Sequestration Center of Ohio State University’s “Dean of Soil Carbon”
there IS a process that can reverse global warming

Farmers puzzle over how to get more carbon into their soil.
The rest of us puzzle over how to get carbon out of the air.

We can reverse our climate crisis with restorative, regenerative farming & gardening practices.

We can reverse our climate crisis by carbon farming.
Imagine there was a process that

- could remove carbon dioxide (CO2) from the atmosphere
- replace it with life-giving oxygen
- support a robust soil microbiome
- regenerate topsoil
- enhance the nutrient density of food
- restore water balance to the landscape
- increase the profitability of agriculture?

Imagine there was a process that

Fortunately, there is.

It’s called photosynthesis.

Regenerative Agriculture
putting carbon back into the soil

- **Australia**  Dr. Christine Jones Carbon Farming Initiative*
- **Northern Mexico** farmer Alejandro Carrillo in Chihuahua Desert
- **Northern Alberta, Canada** Don Campbell
- **Pennsylvania, USA** Rodale Institute- Farming Systems: 30-year trials
- **Zimbabwe, Africa** Allan Savory’s work + other projects
- **Texas, USA**
- **North Dakota, USA** Gabe Brown
- **Carbon Farmers of America**, Abe Collins [https://groups.google.com/forum/#!topic/biochar-ontario/uurhuOJO8c4](https://groups.google.com/forum/#!topic/biochar-ontario/uurhuOJO8c4)

Water table rises,
creeks flow again,
vegetation returns,
wildlife returns,
rain infiltrates.
Australia  Dr. Christine Jones Carbon Farming Initiative*

- Australia may become the first country to pay farmers
- for building up soil carbon
- as a part of its effort to combat global warming.
Imagine there was a process that could…

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• replace it with life-giving oxygen
• support a robust soil microbiome
• regenerate topsoil
• enhance the nutrient density of food
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• increase the profitability of agriculture

---And---

• Restore water cycles, reduce flooding
• Reduce pests & crop diseases
• Address climate refugee causes
• Reverse global warming
• Reduce agricultural pollution of pesticides, fertilizers, run-off, dead zones
• Thus reduce health problems
Causes of Climate Refuges

**DESERTIFICATION, LACK OF FOOD & VIOLENCE ARE LINKED**

Desertification vulnerability in Africa 2008
Conflicts and food riots in Africa 2007 – 2008
Terrorist attacks in Africa 2012

Stéphane Le Foll fears what is already happening in Africa—that degrading soils will lead to desertification, which, in turn, will lead to mass migrations and the destabilization of countries, and—indirectly—to terrorism.

Source: Global Terrorism Database.

And plagues
France:

4 FOR 1,000 Initiative
Food Security & the Climate

The quantity of carbon dioxide emitted into the atmosphere is 4.3 billion tons every year.

The world’s soils contain 1,500 billion tons of carbon as a fixed stock in the form of organic matter.

If we can increase the carbon in the soil each year by 0.4% (or 4/1,000%), we’ll have about 6 gigatons of CO₂ in the soil.

Giving room for the release of CO₂ by plants, this compensates for the 4.3 gigatons that humanity emits each year.

Increased absorption of CO₂ by plants...

Farmlands, meadows, forests...

Storage of organic carbon in soil...

1,500 bn tons carbon

+0.4% carbon storage increase in the world’s soils

= more fertile soils
+ soils better able to cope with the effects of climate change

From *Kiss the Ground* by Josh Tickell. Source: French Ministry of Agriculture
The aim of the 4 for 1,000 Initiative:

demonstrate that healthy agriculture soil
--can sequester CO2
--while providing more food per acres.

From *Kiss the Ground* by Josh Tickell. Source: French Ministry of Agriculture
Global warming

“A mere 2 percent increase in the carbon content of the planet’s soils could offset 100 percent of all greenhouse gas emissions going into the atmosphere.”

OR. RATTAN LAL, OHIO STATE SOIL SCIENTIST

“Healthy soil, not the latest new toxic chemical or risky, untested technology, is the only way we will feed the world and cool the planet.”

--Ronnie Cummins, co founder & National Director, Organic Consumers Association
Global warming

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We can reverse our climate crisis

with restorative, regenerative farming practices.
Soil + green cover
is the secret weapon
against global warming

So how to get going?
WASHINGTON, D.C., February 24, 2020 – The U.S. Department of Agriculture’s (USDA) Farm Service Agency (FSA) announced a new pilot program that enables farmers in the Prairie Pothole region to receive payments for planting cover crops on their land for three to five years. The new Conservation Reserve Program (CRP) Soil Health and Income Protection Program (SHIPP) pilot is available to producers in Iowa, Minnesota, Montana, North Dakota and South Dakota. The signup for this pilot starts March 30, 2020 and ends August 21, 2020.

Creating New Incentives for Cover Crops (only 7% use now)
with partners in Iowa and Illinois to launch programs that give farmers who use cover crops $5/acre off of their crop insurance bill.

Supporting Carbon as a New “Agricultural Product”
Championed by Senator Ron Wyden, the 2018 Farm Bill created a new program, the Soil Health Demonstration Trial, that encourages farmers to adopt practices that improve their soil health, and tracks and measures the outcomes.

Scaling up Regenerative Agriculture:

Supporting Organic Farmers

Reducing Food Waste

https://www.nrdc.org/experts/claire-oconnor/soil-secret-weapon-fight-against-climate-change
https://www.nrdc.org/experts/lara-bryant/iowa-breaks-new-ground-innovative-cover-crop-incentive
We need

Soil Regeneration Leadership Awards

How ‘bout it, SARE? ABG? UAF? Rotarians?

Would you lead the charge?
Your Mentors

Joel Salatin, Polyface Farm

Dr. Christine Jones Amazing Carbon.com
Your Mentors

Gabe Brown, farmer/rancher

book & on-line videos

Dirt to Soil
One Family’s Journey into Regenerative Agriculture
Gabe Brown
Your Mentors

- Savory Institute
- Africa Center for Holistic Management

Allan Savory
Your Mentors

Ray Archeluta  NRCS
watch his videos for sure!!!

Jonathan Lundgren
Agroecologist
Director ECDYSIS Foundation
CEO of Blue Dasher Farm

Dr. Kris Nichols
Great resources

- Managing Cover Crops Profitably
- Farming in the presence of Nature
- Organic No-Till Farming
More juicy reading

- *The Soil Will Save Us* by Kristin Ohlson
- *Cows Save the Planet* by Judith D. Schwartz
- *Water in Plain Sight* by Judith D. Schwartz
And for vegetable production

When roller-crimpers are too big for the small farm
For reversing global warming with regenerative agriculture.
with gratitude,

Ellen Vande Visse

Good Earth Garden School.com

Please see free info about cover crops here
I’m happy to share these ideas, but please respect my intellectual property by giving credit when you use this information and PowerPoint.

Thank you!

Ellen Vande Visse

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Please see free info about cover crops at my website.