Grass, Soil, Hope: A Journey Through Carbon Country

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This book tackles an increasingly crucial question: What can we do about the seemingly intractable challenges confronting all of humanity today, including climate change, global hunger, water scarcity, environmental stress, and economic instability?

The quick answers are: Build topsoil. Fix creeks. Eat meat from pasture-raised animals.

Scientists maintain that 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. But how could this be accomplished? What would it cost? Is it even possible?

Yes, says author Courtney White, it is not only possible, but *essential* for the long-term health and sustainability of our environment and our economy.

Right now, the only possibility of large-scale removal of greenhouse gases from the atmosphere is through plant photosynthesis and related land-based carbon sequestration activities. These include a range of already existing, low-tech, and proven practices: composting, no-till farming, climate-friendly livestock practices, conserving natural habitat, restoring degraded watersheds and rangelands, increasing biodiversity, and producing local food.

In *Grass, Soil, Hope*, the author shows how all these practical strategies can be bundled together into an economic and ecological whole, with the aim of reducing atmospheric CO2 while producing substantial co-benefits for all living things. Soil is a huge natural sink for carbon dioxide. If we can draw increasing amounts carbon out of the atmosphere and store it safely in the soil then we can significantly address all the multiple challenges that now appear so intractable.

Grass, Soil, Hope: A Journey Through Carbon Country Details

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From Reader Review Grass, Soil, Hope: A Journey Through Carbon Country for online ebook

Gail says

Read this like your life and the life of your children depend on it. We can't let money win out over common sense. Large agribusiness says fertilizers, heavy tilling, pesticides, and monocultures are the only way to feed the world. The very heavy price for that type of food production is our environment.
Read Grass, Soil, Hope by Courtney White and see if any ideas that he has gathered are not majestically brilliant and then talk about the book, its ideas can feed the world with good clean fair food and at the same time be what works for our environment -- before it is too late.
This is the foreword to Grass, Soil, Hope written by one of my heroes -- Michael Pollan. He and some other authors, film makers, and experiences have changed my life, and my commitments. Mr. Pollan's foreword is the first time I understood carbon -- carbon sequestration, carbon loading, zero carbon footprint. These phrases are used frequently and I usually just glossed over them like I understood. I didn't, and this information makes a difference.

" Consider what happens when the sun shines on a grass plant rooted in the earth. Using that light as a catalyst, the plant takes atmospheric CO2, splits off and releases the oxygen, and synthesizes liquid carbon - sugars, basically. Some of these sugars go to feed and build the aerial portions of the plant we can see, but a large percentage of this liquid carbon-somewhere between 20 and 40 percent -- travels underground, leaking out of the roots and into the soil. The roots are feeding these sugars to the soil microbes – the bacteria and fungi that inhabit the rhizosphere -- in exchange for which those microbes provide various services to the plant: defense, trace minerals, access to nutrients the roots can't reach on their own. That liquid carbon has now entered the microbial ecosystem, becoming the bodies of bacteria and fungi that will in turn be eaten by other microbes in the soil food web. Now, what had been atmospheric c arbon (a problem) has become soil carbon, a solution-and not just to a single problem, but to a great many problems.
Besides taking large amounts of carbon out of the air - tons of it per acre when grasslands are properly managed, according to White - that process at the same time adds to the land's fertility and its capacity to hold water. Which means more and better food for us. There it is: a non-zero sum transaction.
This process of returning atmospheric carbon to the soil works even better when ruminants are added to the mix. Everytime a calf or lamb shears a blade of grass, that plant, seeking to rebalance its root-shoot ratio, " sheds some of its roots. These are then eaten by the worms, nematodes, and microbes – digested by the soil, in effect, and so added to its bank of carbon. This is how soil is created: from the bottom up.
To seek to return as much carbon to the soil as possible makes good ecological sense, since roughly a third of the carbon now in the atmosphere originally came from there, released by the plow and agriculture's various other assaults, including deforestation, (Agriculture as currently practiced contributes about a third of the greenhouse gases, more than all of transportation.) For thousands of years we grew food by depleting soil carbon and, in the last hundred or so, the carbon in fossil fuel as well. But now we know how to grow even more food while at the same time returning carbon and fertility and water to the soil. This is what I mean by non-zero-sum, which is really just a fancy term for hope."

My wish is, having read this foreword that you will think differently about how the food you buy is grown. Vote with your dollar. Buy food grown in soil; not worn out dirt. It is an investment in our future.
Look for others. Understand dirt is not soil.

Ellen Harrington-kane says

This was a really fantastic book. First of all--I am not a farmer or a rancher, but this book made me WANT to be. Secondly, the ideas put forth were laid out in such a way that a non-farmer such as myself could actually understand.

Since reading this book, I have a new plan for my backyard garden in the spring, I plan to visit an urban farm in the spring, and will spend the winter learning more. My hope is to use some of this knowledge as I engage with the Lakota people through Re-Member.

Katie says

Grass, Soil, Hope is an accessible book about the real hope we have to raise a new generation of farmers who can reverse climate change, sequester carbon, restore land and clean up pollution. The author takes you through a series of topics that showcase new practices that are proving to be effective in restoring soil and improving productivity to our land. Both scientific evidence and practical case studies are showing real possibilities for sequestering carbon and healing pasture and cropland. The author presents many farmers and organizations trying new things with technology we have. In some instances it is our paradigms that need to shift in order for us to break away from old, destructive farming habits and creating new practices that are better for the environment and better for food production. Rotational grazing, native plants, no-till planting, blue carbon, green carbon, forest gardening, etc. all have ideas to add to the pot of how we are going to feed billions of people and heal the environment at the same time. As the title promises there is hope out there that both of these goals can be realized. It is excited to hear about some of the people working to make this happen.

An afterword with suggestions of further readings or organizations to contact would be helpful.

Kathely says

Good ideas, bland presentation

Enzo says

What drew me to the book was the mere possibility that a major chunk of carbon emmissions could be offset by using fairly low tech agricultural and land management techniques. By using photosynthesis to draw carbon dioxide out of the air and into the soil, carbon now becomes a resource, enriching topsoil. I came away convinced that carbon sequestration is the key to minimizing climate change.

Carol says

good golly this has to be one of the best books I have read in a long time. First hopeful thing I've read about the climate change crisis. it explains the long and twisty road we have been on that has led to our CO2

abundance, and presents a simple but long term remedy. should be required reading for everyone, especially the climate deny-ers. Five stars.

Joan says

Suha from SD350.org recommended this book to me and I found it fascinating. The thesis is that soil sequestration of carbon could be significant enough to have a substantial impact on climate change as well as dealing with feeding many more people who will be born in this century. The author makes a credible case for his thesis although the last chapter in particular is an unproven extrapolation of some of the ideas presented in this book. Fundamentally, he shows that by improving our soil and dealing with our severely mistreated areas, we could drastically increase the quality of the soil which means increasing its ability to take carbon out of the air which would combat Climate Change. He interviews a large number of people who are striking out on their own pathway such as repairing river beds, no till agriculture (does anyone besides me remember Ruth Stout from Rodale? She was championing no till gardening and farming decades ago!) mixing different livestock such as cows and goats together since they graze on different plants and can protect each other, rotating livestock throughout sections of the ranch, mixing plants of different sorts together which is healthier than monoculture, rooftop gardening in NYC and a ton of other possibilities. They all boil down to treating the land better, communicating with each other, often through the internet, and recording how the land is changing in response to their work. This was a complex fascinating book and I highly recommend it to anyone feeling despairing about the lousy state of our world and what can be done about it.

Lisa Daleiden-brugman says

This non-fiction book touched upon so many buzzy topics in environmental sustainability! It was fascinating to see how they are all tied to the carbon cycle. Needless to say, I am going to be using a lot of my compost this spring. Learned a lot and engagingly written.

Lynne says

I loved the matter in this book...I highly believe we can save our soil and our world with change like that outlined in the book.

However, I found it exceedingly hard to read...I've read several books on these same subjects and this one was simply difficult to get through...I haven't been able to put my finger on why.

Eric Jensen says

An important and exciting book detailing the potential and techniques for carbon sequestration in our soil, which can positively impact global warming as well as support sustainable food production models. I was particularly inspired by the discussions of the 'young agrarian' movement; The Greenhorns, urban rooftop farming, the National Young Farmers Coalition, etc.

John says

This book succeeds in providing inspirational and informative narratives of agricultural and landscape renewal pioneers storing carbon in the soil, one of the greatest opportunities for dealing with climate change. It is at its strongest in crisp and short sections that develop as their characters reveal more, but occasionally becomes confused and lost when there isn't as clear a narrative throughline (I'm looking at you, chapter on New Orleans). Overall, I learned a few good things and felt great about some new developments that will help develop an ongoing flourishing. In particular, the section on agrovoltaics (the shielding from heat stress with partial coverage of solar panels) made me very pleased to see that an idea I entertained idly was seeing preliminary success in experimental tests.

Sara Van Dyck says

There are many proposals for reducing global warming: Cap and Trade! Underground storage! Sulfur compounds spewed into the atmosphere!

White offers examples of a less-dramatic way, a low-tech approach, using plants to sequester carbon in the soil. This doesn’t require huge expenditures, political will that’s not available, or dubious techno-fixes. The effectiveness of the soil-carbon technique needs more exploration, but the projects he profiles are being tested around the country in the field, not just the lab, and can be implemented at various scales. I’m also grateful that he acknowledges some of the obstacles this approach faces, such as funding, resistant ranchers, and weather. I found this book enjoyable, refreshing, human, and one that offers a hopeful viewpoint on a scary topic

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ninamo says

I needed this.

Julia says

This is a book that should change how we do agriculture. Also a good read.

Sam says

It's amazing to me that the kind of developments highlighted in this book are not more commonplace. Carbon sequestration in the soil, achieved through fairly low-tech agricultural and land management / restoration projects can have such a positive effect on our air and the ability of our soils to produce good food.