

Grassroots Rising – A Call to Change the World

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STORY AT-A-GLANCE

- Ronnie Cummins' new book, "Grassroots Rising," details how transforming our food and farming system worldwide can solve many of our most pressing problems, including environmental pollution, health problems, climate change and rural poverty
- Transitioning to regenerative organic farming has the ability to solve all of these problems simultaneously
- Far from solving world hunger, genetically engineered crops destroy soils and make food more toxic and less nutritious. Regenerative farming has demonstrated its superiority with regard to yield and nutrition, without the use of toxic chemicals
- Education, innovation, policy changes and investment are the four things that drive this change of paradigm
- The Via Organica farm in Mexico is promoting a novel way to produce inexpensive yet highly nutritious animal feed made from native agave plants

In this interview, Ronnie Cummins, founder of the Organic Consumers Association, discusses his new book "[Grassroots Rising: A Call to Action on Climate, Farming, Food and a Green New Deal](#)."

"Much of the book talks about how we need to transform our food and farming system, not only in the United States but worldwide, if we're going to solve a lot of these problems that we're seeing – environmental pollution, health problems, the climate crisis and the fact that we have so much poverty in rural areas ..." Cummins says.

Regenerative Organic Farming Is the Answer to Many Problems

The transformation Cummins calls for is a transition to [regenerative organic farming](#), which has the ability to solve many if not most of these problems simultaneously.

For example, one of the primary arguments for [genetically engineered \(GE\) crops and foods](#) was that it was going to solve world hunger. Reality, however, has demonstrated the massive flaws in this argument.

[GE agriculture](#) actually does the complete opposite, by destroying our soils and making food more toxic and less nutritious. [Regenerative farming](#), on the other hand, has demonstrated its superiority with regard to yield and nutrition, all without the use of toxic chemicals. As noted by Cummins:

"The way we have traditionally grown food for the last 10,000 years and the way we've raised animals the last 20,000 or 30,000 years is really organic and pasture-based.

This wild experiment that industry unleashed on us since the second world war, using toxic chemicals, synthetic

fertilizers, genetically engineered seeds and animal factory farms has proven to be a disaster, not just for the farmers, the animals and the land, but our public health has also suffered considerably.

Part of our long-term call to take charge of your health, take charge of your diet [is to] take charge of our environment and really our whole economic system [and] transform this degenerative food, farming and land use system into one that is organic and regenerative.”

Four Drivers of Change

In his book, Cummins details four major drivers of any given system, be it, as in this case, the degenerative system we currently have, or the regenerative system we would like to have:

1. Education and awareness raising – This also includes putting the information into practice, meaning, every time you pull out your wallet, you’re considering whether your money is going to support a degenerative or regenerative system. True change comes when people act out their beliefs in the marketplace
2. Innovation – This includes innovation of farmers, ranchers, people who take care of our forests and wetlands and people who are innovative in terms of educating the public
3. Policy changes – This includes policy changes all the way from local school boards and park districts to the White House. At present, our policies favor corporate special interests like Monsanto, Dow, DuPont, Big Pharma and Wall Street. Once we get policies that support organics, regenerative agriculture and natural health, scaling these areas up will be much easier and faster
4. Funding and investment – This includes both private investors and public monies

As noted by Cummins, “Education, innovation, policy [changes] and investment are the four things that drive this change of paradigm.” Change, however, is often slow, and one of the reasons Cummins wrote “Grassroots Rising” was to inspire optimism and hope.

“Obviously, we are still in a degenerative phase, but we can move out of this,” he says. “I think this year, 2020, is going to be the beginning of a pretty enormous global awakening.”

Scaling Best Practices

Cummins is co-director of an organic research farm and conference center outside of San Miguel de Allende, Mexico, where he coordinates a regenerative agricultural system that integrates organic vegetable, seed and forage production with regenerative holistic management of poultry, sheep, goats and pigs. He and others are constantly on the lookout for best practices that can be successfully scaled up and implemented on millions of farms. Cummins explains:

“We have been, for 10 years, running a research and teaching farm [Via Organica] outside of San Miguel de Allende, right smack in the middle of Mexico. It’s the high desert area ... If you look at the statistics, 40% of the world’s surface is characterized as semi-arid or arid, and that’s the type of area we’re in here, so it’s not unusual for the global landscape ...

What’s difficult as a farmer or rancher, if you live in the semi-arid or arid parts of the world, is that not only is rainfall seasonal and you don’t get a whole lot of it, but that it is almost impossible to raise crops on a lot of this terrain.

What people have done for hundreds of years is graze

livestock on these degraded semi-arid, arid lands. The problem is that they have overgrazed much of this 40% of the world's surface."

Simple Innovations Can Solve Serious Problems

During one of Cummins' workshops on organic [compost](#), two local farmers approached him saying they'd developed a remarkably simple technique using the agave plant and mesquite trees to produce incredibly inexpensive yet nutritious animal fodder.

These two plants, which are naturally found clustered together in arid and semi-arid areas, do not require any irrigation, and the photosynthesis of the agave is among the highest in the entire world. It grows rapidly, producing massive amounts of biomass, and sequesters and stores enormous amounts of carbon, both above ground and below ground, while producing inexpensive, nutritious animal feed or forage and restoring the earth.

As noted by Cummins, the fact that agave plants and mesquite (or other nitrogen-fixing trees) grow together naturally is nature's way to repair eroded landscapes. The roots of the mesquite tree can reach down to 125 feet, fixing nitrogen from the atmosphere into the soil, and absorbing minerals from deep in the ground.

Agave, meanwhile, adds huge amounts of biomass to the land every year, drawing down excess CO₂ from the atmosphere. It pulls nitrogen and other minerals from the ground in order to support its rapid growth, but when grown next to a nitrogen-fixing tree, you've got a biodiverse system that will continue to grow and thrive on a continuous basis.

Fermented Agave Is an Inexpensive Animal Feed

The fermented agave animal feed produced in this system costs only 5 cents per kilo (2.2 pounds) to make. The key is

fermentation. Raw agave leaves are unpalatable and hard to digest for animals because of their levels of saponins and lectins, but once fermented, they become digestible and attractive to the animals.

The fermentation also boosts the nutrition. I was so impressed with Cummins' story that I harvested about 10 gallons of aloe plants and applied the process to see if it will convert to great food for my six chickens. A summary of the process is as follows:

- Cut some of the lower agave leaves off the tree and crudely chop them up with a machete. One of the farmers, Juan Frias, invented a simple machine that grinds the leaf into what looks like coleslaw.
- Place the cut-up agave leaf into a large bucket, tamping it down once filled half-way to remove oxygen. Continue filling the bucket to the top. Tamp down again and put a lid on it. (As explained further below, adding mesquite pods at an optimum rate of 20% will approximately double the protein content of the final product.)
- Let it set for 30 days. The fermentation process turns the saponins and lectins into natural sugars and carbs. The final mash will stay fresh for up to two years.

Cummins and other Mexican organic farmers have tested the agave forage on a variety of animals, including sheep, goats, chickens and pigs, all of which love it.

"The importance of this is, first of all, if you're a small farmer, you can't afford alfalfa, and you can't afford hay during the dry season. It's too expensive ... It makes eggs and meat too expensive in the marketplace for people to buy.

When you start looking at ... reducing feed costs by 50%, or even three quarters with this stuff that costs a nickel or a dime, then I don't need to overgraze my animals. They'd still graze because it's good for them ... but you wouldn't have to

have them outdoors every day, overgrazing on pastures that are not in good shape.

This is pretty amazing stuff ... Lab analysis of just the fermented agave [shows] it's about 5% to 9% protein, which is pretty good. Alfalfa is more like 16% to 18%.

What these farmers, who are also retired scientists, figured out is if you put 20% mesquite in your fermentation, the pods of the mesquite trees, it'll shoot the protein level up to about 18% – about the same as alfalfa.

There's a lot of other things too that make it better than alfalfa. One of the things about alfalfa is it takes a lot of water ... The agave plant uses one-twenty-sixth the amount of water to produce a gram of biomass as alfalfa.

These desert plants have evolved over millions of years to utilize water and moisture in a really efficient way ... The opening in the leaves, called the stomata ... only opens at night, after sunset.

These plants literally suck the moisture out of the air all night long, and then when daybreak comes, the stomata closes up ... They can go years with no rain, and they can survive pretty harsh temperatures ... [and] there's not one chemical required in this whole process. This whole process is inherently organic."

Added Benefits

An organic certifier is now evaluating one of the operations using this agave feed process, which may go a long way toward creating less expensive organics. For example, rather than spending 45 cents per kilo for organic chicken feed, chicken

farmers can cut that down to between 5 and 10 cents per kilo.

In the end, that will make organic free-range chicken and eggs far more affordable for the average consumer. Ditto for pork, sheep and goat products.

Additional benefits include improved immune function in the animals – similar to that seen in humans eating a lot of [fermented foods](#). What's more, about 50% of the fermented agave feed is water, which means the animals don't need to be watered as much.

Cummins and other organic farm advocates are now trying to convince the Mexican reforestation program to get involved as well. This would solve several problems. First, it's difficult to reforest in arid climates, which includes 60% of Mexico, as even mesquite trees need water in their first stage of development until they're established. Growing agave in locations in areas that already have mesquite or other nitrogen-fixing trees would speed the process and lower the water demands.

Secondly, growing agave and mesquite together for reforestation purposes, while incorporating facilities to create fermented agave feed for sale, farmers who aren't willing to grow their own can still benefit from this inexpensive feed alternative. Thirdly, such a project would also help reduce rural poverty, which is what's driving immigration into the U.S.

"If people weren't so darn poor, which leads back to if they didn't live in such dry, degraded landscapes, they wouldn't be seeking to come to the U.S. except for a visit," Cummins says.

"We can solve this immigration problem. We can solve this problem of rural poverty. Many of these small farmers, they can't even afford to eat their own animal, like the lamb, on

a regular basis.

They have it for celebrations, but they should be able to eat lamb burgers on a regular basis in the rural countryside. Now, they will be able to. In the long run, if we restore the landscape, things like corn, beans and squash will grow again ...”

Yet another little cottage industry is also starting to grow around agave. Its fibers are very strong, so people are now starting to make lightweight construction blocks or bricks from it.

Lastly, Cummins estimates that with 2.5 million agave plants planted on 30,000 acres over the next decade, they'll be able to eliminate all greenhouse gas emissions created by San Miguel county right now.

More Information

To learn more about how regenerative agriculture can help solve many of the problems facing the world right now, be sure to pick up a copy of [“Grassroots Rising: A Call to Action on Climate, Farming, Food and a Green New Deal.”](#)

“This regenerative practice in dry lands is a game changer,” Cummins says. “There are practices in wetlands and in the global North, [where] we’re already seeing things like a holistic management of livestock and biointensive organic practices.

It’s all these practices together – the best practices from the different parts of the world, different ecosystems – that are going to make a difference.

It’s you the consumer, it’s you the reader, that needs to spread these good news messages, and I hope you’ll consider

buying a copy of my new book, 'Grassroots Rising,' where I try to paint a roadmap of how we can regenerate the world's landscapes as quickly as possible so that we can get back to enjoying life."

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