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COULD YOUNG ORGANIC FARMERS STOP CLIMATE CHANGE?

The next generation of organic farmers doesn't just want to grow food—they want a better system. And they need our help.

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It's difficult to exaggerate the beauty of Harrison Topp's orchard. Not far from the town of Paonia on Colorado's Western Slope, Topp farms 6 acres of organic stone fruit—plums, cherries, and newly planted peaches. His family's property stands at 5,800 feet along the north fork of the Gunnison River. The orchard is ringed by majestic mountains under an enormous sky.

Pruned so that air and sunlight flow through their branches, Topp's plum trees resemble upside-down brooms. Magenta-hued Elephant Heart plums swell on the branches, as do small oblong Stanleys, crimson Bloods, and Santa Rosas. All around them, cover crops grow: **nitrogen-fixing legumes** (<https://www.rodaleorganiclife.com/garden/crop-rotation-how-to>); brassicas and grasses; Queen Anne's lace, asters, and buckwheat, their flowers attracting pollinators. Thistle, wild roses, lavender, and asparagus thrive there, too. Hawks wheel overhead, and wild turkeys pop their heads up from out of the sea of greenery. The place is crazy with abundance.



Ripe stone fruit in Harrison Topp's organic orchard.

Despite that, and also because of it, Harrison Topp would like other young farmers to know that organic agriculture isn't a walk in the park. In his five years of farming here, he's climbed a steep learning curve, and he's had his share of heartache. The first year, he grew no fruit at all; he spent his time ripping out ailing trees he inherited from the previous farmers. In his third season, he watched as **sawflies** (<https://www.rodalorganiclife.com/garden/10-beneficial-insects-that-actually-keep-nasty-pests-out-of-your-garden/>). devoured his orchard, transforming healthy leaves into filigree within days. And this year, he lost the cherries to frost. He knows that

three bad harvests in a row would ruin him, and, as it is, he holds down what amounts to three full-time jobs in order to make it work.

"Young farmer' is a sexy title," he says. "But it's tough, especially with organics. When we lose a crop, we lose a crop. It's sad and painful, but I put a lot of thinking into how to make this a long-term deal."

At 30 years old, Topp is fiercely committed to this organic life—to cover crops and beneficial insects, to carbon sequestration and soil health, and most of all, to "producing substantive amounts of food for a substantive amount of people."

To do that, he has devised a business plan that involves outside employment. Small and wiry with a broad smile, Topp works as membership director for the Rocky Mountain Farmers Union. When he's not tending fruit trees, he travels from town to town organizing chapters and listening to growers so he can advocate for their needs. He's met all types in the ag business. He will not disparage any farmer. But from his vantage point deep in the community, he sees the ideals of organic agriculture "moving closer and closer and closer to the future for many farmers." And farmers like Topp are leading the way.

ORGANIC FARMING ISN'T A FAD —IT'S A NECESSITY

Organic farming is indeed gaining ground—and just in nick of time. Though organic farms account for only 0.6 percent (<https://www.ers.usda.gov/data-products/organic-production/documentation/>) of the United States' agricultural land and just over 4 percent (<https://www.ers.usda.gov/topics/natural-resources-environment/organic-agriculture/organic-market-overview.aspx>) of its food sales, Sophie Ackoff, national field director for the National Young Farmers Coalition (<http://www.youngfarmers.org/about/who-we-are/>) (NYFC), says interest in organic production is growing. An increasing number of Coalition members are turning to organic practices to create a healthier food system, protect the soil and climate resources, and ensure the longevity and sustainability of their farms and the land around them. These growers are crucial to the well-being of the nation. Along with organizations like the Greenhorns (<http://www.thegreenhorns.net/category/about/aboutus/>), the NYFC is among a recent crop of advocacy groups helping next-generation farmers to thrive. It reports that, for every farmer under 35, there are half a dozen who are older than

65. Within the next five years, 85 percent of American farms will need new farmers—preferably organic ones.



Topp picking peaches in his Paonia, Colorado orchard.

It's a necessary corrective to a century's worth of harmful agricultural practices. Since the 1920s (http://usda.mannlib.cornell.edu/usda/AgCensusImages/1920//Farms_and_Property.pdf), the United States has lost a staggering

4.3 million farms largely due to consolidation. Massive monocropping operations have taken their place. And the excessive tilling and synthetic fertilizers upon which these industrialized farms depend has released enormous amounts of nitrous oxide and carbon dioxide into the atmosphere.

Both are drivers of climate change

(https://www.epa.gov/sites/production/files/2017-02/documents/2017_chapter_5_agriculture.pdf).

Organic farming, conversely, draws carbon out of the atmosphere. It can help to reverse climate change. A recent study in *Advances In Agronomy* claims that organically managed soil has a 26 percent greater potential for long-term carbon storage

(<http://www.sciencedirect.com/science/article/pii/S0065211317300676>) than conventional agricultural soils. And more carbon in the soil can lead to healthier eating. A report last December by the European Parliamentary Research Service found that the practices of integrative, organic farming helps boost the soil nutrients

([http://www.europarl.europa.eu/RegData/etudes/STUD/2016/581922/EPRS_STU\(2016\)581922_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2016/581922/EPRS_STU(2016)581922_EN.pdf)) that lead to more-nutritious food. It also showed that food grown organically had lower amounts of harmful substances—chemical residues, heavy metals, antibiotic-resistant bacteria—than conventional products. For our own health and that of the

planet, we're lucky that so many newbies, like Topp, are

choosing organic

(<https://www.rodaleorganiclife.com/tags/farming>). But they can't go it alone.



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CHANGING THE WORLD, ONE PEACH AT A TIME

It was a hot morning in August a year ago when I first met Topp and his girlfriend Stacia Cannon at Denver's new Union Station Farmers Market. Kids splashed in the fountain on the square, and just a few shoppers moved slowly among the

growers' tents. Topp and Cannon weren't having a good day. From their home to the west, it's a five-hour drive over the Front Range to Denver and their truck had broken down. Still, they had on their game faces. Dressed in going-to-market style—a knit, green sleeveless dress for her, and a green, checked shirt with pearly snaps and suspenders for him—they peddled sweet, juicy Elephant Hearts and talked peach-curious customers through discerning ripeness.

"This is an early variety, called Newhaven. We try to pack a variety of soft and firm peaches so they will last you all week," explained Cannon, blonde, blue-eyed, 27 years old. Despite going on just four hours' sleep, she projected a friendly confidence as she sold a \$15 bag to a shopper. "Instead of squeezing and bruising them, we look at their shoulder. That one has a green tinge, so eat it in a few days. This one in your hand looks pretty darned good. It has this nice yellow-orange color to it."



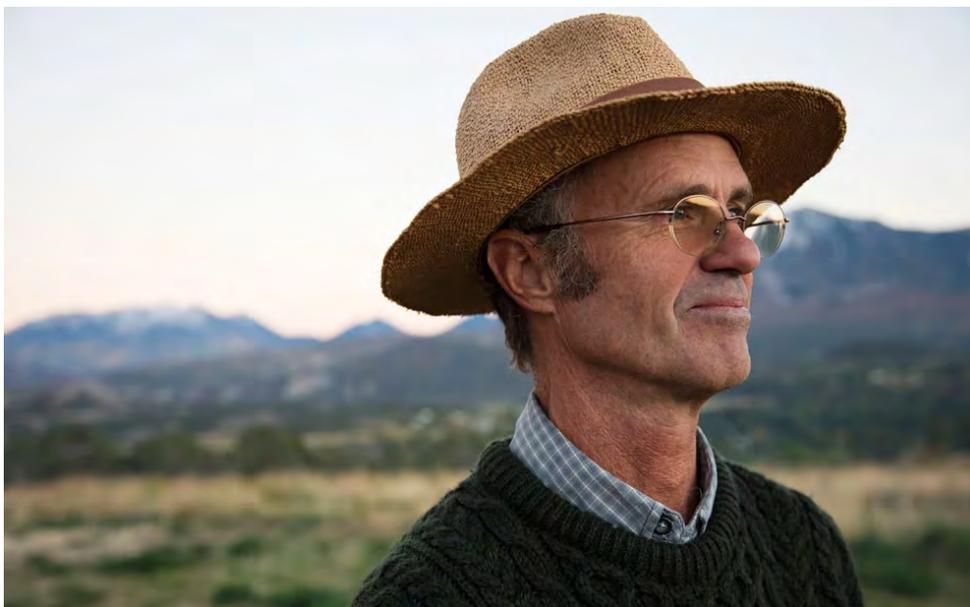
Harrison Topp and Stacia Cannon at Denver's new Union Station Farmers Market.

The peaches weren't from Topp's trees. They were grown at Osito Orchard, which is owned by Topp's mentor, Frank Stonaker, PhD. Co-founder of the organic farming program at Colorado State University, Stonaker has farmed organically

for nearly 40 years. For young farmers like Topp, he says, organics are "an excellent training ground."

"Organic systems require that you understand the multitiered processes in plant growth and ecology," he points out.

"Because organic systems are so interconnected, you have to have a comprehensive understanding of plant physiology, chemistry, physics, microbiology, water cycles, nutrient cycles."



Frank Stonaker, co-founder of the organic farming program at Colorado State University and Harrison Topp's mentor.

When Topp met Stonaker in 2016 in his travels throughout the community, he recognized that the farmer had things to teach him. The two became partners, pooling their fruit, plus the older man's knowledge and the younger man's drive, into shared profits. Topp spearheaded the market strategy. His eclectic buyers include an organic packing shed, local grocery chains, Aspen greenmarket clientele, and specialty food producers like [Ozuke](http://ozuke.com/) (<http://ozuke.com/>), which salt-fermented Topp's Elephant Hearts to win a 2015 Good Food Awards for its umeboshi. The Denver market was part of this plan. But, so far, it hadn't panned out. As the day wound down, Topp packed up the leftovers, gingerly patting cartons as he went.

Stonaker says that established agriculturalists like himself have much to learn from beginning farmers. "People who come into this field with eyes wide open and no experience bring new ideas that five generations of fruit growers may not have allowed," he says. Their enthusiasm, he suggests, is vital to the future of the food system, helping "to advance our agricultural system rapidly in ways that old-time farmers didn't imagine."

WHAT MAKES SOMEONE WANT TO BE A FARMER?

Topp's interest in agriculture dates to 2009 when, as a musician and a graduate of NYU's film program, he moved to North Carolina to work on a movie. "If I Had Wings to Fly," the 2011 feature he co-wrote and co-directed, is a cinema verité-style portrait of a young man finding his way in rural America. Though it's a banjo in the character's hands, not a lopper, it's hard not to see some of Topp in him. Here is another adult coming of age and wondering how to make a living from a passion that doesn't bring a regular paycheck. For Topp, the filmmaking had surprising results. By the time he was finished, he had become a farmer.

"I spent all this time around farms, half living and working there, half observing and storytelling," he says of the process. "I left that experience saying, 'I'd way rather be the doer.'"

Topp moved out to the hollow with his then-girlfriend to tenant farm organic vegetables for CSAs and farmers markets. When their romance fizzled along with their finances, Topp looked at himself as a farmer and said, "You gotta go into this with more security."

So he cultivated a clear-eyed approach. It was an evolution not incompatible, he points out, with the idealism of young farmers. "A lot of farm energy has come from among next-generation growers," he says. "We became adults during the

recession. There was confusion and uncertainty about the economy. It was not a good time to join the job market in 2009, so farming looked like a viable way to stay employed."

But Topp has a stick-to-itness that is unique. He's seen many young farmers throw in the towel. He also has an invaluable resource: family land. Topp grew up in Evergreen, just outside of Denver. In 2007, his mother and he passed through Paonia on a road trip. It charmed them. The land purchase came soon after.

Topp's parents aren't farmers. His dad owns a bookstore, and his mom is an attorney. They leased out their land to organic orchardists. Their son's decision to take over the plot flummoxed them. "They had a fear that farming is a risky endeavor," says Topp. "That said, there is a drive toward agriculture they understood because they both are self-employed."

Compared to other young farmers, he's lucky. In a 2011 survey by the National Young Farmers Coalition, 68 percent of beginning farmers (<http://www.youngfarmers.org/newsroom/building-a-future-with-farmers-october-2011/>) listed land access as their biggest challenge. For the health of his nascent business, says Topp, "having a secure tenure is really important."

THIS IS WHAT SUSTAINABILITY LOOKS LIKE

Topp's parents must have modeled good entrepreneurship because their son's head is pretty well screwed on. Even his **farming mistakes**

(<https://www.rodaleorganiclife.com/garden/8-gardening-mistakes-you-make-every-fall>) seem functional. Take the saw fly infestation. That's the year he met Cannon. "Part of the reason I didn't catch it," he shrugs, "is I was romancing Stacia in the Front Range, which is a call you gotta make. Do you want to stay up here beating yourself up, struggling through whatever you're struggling through, or did I need to take that break?"

Topp knows that the tribulations of agriculture rough up the spirit of young farmers out there alone. "That's what almost

crushed me that year is the loneliness," he says. "Stacia's a huge part of my mental health."

And her expertise and aspirations are a huge part of Topp's long-range plan now. A shepherd by trade, Cannon works for a sheep farm out of Montrose, where Topp and she live, about an hour southwest of Paonia. Her plan is to build up a flock—she has six sheep so far—and mitigate financial risk by stacking her enterprise with Topp's. Sheep work really well on fruit farms, says Cannon. Instead of using fossil fuels to mow cover crop, she could graze her flock in the orchard. The sheep would tamp down plant matter, dump fertilizer in the form of manure, and stomp it into the soil—all behaviors that help **put carbon back into the soil**

(<https://www.rodalesorganiclife.com/garden/conventional-farming-ruined-the-soil-on-my-farm>). To that end, the couple is on the verge of signing a sales contract on 36 acres of western Colorado where peaches will grow well organically but the neighbors won't mind the animals, where they can expand into other endeavors—agritourism and breeding Bernese Mountain dogs—that add to their mix of revenue streams. It's an integrative approach that, when it all works, is sustainable for the land and the farmer.



Topp and Cannon plan to add sheep and Bernese Mountain dogs to their organic farming operation.

The move takes cash and brings layers of uncertainty, at a time when farmers are struggling. In the past four years, says Topp, U.S. agriculturalists have lost almost 50 percent of their income all totaled. Depreciation in commodity prices is largely to blame, but so is climate change, which is ravaging farmers' crops. Given that, Cannon and Topp are making the right plans. Multiple studies have shown that investing in an

integrative approach like theirs can help mitigate those climatic risks.

When I caught up with Topp recently, he had just returned home from a lobbying trip to Washington where he had spoken to Congressional aides about the importance of crop insurance, beginning farmer loan programs, and other safety nets—"a laundry list of everything I've been using," he said. He was there in his official capacity with the Rocky Mountain Farmers Union, in other words, but he spoke from personal experience as a young organic farmer.

As such, he also bent ears in Washington about approaches that help farmers help themselves while protecting the planet: "Our team brought up incentive payments to practice better conservation, and tools to help improve things like irrigation," he told me. "We advocated for renewable energy—everything from wind and solar to biofuel to cellulosic fuel research that can transform a broader range of products into ethanol, and the research and policies to support those."

It was an organic farmer's broad vision of the future of agriculture. And despite the challenges he himself has faced, Topp is optimistic about the viability of his approach, in large part because he sees the principles of organics spreading, its

wisdom reaching growers who are farming in the mainstream.

"I see the world of other farmers around me changing," said Topp. "And I think that no matter what you think about organic, it's been a really positive force in agriculture. I genuinely think it's contributed a lot, and I'm really proud of that."

*This article is part of the **Why Organic Matters***

(<https://www.rodalesorganiclife.com/tags/farming>) series, sponsored by Organic Valley

(<https://www.organicvalley.coop/call-us-crazy/>), a cooperative of over 2,000 small family farmers who produce dairy, eggs and produce in a way that's good for animals, people and the planet. We're highlighting stories about the people, communities, and companies who are making the world a better place, literally from the ground up.

