

Fixing Food

Seed Solution Models for a New Agricultural Paradigm

by Stephen Thomas

The visionary design scientist Buckminster Fuller once said: “You never change things by fighting the existing reality. To change something, build a new model that makes the old one obsolete.”

This is sage wisdom from a man who spent his life inventing solutions for our unsustainable civilization. If Bucky were still around, you can bet he’d have some colorful things to say about one of the most outmoded and ill-conceived systems in our messy modern world: industrial agriculture. Much ink has been spilled laying out the tragic consequences of mega-scale farming, from its devastating environmental impacts to the dramatic decline in global crop diversity.

Yet all hope is not lost. With the rise of the local foods movement in recent years, thousands of new farmers have taken to the soil to create an alternative network of healthful, vibrant community food systems. Farmers’ markets and CSAs are cropping up in an ever-growing number of towns. A new age of food consciousness is dawning. But despite these promising trends, a glaring contradiction exists: by and large, the seeds the farmers are dependent on come from industrial sources.

The scenario isn’t pretty. Led by the agribusiness giant Monsanto, just three corporations hold sway over 53 percent of the global seed market, proliferating genetically identical varieties bred for massive monoculture farming. Lacking options, small farmers are often forced to buy seed grown overseas in places like China in a “one-size-fits-all” disregard for regional adaptation. It doesn’t take a Rodale scientist to see that something is seriously wrong here.

As long as this consolidated, globalized, and ecologically disastrous model of seed production continues, all of our admirable efforts toward a sustainable food system are moot.

COLLECTIVE EFFORTS

“The industrial system is one model, and it’s been successful,” says Don Tipping of Siskiyou Seeds, a bioregional seed company based in Williams, Oregon. “But there are some real liabilities in allowing a small handful of companies to supply all our seed.”

Tipping is among a group of pioneering seed people working to change this. Four years ago, he was seated around a dinner table during a seed growers conference talking shop with some fellow farmers. Many, like himself, already had

long careers supplying big mail order retailers like Johnny’s Selected Seeds and Seeds of Change. The question came up: *So, where are we going with all of this?* Demand for organic seed was exploding, but the industrial market model was failing to deliver. The big seed companies had focused their catalogs on a narrow range of highly profitable varieties, leaving farmers with scant options. What was needed was a way for conscientious seed growers to circumvent the industrial system altogether and get their seed in the hands of farmers as directly as possible. In other words, they needed a new model to make the old one obsolete.

The group conceived a plan for a collaborative system that would collectively breed, produce, clean, market



Jars of seed waiting to get packed in the Hudson Valley Seed Library.

and distribute quality organic seed. Resources would be pooled and the profits equitably shared. After a bit more brainstorming and some startup grants, the Family Farmers Seed Cooperative (FFSC) was born. Currently comprised of 14 “grower-cooperators” spread out across eight western states from Washington to New Mexico, the cooperative model gives small seed farmers a collective strength to compete in the marketplace while supporting the growth of an alternative agriculture system they wish to see flourish.

Each farmer holds a stake in ownership of the co-op, with governing decisions made through an elected board of members. “Rather than seeking venture capitalists, as grower-cooperators we’ve decided to make our seed our investment,” Tipping says of the operation’s unique structure. He notes that the biggest challenges so far have been in building up a seed inventory, which can take years, and having enough cash on hand to pay the growers promptly when harvests come in. While the model is still evolving, it has been successful and holds real promise as an alternative to the corporate-controlled seed industry.

Paradigm-shifting ideas like this rarely crop up in isolation. A few years before the discussion that gave rise to the Family Farmers project, a group of farmers and gardeners in California’s Sierra foothills were having similar conversations. “We were all looking for a way to contribute to a seed system within our bioregion,” recalls Rowen White, a longtime seed activist. The group was eager to make something happen, but they didn’t know where to begin. After toying with the idea of setting up a local seed library, they eventually settled on the model of a cooperative growers network structured as a retail business. They called their new venture the Sierra Seeds Cooperative. “There’s a lot to be said about the seed company model as a way to get seeds to people,” says White. “The capital approach makes things economically sustainable for growers who are putting in their time and energy.”

For small farmers looking to diversify their production with a seed crop, the cooperative model removes some big barriers to entry. Growers simply drop off their harvested seed at the end of the season and the co-op takes care of processing, packaging and getting it to market. Sales are made through



Jared Zystro of the Organic Seed Alliance teaches corn breeding at a workshop in Farmington, Minnesota.

a web-based store, retail racks in local shops and wholesale accounts brokered with larger seed companies. Everyone pays in a percentage to support the operations and splits the profits. “It’s a real benefit to our growers to not have to deal with the nitty-gritty business side of things,” says White. “They can just focus on producing quality seed.”

As Director, White oversees the co-op’s various operations and helps her growers feel supported in their efforts. Communication is key to this process, especially when helping new members navigate the challenges of integrating seed growing into their existing farms. White knows well the pitfalls that can arise. “It’s easy to back-burner it,” she says. “You get all this excitement in January, and then when the realities hit in June and July — along with the weeds and the market pressure — the seed crop can kind of fall by the wayside.” To prevent this, she maintains close contact with her growers throughout the



Ira Wallace of Southern Exposure Seed Exchange poses with an heirloom squash.



Members of the Family Farmers Seed Cooperative gather for their annual meeting in Williams, Oregon.

season. Those that overcome the start-up hurdles are “stoked to get that check in December when cash flow is low and the markets are done,” says White.

THE REGIONAL DILEMMA

With the consolidation of the seed industry over the last century, the once-abundant diversity of regionally adapted crops has been tragically winnowed down to a relative handful of varieties. Dozens of small bioregional seed companies have emerged in recent years to address this troubling problem and reinvigorate their local food systems with hardy heirlooms. The Sierra Seeds Cooperative shares this mission. “From the start, our focus has been on really solidifying and strengthening the seeds in our bioregion,” says White. Currently, their catalog contains only varieties

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grown within their local watershed, an area of roughly 1,000 square miles surrounding the Yuba River. But certain varieties popular with their customers, such as brassicas and peas, are difficult to grow for seed in the region. Starting this year, the co-op will begin to source a few varieties from outside their bioregion to round out their offerings.

“There is always going to be a certain amount of regional specialization,” says Tipping, “but for us what is paramount is offering the highest quality seed we can.” He envisions the FFSC’s broad growers’ network serving as a hub for bulk seed that local companies can draw on to supply their own regions. For its part, the co-op is working to expand the range of diversity they offer by breeding and trialing new varieties. But when it comes to developing a network of seed producers across the country, there will always be a degree of interdependence involved. “The West grows most of the seed for the country,” says Tipping. “So it’s not likely you’re ever going to have a North Dakota bioregional system of growers able to supply all their own seed.”

While the notion of a diverse regional patchwork of self-sufficient seed systems sounds idyllic, it’s not very practical. For one thing, as all seed producers in the Eastern half of the country well know (or soon discover), the climatic conditions throughout much of the region make seed production difficult. A combination of a short growing season, excessive moisture and extreme temperatures sabotage many seed crops before harvest time. Ken Greene, co-founder of the Hudson Valley Seed Library in upstate New York, is keenly aware of these challenges: “There’s more to overcome here, so there’s a lot fewer people taking on this kind of work with seeds.”

Launched in 2008, the Hudson Valley venture was one of the pioneering seed libraries in the country, sharing a diverse collection of locally adapted heirlooms with its members. Over the years, however, the operation has shifted its focus to more of a retail-oriented model. Finding this balance has been

tricky. In 2011 Greene was working with 15 local growers to produce seed; by the following year, that number had shrunk to just five. “It was a wake up call,” he says. “We don’t have the resources to deal with that many growers, and it wasn’t working for them either.”

To expand its operation in a sustainable way, the Hudson Valley Seed Library is seeking grant funding to launch a cooperative model similar to those in place on the West Coast. “We want to make things as easy as possible for our growers,” explains Greene. “Farmers are already overworked. There’s already too much expected in their skill set, so that even those who are passionate about getting started growing seeds think, ‘I can’t take on something new.’”

The key to establishing a viable regional seed system, in Greene’s mind, can be summed up in two words: *scale* and *innovation*. “There are all these tools we need in order to produce and distribute seeds regionally,” he says, “but they aren’t the appropriate scale for us. So the next step is, how can we be creative? Who can we work with to make this happen?” To this end, the Hudson Valley Seed Library is developing relationships with local extension agencies to gain access to testing services for its growers’ seed to ensure its viability and safety.

When scaling up small seed production enterprises, Greene feels there is an increased responsibility for quality control. This is a challenge that he believes the resourceful and inventive local seed movement, responsible for such novel creations as seed libraries, will have no trouble taking on. “Some people look at what we’re doing and say ‘Oh my god, what if we’re sharing poor quality seed or spreading diseases’ — like this movement is a bad thing,” he says. “To me it just shows that there’s enough interest and activity around seed saving happening that we can now tackle the next issue.”

FILLING THE EDUCATION GAP

Building a regional-scale seed system from scratch is a tough row to hoe,



Rowen White of the Sierra Seeds Cooperative braids Iroquois White flour corn, an heirloom to her native Mohawk community.

but it’s not something that’s never been done. “It’s new — and yet it’s not,” says Greene. “We were there at one point. Not that long ago, there were farms developing ways to grow seed in more challenging climates like ours in the Northeast.”

Ira Wallace knows this paradox well. As a worker-owner of the Southern Exposure Seed Exchange in central Virginia, one of the country’s oldest bioregional seed companies, she is on a hunt for the lost seed knowledge of the not-so-distant past. During a recent visit to Oregon, Wallace embarked on a “seed peoples trip” to commune with some legendary pioneers of the trade: Alan Adesse, Carol Deppe, Alan Kapuler, and Frank Morton. She hoped to glean some nuggets of seed wisdom from the Western elders of the movement to bring back home. “There were several small seed companies near where we are in the Richmond area that were doing the nitty-gritty work back in the ’50s — but they’re gone,” Wallace laughs.

Founded in 1982, the Southern Exposure Seed Exchange operates from a 72-acre farm in rural Virginia collectively managed by the Acorn Community, an intentional community of around 30 people. An impressive selection of 700 heirloom veggies, herbs and cover crops fill out their catalog, many of them regionally adapted and sourced from a large pool of farmers across the South-

east and Mid-Atlantic. In an effort to expand their grower's network, Southern Exposure is exploring ways to bring in more beginning seed farmers. Discussions have taken place around adopting a more formal cooperative model, but the community has been hesitant to put it in place. "Farmers are kind of independent," explains Wallace. "Some people don't like the idea. So it's like, what's the appropriate level of cooperating?"

To assist aspiring seed farmers in making the leap, Wallace connects them with "mentor growers" nearby who coach them through the process. It's an approach that is showing real rewards. As mentors step up, a cluster of new growers often emerges. Developing these kinds of innovative learning opportunities for beginning growers is a primary focus for many of the alternative seed networks. "It's the heart of what we're doing," says Greene, "growing seed ourselves and teaching other farmers how to incorporate seed growing into their own diversified farms."

The Organic Seed Alliance (OSA) has proven a valuable ally in this grassroots educational push. Based out of Port Townsend, Washington, the nonprofit seed stewardship group has become a go-to resource for independent seed producers, offering training and support for small growers and bioregional seed networks around the country. Last fall, OSA staffer and prestigious seedsman John Navazio taught a two-day plant breeding workshop in Nevada City hosted by the Sierra Seeds Cooperative that drew dozens of local farmers and gardeners. The organization also recently helped Southern Exposure conduct a Southeast-wide online survey that identified 1,700 people interested in regionally produced organic seed.

Jared Zystro, who organizes OSA's educational events in California, views this work as filling a crucial gap in the agricultural landscape. "There hasn't been a lot of attention from the traditional agricultural extension system on supporting seed growers," he says. "People are really hungry for this information right now, and it's great to be able to provide that service." The dearth of commercially available organic varieties is a strong motivating factor for many small farmers to begin producing seed. They view organic seed as a vital component to building a more healthful and ecologically conscious food system

— as well as a lucrative niche market to diversify their revenue. By training seed growers within the framework of organic production, OSA is playing a powerful dual role in advancing the sustainable agriculture movement.

Beyond the practicalities of seed production, there is a strong need for educational offerings that train more people in the business side of the industry. White views this as a critical next step to establish more regional networks and scale up production. "We all have these great green thumbs," she says, "but we don't necessarily know how to turn this into something that's economically sustainable." Drawing on her entrepreneurial experience in the seed world, White hopes to serve as a resource to help other regional enterprises get started.

WE'RE ALL IN THIS TOGETHER

Running throughout the local seeds movement is a powerful camaraderie — a sense of working toward a common cause. As an example of this unifying spirit, Greene points to the National Heirloom Exposition, a three-day gathering of the sustainable agriculture tribes held annually in Santa Rosa, California. Though the event is put on by a successful seed company, Baker Creek Heirloom Seeds, the organizers make a point to invite everyone who is playing a part in the burgeoning independent seed industry, market rivalries notwith-

standing. The resulting atmosphere is empowering. "It's really something that I love about this side of the seed world," says Greene. "It's totally inclusive. Everybody's doing their own thing, but there's this feeling that we're all doing it together." White agrees, recognizing this spirit of collaboration as "an underlying strength in the bioregional seed movement. That old paradigm of competition is not going to serve us."

To truly transform an industrial food system so firmly rooted, a parallel shift must take place in the public perception. As the elders of the seed world will readily attest, getting people to comprehend the vital importance of seeds has been an uphill battle. After all, here is a facet of our daily lives so long overlooked by the general public as to have become almost irrelevant. Even among many sustainability advocates, the tiny but fundamental seeds at the source of our food supply have gone largely unnoticed. But over the past couple of years, a switch has flipped. Mental light bulbs are suddenly blazing en masse as people begin to connect the dots between their dinner plates and the precious seeds that fill them.

Greene credits the progressive evolution of the local foods movement, along with a rise in public awareness around GMOs following the recent California food labeling initiative, with helping to usher in the seed awakening. Regardless



Bill McDorman (Native Seeds/SEARCH) and Rowen White (Sierra Seeds Cooperative) examine a flower during a Seed School class.

of its ultimate cause, the surge in interest comes as a welcome surprise. "I'm blown away," he says. "When we started this, I would say 'open pollinated' and people would look at me like I was saying something offensive. Now it seems every other day I get a call or email from a grad student doing their thesis about seed saving."

"It's remarkable what's happening right now," agrees Bill McDorman, Executive Director of the Tucson, Arizona-based seed conservation group Native Seeds/SEARCH. "It's not just farmers and gardeners getting involved. Seeds have really entered the public consciousness in a powerful way." The organization's flagship educational program, Seed School, is an intensive week-long course "in all things seeds" that trains people from all walks of life in setting up localized seed systems. Nearly 200 students have graduated from the program since it began just over two years ago, with many going on to found small bioregional seed companies and community seed-saving projects. McDorman is taking Seed School on the road this year to meet a growing demand for the course, teaming up with Rowen White to co-teach the inaugural national class. As a veteran seedsman, he is heartened by the new excitement and activity around local seeds. "Some of us have been working at this a long time," says McDorman, "and it feels like this whole modern movement is the cavalry coming down the hill to save us."

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Like the dramatic last showdown in an old Western, the saga of industrial agriculture may be nearing its finale. It would be naïve to imagine that the powerful seed corporations holding the reins of our food system will give up without a fight. But while their wagons are busily circling, a band of seed pioneers is hard at work designing solutions to our unsustainable predicament. Through cooperation, ingenuity and dogged determination a new seed paradigm is being invented that will soon send the industrial model of agriculture to the compost heap of history. Old Bucky Fuller would be proud.

Stephen Thomas is a writer, gardener, and seedhead originally from Atlanta, Georgia. He is one of the founding contributing editors for *realitysandwich.com* where he keeps a blog under the alias ST Frequency. Recently transplanted to Tucson, Stephen is Development Assistant at Native Seeds/SEARCH, a seed conservation nonprofit.

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