CROP CIRCLES

THE U.S. AGRICULTURAL SYSTEM IS STUCK IN A LOOP. HERE'S WHAT YOU CAN DO TO HELP BREAK THE PATTERN.

BY BILL GIEBLER | PHOTOGRAPHY BY JULIA VANDENOEVER

DANELLE MYER GROWS FOOD.

Cabbages, beets, sweet peppers, heirloom tomatoes, onions and herbs. About 100 specific varieties in all, all grown according to organic principles. Her farm, One Farm, in the small western Iowa city of Logan, sits on a small piece of land her family has been farming for more than 100 years.

Myer grew up here, where her family has long managed approximately 1,000 acres, alternating corn and soybeans, and raising cattle, too. But the story is not contiguous. Just months out of high school, Myer took off, pursuing a degree in public relations and work in nearby Omaha.

But after 17 years away from Logan, Myer began to feel her own call to farm—and to do so on family land. "As I was looking for the meaning of life in my 30s," says Myer, "I concluded that growing good food could be a really meaningful way to use my life." For Myer, this is about whole ingredients and a "trickle-down effect," in which access to diverse and flavorful food brings people together. "I just think there's a lot of community that can be built around good food when people are connected to their food," she says. "And hopefully it makes them feel something positive."

Myer manages only a few acres, with shy of two presently in production. It's a small farm with unprecedented diversity in a midwestern sea of corn and soy monocropping—a two-tone, chemically dependent, genetically modified tapestry measured by the hundreds of square miles. A tapestry that is not, for the most part, food. Though corn and soy cover most of the nation's farmland, humans directly consume very little of it. Some becomes the fuel ethanol, and most of the rest makes it to people in the indirect and incomplete form of animal feed or fry oil.

So, while stating that a farmer grows food might appear no more surprising than noting that a painter paints, the correlation is not so straightforward. Myer is one of only two farmers she's aware of in Harrison County—where there are more than 800 farms on roughly 400,000 acres—who's doing this. In fact, this spring Myer hosted yoga on her farm as a way to build community and help those around her see what she's up to—a scene suggesting that in rural southwestern Iowa, vegetable farming is weirder than yoga.

But this is not an Iowan story—it's a story about food and farming in America. It's about what we grow and what we eat. Through this lens, Myer is a collection of farm-girl statistics and stereotypes—those she represents, and those she breaks. Firstly, there's the farm; then there's the "girl" who, like so many (especially women), leaves the farm. There's also the good food and the organic methodology—with the promise of cooperating with the land and ecosystem, using fewer chemicals and managing water more efficiently.

"Being a good steward of the land is important to me, too," says Myer. But it is indeed the food that's most important. Her motivation is to be part of an emerging healthy and diverse food culture in a nation whose food culture remains disturbingly impoverished.

Myer's part starts with growing it.

THE CHICKEN OR THE AG?

The average American diet leaves much to be desired. An incredible 87 percent of eaters consume below the recommended intake of vegetables, according to the dietary guidelines published by the federal government, and most consume more than the recommended intake for sugars and saturated fats—70 percent and 71 percent respectively.

Potatoes account for 21 percent of all vegetable intake, with lettuce, tomato and onion being the only other vegetables making up more than 5 percent each of total vegetable consumption. It's not hard to see where this is going: The United States remains, apparently, a burgers-and-fries nation.

A view from the agricultural side completes the picture. A significant

One Farm's Danelle Myer checks the placement of irrigation lines on mid-summer plantings. "Fall cabbages have to be planted in the heat of the summer. Getting irrigation on them right away is crucial," Myer says.

majority of all U.S. farmland is used to grow corn, soy and wheat—just three crops, with the former two, corn and soy, covering more than two-thirds of all U.S. farmland in roughly equal measure.

Such a monotonous dietary palate (and a monochromatic agricultural palette) may come as a grim surprise to consumers enjoying the bounty cropping up at natural foods stores and farmers' markets. And it comes with broad effects: Obesity, diabetes and diabetic precursors like metabolic syndrome are on the rise from already unprecedented levels.

"We're told by the USDA and HHS [Health and Human Services] to fill half of our plate with fruits and vegetables," says Kari Hamerschlag, deputy director of food and agriculture with environmental-advocacy organization Friends of the Earth. "But only a tiny fraction of the Farm Bill is dedicated to the production and promotion of those healthy foods."

Hamerschlag advocates for healthy farm policy. Like many, she says the monocropping story begins with Earl Butz, secretary of agriculture in the 1970s, and his "get big or get out" approach that sent agriculture down the path of big farms, big monocultures and big subsidies. Since then, "there's been a growing focus on big agriculture in the U.S. and a lot of the reasons we have the policies we have, which are very much focused on commodity crops." The biggest U.S. food commodities are corn, soy, wheat and rice.

"[That approach] is not based on what's actually needed for our country," says Hamerschlag, "so there's a complete disconnect between our dietary guidelines and the farm policy, which is really dictated by large agribusiness companies."

Like parents preaching the virtues of vegetables while stocking the cupboards with sweets and salty snacks, government agencies are sending conflicting messages; the fruits and vegetables of a healthy diet receive miniscule incentives compared to the crops that are serious contributors to many of the diet-related diseases plaguing Americans.

These contributors come in the form of sweeteners (read: corn), processed grains (like corn and wheat) and certain vegetable fats (primarily corn and soy), says Karen Falbo, director of nutrition education for national retailer Natural Grocers. The list starts with the highly sweetened beverages gulped big across the country and continues with the refined grains and sugars packed into snacks, cereals and fast foods.

It's the third group, the oils also wreaking havoc on human health, that none of the government agencies talk about, says Falbo.

"These [corn- and soy-based] oils should not be consumed," she says. "They're so devastating to human health; they should not be part of the diet. They are classified or marketed as vegetable oils, but they are literally toxic to the human body because they promote inflammation." Falbo points to the omega-6, omega-3 balance in the body, recommending, along with many experts, a 4-to-1 ratio at most. "What is happening in the American diet is, [the ratio] is up to more like 25-to-1 omega-6s-to-omega-3s. So, this incredible imbalance sets the body up for metabolic derangement," she says, which can lead to cardiovascular disease, cancer, diabetes and obesity. "These commodity crops are producing these foods that have contributed to this imbalance."

Cultural dietary preferences and agricultural practices have always engaged in a reciprocal relationship. We don't simply grow what we eat. We also eat what we grow, as dictated by geographical and geological factors like climate, water and soil—and the things that roam, fly, slither or swim nearby. What's agriculturally possible, then, becomes what's culinarily perfected and craved. Over time, cuisines are born. But what influences U.S. agricultural policy—and in turn the country's packaged food labels and lighted and laminated menus—is not always so organic.

ENTRENCHED FARMING PRACTICES

"There's been just an entrenched interest on the ag committee," says Hamerschlag. "It's a very small number of people in Congress that are defining our agricultural policy, and they sit on the House and the Senate ag committees, and they are completely in the pocket of Big Ag and commodity producers." It's the pharmaceutical and agrichemical companies—the makers of pesticides and GMO seeds—and interest groups representing large-scale commodity growers that are exerting this influence, she says.

Hamerschlag points to a much-needed shift in subsidies. Fruit and vegetable farmers (growers of what the USDA tellingly refers to as "specialty crops") receive a small fraction of the subsidies given to the big commodities, she says. It's an imbalance that maintains an unhealthy status quo for both land and humans.

The government assistance these specialty producers seek is in the form of research and promotion, says Hamerschlag. "Promotion is what's really important if we want people to eat half a plate of fruits and vegetables. We need to really support the marketing of that."

"It's just really hard to break outside the norm," says Myer when asked why change is slow to come. "I don't want to say it's easier to grow corn; it's not that simple. I just think the system is so complicated it makes it hard for people to experiment and try different things on their own."

Local infrastructure is part of it. If there's no market represented at the local grain elevator, farmers must take their goods elsewhere or, as Myer did, create their own market: through farmers' markets and buy-by-the-box programs. Myer's latest focus is to build her wholesale network.

Crop insurance is also set up to serve the big commodities. It's based on acreage, which is irrelevant for a farm like Myer's—not just because it's small,

but because it's diverse. "When I've looked into it, it's usually like: 'How many acres of carrots are you going to grow?' 'How many acres of bell peppers are you going to grow?' But it's not acres when you're working at this scale. I'm going to have 200 pounds of carrots and 500 pounds of sweet potatoes. So, there is no system set up that translates to this type of production. Everything is created for corn and soybeans."

And yet, such diversity is crucial, not just for our diet, but for the sustainability of our agricultural system. The U.N. Food and Agriculture Organization estimates that only 30 of the approximately 7,000 edible plant species feed the world, with just three—corn, wheat and rice—providing some 60 percent of global calories from plants. Although this increases industrial efficiencies, such minimizing of genetic diversity leaves the entire agricultural system less resilient to pest and disease pressures in a changing climate.

But it's not just what we grow that's ripe for improvement. It's how we grow it. "We also need to support sustainable agriculture, right?" says Hamerschlag. "Like the healthy, organic, pesticide-free, ecologically sound crop production practices. Not only are we subsidizing the wrong kind of crops, we're also subsidizing the wrong kind of crop production system."

With the growing popularity of organic products and the emergence of farmers like Myer, surely a shift is brewing. "No, not at all," Hamerschlag corrects with urgency. "Not in the policy arena." The House Farm Bill went backward, she says, and the Senate's is pretty much status quo. "There is no paradigm shift going on at the policy level."

Hamerschlag does see change at the consumer level, however. "It does certainly seem like at the market level there is a shift, and that's the hopeful part," she says. She's also hopeful on the access front, listing college campuses, airports and K-12 schools as providing more healthful options. "I'm hopeful that it's coming through market change that there's growth in healthy eating. But we'd sure get there faster if we could have the policy side of things catch up."

BACK TO THE FARM

An hour and a half southeast of Myer's One Farm, in the small town of Red Oak, Iowa, sits Ogden Farm. Here, Clay Ogden, a fifth-generation farmer on this land, farms 1,500 corn and soy acres with his father. "Pretty standard Iowa farm, I guess," Ogden says.

Very standard: more than two-square miles of alternating corn and soy.

Like Myer, Ogden left the farm young. "I left here running when I was 18," he says. "Went to Colorado. Loved it." But he came back at age 39. That was four years ago. "Basically, I'm the only one left," he says. "My dad is 70, and my sister lives in Montana."

Ogden's and Myer's move off the farm is also pretty standard. The number of U.S. farmers is shrinking as fewer young farmers stick around. As a result, the average age of the U.S. farmer is 58.3, up eight years over the past three decades. Small and medium farms, too, are disappearing because they can't compete with giant producers. They are being subsumed into larger ones or sold to real estate developers. The midpoint U.S. cornfield size tripled between 1987 and 2007, according to U.S. Public Interest Research Group (U.S. PIRG). Loss of diversity, it seems, is not just a crop phenomenon. It's increasingly true of the farmers themselves. Earl Butz' dictum, "get big or get out," is playing out with unintended consequences.

Unintended consequences becomes a theme throughout industrial agriculture. In February, U.S. PIRG released the report "Reaping What We Sow," detailing the impacts of large specialized farms, including environmental threats like loss of topsoil, aquifer depletion, water pollution and global warming, and human health concerns like antibiotic resistance, obesity, cancer, autism and lower IQs resulting from pesticide contamination.

The "pretty standard" farm is not a pretty standard.

But Ogden, like Myer, presents an uncommon trajectory, beginning with the return to the farm. For Ogden, it continues with growing non-GMO versions of the corn and soy his farm has hosted for decades. So far, a third of Ogden's farm—roughly 500 acres—is non-GMO. He's also gotten 30 acres certified for organic production.

This is all experimentation for Ogden. It requires new techniques in the field and seeking new markets for his produce. In the case of non-GMO soybeans, he's collecting a premium, but with a bit more effort at harvest time. "We have to keep all that non-GMO soybean segregated. We store it on the farm and deliver it about a half an hour away."

His corner of Iowa ("we're kinda in ethanol country here," he says) doesn't provide a premium for non-GMO corn. Still, he's sticking with it and selling it in the same commodity

market as his GMO corn. "We found really great yield responses to [non-GMO], so we've kept doing the corn"—an in-field result that flies in the face of genetic engineering's central "feeding more people" promise. When a premium comes around, which Ogden says is only a matter of time, it will be a bonus.

Over the next couple of years, Ogden hopes to convert all the farm's corn and soy crops to non-GMO. He also plans to convert more land to organic, "even if that's only 20 acres at a time." Ogden likes the organic and dislikes the chemicals on the conventional acreage. "But it's a steep learning curve and definitely requires a little more labor."

A big part of that learning curve will entail the three C's of organics: crop rotation, cover crops and compost. The rotation of corn and soy already practiced across the state employs a micro-symbiosis in which the soy adds nitrogen to the soil, reducing the need for synthetic nitrogen inputs. Organic production, however, calls for more diverse crop rotations. "We'll probably do soybeans, corn, wheat and oats; that would kind of be our rotation," says Ogden. "Perhaps rye grass and leave it fallow: Plant rye in the fall and just leave it out there, and maybe mow it and bale it." There's the second C: cover cropping. Organic principles dictate keeping something in the soil year-round, and not always for harvest. Cover crops pump nutrients into the soil.

Compost helps with that, too, and all three C's reduce the need for chemical inputs, like fertilizers and pesticides, while increasing the amount of carbon pulled from the atmosphere—where it's a liability—to the soil, where it boosts crops and increases the soil's water retention, and in turn, its water efficiency and drought and flood tolerance.

"Of course, we're going to have to figure out how to make money for those three years while it's transitioning," Ogden says, referring to the USDA Organic program requirement that land must be cultivated with organic methods for three years before its produce can be labeled organic.

Ogden's father is receptive to these changes, but he's not pushing them. "That's all me," Ogden says. "It's kind of hard to teach an old dog new tricks out here."

Ogden does see organics gaining some traction, however. "We've shifted gears a little bit from focusing so much on the actual crop to just getting the land certified so there's more opportunities to diversify.

"I don't think there's very many other people around here that are doing that," Ogden says. "But with the younger generation coming up, I bet it gains a little popularity."

WHAT CAN *YOU* DO?

"Gaining popularity" has many entry points: on the dinner plate, in the grocery aisle, on Capitol Hill and on the farm. How everyone participates in the system drives where it goes. This includes where and what you buy and how you vote.

As a farmer, Myer urges consumers to buy in season. "To me, the seasonality of food is exciting because you can't get it all the time, and it's not going to taste like this all the time. I think that's a positive rather than a negative.

"When I have a thousand heads of napa cabbage," she continues, "I want people to think, 'oh my gosh, it's napa cabbage season! I should make up a bunch of kimchi or blanch it and throw it in the freezer.' Maybe that's too old-fashioned for people or too homestead-y," she says, but it is indeed what being connected to our food—and food source—looks like.

Myer also says focusing on how food tastes, and less on how it looks, helps producers. "I tend to grow really ugly sweet potatoes," she says, "but they taste amazing and they're good for you!"

As an activist, Hamerschlag advises you to engage in advocacy with the companies and stores you buy from. That means contacting them and demanding better options. "For a healthy diet, it's not just what kind of food, but how food is produced. In the case of meat, we want to get antibiotics and hormones out of the meat, so consumers should be asking companies to sell meat that is raised without the routine use of drugs." Hamerschlag believes companies are much more sensitive to consumer pressure than policy makers are.

Even so, she says, consumers must be citizens, too. "People do need to let their representatives know that they want more organics."

As a nutritionist, Falbo's recommendations center around what consumers buy and where they buy it. "First and foremost," she says, "shop with a grocer who is committed to sourcing food from producers who are using practices that are more sustainable."

Here she begins to sound like a commercial for her employer, but not without merit. Natural Grocers indeed presents the highest product-sourcing standards among the larger retail chains: It sells only organic produce and pasture-based dairy, for instance, with an emphasis on 100 percent grass-fed producers who are using regenerative agricultural practices. Many small, independent natural retailers have similar high standards.

"It is important to know where your food comes from, how it was produced, and the impact on the land, the animals, the people and the economy," Falbo says. And then act according to that knowledge. Where and how you spend your money, and how you engage with those you support, is not to be understated, each of these experts agrees, as acts of positive change—or collusion with the status quo.

Myer is grateful for what she considers a great privilege: access to family farmland. She is determined to do something meaningful with that opportunity. It was a search for meaning, after all, that called her back to her roots.

"I'm getting closer," she says, eight years in. She is also personally enriched by the farm ecology—floral, faunal and microbial—which, she says, is developing around her. "Even when I don't cover-crop, if I'm growing food crops I can still see the soil getting better just because of how we're using it."

Myer is a key—if humble—part of this farm ecosystem, and perhaps that's the drive behind building a wholesale network that will give her more time on the farm and less time out selling. "I want to stay here and grow food," she says, presenting, perhaps inadvertently, another subtle way you can help: Buy real food, grown well. If the market creates the demand, the farmer doesn't have to create the market. Help farmers do what is best for farms, people and the planet: grow food.