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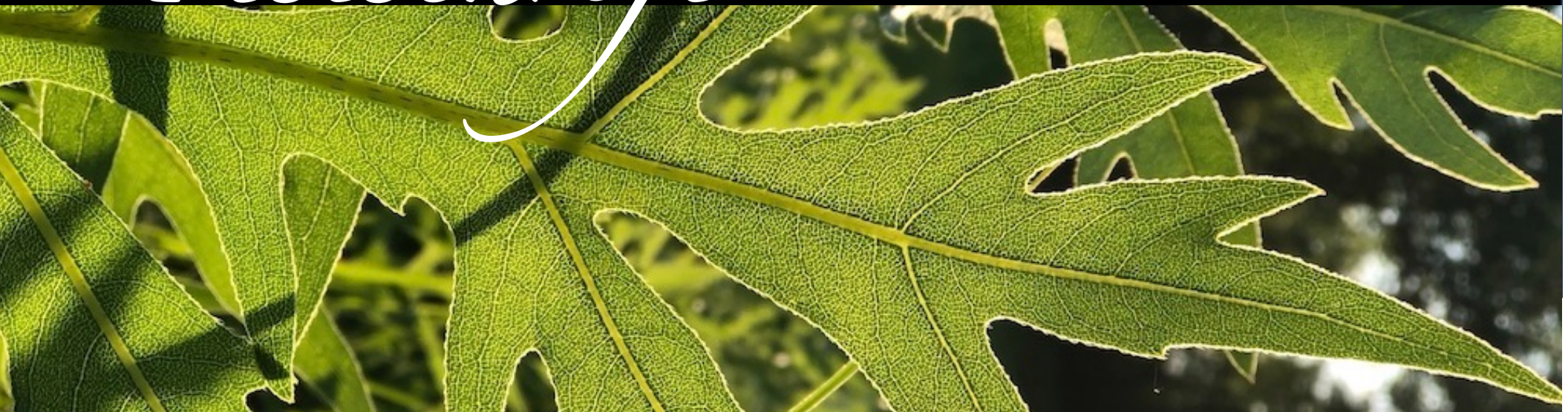

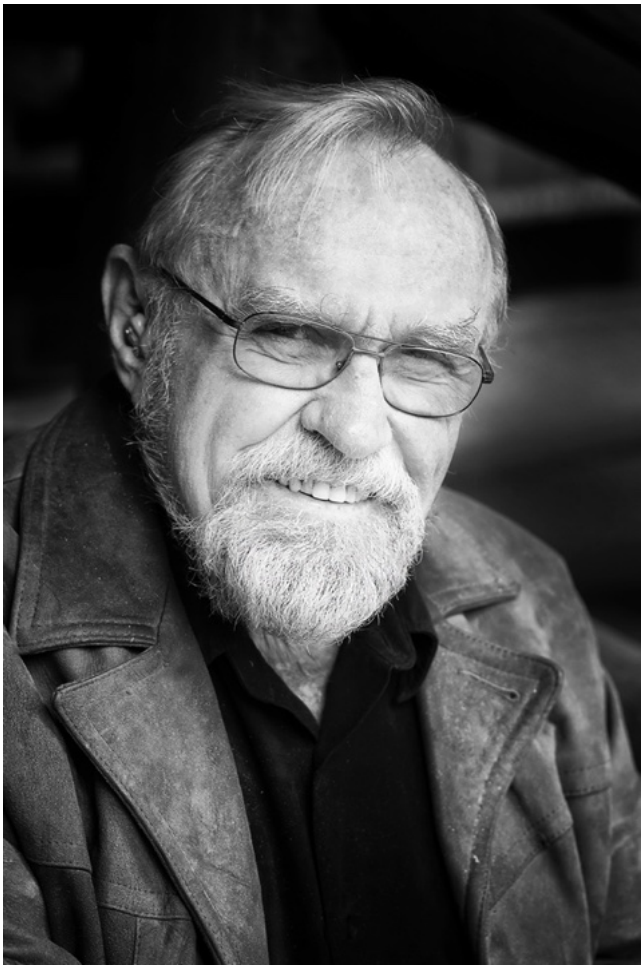

DR. FREDERICK L. KIRSCHENMANN

April 2025

FESTSCHRIFT

This is a collection of essays, stories, letters, and insights of Fred Kirschenmann as a farmer, theologian, scholar, philosopher, advisor, administrator, and friend. These interdisciplinary reflections capture some of the profound impacts he has had in sustainable agriculture and food systems.

Curated by Angie Tagtow & Carolyn Raffensperger

The Spiritual Dimension of Agriculture: A Practical Necessity

Frederick Kirschenmann

Unpublished Manuscript

The contents of this paper was originally delivered as the opening keynote to the "Farmers and Philosophers: Toward an Ecological Civilization" Conference at the Center for Process Studies, Claremont School of Theology in Ontario, California, January 20, 2018.

Spirituality is the inward activity of growth and maturation that happens to each of us.
Lauren Artress

What is Spirituality?

In 1918 Liberty Hyde Bailey published one of his many books which I think provides a useful framework for answering the question, "what is spirituality?" In that book---*What is Democracy?*---he begins by asking "What Democracy is Not" and then proceeds to ask "What Democracy Is." It occurred to me such an approach may also be useful to better understand what spirituality is.

First, what spirituality is not---it is not a religious dogma which is only relevant to religious beliefs. What spirituality is, is an "inward growth and motivation" that happens to each of us, as Lauren Artress described it. In other words, spirituality is an "inner hold," a conviction, which determines what we live for. Consequently, we all have a spiritual dimension. Furthermore, everyone involved in agriculture has an "inner hold" that motivates them to support the kind of agriculture they believe is essential to the greater good.

Paul Tillich, one of our more famous modern theologians, articulated this in one of his more popular books, *The Courage to Be*, 1952. He described what happened to the word "spirit" and how we are now deprived of it in our culture:

> *One of the unfortunate consequences of the intellectualization of man's spiritual life was that the word 'spirit' was lost and replaced by mind or intellect, and that the element of vitality which is present in 'spirit' was separated and interpreted as an independent biological force. Man was divided into a bloodless intellect*

*and a meaningless vitality. The middle ground between them, the spiritual soul, in which vitality and intentionality are united was dropped (*p.92).

What is Agriculture?

I think one of the ways we can best understand agriculture is by studying it in a historical context. In that regard Ernest Schusky has provided us with an important perspective. As an anthropologist he asks the question, "How have we fed ourselves ever since we have been on the planet?"

Schuskey points out that as the upright, two-legged, homo-sapiens we became, we evolved on the planet roughly 200,000 years ago, and for the first 190,000 years we fed ourselves as hunter-gatherers. We were food collectors, not food producers. Then, roughly 10,000 years ago we became food producers and for most of that 10,000 year period we practiced a "slash-and-burn" agriculture---we cut down and burned existing perennial grasses and trees and then planted seeds from domesticated plants. Given the natural fertility in the soil, produced by the perennial systems and animals, plus the "fertilizer" from the ash, we were able to produce food from such plots for a decade or more, but as the natural fertility became depleted we slash-and-burned a new plot and let the original one lie fallow, then we could return to produce food on the original plot decades later. Eventually farmers of such slash-and-burn lands began to plow the soil and later irrigation was introduced which "may have been the basis for the first cities." The domestication of animals soon also became important in this "Neolithic era."

The inconveniences of such slash-and-burn practices, plus the requirement for much land, eventually led to the "neocaloric revolution" which "began in the nineteenth century" mostly driven by the "use of fossil energy" and ultimately it produced the input-intensive, highly mechanized agriculture of the modern period.

However, as Schusky points out, in the timeline of human history the "neocaloric era" will, of necessity, be a very short period of time since the inputs are non-renewable and will therefore become depleted and prohibitively expensive.

Nevertheless, the neocaloric, input-intensive agriculture was enthusiastically adopted. Such enthusiasm was partly driven by the influence of a brilliant German scientist, Justus von Liebig, who developed the discipline of organic chemistry. Liebig borrowed insights from Carl Sprengel, who developed the concept of "the law of the minimum" in 1828, and in 1840 Liebig applied the law of the minimum to agriculture in his publication of Organic Chemistry in Its Application to Agriculture and Physiology. It was that law of the minimum, applied to agriculture, which ultimately led to the adoption of the philosophy that shaped the passion of modern agriculture---"maximum efficient production for short-term economic return" which was achieved by

applying cheap inputs---mostly N, P, & K---and a system of agriculture that was designed in terms of specialization, simplification and economies of scale. And its singular goal was "yield."

Interestingly enough, as David Montgomery points out in his book *Growing a Revolution*, 23 years later Liebig published another book---*The Natural Laws of Husbandry*---in which he "bluntly contradicted the idea that soil fertility could be maintained by adding a few substances to the soil" and "recommended returning organic matter to the fields to provide crops with a full complement of nutrients" (p.246)---that suggested a different kind of "spirituality." However, his contrary perspective never captured the attention of the agriculture community.

Of course, while the input-intensive modern agriculture had its roots in the early 1900's it really took hold after the 2nd world war when among other motivations, the manufacturers of munitions for the war were idled and so in their own economic interests began to convert to producing relatively cheap fertilizers for agriculture and consequently enhanced the philosophy of input-intensive farming.

While this input-intensive agriculture was emerging, there was, however, another kind of spirituality evolving in agriculture, but almost in the shadows.

One of the earliest proponents of an alternative spirituality in agriculture was Liberty Hyde Bailey. In 1915 he published one of his most flourishing books on agriculture, *The Holy Earth*. As one of the first deans of agriculture he already recognized that the way we related to nature in agriculture was inappropriate. The way we dominated nature demonstrated that "of all the disturbing living factors man is the greatest. He sets mighty changes going, destroying forests, upturning the sleeping prairies, flooding the deserts, deflecting the courses of rivers" etc. (p.5) Consequently, he made a compelling case for the need for a new spirituality. We need to recognize that when farming simply "becomes a business" and "we apply to it the general attitudes of commerce" then "we must be alert to see that it does not lose its capacity for spiritual content." (p.21) Accordingly, we now need to "take a new hold." We need to relate to earth as if it was "holy" and therefore learn from it, instead of dominating it, and ultimately, we need to "find our rootage in the soil." (p.20)

In 1920, Rudolph Steiner proposed a similar kind of alternative spirituality. He proposed that farmers should manage their farms like "an organism" so that everything that is used on the farm comes from the farm---a self-renewing process---and anytime that one had to bring in an input from outside the farm It was an indication of "a sick farm."

In 1930 Sir Albert Howard made similar points. He suggested that practicing agriculture by dominating nature was the wrong path. He characterized agriculture as "nature farming," in other

words we should be asking---how would mother-nature farm if she were in charge? On page 4 of his *An Agriculture Testament*, he summarizes that in one simple paragraph:

> *Mother earth never attempts to farm without livestock; she always raises mixed crops; great pains are taken to preserve the soil and to prevent erosion; the mixed vegetable and animal wastes are converted to humus; there is no waste; the processes of growth and the processes of decay balance one another; ample provision is made to maintain large reserves of fertility; the greatest care is taken to store the rainfall; both plants and animals are left to protect themselves against disease.*

Aldo Leopold, who was influenced by Liberty Hyde Bailey, with respect to his writings about agriculture, made similar observations. Many of his comments about agriculture were woven into his "land ethic" and he was explicit about the fact that "a land ethic changes the role of Homo Sapiens from conqueror of the land-community to plain member and citizen of it." He observed that it is our failure to recognize such interdependent relationships that has put modern agriculture on a path to failure and transformed the agriculture sciences into a futile enterprise. "Agriculture science is largely a race between the emergence of new pests and the emergence of new technologies for their control." (*Sand County Almanac*, p. 217) So, for Leopold, while it was understandable that we took the path toward "industrialization" of agriculture, it was ultimately doomed to failure.

> *It was inevitable and no doubt desirable, that the tremendous momentum of industrialization should have spread to farm life. It is clear to me, however, that it has overshot the mark, in the sense that it is generating new insecurities, economic and ecological, in place of those it was meant to abolish. In its extreme form, it is humanly desolate and economically unstable. These extremes will some day die of their own too-much, not because they are bad for wildlife, but because they are bad for farmers.* ("The Outlook for Farm Wildlife" in, *For The Health of the Land*, p.218)

Hence, for Leopold what is now needed is a new "ecological conscience which reflects a conviction of individual responsibility for the health of the land. Health is the capacity of the land for self-renewal." (*Sand County Almanac*, p. 221) A new spirituality!

Today, of course, we have additional luminaries who are advocating a similar, new spirituality, in agriculture. Wes Jackson has woven a whole alternative philosophy of agriculture, based on the perspective that we must no longer "subdue or ignore" nature, but rather use nature as "the measure" of our agriculture priorities. And since nature features perennials we should now transition away from the "ten thousand year problem of agriculture" which focused on annuals

and develop a new agriculture featuring perennials (*Nature as Measure: Selected Essays of Wes Jackson*, 2011).

Meanwhile, David Montgomery (*Growing a Revolution*) has demonstrated that some farmers have already begun to transition away from input-intensive agriculture to an agriculture that reduces tillage, incorporates cover crops and significantly increases the bio-diversity of their farms. Such changes have significantly reduced input costs, and therefore increased net profits, largely because their new practices "brings soil back to life," and the self-renewing capacity of the soil significantly reduces the need for external inputs!

Equally important, Tim Wise, at Tufts University, has provided a new perspective that is likely to influence the future of agriculture. In his game-changing paper ("Rising to the Challenge: Changing Course to Feed the World in 2050") he points out, based on his research, that industrial farms only produce 30% of the food consumed in the world. 70% is produced by small-holder farmers, farming 5 acres or less. And only 15% of food is traded internationally and most of that goes to wealthy OECD countries, not to countries with the largest populations of the hungry. It is partly for this reason that creative Millennials, like Loren Cardeli, who created a non-profit organization ("A Growing Culture") through which he now travels to countries that produce most of their food by small-holder farmers and seeks out farmers who are already practicing effective agroecological agriculture and then introduces other farmers in the region to such creative agroecological farmers so they can learn from each other. Farmers learning from each other, Loren discovered, was much more effective than "teaching farmers how to farm." Alternative spirituality emerges in "communities."

Two Cultures of Agriculture

Given the two historical phenomena outlined above, we now find ourselves in a world with two cultures of agriculture. On the one hand we have a culture which continues to feature the nature dominating, input-intensive agriculture. It promotes the concept that we must intensify what we have been doing for the past century and provide more STEM (science, technology, engineering and math) learning opportunities to provide farmers and society with the skills to further intensify our ability to more effectively dominate nature and to meet future challenges like how to "feed 9 billion People by 2050." This culture is often described as "industrial agriculture" or "agribusiness" although in his book *Ishmael*, Daniel Quinn calls it "totalitarian agriculture."

On the other hand, the second culture, which has been operating largely in the shadows for the past century, is gaining attention---a culture which continues to stress the necessity of partnering with nature and emphasizing the importance of the principles of humility, indwelling and relationships, and---while not ignoring STEM---it also emphasizes the importance of the arts, sociology and the humanities, since effectively meeting the challenges ahead of us will require skills of imagination, social cohesion, and community collaboration. This culture is also

beginning to recognize the importance of how we interpret science. In his two recent publications, Stuart Firestein, the chairman of the Department of Biology at Columbia University, has proposed a creative way of rethinking the function of science. Firestein makes a compelling case for the fact that science is not an accumulation of incontrovertible facts, but rather an on-going process and that what really drives science is not what we know, but what we don't know and that it is more often failures that lead to success. Science relies on trial and error and so, inevitably, results in numerous failures, which then guide further research.

Where Are We Now?

So where are we now, given these two cultures? And why has our choice of "spirituality" in agriculture become a practical necessity?

Clearly the spirituality that promotes our industrial "totalitarian" agriculture still dominates much of our culture of agriculture. That spiritual "hold" still rules! The need to produce more food to "feed the world of 9 billion people by 2050" becomes a spiritual mandate---despite the fact that we now produce enough food to feed 12 billion people, but roughly 40% of it, in our current food system, gets wasted!

But change is on the way, driven largely by the evolution of a number of components.

First, an increasing number of the cheap inputs, which made the input-intensive agriculture profitable, for decades, are now in a state of depletion----fossil fuels, minerals, abundant fresh water! For example, according to most studies the supplies of rock phosphate, from which we obtain most of our phosphorous inputs, are nearing depletion. Only 4 countries still have rock phosphate reserves and at the rate we are extracting those minerals they will only, at most, be available for another 20 years. And at the rate we are using our freshwater resources for agriculture irrigation (over 70%) we will reach major depletions in the near future. For example, at the rate we are drawing fresh water for irrigation from the Ogallala aquifer (the largest freshwater aquifer in the US) it will only have fresh water resources for irrigation for (at best) another 20 years. And the primary reason we use so much fresh water for agricultural irrigation is because we have paid little attention to "bringing our soils back to life." Consequently, most industrially farmed lands now only absorb 1/2 inch of rainwater an hour. And that phenomenon not only depletes our freshwater resources due to intense irrigation, but also erodes soil, and deposits nutrients into lakes and streams causing significant water quality problems!

That brings us to a second component which promises to initiate change---deteriorating land health and human health---which in turn leads to human suffering, another spirituality issue.

So, let's begin with our problem of land health. In his recent book, *Shrinking the Earth*, Donald Worster reminds us that we had usurped and deteriorated land, largely through agriculture, in our

"first earth" (the Eastern hemisphere) then we proceeded to do the same with our "second earth" (the Western hemisphere) which we "discovered" in 1492! But now that we have dominated and deteriorated much of the western hemisphere will there now be a 'third earth?" In other words, we are now reaching the end of the neocaloric era that Shusky predicted.

All of this is happening at the same time that we are beginning to recognize the important role that "wildness" plays in maintaining the health and productivity of land. E.O. Wilson poignantly suggests in his new book Half-Earth, the long term "planet's fight for life," that the health of our land is dependent on the self-renewing capacity of earth, much of which is provided by wildness, and that, consequently, the engineering and technology capacities of the human species will not, by itself, be able to sustain a vibrant and regenerative nature!

In addition to the loss of land health, we are also experiencing a deterioration of human health, and there is increasing evidence that the deterioration of human health is largely due to the food we eat. According to economic studies we are now spending approximately 18% of GDP on health care, and a few health care professionals are beginning to discover that one of the effective ways to reduce health problems---and therefore costs---is putting patients on a diet of whole food produced from healthy soils! Daphne Miller, a practicing physician, author and professor of family medicine at the University of California, has demonstrated such soil health and human health connections, and has documented them in her book, *Farmacology: What Innovative Family Farming Can Teach Us About Health and Healing*. Maya Shetreat-Klein, a pediatric neurologist who operates a children's clinic in New York, has discovered similar soil-health, human-health connections. She has also published a book demonstrating these connections---*The Dirt Cure*, 2016.

These discoveries, by practicing physicians in their own practices, seem to confirm discoveries that David Montgomery and Anne Bikle revealed in their recent book, *The Hidden Half of Nature: The Microbial Roots of Life and Health*, in which they point out the connections of microbes in soil managed for soil health and the positive impact which food from such soils have on the microbes in our gut which can improve our health.

A third factor which will likely stimulate the change toward a culture of agriculture that encourages us to partner with nature instead of continuing to try and dominate nature and creating a "new inner hold" that moves us in that direction, is climate change. As every farmer knows, the weather is one of the most important factors that determines success or failure in agriculture. While farmers and farm organizations have often been some of the climate change deniers----given the recent harms they have experienced from increasing severe weather events---those attitudes have already begun to change. A recent article in *The Progressive Farmer*, "Developing Climate-Smart Ag," pointed out that a recent meeting which represented 30

organizations to address “climate smart agriculture strategies” was hosted by the American Farm Bureau.

Of course, one would hope that they would not only address strategies for coping with climate change, but also the significant role that farmers can play in mitigating climate change. Nevertheless, it is but one example of how climate change is likely to eventually play a significant role in changing the culture of agriculture---by farmers.

How Do We Proceed to Rethink the “Spirituality” of Agriculture?

So how do we proceed? First, I think it is important to make a distinction between predicting the future and anticipating changes. Jared Diamond made a very useful contribution in this regard. Based on his studies of past civilizations he discovered that those societies that anticipated changes and began to plan for them in advance, were the ones that tended to thrive, while those that failed in that exercise were the ones that tended to collapse. So, while predicting the future can be futile, there is evidence that anticipating changes and preparing for various scenarios in advance, can be a useful strategy. Accordingly, that is likely the most appropriate strategy for dealing with the potential harms of our activities on our earth home, including the harms of our “totalitarian” agriculture.

Second, I think it is important to inform ourselves of some of the changes that are already emerging and determine how we can become part of positive evolving changes. In that regard I found John Thackara’s new book, *How to Thrive in the Next Economy*, very inspiring. Based on his travels around the world he discovered that many communities are discovering that the current global, industrial economy is simply not working for them anymore. Such communities, therefore, are now reorganizing themselves into “bioregional” economies in which they collaborate in their own ecological region to determine how they can use their ecological resources in a way that those resources are renewed in the process of using them. Thackara points out that for these bioregional communities “growth” is no longer defined as “unlimited economic growth,” it is seen, rather, as how to “renew life on earth.” That is an economy that can transform our food and agriculture future.

Another resource in this regard is a new manuscript that Michael Brownlee has produced which is scheduled to be published in 2018---*Reclaiming the Future: How to Lead the Local Food Revolution in Your Community.* This, great new work provides lots of practical suggestions for how the local foods movement can become part of the kind of bioregional future which Thackara points out is already happening in some parts of the world.

Third, I think it will be useful to enhance our imaginations and allow the evolution of new ways of thinking emerge, which can enable us to deal with some of the challenges, and engage some of the opportunities, that lie ahead. In that regard I recommend that everyone read Brian

Swimme and Mary Evelyn Tucker's new book, *Journey of the Universe*. In this amazing story they trace the evolution of the cosmos, of which our universe and our tiny plant earth are simply a part! They point out that the evolution of the cosmos has been taking place over 14 billion years and that it will continue to evolve. So, if we, recently evolved humans on our tiny planet earth, think we are "in control" we are kidding ourselves, and we now need to focus on how we can best adapt to, and partner with, that evolutionary process. I think this is one of the more important transformations of our "spirituality" that we need to consider! And such a holistic transformation would likely also foster a "new hold" regarding our culture of agriculture.

Finally, in this regard, I also highly recommend that we all read an article that Fred Bahnson published in Orion magazine, "The Ecology of Prayer." In this article Bahnson anticipates some of the challenges we humans on planet earth are likely to experience due to climate change, and other changes I have mentioned above. Among many useful insights that Bahnson shares in The Ecology of Prayer is his suggestion that we may want to celebrate Good Friday, more than Easter, in our future, since we will likely have to learn how to celebrate the things we have to die to, (Good Friday) before we can come to life in our new future (Easter). When my wife, Carolyn read Bahnson's article she made another observation which I think is equally important---namely that we should also celebrate Maundy Thursday since we will need to learn how to celebrate our relationships with those in our communities, even given some of the things we may not like about them----like "washing their dirty feet"---since it will be such community relationships that will prepare us to face the Good Fridays we will need to adapt to.

And, of course, since we will always need to eat in the midst of all of this, focusing on our core "spirituality" in agriculture---that "new hold"---will be essential in our future as well!

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This Is How It Happened

Carolyn Raffensperger

November 2024

In May 2024, I packed up two thousand books from Fred's sustainable agriculture library. Those books spanned the history of sustainable agriculture, covering ecological, philosophical, agronomic and economic issues in agriculture as well as documenting the influence on world-renowned chefs, theologians, nutritionists, and so much more. I realized that Fred's career as a farmer, philosopher and professor both reflected the history of sustainable agriculture and was a prime driver of the evolution of regenerative agriculture over fifty years.

This is how it happened.

Fred was born on a North Dakota farm in the winter of 1935 to a Russian German couple, Ted and Pauline Kirschenmann. The house had no running water and they farmed with draft horses on a small farm at dire risk from both the Dust Bowl and the Depression. The Kirschenmanns had three books in the household, a Bible, a Concordance to the Bible and a hymnbook. They did not speak English, instead they spoke a Russian-German patois, common among the immigrants that moved to that part of North Dakota.

Recognizing that Fred was unusually bright, his parents boarded the schoolteacher who taught at the one room school a few miles away. Since Fred's older sister was attending school, the Kirschenmanns sent Fred to school with her a year early. He rapidly gained enough English to excel in school and graduated as the valedictorian of his Medina North Dakota high school. Although he frequently reminded me that his class was quite small.

Fred started farming at a young age. During harvest he drove a tractor for 12 hours a day at the age of 7. He was so small that they tied him to the tractor seat. At age 12, his father had him

rebuild the family tractor, an astonishing act of trust since the tractor was an essential part of the family assets.

He went to Yankton College in South Dakota where he excelled. He was married with a daughter, Annie, before he graduated. College led to graduate school at Hartford Seminary where he obtained an M.A. and then to University of Chicago where he earned a Ph.D. in philosophy and historical theology in three and a half years. He returned to Yankton as a professor teaching philosophy.

He went on to several positions in higher education including Dean of Curry College in Boston. Prior to Curry, he had a transformative encounter with a graduate student named David Vetter while Fred was director of the Consortium for Higher Education Religion Studies (CHERS) in Dayton Ohio. Fred was instrumental creating a program modeled after the worker priests of France. David wrote an essay as part of his application to the CHERS program that said he wanted a ministry, not to people, but to the soil. This was electrifying to Fred since one question had animated both his and his Dad's farming following the Dust Bowl: how to protect the soil?

As part of the CHERS program, each seminarian had a work project that gave them a chance to develop their ministry. In David's case he managed a park district farm. At the end of David's term, he brought Fred in to feel the soil on both halves of the farm, the half that had been managed conventionally with chemicals and the half that had been managed organically.

While at Curry, Fred's father had a heart attack and decided to sell the farm. Instead, Fred offered to come back to North Dakota and take on the farm if, following his insights from David Vetter, he could manage it organically. His father agreed.

In 1976 Fred and his then-wife Janet, daughter Annie and his second child, Damon returned to the North Dakota farm. The initial conversion to organic was wildly successful since the residual fertility from the chemicals remained in the soil but subsequent years proved difficult as Fred worked out a crop rotation, integrated composted manure from his cattle and other methods of both resisting pests and increasing fertility. It took about 5 years for Fred to develop a working

system that was as productive as the conventional system that preceded it. Fred would say that he had built in a great deal of resilience that was not available during the chemical years of farming. This meant that his farm was able to be far more productive during droughts or other disturbances than his neighbor's farms.

I once met with the editorial board of the Bismarck Tribune about the use of chemicals in farming and how they were linked to cancer, reproductive disorders and other ills. The editor sneered at me and said, "well I suppose you farm organically?" I said yes, we do, all 3,500 acres. His eyes got wide and said, "you don't know Fred Kirschenmann do you?" "Yes, we are married." His tone immediately changed. He had gone out to visit Fred's farm in 1988 during a terrible drought. Fred was the only farmer in the entire area that had enough of a harvest to get his combine out. The resilience was visible in the return on soil investment.

Fred was not the only organic farmer in North Dakota. In 1979, a group of farmers gathered in Bismarck and created the North Dakota Natural Farmers Association (NDFA). There were 45 members that first year. Fred was president. NDNFA later became the Northern Plains Sustainable Agriculture Society (NPSAS). Fred was deeply involved in writing position papers and guides to organic farming. I also served on the board of NPSAS for a number of years. We had a tightly knit community in the Dakotas and engaged in a considerable amount of mutual support. Together with organic farmers like Ricky Mittleider; Theresa, Dan and David Podoll; and Terry and Janet Jacobson, we built community, weathered the economic and climate ups and downs, and developed robust farming methods that were tailored to the Great Plains.

Both the law and the science of sustainable agriculture were evolving. In 1988, Fred wrote the first publication of NPSAS entitled, Switching to a Sustainable System. This initial writing launched Fred as one of the most important voices in organic agriculture. That same year he testified before Congress on sustainable agriculture at a hearing sponsored by the North Dakota Congressional delegation. NPSAS began a partnership with the Carrington Research Center under the leadership of Dr. John Gardner, a scientist who had a profound respect for the knowledge and experience of organic farmers. John and Fred, along with the other intrepid farmers in NPSAS formed a formidable team that had a large influence on the direction of

sustainable agriculture law and policy, particularly the Farm Bill, Swampbuster and Sodbuster and the Low Input Sustainable Agriculture program under the Agricultural Productivity Act.

One of the conditions specific to organic farming is that the markets are different than conventional markets. For most conventional grains, farmers take their harvest to a local grain elevator. But the organic farmers have to take their grain to special processing plants and different markets if they want the financial premium organic crops can get.

Fred met a dealer named Michael Marcola who shipped organic grains to Europe. Michael introduced Fred to Biodynamic farming, based on the philosophy of Rudolf Steiner and suggested that Fred could get an additional premium for organic and Biodynamic. Accordingly, Fred who was not only intrigued by the financial benefits but by the larger of philosophy of not only farming with the immediate natural world but in harmony with the cosmos. At one point Fred's farm was the largest Biodynamic farm in the world.

A key contribution Fred made was through his friendships with USDA leadership. In 1990, he helped draft the Organic Foods Production Act and then served on the first National Organic Standards Board. He influenced Karl Stauber who was the Undersecretary for Research, Education and Economics and Angie Tagtow who was Executive Director for the Center for Nutrition Policy and Promotion (CNPP) at the U.S. Department of Agriculture (USDA). Both Karl and Angie have essays in this volume.

Fred also had an international reach: he served on the board of the World Sustainable Agriculture Association for a number of years, traveling to Japan, Australia, Europe and various countries in Africa. He was also deeply involved in the International Federation of Organic Agriculture Movements (IFOAM) and received its 2014 Lifetime Achievement Award.

I married Fred in 1995 and moved to North Dakota. In April of 1997 we had a monster rainstorm which immediately froze into a blanket of ice and then the blizzard blew in mountains of snow. North Dakota came to a standstill. At the time, we ate some things from our farm, mostly beef, but we didn't really raise our own food. I decided we would never ever again go through such

reliance on the grocery store, which was 17 miles from our under-ground house in Windsor North Dakota. Fred gave me an acre of a field next to our house and I began to raise most of our produce. I raised the usual – tomatoes and cucumbers, green beans and potatoes. But I also raised dry beans, popcorn, and sweet potatoes. Along with the barley, wheat, beef, flax and rye from the farm, we ate very well. I even had indoor citrus trees that provided lemons. Perhaps my favorite plant was kale because it was frost tolerant down to 12ºF and resprouted early in the spring next to a giant snowdrift.

David Podoll, North Dakota gardener extraordinaire, raised many varieties of things like squash that he had bred for decades. He mentored us in growing all our own food. I started writing a food column for NPSAS and also served on the board. The executive director of NPSAS Theresa Podoll developed menus for our annual 3-day conference that sourced all of the food for 500 people from within 300 miles of the conference center in Bismarck. We figured out how to eat from our own land.

From 1976 until 2000, Fred spent the summers farming and, in the winter, traveling and speaking. In the winter of 1998, we had a disastrous fire on our farm. Both of us decided to change things in our lives. Fred tried to phase out the traveling so he could rebuild the farm infrastructure since we lost the huge Quonset that housed most of our equipment and all the machinery needed on our farm. Gone were two grain trucks, two combines, multiple tractors and so much more. None of our cattle or horses were hurt. The loss was devastating. Fred's reputation as an honest man served him well in dealing with the insurance company. We were under suspicion for setting the fire and so they checked our medical records and investigated our finances. It turns out the cause of the fire was a defective tractor that was plugged in so it would start on those cold winter mornings when the cattle needed to be fed.

It became evident to me at the end of that year, that Fred's prodigious skills were not being exercised when he stayed at home and wasn't out on the speaking circuit during the winter. He got a bit restless. About the time that I recognized how much Fred needed to be with his colleagues at conferences around the country (and world!), we got a call from Iowa State University asking if Fred would be interested in applying for the directorship of the Leopold

Center or Sustainable Agriculture. I readily agreed with Fred that this would be a wonderful opportunity. My logic was a bit faulty: I thought Fred would stay at home more if he had a job that kept him in Iowa.

The hiring process went on for about 6 months. During that time Fred visited Australia and came home exhausted. He didn't bounce back, as he normally would. Yes, he was 65, but that didn't seem to be enough of an explanation. He went to the doctor and discovered he had prostate cancer. No big deal, we were told. That is until he went into surgery at the Mayo Clinic in Minnesota and discovered that he had an advanced cancer. He was told that he might live another 5 years.

When he came out of surgery, it was left to me to explain what had happened and what the future held. I asked him if he felt sorrow or loss. He beamed at me, that radiant smile of his and said, "I only feel gratitude."

Three days later, in May of 2000, he accepted Iowa State University's offer to direct the Leopold Center.

We spent the summer buying a house in Ames Iowa, finishing that year's harvest and arranging for the care of our farm.

Fred had always hired people to help with the farm. In 2000, he was working with a wonderful young family that he prepared to take over the farm in his absence. Steve Sund has acquired the equipment and much of the land, carrying on Fred's organic practices.

In July 2000, Fred became the second director of the Leopold Center, a position he held until November of 2005. I stayed behind in North Dakota until April of 2001.

When I moved to Iowa, I thought that Fred and I would continue our efforts to be self-sufficient. We bought a house in Ames that had an acre of land backing up to a public wood. A dear friend, Tom Tomas, a renowned gardener and a certifier of organic farms, came to visit. I wanted to get

his advice on gardening in Ames. He asked me one trenchant question, "who owns this?" I was a bit startled until he made clear he was talking about the wildlife that inhabited the woods and surrounding area. He said if I tried to garden here in the same way I had in North Dakota I would have to declare war on the critters that shared this place with us. That same day, Fred and Tom came back from a farm tour laden with food they had been given. Out of those two experiences – my unwillingness to declare war on the raccoons, deer and opossums, as well as the abundance produced in my neighborhood—I developed a philosophy of community sufficiency instead of self-sufficiency. Fred and I joined CSAs and frequented farmers' markets in addition to having a small orchard and garden in our yard. I even convinced some of our local farmers to grow winter shares for winter storage—potatoes, onions, squash, cabbage, carrots, sweet potatoes and more.

Fred's legacy at the Leopold Center is told elsewhere in this volume. He gained stature in the sustainable agriculture movement with his creativity at the Center. He also continued traveling a great deal. In fact, at one point we were only in the same state for one weekend out of 6 months. So much for my logic in thinking Fred would be home more if we moved to Iowa!

In 2005, Iowa State's acting dean of agriculture, Wendy Wintersteen, offered Fred a promotion to Distinguished Fellow at the Leopold Center and gave him 48-hours to accept or he would be fired. Fred accepted it with his usual grace. Apparently, the hog producers disliked Fred's work to build an agriculture of the middle: an agriculture that supported mid-size farms and the corresponding processors and buyers. He had worked with Sysco Foods and Kaiser Permanente to build markets for antibiotic-free meat. That didn't sit well with conventional hog farmers building enormous, confined animal feeding operations. Industrial agriculture flexed its political muscle and forced Fred out. One of Wintersteen's arguments was that Fred had not devoted enough time to Iowa agriculture and this new position gave him more time to be a national presence.

His removal from the directorship coincided with a recurrence of his cancer that required radiation and another round of chemotherapy. In addition, the vertebrae in his neck collapsed from a disease called Paget's. Both his cancer and Paget's were probably caused by the pesticides he sprayed from that open spray coupe during his late teen-age years.

Fred's always-hectic travel schedule got even busier when he was brought in to brainstorm the creation of the Stone Barns Center for Food and Agriculture in Pontico, NY. He was the first president of Stone Barns, working half time there and half time as the fellow at the Leopold Center. He saw the two together as a marvelous joint laboratory to explore both rural, large-scale agriculture and urban, smaller-scale agriculture.

Stone Barns was electrifying to Fred in large part because of his friendship and collaboration with the renowned chef Dan Barber and the farmer Jack Algiere (both have contributions to this volume). The affection between them and the spark of intellectual generosity served sustainable agriculture well.

In 2012, Fred's sister asked to divide the farm so she could inherit her half. The division of the farm was as difficult and painful as these things can be. Our farm shrunk to about 2,000 acres, still under the management of Steve Sund. The size of our farm was always a consideration because 3,500 acres farmed organically with cattle is an incredibly complex operation. A young wag at a conference honoring Wendell Berry, commented on Fred's keynote saying Fred would be a better farmer if our farm was smaller. Fred smiled and agreed but added, that is what had been given to him to steward and he would do the best he could. Fred had an outsized gift for managing complexity but scaling it down worked more effectively for the Sund family.

Fred retired from the Leopold Center in 2021. This followed two major health issues, one personal and one global. Fred had several strokes between the fall of 2018 and winter of 2019. It took a few months to get them diagnosed. Then, the Covid pandemic fell upon us. Fred and I isolated at home where the effects of his strokes weren't as noticeable. Perhaps the major problem was he no longer could navigate his computer effectively, although I suppose even then he could have rebuilt a tractor.

Fred racked up awards and achievements in the 20+ years that he was at the Leopold Center. He was featured in numerous magazines and articles. He gave countless speeches. But this sweet man, remains one of the most gracious humans, full of humility. In 30 years of marriage, he has

never once criticized me. He was as kind to the young farm boy herding cattle as he was to Prince Charles or the Rockefellers.

As of this writing, November 2024, Fred is in assisted living. He is sailing into the harbor of death, quietly and calmly.

He is loved by all.

Remember the Soil

Jack Algiere

Stone Barns Center for Food & Agriculture

November 2024

"Isn't it really a matter of perspective whether we are "at home" here? Being at home on this planet depends on our perception of ourselves and our relationship with the rest of the cosmos." - Fred Kirschenmann

Thirty years have passed since I first heard this voice within me that has since filled me with purpose and curiosity. My deep gratitude for finding my path in nature is reciprocated through reverence and service to the land and my community. My parents knew the values of living close to the Earth and provided a solid foundation for me growing up on a small organic farm in Rhode Island. My father's father (Santo) was an avid sportsman and naturalist and knew every inch of woods, pasture, river and coastline in our area. He raised pheasants on the farm for release each year, carved decoys, wrapped flies and foraged for mushrooms. His knowledge of the wilderness and farm landscapes were comprehensive and unified. Through his solitude in nature, he rolled up his sleeves and fought against industrial pollution and irreverent development plans. He was both jailed and honored for his efforts on several occasions to save the ponds, rivers and forests in our community. It was his spirit that has passed to me.

In 1992, our homestead was foreclosed after a series of difficult events. Having been born and raised there among the 4th generation of our family on this land, the loss was indescribable. This ecosystem was my universe and my first teacher. I never considered that my connection to that place was impermanent. As a high school student, attending to a proper grief process was overshadowed by the need to carry on. It became clear as I tended to these memories much later in life, that my compass was set at once towards forging some new bond. The loss of the farm sparked an initial resentment towards our failing agroecosystems stressed by the incentives of rapid development, box stores and fast food. Moreover, I recognized that the community was

being betrayed by a false narrative of health and prosperity. This search for meaning and place was my motivation to navigate my new path.

By ‘95, I was in college studying horticulture. A general acceptance seemed to have swept over our entire culture allowing our open space, farms, nurseries and local business to be devalued for the sake of economic progress. I had a feeling then, tucked under the sadness and loss, that what I had learned in my youth wasn’t a dream of the past but a message for the future. Working in gardens, greenhouses and plant science labs through school opened my heart, mind and will. Much of what I learned however, was the industrial perspective with its habit of commonly discounting organic practice and holistic thinking. I am profoundly grateful for the literature and media that was available in the university library. I may not have found Steiner, Howard, Rodale, Balfour, Fukuoka, Bailey, Coleman or a newly released video called ‘My Fathers Garden’ among many others.

I remember watching this documentary of Fred and admiring the confidence that he conveyed for Organic farming, surrounded by the full force of industrial agriculture. His message was so clear. Transformative change originated from within and is carried out by our active contributions and care, no matter what challenge we are faced with. A farmer’s ability to accommodate for the ways of natural ecosystems work is a function of their relationship to their partners in land, love and business. The scenes of the auctions and sadness of the farmers resonated deeply, reminding me of my own despair in watching our barn emptied and carted away and knowing that I would never return to these fields. In a strange way, these images reinforced my sense of purpose and resolved any lingering sense that I had been a victim. Somehow the scale of the problem seemed much bigger and at the same time nurturing some new hope that I was not alone. This was the first time I had learned about Fred.

Our local food co-op had just recently moved from the campus basement to a small retail space down the road. This was a huge step for the community and at a time when the first orange ‘Organic’ stickers were on everything from apples to granola. The emerging voice of Organic was being broadcast through the food co-ops, among our small organic and biodynamic farming community and through the Northeast Organic Farming Association (NOFA) network. There

remains to be a tremendous amount of care in this community and a trust “that a group of thoughtful, committed citizens can change the world” as Margret Mead so beautifully stated. Fred’s activity on the National Organic Standards Board (NOSB) in these days raised him to hero status in my mind. Again, he was an example of hope in what seemed a desperate situation.

When I graduated, my wife Shannon and I packed our truck and headed west to seek communities where organic farming was more culturally accepted and prevalent. The physical move was also symbolic for us, in part a necessary spiritual step into the unknown. The following years found us on vegetable farms, mountain tops, olive groves, mining towns and protest marches to fight back the waves of GMOs, glyphosates and a general irreverence for the soil and the commons. Through the national ecological farming community, Fred’s presence became more familiar to me as a spearhead in the movement. His active role in guiding the development of federal regulations for organic always advocated for the importance for soil and health to be at the center of the rule.

It was in these few years immersed in the California Organic agricultural community that gave me the confidence to return to the Northeast. By now, I had realized that this movement was powered by dedicated individuals and their trust in the scattered network of like-minded Organic actors. It remains a very small community considering the effect it has had. In some ways, this small and mighty form has allowed it to stay personal and grounded in the perseverance of perennial contributions to our regional food systems. What I did not realize was that Fred, among a handful of other elder farmers I admire, were gathering to shape another organization that I would soon be called to lead. As an expert advisor to the newly envisioned Stone Barns Center for Food & Agriculture, Fred’s voice for soil and holistic connection set a north star for the Rockefeller Family and the designer of this historic restoration project in the Hudson Valley.

It was through this advisory group that I was first contacted to consider taking on the responsibility of establishing a diversified organic farm with the explicit purpose of providing the community and visitors with the opportunity for connection to food, farming and interactive community experiences. The vision and support for the project was unparalleled and the opportunity felt both overwhelming and necessary to take on. Our first meetings were held at

Rockefeller Center around the largest table I had ever seen on the 56th floor. It is safe to say I was the youngest and greenest of the bunch. At this table sat Family members, partners and advisors including Fred. This was the first time I had met him in person but considering the circumstances his presence felt like having my grandfather in the room with me.

Fred's particular brand of plain kindness and humanity was welcoming, allowing all the admiration I felt for him to quickly settle into a warm and familiar place. This great relief was a feeling that I became very accustomed to with Fred over the next two decades. While agroecology was most often the center of our conversations, the details were personal and focused on the value of cooperation, love for others and the art of stewardship. We rarely talked about techniques, with the exception of my explanation of certain diversified methods, tool design or other co-creative innovations we were practicing on the farm. Our conversations were personal and grounded in the senses, contemplative and thoughtful. They were often focused on the recognition of ecological and social values that were at the root of the vision for food and agriculture. Self-generated, self-renewing systems were in his interest. Fred's encyclopedic memory and admiration of other brilliant thinkers and doers brought a wealth of mature concepts to consider to every discussion.

Fred is a Farmer in the most complimentary and refined sense. The farmer is not relegated to the tractor, though this is an artform unto itself. A farmer in the highest order is a person who is first a steward and a spiritually minded thinker. A listener with supersense in nature. A lifetime of quiet with the land establishes a maturity in nature that offers a kind of gentle cultivation of the ego. Fred's long relationship to the land and soil carried into his social cultivation. Having a model for this in my life has brought a richness to my practice and well-being by example. Cultural perspective of the land was always on his mind, often sharing quotes for Aldo Leopold, Joanna Macy or E.F. Schumacher. I learned a great deal from his perspective on Rudolf Steiner and Sir Albert Howard and have increasingly held these luminaries at the core of my own beliefs. These discussions often included the act of debunking the reductive egotism and industrial philosophies of Descartes, Liebig, Butz and others.

As you have likely experienced, Fred had the unparalleled capacity to travel at depth and altitude while maintaining the most plain and approachable nature. His broad smile, kind eyes and giant hands gave a clear signal of his availability, even while his convictions were as stable as any native soil. He had a kind of unwavering atmosphere around him and was generally unphased by the conditions or temperament of his surroundings. A brief pause or familiar hearty laugh was all it took to settle in. What seemed to matter most were the social values and natural principles at stake. Fred's ability to distill complex and challenging problems to their essence invited open and spirited conversation without defense or exaggeration.

Throughout the years at Stone Barns, Fred spoke his mind about the value of natural principles and sustainable practice, inviting all to consider how important it is for our cultural transformation. He gave a speech at the Stone Barns tenth anniversary gala in front of hundreds of guests and donors, including our principal benefactor David Rockefeller and his close family. Fred spoke unapologetically to the need for transformative cultural change, soil health, social equity and the divestment of fossil fuels and resource extraction to restore a balanced and co-created relationship with our Planet. He so eloquently thread the needle to acknowledge the reverence and gratitude of our founder while clearly stating the necessary commitment that entails. His profoundly meaningful and articulate perspective was universally accepted in the room without embarrassment or outrage. This simple, effective way of speaking that was so common for Fred helped to ease the unspoken burdens of dialog and generate shared vision.

Fred was the President of our board at Stone Barns for nearly two decades. He would travel from Ames to the farm monthly to stay with us for a week at a time, with the exception of Summer grain harvests. He would set up his desk at the farm in the day and a spot in the Blue Hill kitchen in the evening. He would often stay with Shannon and me and became part of our family. I remember a drive to town one evening. Somehow, he convinced us that he would sit in the backseat with our 2 young boys. He sat in the middle while they playfully squabbled around him. My view of Fred in the rear-view mirror allowed me to anxiously watch while he smiled widely and very gracefully turned his hearing aid off. This image has stuck with me as a simple example of how he navigated the most challenging situations with such cool and deliberate tact. We have marched in protest together, traveled the country, walked fields, shared meals and plenty of beer.

In the last few years when travel was restricted and Fred's health began to decline, we began speaking over zoom every Friday morning at 7:00am. This ritual continued into Summer of 2024 when he moved into assisted living. Even in his rapid decline, his message remained pure. His gentle, intelligent and grounded essence remained, even while his memory slipped away.

Stone Barns has been a hub for educating young farmers and cooks from the very beginning. Fred's participation with these groups elevated him to Lorax status among our artisan community. He and his stump held monthly brown bag lunches with the farmers to sit in the round to discuss a broad range of agricultural stories, philosophies and methods. The wellspring of his passion and knowledge gave us all hope and inspiration. His shared vision with Wes Jackson and Wendell Berry proposing a 50-year Farm Bill to Congress carried forward a legacy of audacity that we can all use to reinforce our confidence to speak our truths. Fred's vision was formed by his own reverence of the communities, agricultural experiences and content literacy. He illustrated his stance through demonstrating ecological and resilient farming methods, diversified markets & trade models and a spiritually unified system of food, farming, art and community. He advocated for the collective movement and took care to credit others before himself. His unrelenting voice for soil and health simply resonated with a natural truth. Those who know this mantra will surely carry it forward. *Remember the soil*.

Dinner with Fred

Dan Barber

Blue Hill at Stone Barns

November 2024

The most striking thing about dinner that night wasn't the lobster and mango-stuffed glass tube course we were instructed to inhale. Nor was it the atomized shrimp course, nor the exploding ravioli. The most striking thing about the dinner was that I had invited Fred to join me at such an over-the-top, self-consciously Avant Garde restaurant.

Fred and I were attending an agriculture conference in the Midwest. I was a young chef drawn to the flashing lights of the fashionable gastronomy, which back then meant cooking inspired by chemistry and technology to create wildly inventive dishes. Convinced that my relevance as a chef required adopting this style, I made the reservation in search of inspiration. Fred agreed to be my date.

At one point in the meal—I think it was when the waiter said, "Your next course is a distilled essence of rosemary; the chef asks that you close your eyes and inhale"—I looked across the table at Fred, overcome with embarrassment. I revered Fred's work as a pioneering organic farmer, and though I hardly knew him personally, I had studied his writings like ancient scrolls. How had I convinced myself that a restaurant like this was appropriate? In the same way that an aspiring musician wouldn't invite Frank Sinatra to a Smashing Pumpkins concert and tell Frank that it was the future of song, the idea of inviting Fred Kirschenmann to this restaurant—and the idea that I was convinced it was a really good idea—is, twenty years later, as befuddling and misguided as it sounds.

The meal was a split screen. On the one hand, it was a carnival of provocative, overly-manipulated dishes—one after the other, with no connection to farming nor place. Instead, what was on full display was the latest technological wizardry and, frankly, the clownishness of it all, which I likely wouldn't have realized had Fred not been there.

On the other side there was Fred, the real trapeze artist, soaring and flipping through Steiner, Goethe, the soil crisis of the 30's, Iowa corn economics, back to Descartes and Francis Bacon. Holding my attention as I furiously scribbled every word in my notebook, Fred tied together deeply rooted farming and theological themes without the faintest hint of showmanship. Anyone who got to hear Fred speak felt what I did in that moment, that they had been given a gift.

I found the notebook from that meal recently—the stains from each course still dotting the pages, and I'm struck by the Rosetta Stone quality to what Fred said.

Apparently I was hungry to answer a basic, if achingly naive question: what is the best kind of farming for a chef like me to support? Local? Organic? Biodynamic? Fred gently encouraged me to look beyond labels, requiring something broad to explain it. Farmers like Fred (or rather, led by Fred) were pioneers, creating soil-based, organic farming through trial and error, motivated by what Lady Eve Balfour once said was "the attitude of the farmer."

Fred rejected the idea that farming could be reduced to a set of rules, long before organic agriculture became defined by just that—a set of rules—and before farming methods were used as marketing tools.

"We need to grow nature," I recorded in my notes that evening over dinner, and in doing so Fred revealed more than an insight. He was articulating an attitude, a worldview, and surrounded as we were by plates of highly technical, deeply engineered food, he was pointing me in a different direction.

More notes from that meal: *To grow nature is to encourage more of it. More nature means less control. Less control requires a certain kind of faith, which is where the worldview comes into play. Do you see the natural world as needing modification and improvement, or do you see it as something to be observed and interpreted, and in the case of cooking, celebrated?*
I double-underlined this one: "Do you view humans as a small part of an unbelievably complicated and fragile system, or do you view us as commanders?"

Twenty years later I'm reading these words and realizing that Fred was subtly calling me out, inviting me to become an observer, to listen, to become a chef who avoided the kind of cooking we were being served that night. To reject uber control and a kind of in-your-face domination of nature. In his own way, he was saying, 'what we're eating tonight is not truly delicious food' (though, Fred being Fred, incapable of offending anyone, barely hinted at that.)

Still more notes: *Modern science*—and here I added in the margins *'Modern cooking??'*—*teaches us that the answer to understanding the complexity of something is to break it into its component parts.*

Just like the technologically driven food that interrupted his thoughts during our meal, it insists that things need to be *precise, measured and weighed*. But interactions and relationships—what John Muir called hitching, and we call ecology—cannot be measured or weighed.

To break nature into its component parts to solve problems, as you would go about repairing an old watch, is to go about addressing the problems in entirely the wrong way. That isn't how biological systems work. It's how computer programs work. "Nature doesn't allow you to impose one idea, or one solution, because it inevitably changes the game," he told me. "Agriculture is about relationships."

Fred became a founding board member and president of Stone Barns Center for Food & Agriculture, but he was really also the architect, contractor and bricklayer for how these ideas played out on the ground and in the fields. (All tributes to Fred will certainly take care to stress his modesty, and he belongs to that chastening group of beings whose capacity for wisdom and moral stewardship is outstripped only by their reluctance to make a big deal out of it.)
But I never told him how much I internalized his wisdom that night, not because of reluctance or shyness or the risk of embarrassing this most gentle man. It's because I never really understood it until now. This notebook holds the operating instructions for the kind of chef I've become. I am forever grateful.

Finding Higher Ground

Charles Benbrook

Benbrook Consulting Services

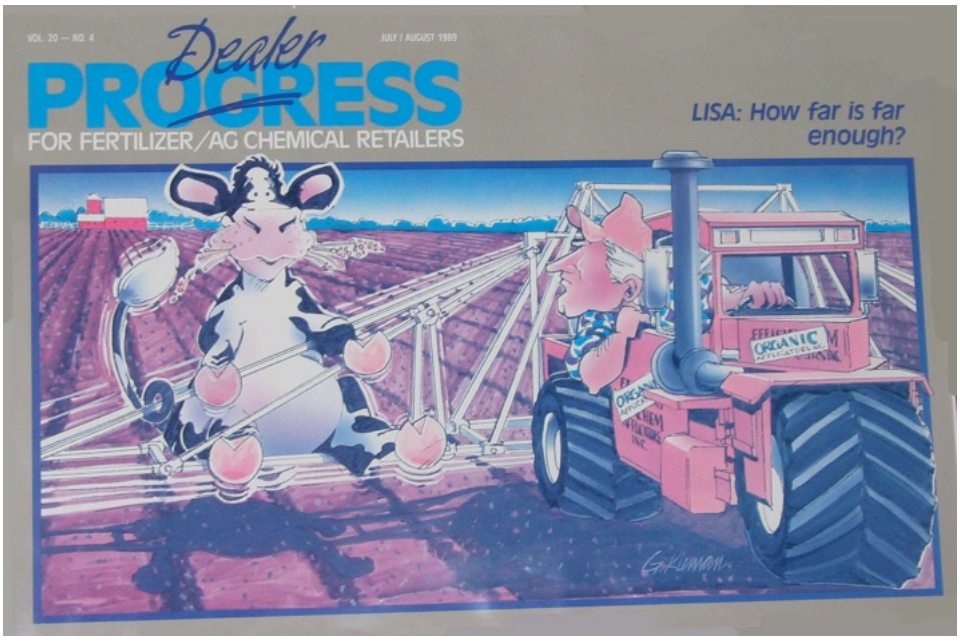
October 2024

The essays in this volume describe many of Fred's remarkable accomplishments and contributions, but for me when I first met him, what struck me was his hands.

Fred's hands are large. When I first shook one of them in the early 1980s, his hands were already weathered from years on the farm. They bore the markings left by baling twin, and the revenge of barbed wire patched together a few times too many. His hands were strong and his grip was firm, but also gentle.

Working for the House Ag Committee in the early 1980s as staff director serving Congressman George Brown's oversight, research, trade, and pesticides subcommittee, I shared an office with the staff of the Subcommittee on Forest and Family Farms. Congressman Fred Richmond's Subcommittee had jurisdiction at the time over all-things organic and sustainable.[1] Bob Rodale was a frequent visitor, seeking updates on future hearings, or a legislative markup scheduled in the Forests and Family Farms Subcommittee on what would morph incrementally into the Organic Food Production Act that passed as part of the 1990 farm bill.

[1] Back then, "sustainable" agriculture was often referred to as LISA (low-input sustainable agriculture). See magazine cover above.



My favorite farm magazine cover of all time, from the July-August 1989 issue of *Dealer Progress*. The late Len Richardson was the editor and one of the most fearless ag journalists in the last 50 years. I remember sharing it with Fred and the ensuing laughter. Those early meetings with Bob Rodale were when I first heard the term "regenerative" applied to farming systems. It was also when I first became aware of a large-scale grain farmer in North Dakota with a PhD in the philosophy of religion from the University of Chicago, who was pioneering better ways to make a living growing organic grain, sunflowers, buckwheat, cattle, and other crops in the High Plains. I hoped to have a chance one day to meet this man.

A few years, and one big twist of fate later found me working for the National Academy of Sciences (NAS) and helping put together a committee of scientists to conduct a study and write a report released in 1989 that would end up being called *Alternative Agriculture* (it can be downloaded for free now).

In the course of working on *Alternative Agriculture*, I had gotten in touch with Fred and found my way to Windsor, North Dakota to meet with him and learn about how he was progressing in his quest to make a living off large-scale organic grain and livestock farming in a part of the world where such a thing was essentially unknown. Most of Fred's neighboring farmers were busy getting bigger and more specialized so they would not have to get out.

In the 1980s, soil was mostly thought of as a medium into which seeds would be planted and onto which fertilizers and pesticides would be applied to support plant growth and keep pests from devouring or smothering the crop. On Fred's side of the fence, the soil was so much more.

Fred was borderline-obsessed with the quality and health of the soil on his fields some two decades before both soil health and soil quality became fashionable and the focus of both research and policy reforms.

On that first trip to meet Fred in the early 1980s, we drove over to the main family farm in Medina. Driving down the road, Fred pointed out fields that he was currently farming, or some member of the family had farmed in the past. He noted fields scared by deep, unchecked erosion and explained why. He spoke much more enthusiastically about other fields and farms that were lush, unscared by erosion and supporting healthy crops and animals. Fred emphasized that most of the healthy looking fields were associated with farms and farmers producing cash crops, forages, and cattle. Fred was convinced that separating crop and livestock farming would be like cutting off one hand of a pianist. He was right then and is right to this day.

The visit to the "home place" farm that day was tempered by the slipping health of Fred's elderly mother. Our short visit in her room, in the modest but cozy house Fred had grown up in, was a moving experience for me and helped me understand a little bit about how his early years had shaped the man he had become.

I spent the 1980s in Washington, D.C. carrying out projects and helping NAS committees write reports about what ails U.S. agriculture, and how farmers and ranchers and the food industry could change and achieve healthier outcomes for themselves, rural communities, the environment, and consumers. And of course, our NAS reports always emphasized how advancing science and technology would surely make the job of farming and raising animals easier, safer, and more profitable. It was, alas, a nice but naïve thought.

To get grounded and seek guidance on how to tackle a given problem, I would call or email Fred to discuss the issues of the day and catch up on what was going on in Medina and Windsor. Three themes kept coming up in our discussions, regardless of whether we were talking about crop or animal farming, how food and animal feed was impacting health, including our health, or how farming system choices were impacting the health and vitality of rural spaces and the people and critters that live there.

First, management decisions necessary to steadily increase yields, reduce the labor required to get a crop in the bin, expand the scale of farming, and maximize the flow of federal commodity program payments were requiring farming system changes, and reliance on technologies, that were eroding plant and animal health in a myriad of interactive ways.

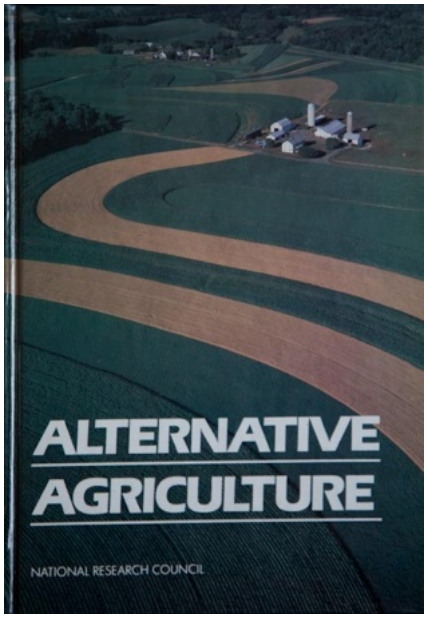
Second, "progress" on these goals, and especially covering more ground with fewer people in more homogenous systems, came at the expense of farming system diversity and resilience, with soil health almost always taking a hit. It was regrettably true that the consequences of declining soil health could be masked for a few years to even a one or two decades by adding more N and spraying another pesticide. Fred continuously emphasized the difference between better band aids and systems-based solutions that over time, in most years, can make the problems requiring band aids just slip away.[2]

Third, the incrementally rising cost of off-farm inputs was cutting into profit margins and driving the need to cover more acres to make a decent living. Plus, the new things brought onto the farm, from ever larger, heavier, and pricey machines to hotter fertilizers and more toxic pesticides, were creating a new set of problems most farmers were ill-equipped to recognize, let alone mitigate or avoid.

At the beginning of the 1990s, I was driven from my job at the National Academy of Science because U.S. Ag Inc. was displeased with the tenor and recommendations in a series of Board on Agriculture reports, and especially *Alternative Agriculture*. It is ironic that this purposefully understated NAS report proved to be the straw that broke the camel's back for the then-ED of the NAS Board on Agriculture (that would be me). The committee had gone far out of its way to

[2] Dr. Anne Clark, a professor in Canada and prominent advocate of sustainable and organic farming in that country, was dancing to the same drum as Fred. As the debate over the role of genetic engineering in crop agriculture raged in the 1990s, Anne shadowed Fred's thinking in asserting that farmers and agribusiness "should not strive to solve a farm management problem with a plant breeding solution". This struck me at the time, and still does, as a profound and useful insight. Anne argued that plant breeders should remain focused on how genetics can more effectively deal with biotic and abiotic stresses that farmers cannot otherwise effectively work around. The fact that selling more Roundup has now dominated corn, soybean, and cotton plant breeding for over three decades, and led to the demise of what was once an independent plant breeding industry dedicated to helping farmers solve problems, will go down in history as one of the most consequential mistakes ever in our nation's quest to meet a basic human need (i.e. food).

describe serious and festering problems with soft language, with emphasis on opportunities to do better. The Committee's efforts to not offend any stakeholders fell short of the goal. The positive and widespread attention directed toward the *Alternative Agriculture* report challenged too many cherished myths on which the public image and luster of American agriculture depended. The immune response was swift and strong.



Over the years after the release of *Alternative Agriculture*, Fred and I periodically spoke about how the basic problems described in this 1989 NAS report were evolving and mostly getting worse. But there was reason for hope because of what was going on in, of all places, Iowa. As a result of the efforts of farmers like Dick and Sharon Thompson who were walking the walk and thriving as a result, and a small group of farmer-scientists that started the Practical Farmers of Iowa, recognition spread that there were viable options with far fewer "externalities." Respected academics were also engaged in documenting the multifaceted benefits of "alternative" system choices.

Back then it was still possible for a professor at Iowa State University to conduct research on and publicly explain the downsides of increasingly specialized and chemical-intensive production systems without worry over losing a job, funding, or professional stature. And critically, there was also a critical mass of leaders in state government that were both openly talking about

agriculture's adverse impacts on soil and water quality and creating policy and funding infrastructure to find and implement solutions.[3]

But in the mid 1990s many things changed, some for the worse and some for the better. In 1996 genetically engineered Roundup Ready (RR) soybeans and cotton were introduced. The rapid adoption and efficacy of the RR soybean "technology package" dramatically and rapidly altered what was regarded as important in shaping the future of corn-soybean agriculture in the Midwest.

The wild promises coming from the ag biotech community (e.g. GMO corn plants capable of producing their own nitrogen) quickly chipped away at the funding, political support, and momentum driving adoption of sustainable farming systems pioneered by the Practical Farmers of Iowa and its allies and collaborators.

By the mid 2000s, biotech buzz had taken over essentially all the institutions responsible for shaping the future of Midwestern agriculture. Securing a piece of the new profits and income streams created by the ag biotech revolution became mission critical as the pesticide industry took over the seed industry.

In less than a decade, genetic engineering-based private sector corn and soybean plant breeding usurped the traditional role of plant breeding across the land grant university system. As a result, and like the great iron boat the Edmund Fitzgerald, the nascent sustainable agriculture movement in Iowa slipped beneath the waves in the wake of the ag biotech gold rush.

[3] The three musketeers driving change in the Iowa legislature were Paul Johnson, Ralph Rosenburg, and ... Paul Johnson went on be the chief of the NRCS during the Clinton Presidency.

Fred and Carolyn

Fred Kirschenmann and Carolyn Raffensperger were married in 1995. The ceremony was held at their home-in-the-earth in Windsor. The wedding was lovely and gave me, and other attendees, a chance to meet most of Fred's family and many of the people he was working with in various ways to promote sustainable and organic agriculture across the High Plains.

Carolyn and Fred were a couple with much to share and much to gain as a result. The synergy and sparks arising from their union is a great example of hybrid vigor. It's what is possible when a North Dakota farm boy with a divinity PhD joins forces with a sharp-witted and fearless lawyer who lives and breathes in search of ways to deploy the law to bring about what is both just and right.

They have shared a life-long interest in pursuing new ways to think about both old and emerging problems. Fred's endearing focus was changing farming systems and Carolyn's was covert action to infuse the precautionary principle into American environmental and public health jurisprudence and decision-making. The challenges each faced were similar, as were the ways they both tried to find leverage and sustain constructive change.

But perhaps most important to each of them as individuals was the opportunity, every day, to explore together new lines of thought, new ways to communicate about why people come to believe what they hold to be true. Why and how are people able to filter out information and observations that are not compatible with personal beliefs? They both were always trying to better understand how what people "know" drives what they do and say, and how people relate to the communities they find themselves part of.

Carolyn was the first person I knew who frequently used the word epistemology.[4] It took me a long time to understand the epistemological concepts and constructs she used to identify the roots of "knowledge", and the ways people think and draw conclusions from what are perceived

[4] Perhaps I am not the only one unsure of what epistemology is all about. It is the investigation of what distinguishes beliefs grounded in facts from opinions, educated guesses, and/or propaganda. Epistemology involves systematic assessment of the methods and validity of information and thought processes that lead to what is regarded as "knowledge". Epistemology is the prism though which "sound science" can become clear or hidden and/or twisted.

as facts. Carolyn was fascinated by how people come to believe things that were either not true, or far less than the full story, or decidedly at odds with their self-interest. Fred was tilling the same soil in trying to understand why his conventional-farm neighbors, and the agricultural community as a whole, had come to believe they were on the right track toward better ways to farm.

In their union, Fred and Carolyn found a soulmate to help guide and cope with the consequences of their active inquiry into why things are happening and what might help shift opinions and attitudes that stood in the way of constructive change.

Two years after my trip to Windsor for their wedding, Fred and Carolyn returned the favor and traveled to Sandpoint, Idaho for my marriage to Karen, with one twist. Fred did the honors at our wedding along the banks of the Pack River, complete with bald eagles flying overhead. It was a glorious day. I took a picture during their visit in Idaho. It captures the special mojo flowing between Fred and Carolyn.

Changes in Law and Policy

While Fred was focused on the nuts and bolts of transition to more sustainable farming systems in the High Plains, I was working in D.C. on the many ways federal food, agricultural, conservation, and regulatory law and policy were setting the table at which key decisions were being made about what to grow and how, who to sell to, and the best ways to advance agriculture and food quality for the public good.

We periodically shared the observation that the key research and policy challenges and recommendations have not changed in any significant way from those set forth in the 1989 *Alternative Agriculture* report. Nor had the reasons why. Indeed, the factors driving adoption of inherently unhealthy farming systems were growing stronger, and efforts to change the rules of the road were a day late and far more than a dollar short. Those advocating change were swimming upstream as flood waters rushed toward the sea, while trying to advance an increasingly complex mix of expectations and demands. Looking back over the last few decades, achieving one step forward for each two back was a pretty good day's work.

It was during these often-sobering discussions when Fred would nudge my thinking to consider what was *really* driving the problems and obscuring all efforts to address them in a meaningful way. Those forces and factors include corporate power; reliance on new – and too often flawed -- technology rolled out to capture a larger share of gross farm income; loss of previously world-class food and agriculture research capacity in the land grant university system focused on farmer needs and the public good; big money to be had in the food and farming sectors by just about everyone at the expense of small and mid-size farmers and ranchers; and, the near-sure bet that when market dynamics and disasters eroded net farm income to or below zero, Congress would increase the flow of public funds to keep food on the table, and of course also, to feed the world.

Over the years, these forces and factors have metastasized and are now baked into the DNA of those who call the shots. This is why, despite ever-growing rural community and scientific evidence of what is so fundamentally wrong with U.S. Ag Inc., so little has changed.

Then, as part of the 1990 farm bill, the Organic Food Production Act passed, setting in motion a multi-year effort inside USDA to write the first National Organic Program (NOP) rule. Throughout, Fred was among an impressive group of the engaged and sophisticated farmers weighing in on the nuts and bolts of various aspects of the rules USDA was working to codify to define and operationalize the organic certification process, the rules and standards governing organic farming systems and animal care and feeding, and other institutional aspects of organic farming.

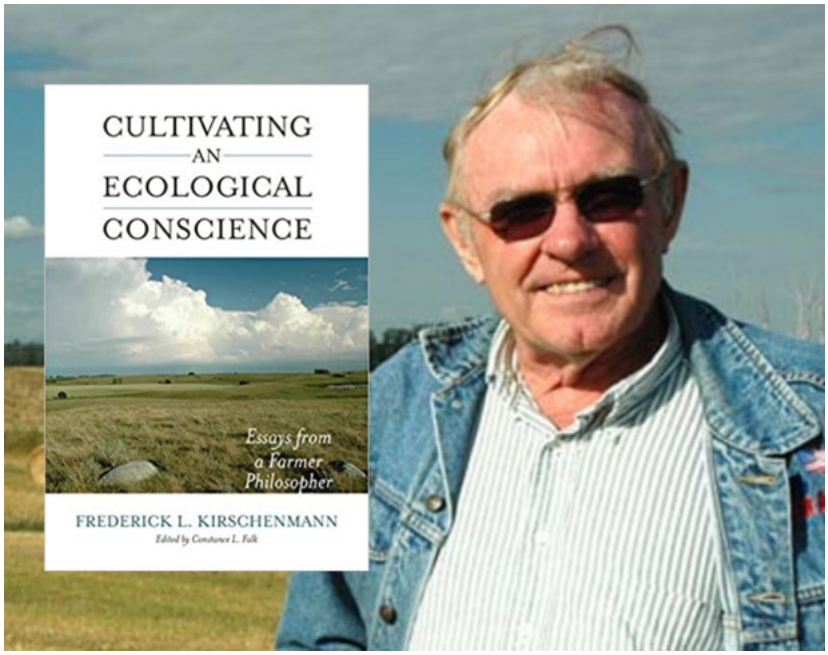
Fred and I spoke often about the tensions within the organic farming community, and between organic farmers and ranchers and non-government organizations (NGOs) that decided to hitch their most important issues to this promising and spirited young horse in the stable. As this unfolded in the early 1990s, the list of hopes and expectations for constructive change laid at the door of the organic farming community, and the USDA, became longer and longer, and more unrealistic and ultimately divisive.

Fred and I, and many others, became concerned that the very small and fledgling organic food industry could not solve such a wide swath of the deep and persistent structural and systemic problems with U.S. agriculture. Tensions within the tent began to grow and brought forth the "circular firing squad" dynamic that has made it more difficult, if not impossible, to reach consensus on core operational issues, standards, goals, and requirements. And without the ability to work through tensions, it has not been possible to build a movement of sufficient size and diversity to drive meaningful change.

During a Fred call in the mid-1990s, the idea arose to write a paper on the "first principles" the newly formed National Organic Standards Board, the NOP staff, and the organic community could draw upon in evaluating provisions proposed by the NOP in the rulemaking process. We wrote our "First Principles" paper in 1996-1997. This was the only time Fred and I traded drafts back and forth in producing a document. We suggested three core principles:

> ***"Ecological Principle***. Organic production should fit into and benefit from nature's systems. Dual goals should guide farm management decision-making: producing high quality, safe food in a manner that tends to preserve the integrity and stability of the biotic community, and builds, or at least sustains, the inherent productive capacity of the soil and biological resources used in the production process.
>
> Organic processing should, as much as possible, retain the integrity of the product so produced. Any deviation from this ideal, in production or processing, should only be allowed when there is clearly demonstrated need, and must not undermine the long-term goals of building soil productivity and producing nutritious, safe food that consumers can buy and enjoy with confidence.
>
> ***Precautionary Principle***. Any materials used in the production or processing of organic food must be proven safe. No materials will be allowed simply because they have not been proven unsafe or because benefits may appear to outweigh risks and uncertainties. The burden of proof shall always be on the party wishing to use the material and contending it is safe.

Systems Principle. The acceptability of practices, processes and inputs in organic production should be judged, first, on their impacts on whole organisms and the biological and ecological processes that govern interactions within living systems. Those that are found to contribute to the health of organisms and systems should then be evaluated in terms of their intrinsic properties independent of their use and impacts on living systems."



Cultivating an Ecological Conscience is the single best source of the "greatest hits" of the good Doctor Kirschenmann. Available at an Amazon near you.

These principles have aged well. But back in the 1990s and to this day, they set the bar high for those producing, processing and manufacturing, and selling organic food. The recent focus on soil health in all of agriculture is a promising development that pleases Fred, although the meaning of "soil health" remains in the eye of the beholder.

Some see no-till and better management of herbicides to forestall the spread of herbicide-resistant weeds in GMO corn, soybean, and cotton systems as among the most pressing soil health challenges. Others are rushing to develop new ways to monetize changes in soil carbon stocks and flows, with most of the emphasis on how to capture a portion of the money flows and

far too little focus on whether meaningful changes in soil carbon levels are likely to be attained and retained, and whether progress toward climate-smart farming should be tracked primarily by simple and fleeting measures of soil C.

In the food manufacturing process, the ecological principle calls for processed and manufactured foods to retain the "integrity of the product." By that we were referring to the health-promoting nutrients in the raw food ingredients used to make a processed food product. Just days ago, with my colleague Robin Mesnage, we published a paper in the journal *Foods* to describe new metrics needed to quantify the impact of food processing and manufacturing on food nutritional quality. One key metric is the percent of health-promoting nutrients in the raw ingredients required to make a multi-ingredient food that remain in the food as sold to consumers. It simply operationalizes the "retain the integrity" ecological principle advanced by Fred and I over 30 years ago.

How Books Have Shaped Fred's Thinking

Over the years I came to realize that Fred's thinking on the challenges of the day was usually occurring at higher, or more foundational levels than my own. While I would be focused on ground-level cause and effect, and how to possibly nudge the trajectory of change in a positive direction, Fred was thinking about what was driving the decisions, or enabling them, that led to the actions that were having impacts on the land.

He has always searched for ways to solve for pattern. I believe he has done so because he understood that identifying and addressing the forces and factors driving decisions that were bad for farmers and the land was the only way to assure that the trajectory of change would shift from predictably negative to almost assuredly positive.

I benefited many times from conversations during which I did not fully understand the connections between what Fred was talking about and things we were hoping to change in farm management decision-making. But over time, and because Fred is both forgiving and patient, I started connecting the dots that Fred had long ago seen as a whole.

Over the years, almost all of my conversations with Fred included discussion of one or a few of the books Fred had recently read. He would extract an insight from a recently read book, apply it to one of the challenges we had been wrestling with, and then sprinkle some intellectual fairy dust along a path that might help elucidate the connections and dynamics that were at the heart of what was working, or not working to promote and sustain health. Fred mostly read books that tackled complex, multifaceted challenges and problems. I mostly read peer-reviewed papers that were typically reductionist and not focused on system principles and dynamics. Perhaps this is why Fred's brain was attuned and comfortable with higher-level systems thinking, while I was often stuck in the weeds and slow to solve for pattern.

Compassion, Kindness, and Character

Fred has big hands and a big heart. I have never seen him mad and cannot imagine the word "hate" finding a place in his speech or thought. He is generous with his time and his knowledge, which is why he has been both an inspiration and a guide for so many people trying to find a way to make sustainable and organic agriculture the norm.

I have wondered many times how the other students and professors at the University of Chicago divinity school related to this young, big and strong man from the High Plains in North Dakota who did not play football but sought to study theology. I also have thought about how his time at the University of Chicago shaped how he approached and managed through the challenges he confronted when he returned to the family farm and started in 1976 the transition to organic. Fred actually addresses this very point in Heartland Stories Radio Episode #31 that was released in July 2021.

Fred explains that the training and mentoring he received in the course of deepening his understanding of religious teachings helped him later in life frame the issues in agriculture in ways that direct focus on the functioning of "whole" systems, and core principles that are central to system performance and outcomes.

During the half-hour Heartland Stories Radio Episode, Fred speaks about nearly a dozen books he had recently read, spanning the cosmos to the end of the neocarbon era, and life in the soil.

Fred dwells on a book by David Montgomery called *Growing a Revolution: Bringing Our Soil Back to Life* tells the story of eight farmers that fundamentally changed their farming system to get off the fertilizer and pesticide treadmills. Fred points out that each of these farmers began down the path of reimaging how they could farm not because someone told them to, but because they realized that what they were doing was failing and would soon make their farm unsustainable.

Each farmer innovated their way through a transition grounded in steady improvement of soil health, cutting the need for and cost of off-farm inputs, growing multiple crops supporting multiple income streams, and spreading risk. To Fred, the most encouraging insight common to the eight farmers was that farming smarter and better was more important than farming more acres with bigger machines. In the 1970s, former Secretary of Agriculture Earl Butz told *Time* magazine that American farmers needed to "get big or get out." Fred's message was "get smart and solve from within" thereby becoming more resilient, less reliant on off-farm inputs, and more profitable.

On a near daily basis over the years, Fred's compressed much wisdom in a tight, short packages delivered at conferences and during committee meetings, in conversations with a diversity of people, and innumerable email exchanges. I was fortunate to be on the receiving end of several such Fred communications. In May 2017, the Northeastern Integrated Pest Management Center hosted a Google Groups chat among IPM specialists, sustainable and organic farmers, advocates, and researchers. Two email messages from Fred to the group laid out his thoughts about the dynamics and essential ingredients of a "mindful transition" to organic, and why and how Integrated Pest Management had to be one of the pillars supporting and sustaining progress. His two emails were merged and lightly edited and became a Fred Kirschenmann blog on my website, Hygeia Analytics.

This blog appears below in its entirety and is one of many examples of how Fred's thoughts and insights spread so widely over the intellectual landscape of American agriculture. It is fortunate that so many of these pearls of Fred wisdom have been captured and preserved in printed words, as well as Fred's many appearances in important films and conversations among colleagues.

Fred's voice was like his hands. Firm, grounded, and always unselfish. His words welcomed others to join in the dialogue and move along the discussion, because Fred knew that the journey together toward new understanding and conviction was the only way to bring about, grow, and sustain collective action.

Mindful Transition from Conventional to Organic Farming Systems
June 5, 2017, Guest Blog By Fred Kirschenmann

Introduction. One of the key issues missing in this particular description of the integration [of farming practices] is the emphasis on "control," while the core concept of Integrated Pest Management (IPM) is "integration," and the core concept underlying organic agriculture is the concept of managing a farming system like an "organism."

We now know from a long history of experimentation that biodiversity and soil health are two key components of pest management systems minimally dependent on external "control" inputs. I now see this demonstrated again, today, by Jack Algiere at Stone Barns, where aggressive soil health management and very diverse rotations of various fruits and vegetables has eliminated totally the need for any pesticide "control" inputs.

I have also seen this on my own farm in North Dakota where, in our organic grain and livestock operation, we have not applied ANY kind of pesticide inputs since we converted the farm to organic in 1976. Nature IS self-regulating and self-renewing when we use nature's own principles – an approach which is, from my perspective, fundamentally what "integrated" pest management (IPM) is all about.

I am not suggesting that we can get there all at once, but this should be our long-term goal—the elimination of external, pest "control" inputs, and the adoption of "integrated," biological-based, self-regulating pest management systems. The use

of "natural" pesticides should only be an interim strategy, while we develop the integrated, biodiverse systems that become possible in conjunction with truly healthy soils.

We should also keep in mind that there are farmers out there today who are not even "organic," but who are already managing to achieve these input-eliminating farming methods. For several inspiring examples, see David Montgomery's new book, *Growing a Revolution*.

Mindful Transition. In response to questions about the transition to organic farming on my farm in North Dakota, I did just quit using external inputs — fertilizers or pesticides, but I am not suggesting that everyone can or should try to do that. As always, a lot depends on the system and the circumstances.

Originally, I followed the advice of David Vetter — my mentor – who recommended that we NOT "convert the whole farm at once." So, we originally converted 1/3 of the farm. It happened to be an unusual year—temperatures were perfect for early crop emergence, rainfall was spread out perfectly, etc.

There was absolutely no difference in yields and pest problems between the 1/3 of the farm that was in transition and the 2/3 that remained in conventional. So I thought, well, this transition thing is not going to be a problem, and I decided to convert the whole farm in the second year of the process. That was a mistake, since the following two years were far from "perfect" transition years. AND, we had not yet figured out an appropriate crop rotation in our ecological neighborhood!

It took us several years to work everything out. However, what I learned led me to understand (again in our ecological neighborhood) that with the right kind of transition strategy, it WOULD be possible to make the transition without continuing to use pesticides — although I would probably continue to use modest amounts of permitted fertilizers, until the health of the soil was restored.

Adopting the right kind of diverse rotation is, of course, an essential step in the transition process. If a conventional farmer is raising monoculture corn and soybeans and wants to transition to grow just these two crops organically, then, that farmer will face an entirely different set of challenges—and probably can NEVER transition to a truly organic system. The best he/she can hope for is what is often called an "industrial" organic system — one that simply relies on "natural" inputs instead of synthetic inputs.

In any case on our farm, which is a small grain livestock farm in the prairie pothole region of North Dakota, a cropping system that works well without any external inputs is three years of alfalfa (a deep rooted, leguminous, perennial crop), followed by flax (a cool season annual that requires a relatively weed-free environment and little nitrogen), followed by hard red spring wheat (another cool season annual, a grassy plant, that does require more nitrogen), followed by winter rye (a fall seeded biannual and great weed suppressant), followed by buckwheat, (a warm season, broad leaf plant) with alfalfa inter-seeded, which then goes back to the three years of alfalfa.

The alfalfa is used to feed the livestock during the winter months. The animal manure and straw that piles up during the winter months is the raw material needed to make compost, which is applied at the end of the alfalfa cropping period to sustain soil fertility and enhance soil health.

It is this complex, interactive system that has made it possible for us to maintain appropriate yields and prevent pest emergence and damage, at least in most years, on most fields. It is what I would call a radical version of IPM. This system is well adapted to the prairie pothole region ecology, but not likely suitable to a bioregion in California or Florida. IPM designs always have to be adapted to the natural ecologies of the place.

The basic philosophy on which organic farming system success depends is “biomimicry,” a concept articulated so clearly by Janine Benyus, as opposed to the “control” nature strategy that has dominated our industrial culture and defined technological “progress” on the farm over the last half century.

My Friend and Ally

Wendell Berry

Farmer and Author

August 2024

I'm not sure how long I have known Fred Kirschenmann. As often these days, I must resort to the old man's shorthand and say I've known him a long time. I've known him long enough that knowing him is one of my ways of knowing myself. We are on the same side, so far the losing side, in the increasingly urgent argument about the use of the land and the production of food. Like, I am sure, his other friends and allies, I have taken courage and comfort in having him as a friend and ally.

Though we belong to places and lineages a considerable distance apart, we have some things in common. Most important, we both were bred and brought up to farming and farm work, and by people who thought highly of farming as a vocation. We were brought up to relish the uneasy friendships between humans and plants and animals. This and other likenesses between us enable me to be pretty clearly aware of our differences. The difference most significant to me is that, in its extent and diversity, Fred's education is far larger than mine. This is made abundantly evident to me by my consultations with his book, Cultivating an Ecological Conscience. This of course is comforting to me when we are in agreement, which we just about always are.

I needed and I value every chapter of Fred's book, as is shown by my many underlinings. But my favorite is the first, which seems to be an afterthought. Its title and the subject it names were suggested by our mutual dear friend, the late Gene Logsdon, "Theological Reflections While Castrating Calves." That is characteristic of Gene, who was enjoying the singularity of his own mind as he challenged Fred seriously to state his faith. I don't think Fred could have accepted the challenge more seriously. He sets the challenge in its inevitable context of our involvement in suffering. And presently he says: "[I]n my theology, the divine always meets us in the flesh – all flesh – all relationships, not just our relationship with humans or relationships we like. This seems to me to be at the hear of the concept of the incarnation." And then more firmly to locate

his insight, he says that as Christians “we have too often reduced the doctrine of the incarnation to a one-time event…”

My great affection for Fred comes to light in my feeling as I have quoted him, that he is speaking for me.

L to R: Charlie Sing, Fred Kirschenmann, Tracy Sides, Wendell Berry
Mountain Sky Ranch, Emigrant, Montana. October 12, 2013
Photo Credit: Nerissa Escanlar

Soil and Its Lessons of Care

Angie Carter

Michigan Technological University

November 2024

Fred, you invite us to all become "lovers of the soil;" it is the "common ground"[5] on which we all stand, you remind us.

Your advocacy for the soil is literal, as seen through your promotion and application of sustainable agricultural practices, as well as spiritual. We learn from you that tending to soil health is as much a biological action as it is one of faith, trusting that today's care for what is unseen or below ground will support the health of future generations of microorganisms and their symbiotic relationships with plant roots, fungi, and nutrients. Science is just now recognizing the importance of healthy soil's storage pockets of air and water to carbon storage and climate change mitigation. Thanks to your lifetime of observation and reflection in relation to the soil, you have understood this phenomena for some time and have practiced care for it intentionally through your advocacy of sustainable agriculture and also through your mentorship.

In this way, your love of the soil is also symbolic. Your lifetime of writing, speaking, farming, and service advocating for the soil has, at the same time, been a lifetime of advocating for the next generation of thinkers, writers, doers, question-askers, scientists, and guardians. Healthy soil relies upon hyphae from mycorrhizal fungal networks connecting roots underground. Similarly, your mentorship has stewarded a powerful network of support among the many of us who have been, officially or unofficially, your students across time and space. Just as a farmer must trust that stewardship of the soil will provide for their family, community, and future generations, you have trusted and invested care in us.

[5] From "On Becoming Lovers of the Soil" (1997) in the book For All Generations: Making World Agriculture More Sustainable J. Patrick Madden, editor.

I'm proud to be a graduate of the Iowa State University Graduate Program in Sustainable Agriculture. My completion of my PhD studies in that program depended upon a strong support network without whom I would not have finished and surely would not have found my way to tenured faculty position as a rural sociologist. I was lucky to have been a student in the program at a time before reactionaries defunded the program's heart, the Leopold Center for Sustainable Agriculture. The Leopold Center was a welcoming space on a campus full of corporate propaganda (or cropaganda, as one may more accurately refer to it) that devalued and actively silenced the very questions many of us were asking in our studies and lives as students.

As we worked to build community together, we relied upon the Leopold Center for its support whether this meant contributing funds to bring in speakers, helping us host community-focused events, or providing funding for research. All the Leopold Center staff were excellent advocates for us. Importantly, we all knew that we were welcome to wander down the Center's hallway to your book-filled office, Fred, to share a flyer for an upcoming event or ask a question. More often than not, we left with a book you'd read and, as you shared it with us, you would say, "I'd love to know your thoughts." Your mentorship was not paternalistic; you invited dialogue rooted in curiosity and eagerness to learn from and with us. This reciprocity and exchange is a lesson from the soil, a reminder of our interdependence.

In preparing to write this reflection on your mentorship and its significance in my life and the lives of many others, I read through the emails you have sent me over the years. Searching your emails in my Google account, I see many more interactions than I remember but am unsurprised at the consistency of each message. Every time I sent out a call to action, or an invitation to a panel or talk I'd organized with other students, you replied with a personalized note. I know that I was not special in receiving this care; in talking to others, I know this was a regular practice for you. We would joke that the only reason someone may not yet have heard a reply from you was because you had not yet read the email. In addition to letting us know if you would attend or not, you would send words of encouragement and thanks for our work. You often also shared an article or book of interest. Some of these emails I've saved in my "GOOD EMAILS" folder where I put

the exchanges that help to keep my head up and stay on course. All of your emails, even the short exchanges, include your care – a smiley face, explanation points, gratitude, affirmations – and often, the gift of reciprocity expressed in that simple invitation, "I'd love to know what you think."

We were lucky as students to have many prominent people in sustainable agriculture speak to us at invited lectures or as part of our weekly colloquium. Someone would inevitably ask those who have spent lifetimes in the movement, as they do to elders in any movement: "How do we fix all of this? What do we do next?" Too often, speakers replied, "We tried, now it's on you to continue the work. Good luck!" You never redirected responsibility in that way; again, you tended to the soil of the next generation. Repeatedly, you reminded us that change does not happen because of majority, but because of a minority. It's not our job to get everyone on board, but to find our allies with whom we can organize, work, learn, and implement these changes. As a systems thinker, you understood that the intentional actions of a few can be a point of leverage, that there is always potential even in what might seem to be below ground, unseeable at the moment. This too, is a lesson from the soil.

I'm on the other side of the PhD now, the other side of the academic job search, and the other side of tenure. I know well how hard it is in the production machine that is academia to stay true to the work and to one another, to commit to the time required to show up and send the kind notes. Being a good mentor is hard; it is often taken for granted and is invisible labor. I can't begin to imagine the thousands of recommendations you have provided for those of us for whom you've been a teacher, mentor, or guide; you wrote a fair number for me. The small actions mean a lot and are cumulative—they are the organic matter building energy and power, the tendrils of hyphae reaching underground to help out others in the work.

Even after graduation, you have stayed connected and continued to provide opportunities. One example of this is your inclusion of Taylor Brorby, a graduate of ISU's Creative Writing Program and fellow North Dakotan, and me in the "younger generation" invited to the Mountain Sky retreat in 2016. Together in Montana, Taylor and I met with other writers, students, researchers, organizers, and farmers with whom we shared a

commitment to sustainable agriculture. As intended, some of us have stayed in touch and continue to exchange support and opportunities with one another. I continue to cultivate these "Fred connections" in other spaces, too, at conferences or in sustainable agriculture movement spaces, and especially among those of us younger in age and experience.

"Extending and building relationships at Mountain Sky retreat, 2016"
L to R: Angie Carter, Taylor Brorby, Ricardo Salvador, Fred Kirschenmann. Taylor and Ricardo gave me permission to share this photo. Emigrant, MT. Photo Credit: unknown

I am not a philosopher, farmer, or soil scientist. As a sociologist, my understanding and study of soil is more connected to identity and place-making, to how we understand our relationship with and responsibilities to food, the seasons, the Earth, and our own mortality. That I find and feel confident in my place in the sustainable agriculture movement is largely in thanks to you, Fred. That I know sustainable agriculture is not only for farmers or agronomists, but also for sociologists, artists, and all of us who call this big blue planet home is thanks to you, Fred.

Thank you for inviting all of us to become lovers of the soil, and especially for modeling what that looks like in your everyday life. Loving the soil requires more than just specific agricultural practices; to be a lover of the soil requires care for inter- and intra-species relationships as we support one another and the next generations in this shared work for a healthier future.

Renaissance Man

Kate Clancy

Food Systems Consultant

November 2024

I suspect that the phrase “renaissance man” will appear frequently in this volume. The moniker is totally accurate in Fred’s case-he’s the only person I know who meets all the criteria and more:

- A philosopher, farmer, theologian, scientist
- A writer, prodigious reader across multiple fields
- A lecturer, orator, raconteur
- A motivator, optimist, peacemaker, advocate
- A critic, organizer, board member
- A seer, an agrarian
- A husband, father, and good friend

I don’t remember when I first met Fred, sometime in the mid-1980s. Two projects, one short-term and one long-term, describe much of my collaboration with him, and his role in piloting multitudes through the transition to more ethical and resilient agricultural and food systems. In 1999 he asked me to co-author a position paper that we titled “Keeping It Organic: Making Sense out of the Processing of Organic Food. In the paper we argued that there should be as much attention paid to ‘organic processing’ as to ‘organic production,’ and that the organic industry had not yet developed an adequate understanding of the philosophy behind processing that it had spent decades developing on organic farming. We argued that organic food processors and manufacturers should preserve the integrity of their products by looking for processes and ingredients that would maintain it.

We were thoroughly castigated and vilified by the big industry leaders who claimed that they had a very clear understanding of organic processing and its principles, a position which their actions over the past 25 years have proved untrue.

We were expecting some blowback but were surprised by its intensity; yet most of the organic community continued to look to Fred for inspiration and guidance. In 2007 he gave the keynote speech titled “Beyond Organic: What’s Really at Stake? at the Organic Summit in Boulder Colorado. He opened his talk by saying he wanted to speak from the heart about the challenges facing the organic community and to what its adherents should be paying attention. He started with the tension within the organic community between those who want to maintain the original principles of organic agriculture and those who feel the need to move organic practitioners into the industry and into the mainstream. As the groups developed, he said, the organic movement was philosophically driven and the organic industry was sales driven. He then supported International Federation of Organic Agriculture Movement’s (IFOAM) suggestion that the organic movement and the organic industry become an organic community and share the two sets of values. This has not occurred but many still resonate with the idea, and think it is worth pursuing.

For the remainder of his lecture Fred described even larger problems expected over the next decades. One was the fact that many of the values that consumers were looking for were not being supplied by organic foods (e.g. fuel-efficient, sustainably grown). The second was what the depletion of fossil fuels would mean for agricultural production-not just in rising costs but in the amount of energy needed to produce alternative energy sources for this production. He also talked about dwindling water resources, asking farmers presciently whether their farms will be operational when they have half the amount of water and twice the severe weather events due to climate change. Fred was cautiously optimistic at the end of his remarks-saying there was a little space and time to improve people’s quality of life by providing significant resources to farmers already using resource efficient systems for farming and for farmers wanting to adapt those systems.

The effort in which I’ve had the most engaged and engaging interactions with Fred over the past 20 years is the Agriculture of the Middle Initiative (AOTM). In the 1980s writings by Breimyer, Buttel, Cochrane, Strange and others were describing the crisis of a disappearing mid-scale agricultural sector. In 2003 these concerns moved Fred to engage Steve Stevenson, Tom Lyson, and Fred Buttel to prepare a draft of a paper addressing the problem. That year Fred wrote a

column in the Leopold Letter asking, “Can we save the agriculture of the middle?” and the group organized a conference at Wingspread that engaged many other interested academics, governmental, and non-profit leaders. This led to the development of a multi-state committee on AOTM under the aegis of USDA Cooperative State Research Education and Extension Services (CSREES) that was approved in 2006.

The proposal of the development committee was based on the final version of the paper “Why Worry about the Agriculture of the Middle? The paper’s authors envisioned the long term outcomes of the initiative to be: (1) the development of more comprehensive, regionally appropriate, ecologically sound agricultural production systems; (2) the creation of new market structures/models and marketing relationships for midsize farms; (3) the exploration of policy alternatives that support these new marketing models; and (4) the education of a large number of consumers in the market of the middle who support these farmers.

Fred felt strongly that farmers needed market networks to bring new products to consumers and other buyers through values-based supply chains, and the first of three components of the original initiative was the Association of Family Farms, the goal of which was to develop new networks/structures for these farms. Fred led this effort with Larry Yee and others for about 8 years, but it didn’t come to fruition.

The second component was a policy group that was comprised of academic and non-profit members who assessed policy needs for advancing AOTM. Over time it melded with the research group described below. It weighed in on USDA and Congressional proposals and shared Farm Bill provisions related to research with the larger group. Over the years the small original group expanded and added to its portfolio training to develop the capacity of many of the members to engage in policy efforts at local, regional, state and national levels. Fred participated in many of these discussions.

The third component was a research and education group. The members’ goal was the development of a national cadre of researchers and food system practitioners with expertise and commitment to food systems analysis and reform. Steve Stevenson led this group for 7 years

when the decision was made to select a new leader every year. Fred attended these meetings when his schedule allowed where he asked probing questions, made suggestions for additions to proposals, and supported everyone's ideas and projects.

The projects described here are only two facets of Fred's expansive and far-reaching career, many of which are described in these tributes. He hoped that industrial agriculture would end so he uncovered as many angles as he could that illuminated the problems, and offered suggestions on how to anticipate the changes that would inevitably occur in parts of food systems, and to prepare for them. Fred has given this generation and those that follow the rationales, in-depth analyses, recommendations, tools and inspiration to adapt and utilize in their own quest for a transformation of agriculture, and steps that take them closer to Fred's vision.

Synchronicity and Sustainability: How Fred Shaped My Journey

Travis Cox

Naropa University

January 2025

Fred,

I hope this message finds you well.

Believe it or not, I just found a note I wrote to myself over a year ago that said "Reach out to Fred." While I am a bit sheepish that it has taken me this long to actually do so, I'm also grateful that the universe conspired to bring this intention back into my life.

If I'm remembering correctly, I think I wanted to reach out to thank you for all you've done in the world, but also to thank you for what you've done in my life.

I know that despite your physical presence (you've always had the coolest "man hands" ever!), you've been a humble man, which, to me, is the sign of a human walking their divine path. Even so, I hope that it doesn't take too much to remind you of what a huge impact your presence has had in the world of American Agriculture. But just by way of making the point, let me tell you two quick stories. I think the reason I wrote down "Reach out to Fred" last year was because at the time I had picked up "The Great Work" by Thomas Berry again in the hopes of bringing it into an Environmental Philosophy course I would be teaching here at Naropa. And then I got to the page that had your name, Richard Register (the famous ecocity designer) and Wendell Berry. I first read The Great Work back in February 2006 before I knew any of those names and so they didn't really make an impact. Little did I know what an impact they would make! Shortly after I read The Great Work was when I met you (more on that later). Because I met you and you got me into Iowa State by agreeing to be one of my major professors, I got to meet Wendell. And because you helped me graduate from Iowa State University (ISU) with my PhD, I got the job at

the Maharishi International University (MIU), which is where I met Richard Register when we brought him to Fairfield to teach!

The second story follows the first, because without getting a PhD at Iowa State, and without getting the job at MIU, I never would've gotten the job here at Naropa, which has been incredible. At some point, if you're interested, I can tell you all about my two new areas of interest and teaching ("ecopsychedelics" and "normalize collapse"), but for now I'll just say that my ability to land this job, which was almost solely because you were willing to take a gamble on me at ISU, allowed my family and I to be exactly where we are supposed to be. That said, it hasn't been without its challenges...it is life, after all. And so I remember one particularly challenging stint, shortly after we first arrived, when things were still new enough that the little things--like not knowing which grocery store would carry the granola that I love--was enough to make me question whether or not I made the right decision in moving to Colorado!?! But it was right then that I saw a little carton of wheat flakes that seemed to have a picture of you on it...sure enough, it was you! And for a second, during that momentous transition for our family, everything felt right with the universe. So, thanks for being a famous wheat farmer from North Dakota.

But this wasn't the only time that a synchronicity happened with you. In fact, the first time I met you in person is one of my life stories that I love to tell the most. With all you've done in your life (which again, thank you for your presence on this earth...it has had such a huge impact) and with what a generous person you are in terms of your willingness to give of your time and attention, I don't expect you to remember it, but for me it was one of those handful of moments when I knew that the universe was conspiring with me to continually help me become the best version of myself. It's beyond the scope of this letter, but to arrive at your office door that day required a series of synchronicities that included The Land Institute. Suffice it to say that even as I was walking through the doorway, I wasn't quite sure what I was doing there beyond the fact that I felt like I was being led by "spirit." But as I was walking toward you in your office to shake your hand, I glanced to my left and noticed a book on top of your metal file cabinets: "The Universe Story" by Thomas Berry and Brian Swimme. Now, you and I both know the importance of that book for the fate of the human species. But up to that point in my life, I

could've counted the number of people I'd met who were familiar with that book on a couple of fingers (outside those of us who studied with Brian). So, I was sure that you must've gotten it out because you saw in the materials I sent you that I had studied at the California Institute of Integral Studies. But nope—you said you had it out because you were looking something up for a speech you were about to give...

Thus began the next chapter of my life at Iowa State, which led to Fairfield and Maharishi University, which has led to Boulder, Colorado and Naropa University. And to come back full circle from where I started this letter, with seeing your name in The Great Work over a year ago, I need to tell a story about something that happened since I wrote the first draft of this communication. In the months between when I first wrote you this email and when I was asked if I would include it in your Festschrift, I was teaching an Ecopsychology course and I decided to have the students read Naomi Klein's article from the Nation, "Capitalism vs the Climate." It is one of my favorite sustainability readings of all-time (alongside your "Spirituality in Agriculture" and David Orr's "Four Challenges of Sustainability) and it is one that is accessible to all the different undergraduate majors that tend to fill up my classes. Now, I'm sure I knew this before, but in rereading it for class that day, yet again, I read your name alongside Wendell's, this time including Wes Jackson as well. The reference was to the "50-year Farm Bill" initiative that y'all came up with and took to Washington D.C. to deliver. Here I find myself having a mirror image experience of what caused me to want to reach out to you in the first place: seeing you mentioned in some of the most important sustainability texts ever written, alongside some of the most important people in the field of sustainability, because you were living out your purpose, doing some of the most important work in the field of sustainability.

I'm so grateful for the monumental work you've done in the world. If my children's children have a bright future, it will be in no small part due to your presence in it. And I'm grateful to you for the role you've played in my student and professional careers, as I hope to have illustrated above. But perhaps more importantly, I'm grateful for our friendship. I consider it such a blessing to have been able to sit in your office and pick your brain for *two* independent studies. I believe what I believe and know what I know in no small part because of you. Beyond that,

trying to make you laugh has always been one of my favorite things to do when I'm around you because I love that laugh of yours so much!

Anyway, thanks for everything, Fred. But most importantly, for me, thanks for helping me walk on my divine path, and for walking it with me for a while.

Humbly yours,
Travis

Reimagining the Land Grant Emancipation and Rehabilitation Act

Kamyar Enshayan

University of Northern Iowa Center for Energy & Environmental Education

September 2024

Many of us had known of Fred way before he came to Iowa. I had read his writings and had heard him in gatherings of innovative farmers. As a graduate student at a land grant university back then (when the acknowledgement of ecological agriculture was rare) I was so inspired hearing Fred explain his experience in large scale organic crop farming. Years later, we all were thrilled that he was coming to Iowa to lead the Leopold Center for Sustainable Agriculture.

I got to know Fred a lot more, now that he is in Iowa. Our gatherings with Fred are always full of humor and laughter, especially around the falsehoods of industrial thinking when it comes to soil, water, and land. The first time I officially met Fred was in September of 1993, at the 20th anniversary of the Center for Rural Affairs in Walthill, Nebraska. Fred and many others spoke, and at some point there was an opportunity for attendees to say something. So, I decided to read to the group a short piece I had written about an imaginary future in which the Land Grant Emancipation and Rehabilitation Act was signed into law, freeing these colleges of agriculture from the toxic influence of the global agri-industrial complex. Fred loved it and I was so glad to make Fred laugh!

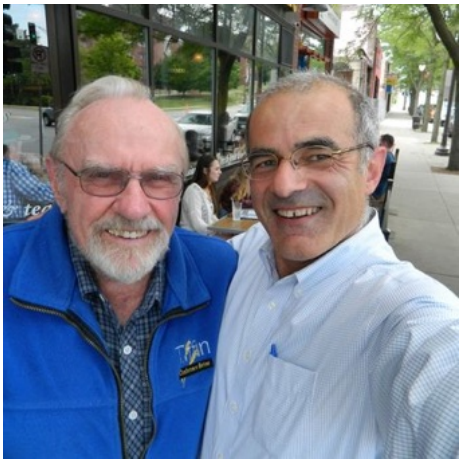
I love how Fred starts a major talk and walks you through his points, weaves a coherent logic, and builds a framework for thinking, connecting so many realms, and brings it all together as one whole story, all without a note or slides. I have heard him speak many times and am always fascinated. One recurring theme I have heard Fred outline has been the fallacy of economic systems that work against the integrity of the land. Fred thought that these systems have failed and will continue to fail. The big ship is falling apart, so our best bet is to build lifeboats, examples of systems that work with the uniqueness of ecosystems they are situated in, examples

that can be replicated elsewhere, examples that can be scaled up. This has resonated with me and the work of many others who are building a stronger local/regional food economy in Iowa, at a time that nearly all that we eat is shipped in from far away and with hidden costs. I think of Fred's idea of building lifeboats often.

I keep coming to laughter and humor when I am with Fred, so when I recently read this passage in John Hay's wonderful book *In the Company of Light,* I thought of Fred laughing:

> "*On a brief trip to Cape Cod, back in September 1853, Ralph Waldo Emerson wrote in his journal of visiting Nauset Light on the back side of the Cape, where he talked with the lighthouse keeper: "Collins, the keeper told us he found obstinate resistance on Cape Cod to the project of building a lighthouse on this coast, as it would injure the wrecking business…Looting ships wrecked along the shoreline was a highly profitable nineteenth century business. The wreckers, who were plentiful, did not fancy lighthouses that might prevent prize wrecks which could furnish whole houses."*

This passage immediately made me think of the looters in Iowa profiting from the wrecked state of streams, soils, and diminished communities, and Fred and the Leopold Center as an important lighthouse for Iowa.



L to R: Fred and Kamyar, Downtown Ames

A Call that Changed Everything

Kathleen Finlay

Glynwood Center

January 2025

Dearest Fred,

I have heard that you are approaching the grand transition from this world to the unknown. My fervent hope for you is that you feel safe and loved. And I am sure that you do - for you have surrounded yourself with purpose and authentic connection your entire life.

I thank the fates for bringing us together. I can think of the person I knew who introduced me to the person you knew and then we were connected - but I welcome that there may be something more, something I know nothing about and will remain, forever perhaps, a mystery. That there was some magic or things beyond my knowledge that put us together. I like to think that - even if I think it is hubris or impossible, I like to think that some force greater than worldly threw us into each other's orbit.

And here is what happened to me.

I'm sitting at a doctor's office, with my adolescent daughter. I'm stressed. She has medical problems I have been dealing with since her birth, I am trying to figure out if she needs to brace her arm, or her leg - will that help? Are we doing enough PT, how can we help more? Just all of it, in those uncomfortable spaceship chairs in some hospital waiting room. The balance of what I know as her mother (just move your wrist a little more) to what they know - degrees upon degrees - trust them?

All of that is in my head - all of it. And Fred calls. And I am like, yes! Please invite me out of my headspace for a second. And there you were with your clean, deep voice. Caring about me. For nobody's business, meaning you didn't have to make that call or care - but you did.

And you said to me in that 30 seconds. 25 seconds. Even less. I think you should go run Glynwood.

Every nerve alighted. Ignited. It just felt so right.

I have had that experience exactly three times in my life. One when I knew I needed to birth Hannah into this world despite any real grasp of resources to do so. Second, you telling me I should run Glynwood. Third, partnering with my true love Mark, even if it made me uncomfortable to be all in with another person.

All to say, that call from you - because of the amazing life and example you realized every day - I trusted you and here we are. It's so beautiful I can hardly stand it. I think you would be proud of the work I am doing. I think that call, that instinct you felt - it's making good waves. You will live forever in my heart.

Dearest Fred –

Go to this next pasture with the peace and love you have sowed - your spirit and guidance will live on in me, in my daughter, in so many others. Thank you for looking out for all those lights you saw glimmering and in need of nurturing. I thank you. I love you.

How Are You Involving the Younger Generation?

Jan and Cornelia Flora

Emeriti, Iowa State University

December 2024

We first met Fred and Carolyn in Cuba when we formed part of a group of North Americans who were guests of the Cuban Organic Association. It was one of the first independent NGOs in Cuba and the impression I had was that little NGO was confronting an industrial model of agriculture much as regenerative farmers and others were doing in this country. Only a short time after that, Fred was hired as director of the Leopold Center at ISU. We were delighted.
Fred's strength is his interdisciplinary perspective and the diversity of jobs and tasks he has performed. He understands and respects science, but because of his training in the humanities (philosophy and religion) he also seeks to understand what is behind a system, what made it tick.

He has been a farmer and, unlike most farmers, peeled back the layers of the agribusiness system to discover how it works. He doesn't blame the farmer embedded in that agro-industrial system but recognizes that that system evolved to benefit those with the power to shape it. Farmers and eaters are equally caught in that system. His continued involvement in organic farming on his family's 1500-acre North Dakota farm punctuated by stints in academia and in ag-related non-profits also contributed to his seeking answers to how the agricultural system worked and how most farmers, including his more conventional-ag father and North Dakota neighbors, found it more comfortable to follow the web of marketing and input firms that supported monoculture.

The more enthusiastic Fred became about regenerative agriculture the more he learned about the functioning of agro-industrial systems. Early on, he became euphoric about the distinction between dirt and soil, dirt being a receptacle that functions to hold the food-, feed-, or energy-producing plant together with pesticides and chemical fertilizers to maximize short-term yields. Soil, microorganisms, and roots – especially perennials' roots, as in perennial grains being bred by the Land Institute -- operate symbiotically as a community, which together with multi-

cropping can exceed a conventional monocropping system in yield, and if applied widely would far exceed industrial agriculture in social benefits.

The Land Institute's founder, Wes Jackson, the poet-farmer Wendell Berry, and Fred Kirschenmann produced a Fifty-Year Farm Bill, to show the short-sightedness of the five-year farm bill in agroecological terms.

As Fred faced his own mortality more directly, perhaps he sensed that his own generation and those that followed had not achieved an agroecological transformation. Spurred by the crisis of global warming caused by continued teeth-gritting production and consumption of fossil fuels, he put his faith in young people. He believes that movement toward regenerative agriculture could speed up if the older generations stepped aside or, better yet, imparted their wisdom to those young people. Recently, his constant question of people seeking to foment positive change is, "How are you involving the younger generation?"

Another thing that Fred and others with a similar vision taught us somewhat inadvertently was the extent to which those with economic and political power would go to seek to squelch the dream of regenerative agriculture. They were abetted by a corruptly constituted Board of Regents and Land Grant administrators at Iowa State University, in particular, who were willing to perpetuate a system that they must know will soon fall of its own weight. Perhaps they do not fully understand that by protecting the annual budgets of their institutions by kowtowing before those at the State Capitol who are guided by agribusiness interests, the administrators are in the long-run destroying the autonomy of their – our – universities, allowing one more set of institutions to succumb to a growing authoritarianism, that could indeed upend democracy in this country.

The Demeter Standard

Jim Fullmer

Farmer and Consultant

November 2024

Fred Kirchenmann has been an inspiration to me for decades. Time flies by. Going back to the 1980's I recall listening to Fred speak at organic farming conferences. I recollect an organic farming pioneer, from North Dakota, bravely taking on the large scale and diverse farming of grains, pulses, livestock himself inspired by luminaries such as Aldo Leopold, Wendell Berry, Rudolf Steiner amongst others. Truly a farmer but also a minister, philosopher, and highly respected agronomist. In a lecture, he would weave a fabric in my imagination of a farming system that is self-sustaining, healing, and productive not only from an agronomic and scientific base but also literally endowed with soul and life.

At this point in my life, I was a 20-something graduate of Oregon State University, and an experimenting farming apprentice in Montana, later to return to western Oregon where I still farm today. Though I did not know Fred personally at this point in my life I often heard his voice in my head as I plowed through the joys and challenges of being a farmer. I'm sure this was true for many.

I found myself engaging with the organic food world as an organic and Biodynamic inspector. Fred was an inspiration to me in this world as well. Back in the days, prior to the implementation of the USDA's National Organic Program, multiple certifiers took on the task of insuring food labeled as organic indeed came from production and post-harvest handling systems that heeded core principles of organic food production. Out of Fred's family and neighborhood arose one of the foundational organic certification systems, Farm Verified Organic (FVO) whom along with many of the other original organic certifiers/educators help train organic farm and processing inspectors via the Independent Organic Inspectors Association.

Along this path, back to the beginning of my agronomic quests I have been a Biodynamic farmer and thus inspired by many worldwide who developed this original regenerative organic agriculture which is now 100 years in existence back to Rudolf Steiner's work at the turn of the century. This is the world where Fred continued to be an inspiration and where I was able to meet and get to know him in person. Through my involvement with the Biodynamic Association and Demeter Association in the USA I came to know Fred as a Biodynamic farmer. Fred's farm was visited and certified by Demeter before there was a Demeter Association in the USA. Fred tells tales of the days when folks from Demeter (which itself dates to 1928) would come from Europe and visit his farm. Although not the first Biodynamic farm in the USA, I believe Fred was the first Demeter certified farm in the USA dating back to the early 1980's. He was a board member of the Biodynamic Association and later of the Demeter Association. He was often a speaker at the Biodynamic conferences in the US, and there he continued to inspire me through his eloquent presentations.

In 2004 I found myself as the Director of the Demeter Assn. One of my tasks at this point was to write a revision of the USA Demeter Standard highlighting the principles of a Biodynamic Farm Organism in a language that defines a regenerative organic farming system in the USA. The US Demeter Farm Standard outlines these agronomic principles, biodiversity, farm generated fertility, integration of livestock, use of the Biodynamic preparations, and pest control that arises internally out of the internal living dynamics that result from the interrelation of these principles. Fred's input was integral to this revision.

Fred became a Demeter Board member where he was integral to maintaining the integrity of these principles as they migrated as a Standard out into the rapidly growing organic food industry.

Thank you, Fred. I've always appreciated your distinctive laugh, calm attitude and the many things you have brought to the table as we evolve through some very interesting times.

Fred Kirschenmann and Whiterock Conservancy

Elizabeth Garst

Whiterock Conservancy

October 2024

Fred Kirschenmann was hugely influential in the formation of and early years of Whiterock Conservancy. In my small corner of the world, Fred was of gigantic influence.

As background, my father Stephen Garst had assembled, over decades, the 5,500 acres of land in the Middle Raccoon River Valley in Iowa, now known as Whiterock Conservancy. Stephen bought it in 40s and 80s and 120 acres, filling in the jigsaw pieces along the river. He tethered it to the family's Home Farm just outside Coon Rapids, in the family since the 1880s and made famous by the historic 1959 Khrushchev visit.

Stephen managed the land with intelligence and a light touch. He kept the fragile lands in grass, did not overgraze, managed the crop ground erosion with terraces, waterways, buffers, contours and headlands, planted acres and acres of habitat and fruit trees and was a very early pioneer in no-till methods and cattle genetics. He was ahead of his time, but nevertheless did not much appreciate the importance and power of nature, diversity and ecological principals, in farming and in our landscape.

In early 2004 Stephen's sentence of Alzheimer's had become severe, and I took over management of the family businesses. The Whiterock lands, along both banks of about 8 miles of river, were of major concern for the family. How would we steward these lands? We were dismantling my father's farming company which had long taken care of the land. As an early step, we asked Mark Ackelson at Iowa Natural Heritage Foundation to advise us, and he led us to the answer: The Garst family has donated more than 4,200 acres, with 1,300 acres to follow in coming years, to a new (now 20-year-old) non-profit land trust called Whiterock Conservancy.

As the first step in planning the new non-profit, Mark suggested we invite a team of experts to hear our story, tour the land and give us some advice. Luminaries invited to that meeting included Fred Kirschenmann, and it was the first time I had met him. The tractor drawn hayrack ride through the valley was fun, but the discussion afterwards was thrilling.

Of all our advisors, Fred was the one who focused in on the importance of agriculture to the Whiterock story. The Garst family had long honored the land and innovated on it, to find better ways to make agriculture and the environment work together. Fred talked about the value and power and importance of that legacy. He advocated that Whiterock should be a center of resilient agriculture, at field scale, seeking and demonstrating how Iowa famers could do better for both agriculture and the environment … *at the same time* … and be profitable. His hope was to transform how we farm, at scale.

In 18 years of service on the Whiterock board, Fred was a relentless advocate for the agricultural mission at Whiterock. He brought to us broad erudition, telling points of view and research insights from Iowa State University and other ag schools. He advocated at every step the ecological viewpoint in farming systems and fully supported Whiterock's outreach. As thinking and vocabulary evolved, he led us from sustainability goals to resilience and then to regenerative goals. He reminded us often of the big picture on many projects.

He worked hard on the usual duties of a Board member too, with faithful attendance, committee participation, contributions to the development efforts, and more. He was always utterly courteous, kind and unassuming.

Another strength of Fred was his enthusiasm. He saw a brighter future, loved to explain research insights from his university colleagues and reveal pearls of wisdom from his most recent readings. The Leopold Center for Sustainable Agriculture made big advances under his forward—looking leadership. And he took the later travails of the Leopold Center with grace, dignity and a forward-looking world view.

On a personal note, when I was first getting to know Fred, I tried to keep up with his erudition by reading his book. Hah! Fred is one of the most well-read men I have ever known; I could never keep up.

In Cultivating An Ecological Conscience, I first read about the evils of reductionist thinking! I grew up with reductionist thinking, as my experimenting farm family was wanting to do strip plots with different fertilizer treatments or strip plots with different hybrids or experiments with different cattle feed rations or micro-nutrient treatments. In truth, as Fred would agree, both reductionist thinking and systems thinking are important. The parts, the details, really do matter, but so does the broader picture. Fred expanded my brain, and perhaps yours, in that direction.

Freddie

Alan Guebert

Columnist, The Farm and Food File

October 2024

Freddie Kirschenmann has big, North Dakota farmer hands. But big, like most adjectives applied to Fred, doesn't take in the scale of what's been built, gripped, soothed, or let go by them. Dinner plate comes close but catcher's mitt might be more accurate: tanned, tough, flexible, engulfing.

And it fits Freddie like a good baseball mitt should because, as editor Constance L. Falk notes in her introduction to Fred's wonderful book, *Essays from a Farmer Philosopher*, he himself once explained the purpose of a baseball mitt to a class of mid-1970s graduating seniors.

"You might think," Falk relates Freddie telling the respectfully listening high schoolers, that "mitts are to protect your hand and education is to help you get a good job… (B)ut the true purpose of baseball mitts is to extend your reach so you can catch balls you'd otherwise miss. Likewise, education helps you extend your imagination to catch opportunities otherwise beyond your grasp."

And, adds editor Falk, "Three decades later, Kirschenmann continues unveiling basic principles to help us grasp the challenges we face."

So, too, today–another three decades after that.

I first felt the grip of those big hands and enchanting intellect in the mid-1990s when Fred, whom I had never met, and I shared a mountain cabin near Emigrant, MT, at an informal retreat that featured 25 or so agronomists, geneticists, M.D.s, pharmaceutical researchers, philosophers, and at least one hanger-on, me.

The gathering also featured other formidable agricultural, economics, medical and agrarian thought leaders like a respected Mayo Clinic physician, the Land Institute's formidable Wes Jackson, and poet/essayist/novelist/farmer Wendell Berry.

(Later, after a second and third of these biennial ideafests–all organized by Illinois farm boy turned University of Michigan geneticist and rainmaker Charlie Sing–we took to calling ourselves the "Friends of Charlie" or, for short, FOCers. That abbreviation quickly became "The Fockers," a name that both captured the gathering's frank talk and earnest debate as well as its easy humor and genuine appreciation for each other.)

Mountain Sky Ranch, Emigrant, Montana, 2013

Well, that was the plan, only Fred never arrived for the first day of the five-day event so I luxuriated in our shared, comfortable log cabin by myself. The second day, same thing; cozy comfort but no Fred.

That next morning, however, the cabin's extra bedroom's door was closed. Had my ghost roomie arrived in the dead of the night like most spirits from the great beyond? I tip-toed around, then left for breakfast and the meeting's morning session. When I arrived at the gathering's meeting room, there sat this generation's godfather of regenerative agriculture, Fred Kirschenmann, smack between two other towers of plain speaking farm intellect, Wes and Wendell.

What a sight. The smooth, usually talking Wes Jackson; the patient, mostly listening Wendell Berry; and the easy smiling Fred Kirschenmann all in a row and all in deep conversation. What were they talking about? Wheat? Sheep? Descartes?

I don't know because interrupting them would have been like interrupting Franklin, Jefferson, and Adams talking about the virtues of Boston lagers or the need for revolution.

Freddie and I became fast friends that week in Montana because, I felt, when we chatted you were the most important thing in his life. Few people have that gift of genuineness and my new Great Plains farmer friend was one of those rare birds. Whether we talked about writing, flax, the Bible, or his "John Deere therapy" sessions–returning to his family's multi-crop, organic farm for harvest–he was always engaging, curious, entertaining, and genuine.

And his burn-the-barn-down smile was quick, honest, and welcome.

We stayed in touch and, in late 2005, Freddie and I had a difficult but honest conversation about Iowa State University's abrupt decision to promote him from his dream job, director of the university's innovative Leopold Center for Sustainable Agriculture, to something ISU dreamed up–"distinguished fellow" at the Center to "devote his time to national sustainable agriculture priorities affecting broad segments of U.S. agriculture."

Like many of Freddie's friends and colleagues, I saw the invented "promotion" as a slap in his face and a kick in the Leopold Center's pants. It was, as I wrote in my *Farm and Food File* column for the week of Nov. 5, 2005, in fact, Kirschenmann being "shuffled off to the academic gulag by powerful farm and commodity groups in Iowa who worried the Fred-led Center's authoritative research and growing reputation undermined their agribiz-or-bust approach to farming."

Freddie, ever the sunny-minded ordained minister, was restrained in his disappointment even after it became known that ISU's interim ag dean (and Leopold board member) Wendy

Wintersteen–who had swung the hatchet to cut him out of the director's job–had given him just 48 hours to accept the new post or go back to his North Dakota farm. Her reasoning is as obtuse today, almost 20 years later, as it was then: that Freddie and the center were "not reaching out to enough Iowa stakeholders."

Baloney. "It's a charge that didn't then, and doesn't now, sit well with Kirschenmann," I explained in the 2005 column. "'The Leopold Center is unique in all of agriculture,' he explains by phone. 'What the mission boils down to is change; the Center deals with change coming in agriculture.'"

Wintersteen, however, fell in line with ISU's big agbiz backers, most of them incapable of even uttering the word "change" let alone contemplate it, to undermine Kirschenmann and his smart, merry band of questioners at the Leopold Center. By backing the status quo fat cats and not the calm, science-driven innovator, she and one of the nation's premiere Land Grant universities squandered their singular opportunity to be the leader in the sustainable, regenerative change American agriculture is now–20 years on–coming face-to-face with.

The cash-over-conscious choice marked the beginning of the end for the Center. The muscling out of Freddie soon gave Wintersteen and similarly shortsighted Iowa politicians the collective courage they could never muster against Fred alone to slowly bleed Leopold of its innovative funding and, by 2010, its ability to choose its new leadership. By 2017, it had all but disappeared into ISU's Big Ag bureaucracy, like a lost file or a missing library book.

But this great friend of farmers and farming everywhere never lost his deeply ingrained belief in mankind's basic goodness and his always-on-his-sleeve, joyful evangelism for faith, farmers, and sustainable, regenerative farming. "Mother Nature always bats last," he often noted when preaching the virtues of becoming part of the land and not just the owner of the land.

"And," he added, "she always wins."

That's Freddie in a nutshell. He knows how this ends because he's already read every book or research paper on the topic, talked to everyone anywhere who has any connection to the issue, and then thought about it–deeply–before taking action.

Now it's up to us to heed his wisdom and trust his experience and continue the work–the big work–he's spent most of his life building on the North Dakota plains. "It's not me," he might mildly object, "it's the land."

Indeed, it is and we know this because our friend Freddie–the professor, minister, scientist, writer, philosopher, and farmer–says it is.

Nutritional Ecology Class

Joan Dye Gussow

Teachers College, Columbia University

October 2024[6]

I had no idea who Fred Kirschenmann was when a student came to my office door many years ago and asked if she could bring someone to sit-in on the nutritional ecology class that would be meeting next. I agreed, of course, and, when the class was about to begin, in she walked with this big, tall country man whom she introduced as Fred. Although he came back to participate in subsequent classes, I don't now remember a single thing any of us said during the few sessions he attended, but I was fully convinced after a week or so that we would all be a lot smarter, and all of us would have better food to eat, if he stayed around for the semester. So, though it took me many years to learn about all of Fred's formal training, which was surprisingly rich, practical history is so much longer that I still haven't even begun to learn the most important details of what he knows about producing healthy food...

The great majority of most people in this country have never farmed. Both my mother and father had parents who grew up on farms, but neither of them grew up to raise farming families--my mother's father went out and became a shoe salesman and subsequently a seller of lightening rods. And there was one doctor, one veterinarian and one newspaper editor among the other men, and among the women, only homemakers. My father's eldest brother was the sole family farmer and it was on his land that I learned to milk a cow without learning to want to do it professionally as a farmer

I've also spent serious amounts of time reading things Fred has put in print, listening carefully to Fred when I run into him at a meeting or at the airport. And what I want to say first about his communication is a complement that may not sound like one to a scholar like Fred; he seems to make no effort to be dazzlingly obscure but to be wholly understood.

[6] Joan Dye Gussow died peacefully in her home in Piermont, NY on March 7, 2025. She was 96 years old.

So, as you pleasure your way through this unique volume, enjoy discovering how much more there is for you to learn about a very special man.

Remaining True

John E. Ikerd

Professor Emeritus, University of Missouri-Columbia

September 2024

I first met Fred Kirschenmann sometime in the early 1990s. I was the project leader for a USDA-funded project to flesh out the "quality of life" dimension of sustainable agriculture. The legislation defined sustainable agriculture as "an integrated system of plant and animal production practices having a site-specific application that will over the long-term," among other benefits: "Enhance the quality of life for farmers and society as a whole."[7]

USDA's programs focused on sustainable agriculture's ecological and economic dimensions, with little attention paid to sustainable farming systems' intangible social or quality-of-life benefits. No one in the USDA seemed to know what the legislators intended by "quality of life," how it related to sustainable agriculture, or how to solicit proposals and fund projects consistent with the legislative mandate. The quality-of-life project provided funding to bring together a group of social scientists and other thought leaders to provide answers to these questions.

A list of potential project participants was developed in collaboration with USDA and prominent leaders in the sustainable agriculture movement. Fred Kirschenmann was one of the first names on the list. The QOL Task Force included a diversity of people, including people from universities, NGOs, grassroots farm organizations, and farmers. Fred fit into all those categories. He is the "complete sustainable agriculturalist." He also turned out to be a great guy to work with and get to know personally.

Fred is a prolific reader, and almost always has a quote to support his perspectives. On the task force, he quoted Wendell Berry when he talked about the social and cultural quality of life of sustainable farming. Sustainable farmers must farm *"farms they know and love, farms small*

[7] National Agricultural Library, "Sustainable Agriculture," https://www.nal.usda.gov/farms-and-agricultural-production-systems/sustainable-agriculture

enough to know and love, using methods they know and love, in the company of neighbors they know and love."[8] He quoted Rudolph Steiner when he talked about the spiritual quality of life of Biodynamic farming: a farm is "*an individualized, diverse ecosystem guided by the farmer, standing in living interaction with the larger ecological, social, economic, and spiritual realities of which it is part."*[9] He quoted Aldo Leopold when he talked about the ethical quality of life of sustainable farming, *"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."*[10] When Fred talked the rest of us listened. He spoke as a prophet or truth-teller quoting from the scriptural texts of sustainable agriculture.

Over the years, Fred and I stayed in contact mainly through conversations when we were speaking at the same conferences or participating in some other organizational activity. I would always make sure I arrived at a conference soon enough and stayed long enough to listen to Fred's presentations. I always came home with new books for my reading list gleaned from Fred's quotes and new ideas, or new angles on old ones, that I wanted to explore. Unlike most speakers and writers in the sustainable agriculture movement, Fred speaks and writes about a wide range of issues, from organic farming methods to the political economy, from soil quality to spirituality. He is equally adept in working with families on small farms, or agribusiness executives, with religious groups, or with academics.

However, I was surprised when I heard that Iowa State University had chosen Fred to replace Dennis Keeny who had retired as the Director of the Leopold Center for Sustainable Agriculture. I had just finished a 30-year academic career in the Land Grant University system. I had not found Land Grant Universities (LGUs) to be a hospitable academic environment for those who take sustainable agriculture seriously, particularly not for outspoken apologists for social and ethical sustainability. Dennis's academic credentials as a soil scientist afforded him the credibility to deal with the multidimensional aspects of sustainability in general terms. However,

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[8] Wendell Berry, *What are People For*, Counterpoint Press, Berkeley, CA 2010, 206, https://www.amazon.com/What-Are-People-Wendell-Berry/dp/1582434875 .

[9] Rudolph Steiner, *Spiritual foundations for the renewal of agriculture.* Gardner, M (1924/1993) (ed). Bio Dynamic Farming and Gardening Association of USA: Junction City, OR, USA.

[10] Leopold, Aldo. 2020. A Sand County Almanac. New York, NY: Oxford University Press.

as a Biodynamic farmer with a PhD in philosophy, I expected Fred Kirschenmann to deal more directly with the lack of social and ethical integrity of the unsustainable industrial farming systems that dominate American agriculture.

I hoped Fred's appointment might pave the way for more credible sustainable agriculture programs at other Land Grand Universities (LGUs). However, I was concerned about how the experiment might turn out. I was confident that Fred would not compromise his principles to accommodate the status quo at LGUs. However, I knew from experience that many agricultural scientists in positions of authority in the LGU system see sustainable agriculture as a threat to the industrial approach to agriculture. It's difficult to admit that the kind of agriculture you have spent your career researching, teaching, and advocating is not sustainable. I know from personal experience.

Fred quickly initiated a major program that, in my opinion, proved critical and pivotal to his tenure at the Leopold Center. It was commonly known as the "Agriculture of the Middle" project. In a white paper written by Fred and others, they wrote, "If we are only asking our farmers to produce bulk commodities to be manufactured into food, fiber, energy, and other products as cheaply as possible, without regard for the social and ecological costs associated with such production, then we might indeed want to stay the present course and reduce farm populations to the lowest possible number. But we have traditionally expected more from our farmers. We expect them to take care of the land for future generations. We expect them to care for their animals properly. We expect them to protect the environment. We expect them to be good citizens of their communities. We want them to provide us with food products that have unique attributes. We rely on them to provide us with food security. All of these public aspects [of farming] contribute to a healthy landscape, healthy communities, pleasurable eating—and to a sustainable future."[11] They were saying, that we expect our farmers to farm sustainably not simply produce cheap commodities.

[11] A paper initiated by Fred Kirschenmann and others, "Why worry about agriculture of the middle?' Iowa State University, https://dr.lib.iastate.edu/server/api/core/bitstreams/03bc967e-3195-42c3-b5f6-58ae53ecf076/content .

They attempted to defuse opposition to their critique of industrial agriculture's negative ecological and social impacts by focusing on the consequences for traditional mid-size, commercial family farms—agriculture of the middle. They were counting on strong public support for traditional family farms to provide support for their sustainable agriculture programs. They proposed public policies, including public research and education, that would support the development of an alternative food and farming system that would parallel, not replace, the current industrial agri-food system. This new system would not necessarily threaten commodity production on large farms or niche markets for small farms but would be a new agri-food alternative. They provided examples of how this alternative system is emerging but will need government, consumers, and public support. Fred and the others seemed to be doing everything they could to remain true to the core principles of sustainable agriculture without threatening or offending the entrenched advocates of industrial agriculture in the LGU system.

However, they ended the paper by pointing out, "It is important to remember that none of this can happen apart from sustaining a particular kind of farmer with a particular kind of farm." True to form, Fred closed with a Wendell Berry quote: . . . "if agriculture is to remain productive, it must preserve the land, and the fertility and ecological health of the land; the land, that is, must be used well. A further requirement, therefore, is that if the land is to be used well, the people who use it must know it well, must have time to use it well, and must be able to afford to use it well. Nothing that has happened in the agricultural revolution of the last fifty years has disproved or invalidated these requirements, though everything that has happened has ignored or defied them."[12]

At first, there seemed to be institutional support for the "agriculture of the middle" initiative. I thought maybe Fred had found the key to developing viable sustainable agriculture programs at LGUs: focus on the sustainability of traditional, mid-sized family farms. But as the program grew in institutional awareness and popularity, I began to hear rumors of opposition from the "industrial agricultural establishment"—the large, agri-business corporations, the Farm Bureau, and major commodity organizations. They had been willing to tolerate the Leopold Center for Sustainable Agriculture as long as they thought its programs were focused on small farms, niche

[12] Wendell Berry, 1990. What Are People For? San Francisco: North Point Press.

markets, and even organic farming—none of which they saw as real threats to their dominance. But middle-sized farms were different. These were farms they felt should either industrialize or go out of business—get bigger or get out. Expanding the number of middle-sized farms was a threat to their vision of the future of farming.

I still don't know the details of the conflict, but the next rumor I heard was that the Acting Dean of the College of Agriculture at Iowa State University had been made an offer, by the industrial agricultural establishment, that she couldn't refuse. She could either fire Fred and become the permanent Dean of the College of Agriculture, or she could refuse to fire Fred and they would choose another candidate for Dean. Apparently, the decision wasn't difficult for her. She went on to become President of ISU and the College of Agriculture, and even the University, is still dominated by the industrial agricultural establishment. I joined many others in writing a letter of protest to the Dean, pointing out that her actions not only were a discredit to ISU and the history of the LGU system but would also have a chilling effect on sustainable agricultural programs at other LGUs. I never received so much as even a form letter response.

After I had moved to Iowa, a prominent supporter of the Leopold Center requested that I be invited to give the Shivvers Memorial Lecture at ISU. I opened with my usual critique of industrial agriculture. I closed with the changes I thought were needed to support a transition to sustainable agriculture, including fundamental changes in research and education programs at LGUs. During the Q & A session, an audience member asked me how those changes were possible with the ISU College of Agriculture dominated by the industrial agricultural establishment.

My response was that in publicly-funded institutions, like LGUs, everyone has an equal right to influence the research and educational agenda—regardless of whether they are the CEO of an agribusiness corporation, a small organic farmer, or an ordinary citizen. If the Dean didn't agree, I said they should organize a protest march to the Dean's office or perhaps hang her in effigy. I'm told the podcast of the lecture became quite popular among College of Agriculture students. I don't usually make radical personal comments at public events. I'm sure my off-the-cuff response was colored by resentment of the Dean for how she had treated Fred.

Fred was too highly respected and widely known in organic and sustainable circles to fire, and I assume he had tenure. So, they offered him the title of Distinguished Fellow of the Leopold Center. The change also freed him to be President of the Board of the Stone Barns Center for Food and Agriculture. Fred has used these positions to continue his relentless advocacy for real organic farming and authentic agricultural sustainability. I later had an opportunity to talk with Fred one-on-one at a conference and asked him how he felt about his treatment at Iowa State University. He said he was mainly disappointed by the disrespect shown to him and the others who had worked with him at the center. They had tried as hard as they could to "get along without going along," as sustainable farming pioneer, Dick Thompson, used to put it.

I saw Fred later at a Niman Ranch Hog Farmer Appreciation event in Des Moines. We were on a panel together discussing alternatives to industrial animal agriculture. I asked Fred how he felt about the current state of the sustainable agriculture movement. He said he had concluded that the advocates of industrial agriculture are so politically powerful that industrial agriculture probably isn't going to change until it collapses. He said we need to continue working on its replacement, on a sustainable agriculture, so people will know what kind of agriculture to change to when they are ultimately forced to change.

I agree that voluntary change is unlikely. However, I haven't given up hope. I believe it's possible that if we keep telling the truth about industrial agriculture and supporting the people who are creating a better, more sustainable agriculture, the food system will change before it is forced to change. I think this is what Fred has spent his life doing and will continue doing for as long as he can. With Fred's life and work for inspiration, so will I.

A 50-Year Farm Bill

Wes Jackson

Co-Founder, The Land Institute

October 2024

With pleasure, I pulled a book off what I call my "special bookshelf" to again have a look at Fred Kirschenmann's *Cultivating an Ecological Conscience.* I was reminded once again of the beautiful photo of the prairie on the cover with the appropriate words "Essays from a Farmer Philosopher." I then turned to the back cover and noted the names of those who had endorsed the book — Michael Pollan, Bill McKibben, David Orr — and spotted four-and-a-half lines of my own, which read, "Fred Kirschenmann is a rare seasoned elder, always ready to display good sense on matters agricultural, cultural, historical, ecological, religious. Who among us can match such broad experience gained from combination of work in the academic world plus another successful life on his North Dakota farm?"

What a pleasure it was to make a trip through the book once again, seeing the introduction by Constance Falk. The various articles divided into three parts have a wonderful and appropriate beginning, with Part 1, "Working at Home: Lessons from Kirschenmann Family Farms*."* Part 2 has to do with "Inspecting the Industrial Food System," which could just as easily have said "The Industrial Mind." Part 3 is "Envisioning an Alternative Food and Farming System." I am glad and not surprised that he put both in there.

It was great to be reminded of the high points of who he was for all of us in the so-called "movement." Much of it resides in a mystery none of us will ever understand, a mystery that is alive, but where? Maybe some of those small-particle physicists will tell us some day, but in the meantime we can only be happy for what we have seen and know, which makes us all thankful for people like Fred who had much to do with it all. This is not a trivial comment. How could a North Dakota farmer operating on more than 3,000 acres emotionally and environmentally connect with a Kansas River Valley farmer born and raised on 40 acres along U.S. Route 6, Topeka? Our family had around 26 different crops in my early years and farmed with horses and

mules until late in World War II, when my dad bought a steel-wheeled small tractor. The farm never had more than a small Ferguson or Ford tractor. Had Fred been a North Dakota banker or had I been an employee at the Santa Fe shops or Santa Fe offices in Topeka, we would likely not have connected on matters of mutual interest, even if we had met. What we had in common was land and growing things. His philosophy and theology degrees and my background in genetics were not a match, either. No matter that he was driving a tractor pulling planting, cultivating or harvesting equipment and I was likely hoeing weeds or milking cows, or feeding hogs and chickens. Different operations! It was the life and ways of the land, which included people and connected with community. Maybe there was something else. Of course, there was. There was Yankton College in South Dakota and Kansas Wesleyan, a Methodist college in Salina, Kansas. Fred said, "It was the faculty at Yankton College who taught me that it was not only appropriate but necessary to question values openly and to think independently." I was from a Methodist family going to a small Methodist college where one was expected to *read* the assignment. Biology became my major, with botany and genetics to follow. Less and less engagement of church life for me, to the disappointment of my mother, especially, as I made the journey to become a Darwinian evolutionary biologist. Even so, I have been told many times that there is "Methodist in my madness!" So, there was some unification of Christian religious interests. His background is philosophy and religion was so rich in him that I always wanted to hear more.

Without ever signing up to belong to anything, Fred and I became "joined at the hip" as fellow agrarians. We both had read Aldo Leopold. We both had read Sir Albert Howard and Liberty Hyde Bailey. We both thought about soil and water and erosion and rural communities in decline. His quick, easy laugh, his height and breadth, strong enough to do good work on the farm, were part of it all, along with his philosophy and religious studies.

The largest time to connect with Fred is while I was at The Land Institute and we set out to compose "The 50-Year Farm Bill," a product of numerous environmentalists. It included Land Institute researchers, board members and fellow scientists from here and there, all devoted to the idea that it deserved a hearing in the U.S. Congress. It was quite an effort once finished. We couldn't afford for all who contributed to go to Washington, so it came to three of us to make the trip: Fred Kirschenmann, Wendall Berry, and me. That trip took place in July 2009. We thought

we had an entree to either the secretary or deputy secretary of agriculture. We got neither. We did get Senator Tom Harkin from Iowa, and that was because Fred was head of the Leopold Center for Sustainable Agriculture at Iowa State University. We had plenty of time with the senator, but to no avail. It eventually became clear that the forces associated with agribusiness had captured all the time and money. Besides that, there was no interest in perennial grain polyculture research. I grew up a little bit during that time. We eventually received a little money, thanks to a senator from Kansas, but it was more like throwing us a bone, too little to launch or even begin the real journey.

With the meeting behind us, we were given a special tour of Michelle Obama's gardens at the White House. We were also given a special tour of the White House, which allowed us to see the kitchen, a highlight for me in that there was black smoke on the ceiling, still there from the War of 1812.

We nonprofit, sustainable ag people are used to disappointments. It was easy to remember what Aldo Leopold once wrote: "One of the penalties of an ecological education is that one lives alone in a world of wounds." We were not alone, since there were three of us that day. There were fifteen or maybe 20 who contributed to "The 50-Year Farm Bill," none more heartfelt about its needs than Fred. In the preface of his book, Fred talks about a time when he was 4 or 5 that his father said that taking care of the land was our most important requirement. Fred went on to write, "Without being aware of it, those lectures installed in me a kind of land ethic that determined the course of my life."

Wendall has written about Aldo Leopold in many ways, including an interview and a book appreciation, all having to do with good care of both land and community. Couple that with Fred's early college efforts, which made him a devotee of Leopold's writings. Couple that with him being selected to run the new Leopold Center for Sustainable Agriculture at Iowa State University. With Fred and Wendall, didn't we have something of an edge? Well, no. We all three needed some more growing up. Now we wait for others to pick up "The 50-Year Old Farm Bill" — or something like it. Fred, born in 1935, will be 90 on Feb. 4, 2025. Wendall, born in 1934, is now 90. I was born in 1936. I know that all three of us hope that someone will pick it up again.

L to R: Kendell Lamkey, David Smith Charlie Sing, Matt Liebman, Wendell Berry, Fred Kirschenmann, Wes Jackson and Charlie Brummer. Photo Credit: Nerissa Escanlar.
Mountain Sky Ranch, Emigrant, Montana. October 2013

Gravel and Honey

Robert (Karp) Karbelnikoff

New Spirit Ventures

December 2024

That voice
gravel mixed with honey
    humor
urgency
and a warmth
    as encompassing as the big sky
        over the midwestern prairie
who could not love that voice?
and the big-hearted man from whom it flowed
    who was he?
a new kind of farmer
    whose words and ideas loosened up stubborn thoughtforms?
a new kind of priest
    rooted in the sacraments of farming in harmony with nature?
a new kind of prophetic thinker
    awakening the capacity for ecological conscience
        in the liminal spaces
    between the light of the academy
        and the salt of the earth?
yes, a new kind of humanity
    breathed out from Fred Kirschenmann
from his voice, from his spirit, from his vast heart
    a humanity that eludes easy definitions
farmer, priest, thinker, prophet
    Fred was all of these and more

perhaps his greatest gift
was to embody
so beautifully, so gracefully, so practically
this new way of being human
and to remind us that
until we each embody
these new ways of seeing and feeling
thinking and doing
nurturing and cultivating
the world in its loamy interconnected luminous
furious dignity
this long-suffering earth
will wait in vain
for her redemption

Farming and Erudition

Matt Liebman

Professor Emeritus, Iowa State University

October 2024

The first time I saw and heard Fred Kirschenmann was at a sustainable agriculture conference in Lincoln, Nebraska, in 1990. This was in the early days of organized attention to alternatives to the dominant farming systems in the U.S. And it was just a year after the National Research Council published its '*Alternative Agriculture*' report, which provided case studies of farms seeking to be "financially profitable, environmentally sound, and socially acceptable." There were several hundred farmers, university researchers, and government administrators in the conference audience who wanted to learn from those already engaged in what was called sustainable farming.

Fred's presentation covered design principles for sustainable farming and what he'd done on his own organic and biodynamic farm in North Dakota. What I remember most about his presentation is that Fred spoke with confidence. By the time of the Nebraska conference, Fred had been farming several thousand acres organically for more than a decade. His message was 'farmers can do this; we <u>are</u> doing this.' He didn't claim complete knowledge of the best ways to farm sustainably, but he was clear that his crops and cattle were doing fine. He joked about speaking in Nebraska when he should be back home combining his wheat crop. The government and university people fidgeted and wondered how they should respond to what was an overt challenge to the agricultural status quo.

In late 1993, Fred came to speak at the University of Maine at the invitation of Stewart Smith, with whom I was teaching a class on agricultural ecology. Stew had been the Maine Commissioner of Agriculture and had joined the university as a professor of agricultural economics and policy. The three of us got together at Stew's house on Pushaw Lake the night before Fred spoke in class. It was cold and clear, and moonlight reflected off the snow-covered

lake. We sat in front of a fire and the conversation went on for a couple of hours. Fred had the same comfortable style and sense of humor that he had at the Nebraska meeting.

After Fred's visit to Maine, I came across his essays, articles, and book chapters with increasing frequency. Imagine my surprise and sense of good fortune when Fred became director of the Leopold Center for Sustainable Agriculture at Iowa State University in 2000. I had joined the ISU faculty two years earlier and had worked with a group of colleagues to launch the Graduate Program in Sustainable Agriculture (GPSA). Throughout his tenure as director and then distinguished fellow at the Leopold Center, Fred and the center staff provided financial support and intellectual guidance to GPSA students and faculty.

Some people might think that farming and scholarship form separate parts of Fred's life. In reality, his farming experience and erudition are completely intertwined. The evolution of his thinking and perspectives from the mid-1970s through 2010 are evident in his book *Cultivating an Ecological Conscience: Essays by a Farmer Philosopher*. The subjects of his early essays were related to practical aspects of sustainable farming: appropriate sequencing of different crops in rotations, weed control without herbicides, care of the soil, and various problems to anticipate and pitfalls to avoid. As he grew into his role at the Leopold Center, his essays took on larger, long-term, systemic challenges: how we might feed ourselves without degrading soil, water, biological diversity, and human dignity; how to address the challenges posed by water shortages, petrochemical dependency, and an increasingly unstable climate; and, perhaps most broadly, how to learn to live humbly within limits set not by technology but by nature.

One of the things that makes interacting with Fred so stimulating is his ability to draw ideas from many different sources and apply his gleanings to the subject at hand. Fred and his wife Carolyn Raffensperger assembled the largest personal collection of books on land use ethics, agrarian history, ecological economics, and sustainable farming systems I've ever encountered. Fred doesn't just read books; he assimilates them and uses them as fuel. I laughed out loud when I read his essay *Low-Input Farming in Practice: Putting a System Together and Making It Work* and found within it an extended discussion of Niccolo Machiavelli's recommendations for management strategies as they might be construed for farming. For Fred, "…even though

Machiavelli's political philosophy may be disagreeable, he provides some pearls of wisdom on how to make things work." Whenever I've had the pleasure of conversing with Fred, I've come away with the names of books, authors, and ideas I need to check into.

Fred has always been a prolific author, a gifted speaker, and an amiable and enlightening colleague and friend. I'm especially grateful to Fred for the role model he has provided for how to live with hands, heart, mind, and voice in service to the health of the planet. He is a steady presence, a guardian of important values, and among the few who have demonstrated how weaving together erudition and farming leads to the betterment of both. What a full life! I am inspired and thankful for having touched a small piece of it.

Why Eat Millet?

Teresa Marquez

Heartland Stories Radio Host

October 2024

It is a humbling honor to pen some thoughts about Fred. Fred is a powerful voice for good food grown by organic, sustainable farmers. I treasure his ability to voice his ideas, observations, and concerns with both softness and power. He makes every conversation more intelligent, straightforward, kind, and honest. I'd never mistake his distinct, generous laugh for anyone else's. Dear lord, we need more Freds in the world!

I met Fred in the 1990s. That year, Congress had succeeded in getting the Organic Foods Production Act passed. Now, the real challenge lay ahead of us -- writing the rules. Fred was the President of the Board of the Organic Foods Producers Association of North America, which soon became the Organic Trade Association (OTA). Long before I met him, he'd gotten a PhD in philosophy and served as the head of a department of a prestigious university but left the academic life to return to North Dakota to farm organically. This was so lucky for the organic industry. Fred became our most powerful voice for "why organic."

At that time, I was on the board of OTA. The first time we met, Fred pulled me aside. "You are a marketer…" he began. "How can we get the consumer to eat more millet?" I worked for Nature's Fresh NW, an up-and-coming natural foods retailer in Portland, Oregon. I cared about organic food but knew little about MW agriculture issues. Fred explained that millet is an important rotational crop for organic durum wheat, a variety coveted for the best pasta. Organic farmers had a steady market for durum. They were growing millet as well to improve their soil, but they lacked demand for this little-known grain. I must say, what a challenge! To get consumers to eat and love millet as much as they do pasta? This demonstrated that beautiful Wendell Berry quote "Eating is an Agricultural Act." Fred has always known the power of the marketplace.

Another framework that stands out for me is “Ag of the Middle.” Fred and colleagues began sounding the alarm about the loss of mid-sized producers—an important segment of agriculture that was being squeezed out of business. They made a clear call to action: we need to support mid-sized farmers who can grow food for both quality and quantity while protecting the earth and water. To this day, the framework of Ag of the Middle offers an elegant humane solution to a complex challenge. The framework of Ag of the Middle came from Fred’s careful observations and caring heart.

When I picture Fred, he’s walking to the podium to speak at an event carrying three books he eagerly wants to share with us in his arms. For decades, Fred has been teaching and inspiring us through his dedication to teach, how he lives his life, his gift with words, and his belief that farming is the heart of our culture. When he speaks from his heart, we hear a truth we cannot deny.

Thank you, Fred! And YES! Let’s eat more millet!

On Friendship

Kathleen Merrigan

Arizona State University

November 2024

> On May 1, 2013, at 4:51 PM, "Kirschenmann, Frederick L [LPD C]" <leopold1@iastate.edu> wrote:
>
> Hi Kathleen,
>
> Carolyn just sent me your private contact information and just wanted to let you know that I have been thinking about you a lot these past months and hoping things turn out well for you. You have made an incredible contribution, and I know a lot of us are saddened to see you leave USDA. I can imagine that there is some politics behind it all, but the important thing is that you find a new home where you can continue to make the contributions you are so able to make. And, if there is any way I can be helpful to you in your future plans please feel free to call on me. And do stay in touch.
>
> Best,
> Fred

Growing up, my mom always told me that I didn't need to worry about having lots of friends - some people have tons of friends, some don't. But what really counts, she advised, is having a few true blue friends, people you can count on to always be there for you.

True blue Fred, you have been my friend for 35 years, that's more than half my lifetime. I have so many great memories of the times we've spent together.

I still chuckle thinking back to the time I said I loved North Dakota after one of my visits, musing whether I should move there. You assured me that I would be most welcome but before I made that decision, I should visit in times other than the summer! To emphasize your point, you described how snow would drift over the roof of your house and how you would mark it with a long rod so it could be found. Egads! I heard enough.

We spent time together at the Institute for Alternative Agriculture, renamed the Henry A. Wallace Institute for Alternative Agriculture, me a staffer, you a board member. Working

alongside Garth Youngberg, Neil Schaller, Kitty Smith, Cornelia Butler Flora, Fred Magdoff, Jill Auburn, Jose Montenegro, and so many others, we together built a foundation for today's sustainable and regenerative agriculture.

We've been through lots of organic battles together over the years, and not always on the same side. No matter, we debated with mutual admiration and respect, knowing that such discourse improves thinking, community understanding, and decision-making. While organic has grown, there is so much more work to do. Yet I remain optimistic. We planted good seed.

Which brings me to mentorship. You have been a great mentor to so many who will continue to advocate for environmentally and socially sound agriculture that produces nutrient dense and delicious food. You helped guide me. I don't know how many times I saw young farmers sitting in a circle around you trying to soak up your wisdom. And most certainly much of that wisdom focused on soil. As Henry Wallace said, "the soil is the mother of man and if we forget her, life eventually weakens."

We share a common love of Stone Barns Center for Food and Agriculture. I get lots of credit for connecting you with Dan Barber and SBC, and I accept it with pride. But to be honest, I did not envision how central you would become to the organization, keeping it focused on all the right things and making it a destination for people wanting to understand the beauty and power of farm-driven, value-centered cuisine. I expect SBC will outlive us all and be a beacon for changemakers. It is a legacy for which you can be proud.

You did great things at the Leopold Center, but not without pushback and critics. That's the life of a pathmaker. It's so much easier to follow than lead. Which is why your email to me back when I departed USDA meant so much. It was a tough time and I was battle weary. Across the miles you sensed that. And your email said it all – "thank you and I've got your back.'

Thanks for being a true blue friend Fred, and an inspiration for how to live a good and meaningful life.

With love and respect,

Kathleen

Agriculture, Nutrition, *and* Public Health

Marion Nestle

New York University, Department of Nutrition and Food Studies

August 2024

Dear Fred,

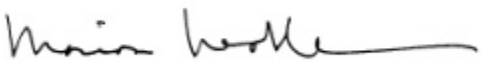
It is a privilege to have the opportunity to write you some words of appreciation, of which I have much. I can't remember when we first met, but it might have been in the early 2000s when I was visiting Iowa State and you were directing the Leopold Center. It could have been earlier; I certainly knew of your work and very much wanted to meet you. The Leopold Center was such an exciting place. It aimed to transform food production in Iowa to promote sustainability! This was a thrilling concept at the time—and still is.

Since then, of course, we served on the Pew Commission on Industrial Meat Production, a bonding experience if there ever was one, and have run into each other at James Beard Leadership Award and Stone Barns events. I may never have told you this but I was once a peer reviewer on an early draft of what ended up as your *Cultivating an Ecological Conscience.* I recommended immediate acceptance ("important book, right up there with the work of other leading agronomic philosophers, well worth immediate publication.") and treasure my copy.

What I've always most admired about your work is its encompassing vision, along with its grounding, not only in philosophy but also in personal history and practical experience. Your ideas—in speeches and writing--have been remarkably consistent, growing in importance and authority with each passing year. I have learned so much from you about how to think about agriculture and its inextricable linkage to nutrition and public health. Now, more than ever, we need your vision and authority to create food systems that promote our health and that of the planet we inhabit.

Thank you for your invaluable teaching and all you have done to make sustainable agriculture seem necessary as well as possible.

With much admiration and all my love.



Marion Nestle, PhD, MPH
Paulette Goddard Professor

The Story of the Improbable Rise of Organic Agriculture in the Northern Plains

Theresa Podoll

Prairie Road Organic Seed

November 2024

Fred has always been larger-than-life! The sound of his hearty laugh often preceded his entrance to a room. I first had the privilege of serving with him on the board of the Northern Plains Sustainable Agriculture Society (NPSAS) back in the late 1980s.

This was a group of self-identified 'yeoman' farmers; farmers who recognized that the direction that agriculture had taken could not continue. Farmers with boots on the ground, who pondered the soil beneath their feet, the seed in their hands, and their place in this miracle of life. Farmers who knew a correction needed to be made. A community of 'organic' farmers—together, they made change happen.

Organizing and Beginnings

These farmers had stepped out of the mainstream-- to embrace sustainable, low-input farming, and organic agriculture. They were different. Isolated. Alone in their principles and values. They were brought together by a fledgling organic fertilizer company, Good Heart Associates, in January 1979 in Bismarck, ND. The company organized the first ever alternative agriculture conference in the state. Farmers from all across North Dakota came to the conference. And met each other for the first time.

They recognized the importance of the dialogue and co-learning that had begun and agreed to organize what became the North Dakota Natural Farmers Association (NDNFA).[13] Fred was

[13] Northern Plains Sustainable Agriculture Society. *NPSAS History*. Retrieved November 8, 2024, from https://www.npsas.org/npsas-history/

elected as its first Chairman of the Board. By 1986 membership had expanded to include three states and NDNFA became the Northern Plains Sustainable Agriculture Society (NPSAS).

My first direct interaction with Fred was at the 1988 NPSAS Winter Conference in Fargo, ND. I attended with my husband, Dan and his brother, David. Shortly after the noon meal, the group held its annual business meeting. A woman next to me muttered under her breath that there were no women on the board. I whispered to her that she should say something-- but she just shook her head no. I raised my hand and gave voice to her concern. Fred said, "You're right! You should run." I demurred and said I was just restating Ardeth's comment. Fred replied, "You should BOTH run." Ardeth Stevens Ryan was elected to the board that year. I ran for the board in 1989.

Fred often showed up for board meetings in his farm coveralls—unabashedly true to life. I remember how Fred's hand engulfed mine when he shook my hand. Meetings were graciously hosted at his farmhouse or at the North Dakota Farmers Union state office in Jamestown, ND-- just a few miles away.

Serving alongside Fred was a schooling in and of itself. I watched how he would sit back and thoughtfully listen, giving everyone his rapt attention, gathering information, asking questions and saying little more until others had shared their thoughts. Then he would raise his hand to be recognized by the chair. He would start with something on the order of, "It seems to me…"

He always had everyone's attention at that point. Then he took all the threads of the discussion and weaved them together with clarity and vision. He would analyze and sum up the situation, gathering from all the wisdom in the room, building consensus, and proposing action. Thoughtful, clear headed, insightful and bold-- he was a trailblazer and community builder. He knew how to pull together the ideas, gifts, and talents of the people around him, and leverage them to ever greater effect.

Groundbreaking

Fred left the family farm after high school to pursue his education at Yankton College in South Dakota, then Hartford Theological Seminary in Connecticut, culminating with a Ph.D. in Philosophy from the University of Chicago. Fred returned to the farm shortly before the founding of the NDNFA. Fellow organic farmer, Terry Jacobson, believes, "This background, along with his practical farming experience, gave him a unique perspective and insight into the concept of sustainable agriculture. This, along with his remarkable speaking ability, and his ability to relate to both working farmers and highly educated people-- his leadership was instrumental in getting the organization off the ground."[14]

This group of farmers was breaking new ground, refining more and more innovative ways to farm organically, learning from each other-- so as not to repeat mistakes. They were fierce in their desire to not only succeed but to help each other and others succeed. And together they sought out other organizations and farmer-led groups, who were focused on change. They convened and discussed. They wrestled with the problems and proposed solutions and opportunities. They envisioned change and dreamed of the future.

Fred wrote a booklet in 1988, entitled, "Switching to a Sustainable System" with NPSAS's first ever grant funding from the Otto Bremer Foundation. This work summed up what he and his fellow visionary NPSAS farmers had learned in their nine-year run of mutual support and co-learning. At the core of successful organic farming was a good crop rotation, which in their research and experience included four basic components:

- The use of cover crops providing fertility, weed control, and critical habitat for beneficial insects.
- A diversity of plant species to discourage pest and diseases, encourage natural predators, and minimize environmental and economic risks.

[14] T. Jacobson, personal communication. Nov. 11, 2024.

- A balance between soil conservation and crop production goals, adding organic matter to the soil to supply nutrients and improve soil quality properties, such as water infiltration and water holding capacity.
- Enhanced weed control through alternating warm- and cool-season crops, and by including weed-inhibiting crops, such as rye and sorghum.

The booklet was highly sought after and NPSAS sent copies across the nation and into Canada, bringing funding and international recognition to the small but mighty group—and to Fred. This groundbreaking publication is now filed at the USDA's National Agricultural Library.[15]

That same year, Fred wrote an opinion piece for the American Journal of Alternative Agriculture, entitled, *"Resolving conflicts in American land-use values: How organic farming can help."* Fred explained the reasons that were leading many farmers to begin farming organically:

> "We are doing it because it makes sense both economically and ecologically. While organic farmers by and large have strong commitments to preserving the environment, they are also keenly interested in prospering. And while they want to be good stewards of the land, they also value their property rights. Organic farming is one way to embrace the best part of both sets of values in our heritage."[16]

Organic Certification and Standards

In the late 1970s the domestic market for organic crops was in its infancy, while the European market was rapidly growing. In exploring those markets Fred and Michael Marcola of Mercantile Foods quickly learned that the European market required a set of organic production and

[15] Kirschenmann, Frederick et al. *Switching to a Sustainable System: Strategies for Converting from Conventional/Chemical to Sustainable/Organic Farming Systems*. Windsor, N.D: Northern Plains Sustainable Agricultural Society, 1988. Print. Retrieved November 9, 2024, from https://search.nal.usda.gov/permalink/01NAL_INST/27vehl/alma9915432500307426

[16] Kirschenmann F. Resolving conflicts in American land-use values: How organic farming can help. *American Journal of Alternative Agriculture*. 1988; 3(1):43-47.

handling standards "that no certification company in the U.S. was at that time equipped to meet."[17]

In 1979, the same year NDNFA was founded, Fred and Michael launched Farm Verified Organic (FVO), a private certification agency based in Medina, ND, to develop standards for organic certification.[18] They were keenly focused on organic production practices and certification standards that would allow shipments into international markets.

In recognition of the need to mitigate risks for farmers, they encouraged price negotiations and transparency, along with contractual relationships between producers certified through its newly established FVO program and organic buyers in Europe. "This helped organic producers in the Northern Plains not only find a stable market for their goods but get paid a premium for their higher value product," remembers Fred.[19]

In the ensuing years Fred tapped several of his fellow organic farmers to sit on FVO's Certification Committee (CC), alongside him and committee members from the European organic community. NPSAS members who served on the CC included Terry Jacobson, Tom Tomas, David Podoll, and Margaret Scoles. Terry was a charter member; he was the longest serving CC member! He says, "Proactive practices such as promoting biodiversity, crop rotation, and soil building were also critical components of the standards."

Together, they wrestled with equivalency issues and accreditation across international certification agencies with differing standards— all aimed at providing viability and organic integrity at the farm level, along with traceability, assurance, credibility and market access. "Fred was instrumental in adapting this European concept to American organic agriculture," affirms Terry.

[17] Renewing the Countryside. Certifiably Organic. Retrieved November 18, 2024 from https://stories.renewingthecountryside.org/2012/06/certifiably-organic/
[18] T. Jacobson, personal communication. Nov. 11, 2024.
[19] Ibid

This worked dovetailed with the work of the NDNFA, and subsequently NPSAS, as they brought together farmers and traders in the industry to develop consensus on label claims in the marketplace, protecting the identity and integrity of their products. The NPSAS Board of Directors also took on the task of identifying and researching inputs, creating a list of acceptable materials for use on a certified organic farm.[20]

Fred and fellow NPSAS Board members gathered in a hotel room in 1987 to draft proposed legislation requiring documentation of organic certification by anyone buying or selling organic products in the state of North Dakota. The final bill was introduced and passed by the North Dakota State Legislature. It codified 36 months without synthetic fertilizers, pesticides, or herbicides to be eligible for organic certification. NPSAS worked with SD members to introduce and pass a similar bill during the 1988 South Dakota State Legislative session, regulating the use of the organic label.[21]

NPSAS became a member of the Organic Food Production Association of North America, actively representing farmer interests in the standardization of organic certification requirements. Fred served as NPSAS's representative and was elected to the OFPANA's board of directors and was subsequently elected President of the Board. Fred also encouraged NPSAS's membership in the International Federation of Organic Agriculture Movements (IFOAM).[22]

NPSAS was an active member of the Sustainable Ag Coalition and the Midwest Sustainable Agriculture Working Group, working on farm bill options for sustainable agriculture and the development of national organic standards. The passage of the 1990 Farm Bill included a sub-section called the Organic Foods Production Act. It laid the foundation for the implementation of national organic standards for agricultural production and food carrying the organic label. [23]

[20] Northern Plains Sustainable Agriculture Society. *NPSAS History*. Retrieved November 8, 2024, from https://www.npsas.org/npsas-history/
[21] Ibid
[22] Ibid
[23] Ibid

> "The Act authorized a new USDA National Organic Program (NOP) to set national standards for the production, handling, and processing of organically grown agricultural products and to oversee the certification of organic operations. The Act also established the National Organic Standards Board (NOSB) to ensure an open, balanced and transparent process for setting and revising organic standards."[24]

All the networking, collaboration, and groundwork bore fruit. It resulted in Fred Kirschenmann's appointment to a five-year term on the National Organic Standards Board-- the board mandated to write the standards and regulations for the National Organic Standards Act.

Over the years Farm Verified Organic, the certification agency Fred founded, became highly recognized as the gold standard in certification. FVO was one of the first US based certification agencies to attain international accreditation through the International Organic Accreditation Service, along with the coveted Bio Suisse accreditation—which signifies a higher level of organic quality beyond standard organic certifications.

Thanks to the efforts of Fred, FVO's Certification Committee, and FVO's staff, led by Fred's daughter Annie— farmers were able ship their products into international markets, including European, Japanese and Swiss markets. FVO's name was changed to International Certification Services, Inc. (ICS) in 1999. (It is now known as Where Food Comes From Organic, is still located in Medina, ND, and is owned by Where Food Comes From, Inc., based in Colorado.)

Thought Provoking and Educational

In subsequent years I had the privilege of serving as the Executive Director of NPSAS and we adopted a number of position papers authored by Fred. The first was entitled, *"New Directions for Ag Research,"*[25] urging a 'problem prevention approach' versus 'problem solving approach' to agricultural research. That paper was paired with *"Agriculture at the Crossroads"*[26] dealing

[24] Organic Trade Association. National Organic Standards Board. Retrieved November 11, 2024, from https://www.ota.com/advocacy/organic-standards/national-organic-standards-board
[25] Kirschenmann, F. *New Directions for Ag Research.* Retrieved November 13, 2024, from https://www.npsas.org/wp-content/uploads/NPSAS-Position-Papers-New-Directions-for-Ag-Research.pdf
[26] Kirschenmann, F. *Agriculture at the Crossroads.* Retrieved November 13, 2024, from https://www.npsas.org/wp-content/uploads/NPSAS-Position-Papers-Agriculture-at-the-Crossroads.pdf

with the 'tysonization' of agriculture—a hard hitting indictment of the corporate control of agriculture.

Perhaps the most profound of the position papers commissioned by NPSAS was the paper, *"Feeding the Village First."*[27] Rather than focusing on the mantra of 'Feeding the World,' the paper, advocated for 'Feeding the Village' and stated that local community economies are healthiest, "when they are as self-reliant as possible, especially where food and agriculture are concerned. Self-reliant communities are healthiest because they are free to pursue their own course, shaped by cultural norms, which evolved in those communities to maintain the local public good…"

The paper went on to say that monocultures and specialization make farmers vulnerable to the economic vagaries of a very limited number of farm commodities. Farmers who diversify their farms also succeed in diversifying their risks, making them more resilient and sustainable.

My Neighbor's Acre

Risk and economic survival were stark realities for this growing group of farmers-- fierce in their desire to succeed and to help each other succeed. In 1998 an idea was born out of these hardships. One NPSAS member, Rick Mittleider, shared with Fred his idea of setting up a mutual aid fund that could help fellow NPSAS members bridge setbacks through the establishment of "My Neighbor's Acre."

Members would set aside the proceeds from an acre of land that would go to help their neighbors in need. Members contribute to the fund in good times and could ask for funds during a crisis—a literal bridge over troubled waters. Fred fully embraced the idea. He sought support from foundations working in the sustainable agriculture arena to provide startup funds. My Neighbor's Acre was born and made real and tangible that bridge of mutual support!

[27] Kirschenmann, F. *Feeding the Village First.* Retrieved November 13, 2024, from https://www.npsas.org/wp-content/uploads/NPSAS-Position-Papers-Feeding-the-Village-First.pdf

Community Building

Fred and his wife, Carolyn, also championed the arts as a necessary element in the NPSAS community. When fellow founding member, Terry Jacobson, published his first book of poetry, "Crazy Musings from the North Outback," he gifted the sales of his beloved poems to NPSAS. Fred and Carolyn proposed that Terry be named NPSAS Poet Laureate. And it came to pass.

But they didn't stop there. Long-time friend, preacher, and singer/song writer, John Pitney, was commissioned to write, "A Song for the Northern Plains." This became the theme song of NPSAS. "Arise! Dear friends, arise! Look deeply in your neighbor's eyes and say yo-ho to ways that mend God's precious people and the land."[28]

And in keeping with *"Feeding the Village First,"* food and the culinary arts were central to every gathering! Every effort was made to maximize the portion of food procured from within the membership. We worked with those farmer members and the chefs to provide them with preparation and serving suggestions. When we gathered at table as a community, the hands that produced and nurtured, and the hands that prepared and served the meals, were recognized and applauded with deep reverence and gratitude—with a standing ovation!

Fred's reverent philosophical outlook on life, farming, and community are intricately woven into the very fiber of the organization he served in countless ways. He drew strength and depth from the organization he called home, and he enriched everyone in the community. Nothing and no-one was insignificant.

Fred was invited back home to keynote our Annual Winter Conference time and again—especially when we needed his signature deep-seated faith and philosophical viewpoint in times of trouble and strife. I remember distinctly a keynote he delivered where he outlined the challenges we face in agriculture and what he saw as reasons for optimism. I gave him a big hug when he left the stage and I commented on the slow pace of change. And he said to me, "Change

[28] Pitney, J. (2011). Song for the Northern Plains [Song]. On *A Home Like This* [Album]. Spotify app. Retrieved November 10, 2024 from https://open.spotify.com/track/4IIAtMJLpgx4kZgSTdnqBD?si=b3b62e89ac75445a

is like grains of sand falling onto a pile; you never know which grain of sand is going to cause a major shift." I clung to those words of wisdom. They gave me hope.

NPSAS Farm Breeding Club

Perhaps the most impactful idea and initiative Fred championed as an NPSAS member was the "Farm Breeding Club." He and several of his fellow NPSAS organic farmers were inspired by the book entitled, "Return to Resistance," written by the late Raoul Robinson. Simply put, Raoul's book described how farmers can breed and select varieties of crops to thrive under organic or low input management systems.

Raoul advocated breeding for durable, long lasting 'horizontal' disease resistance, based on genetic diversity and multi-gene resistance, rather than breeding for genetic uniformity and single-gene disease resistance. He dared to challenge the basic premise of 'classical plant breeding' and the 'Green Revolution.' The end result? Seeds that can be saved for generations without "running out" or losing their vigor and disease resistance over time—a concept Raoul called 'inherited immunity.'[29]

The most compelling section of the book was not only his treatise on plant breeding techniques but also the concept of organizing a 'plant breeding club!' Fred and fellow NPSAS members, David Podoll, Tom Tomas, and Terry Jacobson, were so inspired that they proposed NPSAS bring Raoul Robinson to North Dakota to keynote the 1999 NPSAS Annual Winter Conference. Tom Tomas drove to Guelph, Ontario in the fall of 1998 to ask him in person. Tom said, "We figured that it would be hard for him to ignore a personal request and it worked!"[30] Those efforts culminated in the birth of the NPSAS Farm Breeding Club!

And we identified our mission and vision-- "The Farm Breeding Club (FBC) brings farmers together to share knowledge and seed stock for seed saving, crop breeding and fellowship. This project gives farmers the information they need in order to participate as partners in public plant breeding and to take on their own breeding projects at home. This project seeks to support public

[29] Robinson, R. (1996). *Return to Resistance: Breeding Crops to Reduce Pesticide Dependence* (4th ed.). AgAccess.
[30] T. Tomas, personal communication. Nov. 14, 2024.

plant breeding and to revive a long tradition of seed saving and on-farm breeding to ensure the availability of adapted and productive varieties. The FBC also seeks to maintain breeding and seed saving rights for farmers, the original plant breeders."

The FBC sought to coalesce a community-of-interest to address the need to breed and select crop varieties that would thrive under organic farming systems. The FBC was founded on the premise of participatory, collaborative efforts and the belief that "people support what they help to create."

At first the concept of a farm breeding club was met with skepticism and remarks like, *"Farmers aren't plant breeders!"* and *"Participatory plant breeding is something they do in the third world!"* We would not be deterred. The club sought out plant breeders and research agronomists willing to partner with us to work on wheat, barley, oats, emmer, einkorn, and triticale. Other crops followed.

The Rural Advancement Foundation International convened the *Summit on Seeds and Breeds for 21st Century Agriculture*[31] in Washington, DC in the fall of 2003. Fred served as a member of the planning committee for the summit. He and I both attended—he as a farmer and as the Director of the Leopold Center for Sustainable Agriculture at Iowa State University. Fred delivered the opening keynote address entitled, *"New Seeds and Breeds for a New Revolution in Agriculture."* I spoke in response to the question of what kind of partnership models needed to be developed, proudly representing the FBC that Fred and so many of his fellow organic farmers started. That summit and the ideas, strategies, and models it presented catapulted the FBC onto the national scene and opened so many doors.

The next spring Fred helped NPSAS leverage funding through the Kellogg funded initiative, *Cultivating Leadership for a Changing Agriculture*, to partner with the Tri-Societies, CAST and the Institute for Conservation Leadership, to sponsor a planning retreat on participatory plant breeding (PPB) in November 2004 at the Rocking Horse Farm in Fargo, ND. This retreat became

[31] Sligh, M. and Lauffer, L. (2003). *Summit Proceedings Seeds and Breeds for 21st Century Agriculture.* Retrieved November 9, 2024 from https://www.leopold.iastate.edu/files/pubs-and-papers/2003-09-summit-proceedings-seeds-breeds-21st-century-agriculture.pdf

known as the *"Rocking Horse Retreat"* and in attendance were FBC member farmers, numerous plant breeders and research agronomists from all our regional land grant colleges, other nonprofit organizations from coast-to-coast interested in PPB, as well the President of the Crop Science Society of America, Jim Coors. The retreat resulted in a strategic plan for fostering the FBC's model for PPB both here and among collaborating organizations.

In November 2005 Jim Coors, Marcelo Carena, a corn breeder at North Dakota State University (NDSU), Steve Zwinger, a research agronomist at the NDSU Carrington Research Extension Center, and I presented a workshop at the Tri-Societies Annual Meeting in Salt Lake City, Utah. In attendance were two FBC member farmers, Owen Trangsrud and Noreen Thomas, and our Board President, Janet Jacobson. Entitled, *"Developing Farmer-Breeder Teams,"* the FBC model became part of the official proceedings of the Tri-Societies of America, bringing recognition to the vital role of farmers' involvement in plant breeding and to the concept of PPB.

Fred's brand of collaboration-- bringing needed voices and resources to the table, were indispensable to the ongoing success of the FBC. The FBC fostered PPB projects with public plant breeders and research agronomists at North Dakota State University, South Dakota State University, University of Minnesota, University of Nebraska-Lincoln, University of Wisconsin-Madison, Washington State University, Oregon State University, Cornell University, Pennsylvania State University, and Alfred State College, as well as with numerous private plant breeders and nonprofit organizations.

Recognition and Change

In 2013 the NPSAS Farm Breeding Club was awarded the Bush Foundation's Community Innovation Prize.[32] But the most important recognition the FBC received came from similar organizations, who attributed their existence back to the FBC—stating that the FBC gave them permission and a model to engage in forming their own collaborative teams of farmers and plant breeders and their own PPB initiatives.

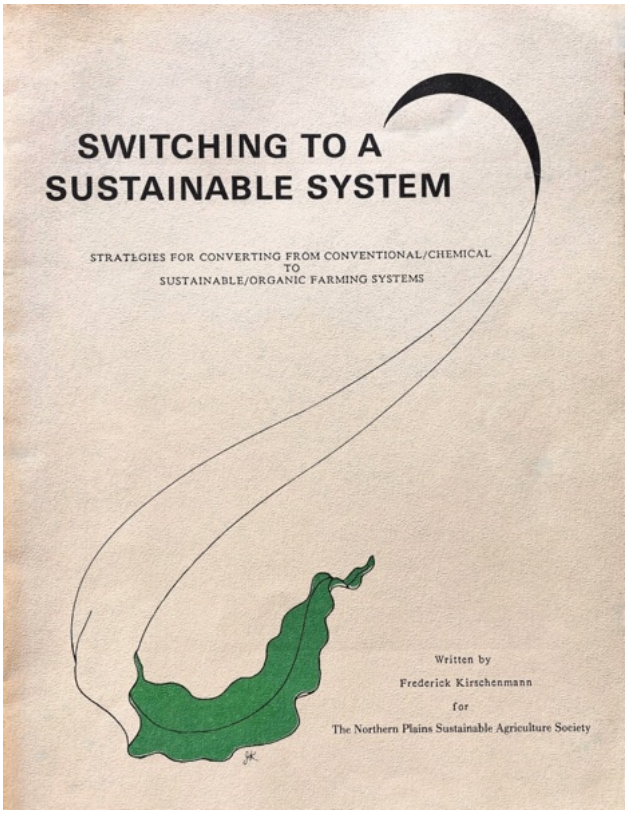
[32] Evans, Ryan et al, 2016. *Characteristics of Community Innovation: A review of the 2013 and 2014 Bush Prize Winners.* Retrieved November 10, 2024, from https://www.wilder.org/sites/default/files/imports/BushFdn_CharacteristicsOfCommunityInnovation_2-16.pdf

Fred and this band of organic farmers formed a fiercely committed community within NPSAS. We fostered relationships of collaborative engagement in this very practical endeavor of plant breeding for organic farming systems. And together we fundamentally *changed* the relationship between farmers, plant breeders, and scientists.

People support what they help to create. Fred's wife, Carolyn, said, "The improbable rise of organic agriculture… can be explained by the diversity of skills and deep friendships that arose between the farmers in North Dakota." Fred brought his unique perspectives, philosophy, skills, talents, friends, colleagues, networks—and faith to bear. Together we embraced organic agriculture as an expression of our values. Together we created in Carolyn's words, "an astonishing laboratory for organic agriculture to flourish." And flourish, we did!

With deep reverence and gratitude,
Theresa

L to R: Fred Kirschenmann, Sue Kleingarten, Karri Stroh, Renee, Deb Fettig, Hunter Nadler, Lillian Hoffman, Robert Simmons, Janelle Moser, Annie Kirschenmann, Lucy Mayer



Kirschenmann, Frederick et al. *Switching to a Sustainable System: Strategies for Converting from Conventional/Chemical to Sustainable/Organic Farming Systems*. Windsor, N.D: Northern Plains Sustainable Agricultural Society, 1988. Print. Retrieved November 9, 2024, from https://search.nal.usda.gov/permalink/01NAL_INST/27vehl/alma9915432500307426

My Father's Garden

Mark Ritchie

Co-Founder, Institute for Agriculture and Trade Policy

October 2024

I am not sure exactly when I met Fred in person, but I came to know him first through an amazing movie – *My Father's Garden*.[33]

This movie was one of the very first to feature Fred, along with his Father. The film had a profound effect on me and I have been an evangelist for making sure successive generations of farmers, scientists, advocates and anyone else who cares about their health and the planet know about this important movie.

If you have not seen it, please go to the website mentioned above, and take in the first few minutes – it will give you a feel for the amazing story being told by the filmmaker.

Fred was a towering redwood tree – and master of many things in life. For me, the most important thing was how I learned from him about what it means to be a gentle, fiery teacher of core values – and you can see what I mean in this film.

[33] My Father's Garden. A documentary produced by Miranda Smith. Written by Nathaniel Kahn and Abigail Wright. 1995. Miranda Productions. Available at https://www.imdb.com/title/tt0245304/.

The Great Lie

Ricardo J. Salvador

Union of Concerned Scientists

November 2024

Fred Kirschenmann lied. I'm positive.

And, yet I'm most grateful. Most people will know Fred, justifiably, as a titan in the field of sustainable agriculture. But few will be acquainted with his background as a theologist, with PhD-level expertise in philosophy and ethics. Before he became Director of the Leopold Center for Sustainable Agriculture in 2000, Fred already had an extensive and successful career as a department chair and dean of religious studies programs at a couple of colleges. His stature only grew during and after his tenure at Iowa State University, where he showed himself to be a tireless advocate for sustainable agriculture and for fellow farmers, and a thoughtful and earnest mentor to countless faculty and graduate students. We all looked up to him as our moral compass during difficult and conflicted times. That is why the falsehood that I'm certain Fred committed is all the more unique, as the man is highly steeped in the study and practice of how to be a good human being.

It was at the end of 2011 that I disingenuously aspired to become director of the Food & Environment program at the Union of Concerned Scientists. Noting that Fred was a member of the organization's National Advisory Board, I presumed on our prior working relationship at Iowa State University when I listed him as one of my references. Such are Fred's standing, track record, and character judgments in the field that I was certain that a positive recommendation from him would be nigh unimpeachable. And so, it was.

Which is how I know that Fred Kirschenmann lied. That it was on my behalf, and enabled me to secure my dream job, is selfish, I know. But this actually tells favorably on Fred. As straight a moral arrow as he is, the greatest of his many personal distinctions—and the one most people will long value the most about him—is his staunch commitment and loyalty to those whom he

deems to be true seekers and devotees on the path to sustainability, as flawed as we all are. As such he has enabled and supported many a career—and many of us at the personal level—often behind the scenes, in ways that many of us will never fully know.

Fred Kirschenmann and Matt Liebman, May 14, 2002. Graduate Program in Sustainable Agriculture retreat. Fred was an energetic supporter and colleague of the program. Photo credit: Ricardo J. Salvador

For all that I treasure many things about my relationship with Fred, including lessons derived from watching him operate as a courageous leader for sustainable agriculture in the belly of the industrial agriculture beast; the many informal conversations with students and colleagues where he was inspirational and jolly (once you've experienced it, you will never forget Fred's deep belly laughs); and the distinct honor of having presented the Kirschenmann Lecture at the Stone Barns Center for Food and Agriculture—by his invitation—the thing I will eternally be thankful for to him, was that he lied on my behalf.

Dear Fred

Rick Schnieders

October 2024

Dear Fred,

I have been thinking about you.

Over the years there have been many friends and acquaintances who have commented about the importance of a particular teacher that helped them see the world in a new way, a way that organized the world more meaningfully. Most often they worked with those significant teachers early in their lives. When I heard those stories, I was always more than a little jealous because even into young adulthood I had never found that kind of mentorship.

About thirty years ago, and then in mid-career, I was trying to make sense of the idea of sustainability, specifically, how to fashion a business so that it remained viable for the longer term – financially, socially, and environmentally. It was a vague idea. Fortuitously, it was at this time you and I were introduced to one another. It was clear, as we began working together, that you were, and are, the person who helped me see the possibilities for a sustainable business enterprise. Your insights resulted in practical applications: for example, the institution of Integrated Pest Management protocols across a half million acres of fruits and vegetables; and a concerted effort to integrate mid-sized farmers into a larger distribution network. I know, too, that you have helped so many other people understand the importance of changing agricultural practices for the good of the planet and the people who inhabit it. It is hard to imagine anyone who has had such a positive impact on food and agricultural practices.

It is not, however, just what you did but how you did it. Your carefully reasoned and gentle persuasiveness opened the eyes of so many people in this country and beyond; your humanity, which undergirds all that you do, is captured by your warm laugh, and conveys that all you say and all that you do is for the good of all.

You have been my teacher and my friend and I have waited too long to say thank you.

Thank you!
Rick

Fred Kirschenmann: The Person I Know

Charlie Sing

University of Michigan

November 2024

Fred has been a friend for over 20 years. Across those years he has enriched my life and the lives of many others throughout rural America, the academy, and the public. He's played a powerful, crucial role in the necessary conversation between the academy, policymakers, and the farm community that grows the food that nurtures us.

Over these decades I have become aware that Fred and I have acquired many of the same views and beliefs about life, people and the land, long before we met face to face. We began as farm boys, he in Southern North Dakota and me in Northern Illinois. We both used the farm as a springboard for careers in the academy. When we met, he was on the faculty of a Land Grant University and I on the faculty of a university medical school. I reached out to Fred on the advice of a mutual friend, Wes Jackson, to assist in organizing a meeting of individuals who shared interests in the health of the public and the health of our land and water. Over the following years Fred played an important role in organizing, encouraging, and participating in a series of meetings to spur a critically important interdisciplinary conversation between the science community, the farming community, and the medical community. In no small part, these meetings were successful because of Fred's participation. It's a conversation that continues today.

Each person who knows Fred is likely to describe him differently and maybe the best way to relate his life's story is through a collection of stories–like this one–from the people whose lives he's touched. Here's mine.

Fred has been a tenacious advocate of the complementary roles agriculture and medicine play in fostering the health of humanity. Farmers and physicians form the interface between science and technology and the living world. Many, however, don't act responsibly in carrying out this

mission when they put careerism, personal fulfillment, bureaucracy, and institutional priorities above the commitment to the health and well-being of the living world. Fred has been the exception. Without fail he has been committed to the well-being of the living world.

Another uniquely remarkable aspect of Fred is that very few in the academy are as well read as he is on a distinctly broad range of topics. Conversations with him focus on ideas, alternative perspectives, and well-reasoned possibilities which can be traced to what he has learned from his scholarship, his intimate relationship with the land, and from farmers.

Fred is a rare combination of avid reader, deep thinker, and effective communicator. He has an uncanny ability to communicate with the academic–and non-academic– community that the Land Grant universities have an obligation, a duty, to serve. He fits my definition of a scholar because he's willing to engage in conversations with others about the most difficult, often unresolvable, problems facing humanity. He most often reflects, and rarely directs, when making his well-reasoned case.

In an academic environment dominated by too many beholding to agribusiness and ag industrialization, Fred carries a loud, clear voice for what is right, not what is popular. He has tenaciously held to his dedication to doing what is right for people and the land despite a chorus of criticism from "takers" inside and outside of the academy. Fred's a "giver" and farmers and farming are better for it.

To me, Fred has a broad and uncommon commitment to serving greater humanity rather than those who follow a slavish agenda for personal glorification. And he can be stubborn about the truth of his beliefs. Still, I have never found him unwilling to consider new ideas if an alternative was validated by his own personal experiences.

Fred is, by nature, hopeful and that strength has fostered hopefulness among all who care about the sustainability of agriculture. He's convincingly articulate when calling out bad practices and their consequences. He is a tenacious advocate of possibilities for change for the betterment of

humans and the land. His spirituality guides his personal and professional lives as noted in an unpublished manuscript:

> "Spirituality is an inner hold, a conviction, which determines what we live for…Everyone involved in agriculture has an inner hold that motivates them to support the kind of agriculture they believe is essential to the greater good." [34]

To many in agriculture, that inner hold supports their belief in the extraction of natural capital and the use of technologies that abuse the living world. Fred challenges this extractive materialism that has dominated American agriculture since our nation's founding. His inner hold acknowledges the simple, elemental truth that we are a part of, not separate from, nature; our health depends on the greater health of the earth. And, importantly, the health of the earth depends on how we treat it. This straightforward common-sense perspective is too often denied and/or ignored by those either too blind or too stubborn to acknowledge the basic truth that humans affect nature and nature affects humans. Moreover, this crucial codependency is constantly evolving or, as Fred has often pointed out, "Mother nature always bats last and she always wins."

Fred Kirschenmann: The authority that I know

Science is too often carried out in workshops far outside of the domain of direct concern. Members of these workshops often ignore or, worse, deny the role of human experience in their efforts to define, understand and predict the future state of the lived world that is the subject of their work. They have a blind spot.[35] Those workshops replace the concrete and observable lived world they seek to know with abstract and mathematical constructs that do not include the lived experience in the domain of concern. Fred never bought into this approach. As both a working farmer and member of the agricultural academy he has a truly unique perspective; he's already seen the blind spots his academy colleagues may never know. They live in an academic ghetto; he lives in the real world; a world of droughts and floods, record yields

[34] Kirschenmann, Fred, The Spiritual Dimension of Agriculture: A practical necessity. Unpublished manuscript.
[35] Frank, Adam, Gleiser, Marcelo and Thompson, Evan, The Blind Spot: Why Science Cannot Ignore Human Experience. (Cambridge, MA, MIT Press, 2024)

and low prices, of personal success and farm failure. His world can be cruel and kind, generous or poor, hard and easy. But it's always real and it demands the honesty that is often only found by experiencing the natural world.

Fred's farm experiences challenge the single, one-dimensional solutions that emerge from the isolated workshops that invariably create unintended–but almost predictable–negative consequences in our lived world. His insistence on searching for solutions that modify relationships between causes rather than simply modifying single causes has had an authoritative influence on those who seek a better future for the land and the people who farm the land.

Fred has laid a solid groundwork for the kind of agriculture that fosters and fuels the greater good of humans and our world. His legacy will be those that follow his lead.

Fred Kirschenmann and Charlie Sing. Mountain Sky Ranch, Emigrant, Montana.
October 12, 2013. Photo credit: Nerissa Escanlar

Horns of a Dilemma

Karl N. Stauber

Former Under Secretary for Research, Economics and Education, USDA

October 2024

> "When you are faced with a dilemma, find a way to tie a cord between the horns to turn the dilemma into an opportunity." Fred Kirschenmann, early 1990s.

I first met Fred in the mid to late 1970s. He was part of an effort in North and South Dakota, resisting the construction of high-tension electric lines running from Canada to Texas. I was with a foundation that supported grassroots organizing efforts, many of them related to energy development.

It was a blazing hot summer day and Fred was several hours late for the meeting at a farmhouse in eastern North Dakota. When he arrived, he was covered in sweat and grime. The farm equipment he was operating had broken down and he had spent several hours getting it running. He took a quick sink bath and joined us at the kitchen table with several local people, tribal representatives, farmers, and ranchers.

The people around the table were educating two of us from the foundation about the problems with 765 Kv powerlines and their negative impact on and lack of benefit to the people under them. Fred was quiet, drinking water and having a sandwich. After a few minutes, our hostess turned to Fred and asked for his thoughts about the proposed powerlines.

Up to this point, my impression was that Fred was another area farmer without much to add to the discussion. Frankly, I saw him as another hard-working local guy with a limited perspective. In the next few minutes Fred delivered an extemporaneous presentation on the electrical systems in the US and Canada, who it benefited and who it did not. So much for my stereotypes of Volga

German descendant farmers in the Great Plains. The foundation supported the efforts to provide local people with a platform in the decision-making process.

Approximately fifteen years later, when Fred and I served on the USDA's North Central Region's Sustainable Agriculture Research and Education (SARE) Program I observed a similar moment. We were at a meeting of all the regional councils in Washington, DC. A career scientist from one of the Federal agencies made a presentation on his agency's work and Fred nicely asked him a question about the possible bias of the work. The scientist looked at Fred and said, "You obviously don't understand how research is done." Fred listened for a few minutes and then responded with a presentation I wish I had recorded. The first line was, "When I studied the epistemology of thought, you began with questions rather than assumptions." After Fred talked for a few minutes, the scientist turned to one of his colleagues and asked, "What the hell is in the water in North Dakota?"

Fred and I worked together on numerous efforts. I had the honor of him serving on my doctoral committee in the early 1990s. As I was struggling with competing ideas in my dissertation, Fred gave me the following advice. "When you are faced with a dilemma, find a way to tie a cord between the horns to turn the dilemma into an opportunity." That is a conceptualization I have tried to follow since that time, although I have not always been able to find the right "cord." As part of my program, I taught a course on sustainable agricultural systems at the University of Minnesota. Fred asked how I intended to teach. He shared with me that the Socratic method of asking questions was the most difficult and the most powerful. He warned me that I would have to be prepared to endure silence and frustrated students who wanted to be told what to think, even if they disagreed with it. Fred coached me throughout that semester, helping me to stay Socratic. While I was not as successful as Fred, my students and I had hoped, it was a great education for me.

Fred's work on many fronts demonstrates a few key principles. He is a person of great curiosity. In my work with him I have been amazed by his ability to start with questions, rather than assumptions. He has strong opinions, but he can temporarily set them aside when he meets new ideas. In the end he may agree, modify or reject, but he starts with questions.

While many are consumed by the present, Fred has commitment to the future. Fred's life would have probably been much easier if he had focused on the present. But as part of his questioning and commitment to creating better futures, Fred has rarely taken the easy path. Part of his commitment to the future has meant that he makes waves. Waves not for the notoriety, but for finding better ways forward. Fred helps us to envision better futures and then to challenge the systems that value the short-term over the long.

Fred sees humans as part of natural systems, rather than external masters. This has often put him at odds with dominant social norms. We traveled together a fair amount in our days on the North Central SARE committee. We would often have a beer in an airport bar and discuss how we could better follow natural systems, rather than try to dominate them. Fred convinced me that a dominant approach only leads to short-term benefits, even if that is what the market seems to value. The challenge is to create economic and social systems which support nature, rather than ones that ignore or dominate.

This challenge continues. Even as we seem to operate based on dominance, Fred's work and life are a beacon for what a better future could be and ultimately must be.

A Tribute to Fred Kirschenmann

Mary Swander

AgArts

October 2024

The lights came down on the stage and the audience clapped and cheered. Whew! My students looked happy with our performance of *Farmscape*, a play that we had written as a collaboration in just a semester's time. To give ourselves a grounding in the form, we'd read through plays written in a verbatim style, then set off throughout the countryside to interview farmers—big and small-- seed and fertilizer salespeople, rural bed and breakfast owners, and meat-packing plant workers. Juxtaposed and woven together, their oral histories created a snapshot of rural America, the hopes they had about agriculture and the wounds they still carried from the Farm Crisis.

I congratulated the students, then slipped back to my Iowa State University office, relieved that we had made it through what I thought was going to be our one and only performance.

Then my phone rang. It was Fred Kirschenmann from the Leopold Center.

"One of my staff members just saw your show and said it was terrific!" Fred said.
"I want you to have lunch with me and we'll get this play on tour."

Oh, wow. I was so exhausted from producing this one performance. I didn't know how in the world I would ever get the play up on its feet for a tour. But a few hours later, I'd met with Fred and he had promised me a small grant to buy out some of my teaching and tour the show to three venues.

Three venues? I scratched my head. How would I ever find 3 venues? I put together an email and sent it to 12 venues. I thought that maybe, maybe, I would have a shot at 3 of them. But within a couple of hours, they all wrote back, wanting to book the show!

Soon, I was on the road, taking the script with me, using a different set of actors at every stop. We performed the play as a reader's theatre—no lines to learn, very little blocking. Then momentum grew, and soon the show was being performed all over the U.S., from farmers' barns to VFW halls, from colleges and universities to major agricultural conferences, then finally all the way to the USDA with a special performance for Secretary Tom Vilsack.

The success of *Farmscape* led to more grants and commissions. Within a couple of years, I was writing and touring plays about immigrant farmers, farmland transition, and storytelling about farming and food.

One day Fred and I were chatting while walking along the sidewalk that cuts through central campus. "We should think about putting on a conference or festival joining the arts and agriculture," Fred said.

Ideas started whirling in my head. Soon, with the help of some dedicated students, we set up a campus organization called AgArts,[36] allowing us to bring in speakers and begin a film festival. The group was made of students and faculty but also included community members. It grabbed the attention of organizations like The Practical Farmers of Iowa. We sponsored AgArts field days on farms throughout the state, and who was always one of the first people to pull into the lane? Fred.

Fred drove miles and miles, crisscrossing the state, for various AgArts events. He drove through the dead of night, through hail and snowstorms to meetings and hard-to-find farms, always there to cheer us on.

And Fred never failed to show up for our AgArts Local Wonders Dinners. A couple of times a year, the AgArts community gathered for a potluck dinner. Members brought a dish and made a free-will donation into a basket at the door. Throughout the evening, the "pot" usually grew to about $1,000. First, we gave out prizes for the best food dish, the best presentation, the best

[36] AgArts is a nonprofit designed to imagine and promote a healthy food system through the arts. We are based in collectives throughout both rural and urban areas in the U.S. where we help fund and support artistic projects that envision better ways to grow and consume our food. https://www.agarts.org/

spices, the best everything! Then we sat back and heard people give 3-5 minute pitches for money in the basket.

Then, right on the spot, we voted for the best project. The winner took the donated cash, with the stipulation that they return in a year and give a presentation on their project and the way they'd spent their money. Some of the winning AgArts projects included a rural women's apron exhibit, a slow farm music festival, and a study of George Washington Carver's botanical drawings.

With the help of the Iowa Arts Council grants officer, I sat down with the Local Wonders Dinner winners and helped them leverage their money. The winners used their AgArts money for matching funds in applications for other grants.

And a good time was had by all. With this structure, no one had to write a proposal, sit on a committee or wade through stacks of paper, making uncomfortable judgments. Instead, we all sat down to a scrumptious dinner, enjoying the presentations. And who was present every single time, no matter how busy his schedule? Fred.

I retired from ISU in 2017, moved to Kalona, Iowa, and took the AgArts organization with me. I worked long hours into the night to channel more energy into the group and transform it into a national organization. I filled out all the forms and got my 501c(3) status approved in 2018. I fund-raised, set up a bank account, and established a board where Fred graciously agreed to serve as vice-president.

I opened a brick-and-mortar office in downtown Kalona. I wrote grants. I set up AgArts residencies where artists spent two weeks to two months on farms to jump-start their work and to help bridge the rural/urban divide. The AgArts farms have included a range of homesteads, from the Whiterock Conservancy near Coon Rapids, Iowa to the Liberty Hyde Bailey farm near Ithaca, New York.

During the Covid lockdowns, I began online teaching, offering a range of classes—everything from food preservation to poetry writing. I had a memoir class filled with artists and farmers that

lasted three years. I was invited into the Iowa Writers Collaborative and set up two Substack pages on arts and agricultural topics. The proceeds from these endeavors went straight into the AgArts account and helped pay the office rent and the costs surrounding the residencies.

Now, AgArts has grown to the point where we are providing small grants to artists, without the dinners. For example, just this past year (2024) we gave grants to a Catholic Worker Farm, helping them finance a craft festival. And we gave a grant to a very talented artist who is writing and painting in response to a residency on a farm on the Eastern Shore of Maryland.

And now, after a break during Covid, I'm touring plays again. I won a major grant from the Anon was a Woman Foundation (New York Foundation of the Arts) for a new play called *Squatters on Red Earth* about the positive relationship between the Amana Colonies and the Meskwaki Settlement in the midst of the white settler land grab. And I am writing a new show called Coop about an Amish conscientious objector during WWII.

And throughout all this work, Fred has been foundational, there to support me, there to promote AgArts, and the work of healthy food and farming. He has connected me to scores of people who have helped open doors for me in so many ways. His wisdom is legendary. His ability to confront any problem with the measured perspective of a philosopher has been transformative to the world of sustainable agriculture. May we all carry his vision into our endeavors in the future and cherish Fred's presence forever in our hearts.

Sustainability is a Process, Not a Prescription

Angie Tagtow

Former Executive Director USDA Center for Nutrition Policy and Promotion

October 2024

As I reflect on the contributions to this Festschrift honoring Dr. Fred Kirschenmann, I'm struck by the depth of introspection in each submission. As a public health practitioner and registered dietitian, I might seem an unlikely contributor to this tribute, let alone its assembler. Yet, Fred's influence has profoundly shaped my work for nearly 25 years, bridging the seemingly disparate worlds of public health nutrition and sustainable agriculture.

My journey began in 1997 when I joined the Iowa Department of Public Health's WIC Program after completing my master's at Iowa State University. Working with this USDA-funded program, which provides nutrition education and support to women, infants, and children, I witnessed a stark disconnect between the program's nutrition goals and the reality of Iowa's agricultural landscape. As part of my job, I traveled across the state, I observed endless fields of corn and soybeans—crops that paradoxically didn't align with the dietary guidance that public health promoted. This disconnect became particularly personal as my husband and I watched soil erosion, herbicide drift, and flooding impact our small, rented farm field in northeast Polk County. Needless to say, these disconnects between healthy diets and crop production was the impetus to a life-long journey in connecting the dots.

The seminal 1986 paper by Joan Gussow and Kate Clancy (also contributors to this Festschrift), "Dietary Guidelines for Sustainability"[37] began to illuminate these disconnections. They proposed that nutrition education is more than the relationship between food, diet, and human health, but must expand to encompass economics, agriculture, and environmental science. Importantly, they proposed the nutrition community apply a systems lens to their work and

[37] Gussow JD, Clancy KL. Dietary guidelines for sustainability. *J Nutr Educ*. 1986;18(1):1-5. doi:10.1016/S0022-3182(86)80255-2

consider the influences of global resources, agriculture policy, and economic disparities on how one can access the right foods to support a healthy diet. This may have been the first peer-reviewed publication that defined "sustainable diets" and advocated for sustainability to be incorporated into the Dietary Guidelines for Americans. Gussow and Clancy concluded:

> *"It is clear that sustainable diets, even if widely adopted, will not lead automatically to a sustainable agriculture. What is required for widespread adoption of the latter is a farm policy that rewards agricultural practice of natural resources and an overall policy (domestic and foreign) that promotes regional self-reliance in food both here and abroad…It can be hoped, however, that nutritionists who become concerned about how the food they recommend has been produced will become natural allies of those who wish to grow and process food in a manner consistent with the long-term stability of the food system (p4)."*

This was it! This paper answered many of my questions, it grew my curiosity, but more importantly, it inspired me to act. I become more engaged in professional associations and organizations in public health, nutrition, dietetics and…gasp – agriculture! The eagerness to learn led me to the Leopold Center for Sustainable Agriculture, Iowa Farmers Union, Practical Farmers of Iowa, Iowa Natural Heritage Foundation, and the Iowa Environmental Council. It was through these new relationships was how I learned of Fred Kirschenmann and heard him speak at various state and national meetings.

Fred's approach was uniquely accessible and inclusive. I was surprised at his down-to-earth approach and his ability to tailor his message to different audiences despite his position in academia. I was drawn to the logic, pragmatism, applicability, and urgency of connecting the dots between agriculture, nutrition, and population health. Most importantly, as a practitioner, he included me in conversations and did not dismiss my contributions to the dialog (as a female, dietitian, public health practitioner, and government employee I was often an anomaly in agriculture and food systems discussions)!

Fred recommended I read *An Agricultural Testament*[38]and *The Soil and Health. A Study of Organic Agriculture*[39] by Sir Albert Howard. Howard observed how the health of natural resources and environments were correlated to the health of villages and communities. In my years of training, I had never been exposed to the concept that the ecology of soil is the cornerstone of public health, the pieces were coming together and I continued exploring these connections. This led me to Howard's article "The Fresh Produce of Fertile Soil is the Real Basis for Public Health" that appeared in *Public Health* in 1946.[40] Amazing, I was hooked!

These insights influenced both my professional and personal endeavors. In 2000, my husband and I converted our farm field from row crops to prairie. With the guidance from Story County Master Conservation Program, the Iowa Natural Heritage Foundation, and local ecotype seed provided by Carl Kurtz, we planted more than 60 species of forbs and grasses. This transformation became our living laboratory, teaching us weekly of nature's capacity for renewal and soil regeneration. Years later, I was thrilled to share the rejuvenated landscape with Fred and Carolyn. I fondly recall a conversation with Fred about switchgrass (*panicum virgatum*) and the work of Wes Jackson and The Land Institute.

As my knowledge expanded in natural and biological systems, similarities and patterns were emerging. I continue to be fascinated at the parallels between soil ecosystems and human physiology. For example, the pathways in which nutrients and water in the soil traverse root hairs to nourish a plant are similar to the function of microscopic villi in the human intestinal track that absorb water and nutrients from food. Likewise, it is interesting as to the similarities between how antibiotics disturb the microbiota in the gastrointestinal tract and how pesticides disrupt the ecology of soil, and the growing resistance to both antibiotics and pesticides.

A pivotal moment in my professional journey came in 2007, when, as founder of the *Journal of Hunger and Environmental Nutrition* (JHEN), I was a guest co-editor for a special double issue titled "Sustainable Food Systems: Perspectives from the United States, Canada, and the

[38] Howard SA. *An Agricultural Testament*. Oxford University Press; 1943.
[39] Howard SA. *The Soil and Health. A Study of Organic Agriculture*. The Devin-Adair Company; 1947.
[40] Howard SA. The fresh produce of fertile soil is the real basis of public health. *Public Health*. 1945;59:49-52. doi:10.1016/S0033-3506(45)80057-4

European Union."[41] The purpose of this special issue was to gather diverse perspectives on the global food system infrastructure and for authors to offer alternatives for creating a food system that is ecologically sound, socially just, economically viable, and ensures eaters have regular access to fresh and healthy food. Our aim was to stimulate critical thinking, discussion, research, and public policy development, not only for interdisciplinary academic audiences, but to stimulate more discussion among dietetic and public health practitioners on the relevance of sustainability and food systems to education and practice. This was an effort to revive the conversation led by Drs. Gussow and Clancy in 1986.

I invited Fred to contribute to the special issue and I specifically asked him to define sustainable food systems in his article. As a dietitian and public health practitioner, I am trained to apply empirical evidence (e.g. RCTs) to practice, to think in absolutes, to reduce research into what is *only* based in facts, and to translate complex issues to one or two concrete points. At that time, I struggled with the myriad of definitions of sustainability and wanted to end the confusion and nail down a clear and simple definition of sustainability. Fred was the one to do that.

Fred submitted his article titled "Food as Relationship." In it, he highlights the challenges of the current food system and it's influence on food security and public health, highlighting the work of Sir Albert Howard. He proposed a postindustrial food system that would bring agriculture, food security, nutrition, and population health in greater alignment. In the middle of the article, Fred addresses the definition of sustainable food systems:

> *"A Sustainable Food System – Most current efforts to define a sustainable food system assume a steady-state situation, i.e., if we just tweak our current food system so it causes less pollution, promotes conservation, regulates food safety more effectively, and includes more of the ingredients that a healthy diet requires, then it will be sustainable. Probably nothing could be further from the truth. Since nature is full of emergent properties, sustainability is always an emerging concept. Sustainability is about maintaining something indefinitely into the*

[41] The special issue of the *Journal of Hunger and Environmental Nutrition* on Sustainable Food Systems: Perspectives from the United States, Canada, and the European Union (Volume 3, Issues 2-3, 2008) is available open access at https://www.tandfonline.com/toc/when20/3/2-3?nav=tocList.

foreseeable future. Consequently, to be sustainable we have to anticipate and successfully adapt to the changes ahead. Sustainability is a process, not a prescription. This process always requires social and ecological as well as economic dimensions. There is therefore no simple definition. It is a journey we embark on together, not a formula upon which we agree (p113).”[42]

I read and re-read Fred’s article - disappointment set in. My goal was to publish a clear definition of sustainable food systems, to resolve the confusion, and to eliminate the growing discourse and debate on what constitutes sustainability and sustainable food systems. Fred’s definition was opaque, theoretical, and obscure and lacked the preciseness I was seeking. At the time I, do I dare say, questioned whether the article could be published - my naivety prevented me from accepting that defining sustainability could be anything but precise, concrete, objective, and widely accepted.

Fred’s article became one of the most viewed, downloaded, and cited article of that special issue (it was also reprinted in Fred’s book *Cultivating and Ecological Conscience. Essays from a Farmer Philosopher*). The article also became representative of my steep learning curve and made me question my legitimacy as a public health dietitian talking about the connections between the soil, food, nutrition, and population health. Instead of succumbing to imposter syndrome, it became my quest to learn more. What I did not know at the time was how this perspective became transformative of my understanding of sustainable food systems.

Using “Food as Relationship” as a guidepost, the journey of integrating sustainability and food systems into my work took many forms. I left state government and began consulting with a focus of elevating the concept of environmental nutrition (i.e., how built and natural environments and policy impacts access to healthful foods) into both dietetics and public health practice. I was a WK Kellogg Foundation Food and Society Policy Fellow and served as a senior fellow and endowed chair with the Minnesota

[42] Kirschenmann F. Food as Relationship. *J Hunger Environ Nutr*. 2008;3(203):106-121. doi:10.1080/19320240802243134

Institute for Sustainable Agriculture at the University of Minnesota. In 2009, I co-led a state-wide food system assessment and strategic planning initiative which helped launch the Iowa Food Systems Council as a 501(c)3. With the support of the Leopold Center, I led the formation of the Food Access and Health Work Group (FAHWG) which focused on increasing access to healthful food for low-resource Iowans. In 2013, the FAHWG launched "Cultivate Iowa," a social marketing initiative designed to increase access to fresh produce within the charitable food system by encouraging gardeners to share their harvest with food pantries in their communities. I served on national task forces to elevate sustainability and food systems within dietetic and public health associations. This included co-leading a group of dietetic practitioners in developing the first Standards of Professional Performance for Registered Dietitian Nutritionists in Sustainable, Resilient, and Healthy Food and Water Systems.[43] During this time, I served as a food system consultant to the Iowa Department of Public Health to integrate food system indicators into county health assessment and health improvement planning processes.

In 2014, I was invited by President Obama to serve as the Executive Director of USDA's Center for Nutrition Policy and Promotion (CNPP). The portfolio of CNPP included the Dietary Guidelines for Americans (DGAs), USDA Food Plans, economic analyses and systematic reviews, and consumer nutrition education (i.e., MyPlate), to name a few. The DGAs are foundational to dietetic and public health practice so I had a working knowledge of how to apply them in client education and nutrition programming, but less knowledge on the process of revising them. I initially told the Presidential Personnel Office that I was not the person to serve in this role as I did not have what I perceived to be the academic pedigree to lead a science-based agency at USDA. However, when they noted that the 2015 Dietary Guidelines Advisory Committee (DGAC) was examining the relationship between dietary patterns and sustainability, it made more sense as to why they were reaching out to me. A few months later I found myself living in Washington,

[43] Tagtow A, Robien K, Bergquist E, et al. Academy of Nutrition and Dietetics: Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Sustainable, Resilient, and Healthy Food and Water Systems. *J Acad Nutr Diet*. 2014;114(3):475-488.e24. doi:10.1016/j.jand.2013.11.011

DC and working with amazing nutrition scientists, public health practitioners, epidemiologists, and economists.

My first week on the job, the 2015 DGAC released their findings of their systematic review on dietary patterns and sustainability. The aim of the DGAC's systematic review was to address the looming challenge of ensuring a healthy and secure food supply for future generations and to ensure the U.S. has the capacity to meet the nutritional needs of the U.S. population. This was the first systematic review of this scale conducted to evaluate dietary patterns that are nutritionally adequate and promote health, while protecting natural resources. In their report, the 2015 DGAC recommended to Secretaries Burwell (HHS) and Vilsack (USDA):

> *"Consistent evidence indicates that, in general, a dietary pattern that is higher in plant-based foods, such as vegetables, fruits, whole grains, legumes, nuts, and seeds, and lower in animal-based foods is more health promoting and is associated with lesser environmental impact (GHG emissions and energy, land, and water use) than is the current average U.S. diet. A diet that is more environmentally sustainable than the average U.S. diet can be achieved without excluding any food groups. The evidence consists primarily of Life Cycle Assessment (LCA) modeling studies or land-use studies from highly developed countries, including the United States. DGAC Grade: Moderate (p289)."*[44]

When the 2015 DGAC released their recommendations to the Secretaries, the floodgates opened and HHS and USDA saw the most public comments ever submitted in response to a DGAC report. Interestingly, a majority of the comments were in support of including sustainability in the *2015-2020 Dietary Guidelines for Americans*. Prior to 2015, the DGAs saw little interest from the public, much less from members of Congress. That

[44] Dietary Guidelines Advisory Committee. *Scientific Report of the 2015 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Health and Human Services and the Secretary of Agriculture.* U.S. Department of Agriculture, Agricultural Research Service; 2015:436. https://odphp.health.gov/sites/default/files/2019-09/Scientific-Report-of-the-2015-Dietary-Guidelines-Advisory-Committee.pdf

changed in 2015. Following the release of the scientific report, there were several hearings and staff briefings on the DGAs. Several letters from members of Congress were sent to USDA and HHS "urging" the agencies to leave sustainability out of the *2015-2020 Dietary Guidelines for Americans*.[45,46] In an unprecedented hearing in October 2015, Secretaries Burwell and Vilsack appeared before the House Agriculture Committee to discuss the Dietary Guidelines for Americans.[47] In a written statement, the Secretaries decided to leave sustainability out of the *2015-2020 Dietary Guidelines for Americans.*

> *"In terms of the 2015 Dietary Guidelines for Americans (DGAs), we will remain within the scope of our mandate in the 1990 National Nutrition Monitoring and Related Research Act (NNMRRA), which is to provide 'nutritional and dietary information and guidelines'…based on the preponderance of the scientific and medical knowledge. The final 2015 Guidelines are still being drafted, but because this is a matter of scope, we do not believe that the 2015 DGAs are the appropriate vehicle for this important policy conversation about sustainability."*[48]

This was a difficult period in the history of the DGAs and many individuals and groups were disappointed with the decision made by the Secretaries. The decision resulted in the U.S. not being the global leader in integrating sustainability into food-based nutrition guidance systems. However, since 2015 dozens of countries have capitalized on the systematic review of sustainability and dietary patterns conducted by the 2015 DGAC and have incorporated elements

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[45] Letter from the House Agriculture Committee to Secretaries Burwell and Vilsack, March 31, 2015, requesting USDA and HHS to stay within scope of the 1990 NNMRRA. Available at https://agriculture.house.gov/uploadedfiles/ag_dietaryguidelineslettertosecsvilsackburwell.pdf.

[46] Letter from Senators Lamar Alexander and Pat Roberts to Secretaries Burwell and Vilsack, July 7, 2015, requesting the 2015 Dietary Guidelines for Americans only address nutritional and dietary information. Available at https://www.agriculture.senate.gov/imo/media/doc/DGA%20letter%20to%20HHS%20and%20USDA%207.7.15.docx.pdf.

[47] House Agriculture Hearing on the Dietary Guidelines for Americans, October 7, 2015. USDA Secretary Thomas Vilsack & HHS Secretary Sylvia Burwell. Transcript is available at https://www.govinfo.gov/content/pkg/CHRG-114hhrg97182/html/CHRG-114hhrg97182.htm.

[48] USDA Press Release. 2015 Dietary Guidelines: Giving You're the Tools You Need to Make Healthy Choices. October 6, 2015. Available at https://www.usda.gov/media/blog/2015/10/06/2015-dietary-guidelines-giving-you-tools-you-need-make-healthy-choices.

of sustainability to their national food-based dietary guidance systems.[49] Congress continues to scrutinize the process of updating the DGAs and propose parameters on the process of revising the DGAs. Some organizations today are calling for the repeal or elimination of the DGAs in their entirety. Albeit this period was disappointing, there has been a growing interest in sustainable dietary guidance systems from a broader cross-section of professional groups based on the evolution of the research, organizational missions, advocacy platforms, and educational competencies.

I came back to Iowa in January 2017, and although there were great accomplishments during my time at USDA, there was this deep sense of loss. In 2018, Fred and I met for lunch and I shared the events that unfolded with the 2015 DGAs. My fear was that he, like many of my colleagues in the sustainable food system community, would be disappointed in my inability to integrate sustainability into the DGAs. He listened intently, asked critical questions, and did not seem remotely surprised of the emerging politics of the DGAs nor the subsequent decision made by the Secretaries. In a very calm manner, Fred reassured me that although it was not the ideal outcome, progress had been made. He again, was right. A few months following that conversation, Fred suggested I share this story as part of the Shivver's Memorial Lecture Series and I was honored to do so in March 2019 at ISU's Memorial Union.[50]

In sharing these experiences, I hope to illustrate how Fred's philosophical contributions transcend traditional disciplinary boundaries, inspiring practitioners across fields to embrace the complexity and interconnectedness of sustainable food systems. Even today, his words continue to serve as a guidepost for me both professionally and personally, "Sustainability is a process, not a prescription…It is a journey we embark on together, not a formula upon which we agree." For me, this was the greatest lesson, if not the greatest gift, I received from Fred.

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[49] James-Martin G, Baird DL, Hendrie GA, et al. Environmental sustainability in national food-based dietary guidelines: a global review. *Lancet Planet Health*. 2022;6(12):e977-e986. doi:10.1016/S2542-5196(22)00246-7

[50] The Shivver's Memorial Lecture Series. March 25, 2019. Setting the Table: Systems, Sustainability, and Policy." Presented by Angie Tagtow, Äkta Strategies, LLC, former Executive Director, USDA Center for Nutrition Policy and Promotion. https://www.leopold.iastate.edu/news/calendar/shivvers.

My Friend Fred Kirschenmann

Francis Thicke

Farmer and Author

October 2024

I have long admired Fred Kirschenmann. I knew of him long before I had the opportunity to meet him. Fred has been a legend among organic/sustainable farmers for many years. He has been an eloquent spokesperson for what we all support, and he has been able to articulate our ideals with inspiration, but without alienating those critical of organic and sustainable agriculture. Here are a few memories of how Fred has inspired me and helped shape my thinking.

Fred is 15 years older than I and has for years inspired me to realize that the latter part of life can be very productive. I was amazed when he took on the position of Director of the Leopold Center for Sustainable Agriculture at the age of 65, the age when most people are looking for retirement. Fred's predecessor as Director, an internationally acclaimed scientist, had told me that serving as Director of the Leopold Center was the most stressful experience of his life. The political pressures from agricultural special-interest groups were very high, much from behind closed doors. Fred did an amazing job of navigating those pressures while standing up for the integrity of sustainable agriculture—while many of his colleagues and administrators at the Land Grant University acquiesced to those pressures.

Fred has always been very well read and would frequently quote cutting-edge thinkers and writers in his many presentations. That was very effective, because it not only bolstered his arguments, but also gave audience members less reason to want to argue with Fred for the sake of argument.

Once after a brilliant talk by Fred, where he quoted many leading thinkers, I told Fred that I wished I had in my head everything he had in his head. Fred immediately and emphatically

replied “NO YOU DON’T.” We both laughed, and without saying so, both realized that every human—no matter how brilliant—has thoughts that they would rather keep private.

A friend of mine who is now an expert in the theory and practice of biodynamic agriculture told me an interesting story about an experience he had with Fred. My friend said he was taking Fred to the airport after a conference and asked Fred why he used biodynamic farming practices. My friend said that at that time he was cynical and critical of biodynamic farming, and he had asked Fred that question in a condescending manner. Fred replied simply “Because it works.” That simple answer inspired my friend to investigate biodynamic agriculture, whereupon he became deeply immersed and expert in biodynamic practices.

Once at a conference I met a farmer who farmed near Fred’s farm in North Dakota. I asked the guy if he knew Fred Kirschenmann. He replied “Yeah, he was the loud guy in the back of the room.” I found that amusing because Fred speaks with a soft voice, but apparently this guy found Fred’s message to be “loud.”

Probably the funniest thing I ever heard Fred say was his answer to a question at the end of one of his conference presentations. An audience member asked him “What would you do if you were the U.S. Secretary of Agriculture?” Without missing a beat, Fred replied “That depends on how long I wanted to be Secretary of Agriculture.” As a former USDA employee myself, well aware of the political pressures that shape agricultural policy, and the power of the Agricultural Industrial Complex, I thought Fred’s response was poignant and insightful. Clearly, if a Secretary of Agriculture tried to implement policies to create the kind of agriculture Fred Kirschenmann envisioned, their tenure would indeed be very short lived.

Fred’s positive influence on agriculture has been far reaching, across Iowa, across this country, even around the world.

Thanks Fred, my good friend.

Seminary Without Walls

David Vetter

The Grain Place, Inc. & Grain Place Foods, Inc.

October 2024

I first met Fred at an introduction to the *Seminary without walls or Dual Career program* at United Theological Seminary in the fall of 1969. It was an unexpected opportunity for me because it offered a structure for me to get to where I wanted to go with my education. The requirement to submit a white paper on my ministry concept caused me to give more serious thought about reaching my goals and fortunately that paper caught Fred's attention. I was able to become a member of the first class in the program. Fred became a very important mentor for me as I tried to navigate the varied requirements of the program, full time employment and a growing family.

Fred and I shared a similar experience of growing up on a farm with parents that were concerned about conservation and the protection of a fragile environment that we depended on for life. Through the course of that program my family and I spent a lot of time with Fred and family both in "class" and in our personal lives. We gardened together at Fred's home and in summer we were house sitters for Fred while he went back to North Dakota to help his father with the harvest. After his move back to the family farm we shared many long phone conversations about what was happening on the farm and in our lives.

His counsel as we formed the Nebraska Organic Agriculture Association was very helpful to a small group of organic farmers in Nebraska. I then had an opportunity to provide some input to the organization he helped to develop in North Dakota. We continued to collaborate on those programs, during their early years. When we started hosting regular events at the farm Fred made himself available to help with programing and being our guest speaker several times. His counsel and support have had a big impact on my life and work.

During an event at which Fred was a guest speaker, many years ago, when we were both tired. It was late in the evening we sat down to share a beer and conversation. We were both having a hard time staying awake, so we said very little in that half hour. Someone asked me the next day and asked if we were able to catch up. I told them we said very little, but it still felt like we had a good conversation.

The Wisdom of 20 Degrees: Lessons from Mentor and Friend, Fred Kirschenmann

Jennifer L. Wilkins

Cornell University

April 2025

I first met Fred in Post Falls, Idaho, in 1989 at the first Farming for Profit and Stewardship conference for the Northwest region.[51] At the time I was a graduate student working toward an interdisciplinary PhD at Washington State University (WSU) combining courses primarily from three academic units: Nutrition and Food Science, Agricultural Economics, and Consumer Sciences.

After welcoming remarks from James Zuiches, then director of the Washington State University Agriculture Research Center, and opening comments from David Bezdicek, a WSU Agronomy and Soils professor, Fred gave the opening keynote address. He shared practical information based on his direct experiences and observations related to profit and stewardship on his (non-contiguous) 3,200-acre farm in Windsor and Medina, ND that he was transitioning from conventional to organic production. The transition he described was "one way to develop a sustainable system, really a system that is in the process of becoming sustainable."[52]

Fred proceeded to detail strategies that he had developed for his farm to ensure resilience in the face of increasing uncertainty, for example about what had been—but was no longer—a

[51] The first Farming for Profit and Stewardship conference was held in Post Falls, Idaho, on March 2-3, 1989, as part of the sustainable dryland farming project. This was the first sustainable agriculture conference in the interior of the Pacific Northwest. Speakers including leading farmers and academics from the region, as well as Dick and Sharon Thompson of Iowa, Fred Kirschenmann of North Dakota, Charles Francis of Nebraska, and Garth Youngberg of Washington, DC.

[52] Granatstein, D. and E. Kirby (eds.) Farming for Profit and Stewardship Conference Proceedings. Dept. of Agronomy & Soils, Washington State University, Pullman, WA99164. 1990. 70 pp.

predictable amount of moisture "given by Nature through thunder showers during the growing season sandwiched between spring and fall rains." I was fascinated by the level of attention, observation and respect for nature his approach to farming demonstrated as he strived to achieve sustainability while factoring "natural adversities [that] happen in a farming system, and [must] be factored in if we are going to survive." I must admit, though, that when he began debating the virtues and evils of the moldboard plow,[53] my mind wandered a bit—at that point I would have been hard pressed to describe a moldboard plow—but he quickly regained my attention when he articulately, clearly, and forcefully laid out how agricultural practices, soil humus and microbes, and human nutrition are inextricably linked.

His words were refreshing since considering human health to be part of a system of interconnections and interdependencies had been the fundamental approach during my undergraduate studies in nutrition at Western Washington University (WWU) Huxley College of Environmental Studies of the Environment (renamed College of the Environment in 2021). I felt encouraged to deepen my conviction that nutritional well-being and public health—in the long term—will depend on consuming food from healthy and sustainable food and agriculture systems.

Between the two afternoon sessions at the Post Falls conference one of my WSU professors came up to me with a real shocker. The speaker scheduled to speak on "Consumer Preference" in the upcoming panel entitled, "Public Concerns Related to Sustainable Agriculture," had cancelled at the last minute. He asked me if I would be willing to talk about consumer interests and preferences related to sustainable agriculture in her place. I took a deep breath and agreed. Thirty-six years later my memory of how I decided what to say is, to put it mildly, hazy. I do remember how I started: "When Dave came up to me with a big smile during the break, I thought he was just being friendly." That got a laugh and seeing I had a sympathetic audience I relaxed

[53] An implement that cuts soil, lifts it, and turns it at least partly upside down by means of a curved plate, or moldboard. Source: https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/moldboard-plows

and shared some thoughts on potential opportunities for—and challenges to—consumer engagement in sustainable food systems.

To my relief my remarks were well-received, but more importantly, my unexpected platform inspired Fred to come up to me, extend one of his enormous farmer hands, and introduce himself. “Hello, I’m Fred Kirschenmann.” What an unexpected, pivotal moment.

I was pleased with Fred’s generous comments about my impromptu presentation. He said he believed that to achieve true agricultural sustainability farmers needed to partner with nutrition and food professionals and academics. I enthusiastically agreed and added I felt nutrition, dietetics, and public health could benefit greatly if better informed by what was at that time, an emerging understanding of sustainable agriculture and food systems.

A year or two after we met, Fred invited me to serve on the Certification Committee for Farm Verified Organic (FVO), Inc. one of a growing number of private certifiers developing the language, rules, and, importantly, the principles upon which organic certification should be based. Fred had established FVO as a private organic certification company in 1979, and its first certifications were issued in 1980. Thinking this would be an interesting experience and that I surely learn a great deal—I had no idea! —I decided not to pass up this invaluable opportunity to work with Fred, other North Dakota farmers and his daughter Annie, who kept us organized. Over the next few years, I made periodic trips to Medina, ND and got an insider’s education on what was behind an organic certification label.

Most of the meetings took place during the winter. Being from the relatively moderate climate of the pacific northwest, my first education was about the weather. On his farm, Fred once told me that 20 degrees is “the perfect temperature.” Fortunately, I kept the thoughts to myself—“You have got to be kidding!!” “That’s bone-chilling cold!” “How can you survive here??!”—as he opined fondly about his preferred thermic territory. To my surprise, I too came to appreciate the value of such low temperatures. As he explained it, at 20 degrees, the ground is solid and a

farmer a can easily traverse the fields. At 20 degrees there's a much-needed and valuable die-off of pests, the damage from which would be devastating without being thwarted each year by extended below-freezing temperatures.

Aside from gaining an appreciation for cold—though I never did warm to stories of truck batteries defeated by negative 80-degree winter mornings—I gained invaluable knowledge of the rigor behind the FVO and other certifications granted by private certifiers and seen on food packages, in produce aisles and at meat counters. I gained an appreciation for—and fragility of—trust that is essential for organic certification to work. Discussions that got deep into the particulars of farm practices, animal health and well-being, and soil microbes left an indelible impression about the goal of certification—to ensure even higher levels of integrity in farming practices and confidence in the label among consumers. The private certifiers were developing definitions, describing on farm practices, identifying inputs that, to the best of their knowledge and based on the best science at the time, would achieve the healthiest soil, maintain integrity throughout the market chain, and ensure the best health outcomes for the public.

In short, private certifiers, such as FVO, were developing standards for organic production, which preceded the eventual USDA standards. Our determination of whether a product warranted FVO certification was based on a both a farm plan—including crops grown, crop rotations, management practices, inputs used, and yields—and a farm visit conducted by an inspector who generated a detailed independent report. This report was then compared with the submitted farm plan (hence, the "farm verified" in the FVO label).

During my time as a member of the FVO certification committee, I was invited by my former Masters degree adviser and professor and chair of the Teachers College Department of Nutrition Education, Joan Gussow (whose last published essay before her death at age 96 on March 7, 2025, is in this volume) to teach her courses during her sabbatical. I jumped at the opportunity, took a leave from my doctoral program, moved back to New York, and prepared to teach her signature course: *Nutritional Ecology*. I was aware that Fred had become involved with the

Glynwood Center for Regional Food and Farming[54] in Cold Springs, NY in the Hudson Valley and was making periodic trips to the area. I contacted Fred to see if he might be able to come to Teachers College to speak in my class. Being the generous person he is, Fred agreed, offering a rare opportunity for my students, many of them urbanites, to meet a real farmer and to benefit from his deep knowledge, wisdom, eloquence, and gentle nature. My students considered meeting him a highlight of the semester. Seeing Joan greet him warmly and having these two major influences in my life engage in an animated conversation has left an indelible memory.

One of the ways Fred and I connected in the ways we approach food systems was a focus on connecting eaters with producers and by examining the potential for local and regional food systems to be self-reliant. Further, given the current state of varied food preferences, which necessitate global food systems, questions about how the very real desire for distant edibles (and drinkables) can be satisfied while protecting ecosystems, communities and customs, were front and center. Fred's focus on these approaches and connections served as inspiration for several areas of inquiry in my work at Cornell University.

In the early 2000s, the increasing rate of obesity in the United States was ringing alarm bells in the nutrition and public health communities. Predictably, interest in diets promising rapid weight loss increased as well. A periodic favorite among those seeking rapid weight loss is low-carbohydrate, high-protein, high-fat diets—where the proportion of calories from animal products is high relative to energy from plants. Predictably this approach was again gaining in popularity and being promoted as an effective weight loss strategy. My interested in this kind of weight loss diet—developed by the American cardiologist, Robert Coleman Atkins (1930 – 2003), and became one of the most popular fad diets in the United States after he published *Dr. Atkins' Diet Revolution* (1972)—had little to do with its potential to shed pounds. Instead, I wanted to focus on the potential implications of a shift to this diet by a substantial proportion of the population on natural resource demands. With colleagues at Cornell and Michigan State Universities, I sought specifically to determine if and how the number of acres needed to provide foods included in the Atkins Diet compared to the amount of land needed to produce a typical

[54] Glynwood Center for Regional Food and Farming. https://www.glynwood.org/

American diet and one based on federal food recommendations of the time—the USDA MyPyramid. We found that a low carbohydrate, high protein diet based on the Atkins approach required nearly twice as much (80% more) land than a diet based on MyPyramid.

My work also resonated with Fred's philosophy on connecting with a place by eating seasonally and locally. This has been central to my entire career, and I found inspiration in how Fred talked about being at home in a place. As Fred contends, "We are not separate from the plants, animals, insects, or microbes. Nor are we separate from the soil, rock, water, or air."[55] As much separation as the current food supply has successfully put between eaters and the people, soils and cultures that provide it—often while boasting reassuring but vapid "farm to table" connections—is not serving us well. Fred has long articulated a path to "being at home" again and growing and eating food accordingly.

The idea that locally-based—and therefore seasonally-varied—diets can be nourishing to people, land and communities, and critical to food system sustainability has motivated my work for decades. I have been interested in potential impacts, challenges and opportunities related to seasonality and localism throughout my career and in my recent non-academic writing.[56]

Fred's concept of "feed the village first" as opposed to what he saw as an increasing focus on feeding the world, resonated with me and dovetailed with my early work on local and regional food systems. As he suggested in a position paper on the global economy, *Feeding the Village First*, "local community economies are healthiest when they are as self-reliant as possible, especially where food and agriculture are concerned. Self-reliant communities are healthiest because they are free to pursue their own course, shaped by cultural norms which evolved in those communities to maintain the local public good."[57]

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55 Kirschenmann, F.L. 2010. Being at Home. Chapter in Cultivating an Ecological Conscience—Essays from a Farmer Philosopher. The University Press of Kentucky, Lexington, KY.

56 Eat Right Here. A newsletter for people who want to transform the food system but don't know where to start. Available at: https://eatrighthere.substack.com/

57 Kirschenmann, F. Position Paper on the Global Economy. Northern Plains Sustainable Agriculture Society January 1999. http://www.npsas.org/

Looking at this from the perspective of food intake, I focused on strategies to shift food preferences and dietary patterns to strengthen local community-based food economies systems and encourage greater local and regional food self-reliance. Shortly after joining the faculty at Cornell University in 1993, I began to think about how dietary guidance might be an effective tool for not only promoting nutritional well-being, but also sustainable food systems. My first focus was on the Dietary Guidelines Americans and the federal good guide—at that time, the 1992 Food Guide Pyramid. Food guides are designed to translate the *Dietary Guidelines for Americans*[58] into food recommendations provide key source material for nutrition education practitioners, academics, researchers, and advocates. I saw the absence of geographic, community, and market contexts as a missed opportunity for these foundational nutrition education resources, which I believed could and should be designed to address food system sustainability, economic viability, and cultural traditions as well as their core goal of improving public health.

To fill this gap, in the mid-1990s I developed a food guide—modeled after the 1992 USDA Food Guide Pyramid—specifically for the northeastern United States. The *Northeast Regional Food Guide* (1995) featured foods that were available (or could be, given local climate, soil types, and abundant water supplies) from northeast farms and bodies of water. It translated the Dietary Guidelines for Americans into recommendations on whole and minimally processed regional foods from the five food groups, including local sources of added fats (butter, rape and sunflower oils, for example) and sugars (honey and maple syrup).

Given its regional context, the *Northeast Regional Food Guide* emphasized seasonal variation in fruits and vegetables and in their form (fresh, fresh stored, or preserved) and highlighted the agricultural diversity and abundance from local and regional sources. This food guide, designed to help eaters plan healthful locally-based and seasonally-varied diets while supporting local agriculture and community food systems, was used widely by nutrition educators throughout the

[58] U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2020-2025. 9th Edition. December 2020. Available at DietaryGuidelines.gov.

Northeast region. With support from the NY State Department of Agriculture and Markets, I was able to update the regional food guide in 2014 to reflect USDA's newly-released MyPlate—*MyPlate Northeast*.[59]

The story embedded within food has always interested me as much as (more than, truth be told) the nutrients it contains—another strong connection I felt to Fred's approach to, and perspective on, food system sustainability. From my position, at the eater end of efforts to transform the food system, a challenge that needed to be overcome was the limited choices in the marketplace that represented the kinds of biologically diverse systems being developed by farmers striving toward sustainability on their farms.

I remember listening to a story Fred told during one of his many inspiring talks in the 1990s. He talked about a local bakery—likely Great Harvest in Fargo, ND—that started making a bread that was a clear example of what would be termed nearly two decades later by Amy Halloran as "a reinvention of the community grain system."[60]

Instead of bread with little if any clear connection to local agriculture—as was the case when Fred was developing sustainable crop-rotation on his farm—Great Harvest and other radical grain pioneers were bucking the trend of monocultures on the land and on the grocery shelf. Farmers, millers, and bakers began working in concert—millers provided a market for the diversity of grains and seeds local farmers included in crop rotations and had proved effective in improving soil health, suppressing pests, and increasing yield and ecosystem sustainability. This meant that bakers had access to the ingredients they need to keep the entire grain system local and economically vibrant.

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[59] New York State Department of Agriculture and Markets. Consumer Benefits at Farmers' Markets. Resources: MyPlate Northeast. Available at: https://agriculture.ny.gov/system/files/documents/2020/06/myplate_ne.pdf

[60] Halloran, A. 2015. The New Bread Basket: How the New Crop of Grain Growers, Plant Breeders, Millers, Maltsters, Bakers, Brewers, and Local Food Activists Are Redefining Our Daily Loaf. Chelsea Green Publishing.

In his keynote at the 1989 Post Falls, ID conference, Fred talked about three principles common to agriculture systems, "on farms, which not only enhance the money value of the farm, but which also enhance the environmental and social contexts in which our farms exist." The principles of crop rotation, soil building, and interactive diversity, he asserted "are common to all of these systems" and "seem vital to any kind of sustainable system." He had incorporated each of these principles on his farm and for the first—crop rotation—he described the rotation he had come to in the process of converting his farm from conventional to organic. It included first "either hard red wheat, spring wheat or durum" followed by rye ("Rye has allelopathic properties which especially suppress annual weeds like wild oats and mustards."), then sunflowers, buckwheat—"a good nurse crop for a legume, and we seed our sweet clover right in with the buckwheat"—and millet.

The new breadbasket Halloran documents is a system of millers and bakers that have developed markets for the diversity of grains, legumes, and seeds like those included in the crop rotation Fred developed for his particular situation—the unique soil conditions, the land, and the climate on his farm. This kind of translation and alignment between farm practices and principles that enhance sustainability and what is available in the marketplace is critical to food system transformation toward ecological and public health.

While teaching a food systems course at Cornell University (*Integrating Food Systems and Human Nutrition Needs,* 2003-04), I developed the idea of revealing the "story" in a food product into an assignment where students analyzed and described the food system that is "embedded" in a common multi-ingredient food product. The student work was so compelling I presented the project along with examples at the Joint meetings of the Association for the Study of Food and Society and the Agriculture, Food and Human Values Society in 2004 and was published as an invited paper the following year in *Food, Culture, and Society*.[61]

[61] Wilkins JL. Seeing Beyond the Package: Teaching about the Food System through Food Product Analysis. Food Culture Society. 2005;8(1):91-108.

My friendship with Fred started with a chance acquaintance in the middle of my PhD work. I will be forever grateful to an unknown conference “no-show” for one of the truly great fortunes of my professional life—a decades-long friendship with someone I have admired and have been inspired by. I have enjoyed immensely our many discussions about the interrelationships among food, nutrition, human health and farm and food system-level sustainability.

With love and gratitude, I wish to thank you, Fred, for your inspiring words, your wisdom and many kindnesses.

Environmental Optimism as Virtue, as a Vice, and as a Gift

Clark Wolf

Iowa State University

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> "We live in a moment of crisis, but moments of crisis are moments of grace and opportunity. There are many things going on right now to be excited about, but we need to change our *culture* to achieve them. We need to prepare so that when our existing unsustainable practices collapse, we will be ready to grasp the opportunity to replace them with a better alternative."
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> -Fred Kirschenmann, Sustainable Agriculture 610, Fall 2012

The Kirschenmann Effect: Sustainable Agriculture

For more than a decade, Fred Kirschenmann has been an annual visitor in my graduate seminar for students in Iowa State's Graduate Program in Sustainable Agriculture. I have been honored to call Fred a colleague and friend. With gratitude, I must confess that my own views have been deeply influenced by discussion and engagement with Fred and his vision of agriculture and the environment. This brief essay will be personal, since I will discuss some of the ways Fred has changed the way I think about agriculture and the environment. I present here some of the ideas I have gleaned from him in the course of our more-than-20-year friendship. But since I believe these ideas to be important for *anyone* thinking about agriculture, sustainability, and the future of food, since many of these are ideas Fred has not (to my knowledge) published elsewhere, I hope it will be valuable to rehearse them here. I should emphasize that my presentation of Fred's views is my own, and subject to corroboration and correction. I will not intentionally misrepresent but may occasionally have misunderstood. I welcome the opportunity to learn more.

I always anticipate Fred's visits to my class, in part because I know I will receive a new reading list: Fred arrives with the most recent stack of books he is reading, and with a scrawled page of notes at which he seems never even to glance. My own notes from Fred's class visits include, for each year, a list of must-read books and authors: David Montgomery, Ernest Schusky, Gabe Brown, Marjorie Kelly, Ugo Bardi, Maya Shetreat-Klein, Rachel Holtzman, Brian Swimme, Mary Evelyn Tucker… I must admit that whenever I have visited Fred in his office or home I cannot help scanning his bookshelves to get clues about what I need to read next. After more than twenty years of friendship, I can now scan my own bookshelves as a measure of the influence Fred has had on my own reading and thinking.

Students in my seminar are an unusual group. Most graduate students in sustainable agriculture have already concluded that existing agricultural and social institutions are in trouble, that our current practices are unsustainable and damaging to the environment, and that we are in urgent need of improvement and reform. But even these students, unusual as they are, were often surprised and even shocked by Fred's message: Fred typically *assumes* in his remarks, that our current system is headed toward a crisis, and perhaps even collapse. The goal, he tells us, is to create sustainable alternatives so that we will be ready to implement them when crisis arrives. "Change rarely happens without a crisis," Fred argued, "but when the crisis comes we need information to direct the flow of change. At present, we can hope to develop the information we will need so that when crisis arrives we will be ready." This message is startling to students, many of whom have set the goal to improve existing institutions, not wholesale to replace them. But it was always bracing to have an opportunity to interact with a critic of the status quo who is enthusiastic, engaged, and hopeful in the face of what he clearly expects to be dramatic and sobering change.

In class presentations in my graduate seminar, Fred provides a cheerful, intense, penetrating discussion of the State Of Things in contemporary agriculture, including unflinching recognition of features of our system that make it environmentally destructive. "If our current system is unsustainable," he explained in one class, "this means it cannot be projected into the future: we may maintain a destructive status quo for a while, but eventually we are *destined* for change." The goal for students in a sustainable agriculture program, therefore, must be to prepare for that

change, to develop alternatives that can be deployed when our current practices are no longer viable.

In several different years, Fred explained the process of large-scale change in unsustainable systems using Erwin Schusky's account of agricultural transitions over the course of human history. Since Fred deeply incorporated Schusky's model in his own thoughts about our present agricultural predicament, it will be worthwhile to discuss it here.

Schusky divides human agricultural history into four different eras. The first of these, the hunter-gatherer era was, he argues, the most energy efficient food system ever with a return of 20 kilocalories of food gained for every kilocalorie of spent. This gave way to a second era of slash and burn agriculture when settled societies engaged in mass production of food. Since mass production systems run a risk of occasional mass failure, famine became part of human culture in this era. This is not to say that hunger and starvation are unknown to hunter-gatherers. But hunter-gatherer societies draw on multiple different sources for food, so the failure of one need not lead to community disaster. Schusky estimates that the kilocalorie return on investment in this era dropped to about 10 to one: ten kilocalories recovered for every one spent on agriculture.

We are currently in Schusky's third era, the neo-caloric era, in which our food systems are entirely dependent on old calories. We rely on fossil fuels, fossil water from depleting aquifers filled during the Pleistocene, mined phosphate, mined iron and minerals. In this era kilocalorie investment ratio is reversed: Schusky estimated that we spend ten kilocalories for every one we recover, a process that is possible only because we are spending calories from petrol, which are "cheap" for us in the short run. Contemporary agricultural production has been extravagantly boosted by the use of fertilizer, the development of genetically modified crop varieties, and the development of new technologies and machines that have entirely changes the nature of agriculture.

Everyone alive today was born in this neo-caloric era. For many of us, our lives have been remarkably stable and secure. The oil economy is so much our *status quo* that we may be tempted to think of mining non-renewable resources as a stable and sustainable system of

production. But because the resources we rely on are non-renewing, once they are gone they are *really* gone. The first producing oil well in the U.S., the Drake Well in Titusville PA, was struck in 1859, and was only 70 feet deep. The oil economy is less than 200 years old now, and the resources on which our system depends are dwindling.

In seminar, Fred added that Schusky did not adequately take into account the significance of climate change, but that a stable climate is necessary for our current monoculture production systems. We don't have this needed stability anymore, our current system lacks the flexibility to adjust in time for changes that are, as Fred argues, imminently on the horizon. Our present food system, our methods of agricultural production, are unsustainable. We are therefore destined for change.

Schusky's fourth era is the "post-caloric" era. While we can project what it might be like, we can't know what's coming with any degree of certainty, and it cannot be described with articulate specificity. What happens when the cheap calories are gone? If our existing institutions rely on them, they will fail. If failure is sudden and widespread, it may constitute a kind of collapse. As Fred urges, however, we have an opportunity to influence the shape of things to come by developing sustainable production systems so that they are available and ready to implement as the resources supporting our existing systems begin to fail. If we can use adaptive management to orchestrate the transition to a next stage, he urged, then perhaps we can prevent this inevitable change from being a collapse.

Failure and the prospect of the collapse of our existing food systems is scary. Terrifying maybe. But Fred's clear-eyed presentation of this prospect manages to express and instill optimism and hope: "We have an opportunity to guide a process of agricultural transition toward a better alternative, and there are other tremendous and inspiring people who are working toward this goal even now!" he argued.

The Question for Sustainable Agriculture: What is the Solution to Our Problem? In the Era of Post-Caloric Agriculture, What Will the Next Phase Be?

There are two main schools of thought describing the next phase for agriculture, as the problems with our existing production systems emerge. Advocates of what Fred called "The Industrial School" argue that the main problem is how to feed the growing human population of the earth and propose that the only solution is more and better technology. By contrast, others argue that the solution is organic agriculture: if everyone goes organic, we'll solve the problem. Fred reasonably argues that these answers are both wrong, though neither is entirely or absolutely wrong. We need to move from unsustainable technologies to sustainable ones, so we do need people working to develop new technologies. But organic production methods, flawed as they may also be, include crucial insights that we must incorporate into the new food systems as we move toward more humanly and environmentally appropriate food systems.

Our problem becomes even more complex when we incorporate recognition that we are living through an era of dramatic global environmental change. Many of us working in sustainable agriculture tend to think of our problems in terms of "how to fix the current system" instead of thinking about alternatives to the current system. But this framing of the problem can be utopian, leading to ideals of 'steady state' sustainability, which is an oxymoron in an age where global changes guarantee that our future will not be like our present or our past. We need, as Fred urged my students, to develop systems that will rebound from disturbances, but will still provide the basic services we need. Perhaps this means we need to pursue *resilience* in our food systems, as a value that may even supersede 'sustainability.' As climate change alters the environment in which we live, as cheap fossil energy becomes more expensive, as phosphorus and potash reserves dwindle, as land itself becomes more expensive and scarcer, we can't rely on stable economic or environmental circumstances.

What is the solution? According to Fred, if I understand him properly, there *is* no Solution. All the general and simple Solutions people propose will be wrong in one way or another, because our problems are broad and multifaceted. Solutions must be tailored to communities, but global communities are not univocal, and general solutions would need to be one-size-fits-all. While there is no Solution—no simple remedy we can point out as the simple Way Forward, still there

are numerous smaller-scale solutions worthy of our attention and time, and there are achievable, reasonable, worthwhile goals to pursue. Even better, there are already other idealistic people hard at work developing these solutions on private farms, as participants in non-governmental organizations working toward agricultural improvement, at The Land Institute, in the Graduate Program in Sustainable Agriculture at Iowa State University, all over the country and the world. There are productive steps to be taken, Fred urged my students, by agronomists and engineers and resource managers and sociologists, even by artists and philosophers.

Fred expressed this hopeful and generous pluralism to students in my graduate seminar, but it also found expression in the many and varied projects funded by Iowa State University's Leopold Center for Sustainable Agriculture under Fred Kirschenmann's directorship. It found expression in Fred's own life as a farmer, a writer, a researcher, an activist, and a community member, as so many contributions to this volume will show. My students are often discouraged—many have the sense that the valuable natural systems of the Earth are in decline, and that we are unfortunate to live in an era of environmental damage and crisis. Fred urges, by contrast, that this is an excellent time to have an opportunity to work on agricultural and environmental issues, since there are so many valuable and inspiring projects to pursue. In the face of adversity, Fred manages to be an outrageous optimist.

Is optimism a virtue? I have always suspected that the stoics and pessimists had it right: optimists are the ones who don't bring an umbrella. They cheerfully hope it won't rain and are constantly surprised and disappointed when the world doesn't meet expectations. The pessimists are the ones who bring a tarp to stay dry, and who then have room to shelter their carelessly optimistic friends. Fred's hopeful optimism, however, is not based on unreasonable fantasy, but on hard-nosed realism about our present predicament. He projects optimism that we can weather the coming storm, but that our goal should be to prepare now. Our ideas and our work to create solutions in the face of coming crisis are the umbrellas we will need. Conversation with Fred always leaves me with a feeling that our work toward sustainable solutions is necessary, meaningful and worthwhile. Let's get to work!

Cover Photo

The Compass Plant (*silphium laciniatum*) is truly extraordinary. It is often a giant amongst other prairie plants until Big Bluestem, Sawtooth Sunflower, and other grasses shoot up later in the summer. Compass Plants typically grow from 6 to more than 10-feet tall, have dozens of composite yellow "sun" flowers at the tops of the stalks that bloom mid-summer. Their taproot can be up to 15-feet and they attract a myriad of bees, butterflies, moths, other bugs, and birds. Prairie researchers claim that the Compass Plant can live up to 100 years!

The leaves grow from the base of the plant, are a brilliant green, and can be 12-24 inches long. They are similar to an oak leaf – but on steroids - and have intricate details in their leaves when the sun sets behind them.

It's the leaves in which the name Compass Plant is derived. When the leaves first develop they are arranged randomly at the base. After a few weeks they will orient themselves vertically so their flat surfaces face east and west. The vertical orientation limits the amount of direct sun hitting the leaf, allows the plants to maximize their carbon gain, and use water efficiency. Although the Compass Plant leaf orientation has evolved in response to the stresses of their environment, indigenous communities and early pioneers used it to navigate across the Midwest.

Photo credit: Angie Tagtow, 2018, Tagtow Prairie, Elkhart, Iowa

Inside Cover

Dr. Fred Kirschenmann, Mountain Sky Ranch, Emigrant, Montana. October 12, 2013. Photo credit: Nerissa Escanlar