

Maintaining the Integrity of Organics in a Time of Rapid Growth

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The central thesis that I'd like to explore today is that simply adopting organic production practices - as important as that is - is not going to be enough to sustain family farming in the future. If we fail to see the broader challenges confronting the organic sector, then the same fate will await organic as well as conventional farmers - bankruptcy, dissolution of rural communities, and a barren agricultural landscape.

I propose to structure this argument around the following questions:

1. Why is 'vision' important to organic farmers?
2. What does 'design' reveal about our intentions for agriculture? Why is the *present* not a suitable platform for the *future*?
3. What will *new* agriculture look like, and why? Why *not* just 'organic' agriculture?
4. What skills will *new* farmers need, and why?
5. How will institutions need to change to serve *new* agriculture?

1. The central role of 'vision'

An impressive future visioning effort undertaken at Oberlin College in January 2001¹ started with a quote from the late Donella Meadows, who said that:

"Vision is necessary to the policy process. If we have not specified where we want to go, it is hard to set our compass, to muster enthusiasm, or to measure progress. But vision is not only generally missing from policy discussions; it is missing from our culture. We talk easily and endlessly about our frustrations, doubts, and complaints, but we speak only rarely and with difficulty about our dreams and values." (Meadows, 1996)

Do we know where we want to go in agriculture? It is easy to criticize the past and present mistakes which have brought us to where we are today in agriculture. But have we thought about the kind of future we really want? Assuming that the future will be an extension of - and hence, predictable from - the present narrows the scope for constructive and uplifting change. So, for now, for right now, let's drop that trajectory and let our minds soar into what could be, what should be, indeed, what must be.

2. Design and intention

In their brilliant new book, Cradle to Cradle, William McDonough and Michael Braungart say that:

¹ Accessible at Rachel's Environment and Health (www.rachel.org), issues 727, 728, 729, 730, and 731

“design is the first sign of intention”.

What does the **design** of the contemporary agri-food system - including organic agriculture - say about **our ‘intentions’**?

1. Do we *intend* to disenfranchise and dis-employ the farm community by driving down the price of food and narrowing profit margins to where only consolidation - buying out your neighbors - can yield enough absolute dollars for a farmer to stay solvent - for a while longer? Not in organics, you say? Not here, and not yet, but soon. The ‘bigger is better’ mantra has already enveloped California organics.

2. Paraphrasing from McDonough and Braungart (2002), do we *intend to put billions of pounds of toxic material into circulation each year*, producing wastes so hazardous as to require constant vigilance by future generations, e.g. to impose ‘**intergenerational tyranny**’? Not us, you say? Not *as much*, fair enough, but the dominant ‘cradle-to-grave’ mentality of our culture is increasingly reflected in organic just as in conventional food offerings.

- single serving, throwaway juice containers and breakfast cereal packets,
- processed, sugar-coated breakfast cereals, in trendy boxes designed to attract children
- TV dinners and individually wrapped granola bars
- organic mangos and Kiwi, imported fresh from Hawaii or NZ

Just because the food inside is organic doesn’t mean the system which delivered it to the consumer, and which will handle the post-consumer waste is detached from the same, largely externalized baggage built into conventionally grown and processed foodstuffs.

3. Do we *intend* to raise global temperatures and expose society and the environment to the health-damaging effects of jet fuel combustion, so that we can breakfast on organic pineapple from Hawaii, organic ham from Denmark, and organic coffee from Central America?

4. Do we *intend* to ship away our soil fertility in the form of exported grains, leaving behind impoverished soils, with difficult-to-replace deficits in soil nutrients - just like a colony?

5. Do we *intend* to raise our children to fully expect fresh apples every day of the year, to say nothing of strawberries, broccoli, or pineapple?

Are the above outcomes regrettable, but unavoidable byproducts of an otherwise effective organic agri-food system? Or are they instead the visible indicators of a fundamentally flawed design which demands reconsideration?

What exactly DO we intend with organic agriculture, and how can we ‘design’ to get it?

3. The look of ‘new’ agriculture

I reject the present as **a template for the future** because the contemporary agri-food system - meaning the whole thing, not just production agriculture - is self-destructing. The list of regrettable outcomes above speaks of **outright and impending design failure** - and switching to organics addresses just part of the problem. Rather than sticking stubbornly to a fundamentally flawed design, I would suggest that the agriculture of the future will have to depart substantially from what might be predicted as a simple continuation of today's trajectory.

I've going to give you my vision, and then explain why I think it will go that way. For simplicity, and to distinguish it from where organic agriculture seems to be heading today, I will refer to this future vision as **'new' agriculture**.

Key elements of **new agriculture**:

- Farming will be viewed as *landscape management*, not simply as a way to produce food. Food production systems will be designed to *channel natural processes* to the service of humanity, based on the same ecological principles and complexity which sustain nature. As a result, farmers will be affirmed - and paid - not simply for yield, but for the quality, freshness, taste, and health of their produce - and for the aesthetic impact of their farmstead, especially within the local foodshed.
- New agriculture will focus on *problem avoidance by design*, rather than on solving problems created by ecologically dysfunctional production systems. Farms will be diverse, because specialization withholds the tools needed to control pests on organic farms. System designs that avoid the proliferation of weeds, insects, and diseases to pestiferous proportions remove dependence on biocides - including organically approved ones. Prophylactic use of antibiotics and growth promoters will be unnecessary in livestock production systems that respect natural animal behavior and digestive systems.
- *Visual appeal and accessibility* will be enhanced by the diversity of both natural and managed landscape elements, and of annual and perennial crops and livestock. The mosaic of crop and livestock enterprises and natural corridors/blocks will be configured by the lay of the land, to allow land to be utilized to its strength.
- *Fresh, wholesome air and water will be the expected byproducts* of agricultural practice. As a result, livestock density and nutrient loading - whether as manure or fertilizer - will conform to what is needed to maintain ecological integrity and health, rendering odor, water pollution, prophylactic use of antibiotics/promoters, and animal welfare as non-issues. Where feasible, livestock will be housed outdoors or under more natural conditions, and production cycles will follow natural seasonal patterns.
- Production systems strategically designed to *capture positive synergies* among enterprises while retaining on-farm resources will diminish levels of exogenous energy subsidies in the form of fertilizers, biocides, fuel, and grain drying, and hence, dependence on the input supply industry. As a result, the balance of decision making

will revert back to the farm.

- **The cost of food will reflect both direct (land, equipment, inputs to production) and currently externalized costs**, such as the costs of **greenhouse gas production** and **ozone depletion** in the production, transport, and processing of agricultural commodities. The net effect of full cost accounting will be to constrict the distances traveled by both inputs to production and the resultant produce. *Internalizing costs of production will effectively favor the local foodshed* for most foodstuffs and encourage both regional diversity and community viability.
- Including the currently externalized costs associated with processing, packaging, and materials handling - for both groceries and fast food outlets - will *profile and reaffirm home processing and consumption of food*. Regional diversity will spawn more localized processing and value-added ventures, serving both niche marketing and a more sophisticated culinary culture.
- Internalization of currently externalized costs will heighten enjoyment of each food in its season, rather than expecting to buy tomatoes or strawberries year-around. Anticipating and then savoring local sweet corn or fresh peas in season will help recapture gustatory delights now dissipated by year-around access to well-traveled offshore produce.

‘New’ vs. Organic Agriculture While sharing the same ecological foundation and production practices as organic agriculture, ‘new agriculture’ will also avoid some of the *structural problems* which threaten organics today, namely:

- the specialization and input dependence,
- consolidation and loss of local control,
- capitalization and large scale dominance,
- long-distance transportation and other practices which can be economically justified only by externalizing costs of production, and
- the dominance of export-oriented market thinking.

These forces have already decimated the conventional farm community, and indeed, are challenging the viability of contemporary organic farmers.

I choose instead to design new agriculture to foster site-specific design and self-reliance, local control, scale-appropriate technology, and systems which retain value on the farm - all laudable goals, but increasingly out of reach of today’s organic farmers.

Where’s the Magic? What brings about this profound transformation? The pivotal difference which distinguishes contemporary farmers from ‘new farmers’ will occur progressively, as the agri-food system, including farming, is obliged to more fully absorb their true costs of production. Future food prices will reflect not simply those costs we consider

today, but also those currently externalized involuntarily to society and the environment at large.

These costs are not small. Jules Pretty and colleagues calculated that a conservative estimate of the externalized costs of UK agriculture roughly equaled the entire net profit of UK agriculture. In other words, if farmers were obliged to absorb their own externalities, there would be no profit. David Tilman, a renowned ecologist at the University of Minnesota, cited contamination of groundwater, release of greenhouse gases, loss of crop genetic diversity, eutrophication of surface water, loss of soil and soil fertility, increased incidence of crop and livestock diseases, and the high energy costs of conventional agriculture as examples of externalities.

Society is already moving in the direction of obliging internalization of costs of production. A Dutch retail grocery declines to sell organics with air freight, to avoid externalizing costs associated with fossil fuel combustion. Manure management zones in Holland (and potentially, nutrient management planning in Ontario) restrict livestock density, to reduce pollution risk. Pesticide management zones in California preclude use of certain pesticides in particular areas where leaching to groundwater has been shown to be a risk. The Drive Clean program in Ontario is essentially a 'polluter pays' concept.

In effect, obliging the entire food industry - including farming - to reflect all costs of production in the price of foodstuffs reduces the apparent economic attraction of centralized, consolidated food production and processing - for organic as well as conventional food - and favors local production/consumption cycles.

4. Reframing the questions

Changing the structural features of the food system to comply with societal demands for safe, nutritious, and diverse food produced within a vibrant and self-regenerating environment in effect *reframes the questions facing farmers* - eliminating some, but raising others. Institutions will need to rethink the assumptions which have guided their actions to date:

A. I put it to you that the agricultural research and extension mainframe of North America has been dominated by the following assumptions, which are being accepted uncritically for organic agriculture as well:

- that capital- and resource-intensive agriculture is the only viable way to produce food commercially (e.g. the mainstreaming of organics),
- that the best way to advance agriculture is through proprietary technologies (e.g. GM), and
- that what is good for industry is good for society

B. I put it to you that these guiding assumptions need to be seen for what they truly are:

- relics of an era
- where the emphasis on homogeneity and bulk commodity production
- allowed input suppliers and processors/retailers to extract most of the dollar value of food,
- to the detriment of farmers, the environment, and society at large

C. I put it to you that the very goals we have set for ourselves - yield and yield enhancing attributes such as pest resistance, standability, maturity, management-responsiveness, etc. serve primarily:

- to harness the farm community as producers of volumes of cheap, raw, bulk product
- so that a few very large buyers can process/blend/create the value-added goods increasingly sought by discriminating consumers.

D. And finally, I put it to you that this mantra of ‘farmers as producers and exporters of vast volumes of homogeneous raw material’ is very much at the root of the environmental, economic, and social problems that are eroding the viability of agriculture - including organic agriculture - today.

Freeing ourselves from these narrowing presumptions allows us to dispense with worrying ‘old’ questions, and pose new questions. Questions which seemed insoluble in the current context, e.g. a) how can small farmers compete with mega-scale California operations? b) How can market gardeners compete with Loblaws? will be irrelevant if California produce has to bear the true societal and environmental cost of being delivered here. If the food Loblaws stocks has to bear these same costs, as well as those associated with processing and packaging, it will be far more expensive than locally produced, home cooked foodstuffs.

5. The ‘new farmer’

The demands of farming in ‘new agriculture’ will fundamentally redefine what it means to be a ‘farmer’.

How will s/he be different? In addition to mastering the intricacies of organic farming, the new farmer will need to develop a range of critical thinking skills, such as *observation*, *experimentation*, *interpretation*, and *decision-making*.

Why are these skills needed? **The wide recommendation domains** which predominate today remove or relax these responsibilities for farmers. Yet broad regional recommendations for management and breeding are founded upon the ready availability of exogenous energy subsidies to homogenize growing conditions, the better to support bulk production of undifferentiated commodities. This premise will become unworkable when farmers *and consumers* realize that the real cost of homogeneity exceeds the resultant benefits.

However, replacing these energy subsidies with a strategically designed enterprise mix and tailored management requires *site-specific knowledge* accessible only to individual farmers. Without large energy subsidies to suppress local environmental heterogeneity, what works on one farm may not work on another. Thus, new farmers will effectively need to become their own researchers - **even moreso than today**. They will have to be trained in critical thinking, in discerning and addressing problems, and in designing and managing complex systems. New farmers will have to recapture their roots as self-directed, independent, and self-reliant information-seekers and decision-makers - rather than being dependent upon paid consultants and distant experts.

Who will do the teaching? The new definition of ‘farmer’ clearly encompasses a range of skills and education that far exceeds what can be achieved in an institutional setting. Preparing entering farmers to perform in ‘new agriculture’ will call for a unprecedented level of integration of academic and experiential learning, and hence, of significant integration of experienced organic farmers into the educational process.

Conclusions

This is a time of great expectation and fulfillment, as decades of hard work by so many pioneers in the organic movement are coming to fruition. To hold onto that dream, however, we need to develop a clear vision of where we want to go from here - what we want the world to look like for our children and grandchildren. It is not enough to be critical of past mistakes - we need to articulate a future which builds on our hopes and avoids the pitfalls which are waiting.

We need to see agriculture within a larger whole, to recognize the powerful, structural features which can erode your success to date. Specifically in this context, we need to encourage societal trends toward full cost accounting, which will help to reshape the issues, challenge assumptions, and open new opportunities for the future. I look forward to cooperating with you in designing the ‘new agriculture’ of the future, and in preparing those who will become the ‘new farmers’.

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